

Management Audit of the Santa Clara County Communications Department

**Prepared by the Management Audit Division
Of the Board of Supervisors
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August 14, 2017

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County of Santa Clara

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August 14, 2017

Supervisor Joe Simitian, Chair
Supervisor Cindy Chavez, Vice Chair
Board of Supervisors' Finance and Government Operations Committee
70 West Hedding Street
San Jose, CA 95110

Dear Supervisors Simitian and Chavez:

We have completed the Management Audit of the Santa Clara County Communications Department. This audit was added to the Management Audit Division's Fiscal Year 2015-16 work plan by the Board of Supervisors of the County of Santa Clara, pursuant to the Board's power of inquiry specified in Article III, Section 302(c) of the Santa Clara County Charter.

This audit was conducted in conformity with generally accepted government auditing standards as set forth in the 2011 revision of the "Yellow Book" of the U.S. Government Accountability Office, except as described in the Introduction of this audit.

The purpose of this audit was to examine the operations, management practices and finances of the County Communications Department, and to identify opportunities to increase the efficiency, effectiveness and economy. This report includes five findings and 15 recommendations related to employee recruitment and retention; allocation of dispatching costs to customers; staff deployment; asset maintenance and replacement; and, workforce and succession planning. In the attached response to this audit, the County Communications Department "agrees" or "partially agrees" with all of our recommendations.

In addition, the Employee Services Agency agreed with our recommendations related to staff recruitment and retention in its attached response. The Finance Agency and the Facilities Department also reviewed relevant portions of this report.

Board of Supervisors:

Mike Wasserman
District 1

Cindy Chavez
District 2

Dave Cortese
District 3

Ken Yeager
District 4

S. Joseph Simitian
District 5

County Executive: Jeffrey V. Smith

If implemented, these recommendations would:

- Improve the ability of the Department to fill vacancies to ensure that the Department is sufficiently staffed to meet the County's emergency 9-1-1 call answering and dispatch needs;
- Provide a regular review of the Department's methodology for allocating dispatching costs to ensure that they are more accurately and equitably allocated to customers;
- Improve 9-1-1 call answer times by deploying dually functioning call taker/dispatcher staff more efficiently and effectively;
- Provide a roadmap for the Department to continuously evaluate the physical condition of its facilities and assets, and for executive management to appropriately plan and budget for the ongoing maintenance and replacement of assets;
- Establish a workforce plan for the Department to continuously evaluate its staffing needs, while simultaneously improving employee morale, recruitment and retention, and call taking/dispatching performance.

As part of our fieldwork, two surveys were conducted of dispatch centers in other jurisdictions, and of all employees of the County Communications Department. The results of these surveys are attached to the Introduction of this audit. Finally, we would like to thank the County Communications Department, the Employee Services Agency, the Finance Agency, the Facilities and Fleet Department and their respective staffs for their cooperation and assistance with this audit.

Respectfully submitted,



Cheryl Solov
Board of Supervisors Management Audit Manager

CC:

Supervisor Cortese
Supervisor Wasserman
Supervisor Yeager

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Executive Summary

Section 1. Adopting Recommended Practices in Recruitment and Retention

The Communications Department currently has an excessive number of vacancies, particularly in its dispatcher positions. These vacancies are largely driven by early employee separations as a result of probationary releases. To improve recruitment and retention efforts in general, and address separations due to probationary releases in particular, the Communications Department should implement, or improve upon, as many of recommended practices described in this section as possible.

Section 2. Allocating Dispatching Costs More Accurately and Equitably

The Department's cost recovery and customer billing methodology does not have written procedures that provide for a regular review of actual staffing percentages which are used to allocate dispatching costs to customers. By not developing and implementing such procedures, the Department is at risk of inaccurately allocating costs for law enforcement, fire, medical, and other local government agencies when staffing changes occur. If costs are inaccurately allocated, the Department may undercharge customers in some areas and overcharge customers in other areas.

Section 3. Deploying Staff More Efficiently and Effectively

The Communications Department currently uses staff who function in the dual role of call taker and radio dispatcher. The number of call takers and radio dispatchers assigned to each shift varies, based on staff availability, workstation capacity and daily call volume fluctuation, among other factors. We determined that at all times of the day in FY 2014-15, there were an insufficient number of assigned call takers, which in turn led to sub-optimal call answer times, in spite of the Department's use of mandatory overtime to fill out the schedules.

Section 4. Inadequate Asset Maintenance and Replacement Management and Reporting

Due in part to the lack of County-wide policies and management information, the Communications Department has little to no information on the condition of its facilities and other assets. Concurrently, the Department continues to operate in an aging facility with structural and environmental issues not being captured in the County's current Capital Improvement Plan. The Communications Department should change the status quo by compiling its own detailed inventory of assets, as well as developing and monitoring its own comprehensive plan for the maintenance and replacement of assets going forward.

Section 5. Workforce and Succession Planning

Without a workforce plan to regularly assess its performance, or similar analytical practice, the Communications Department allowed staffing issues to accrue to such an extent that a third of its workforce became vacant before its recruitment and retention practices were evaluated. Consequently, we believe the Communications Department should create and adopt a workforce plan based on the California Department of Human Resources' *Workforce Planning Model* to appropriately assess its workforce needs and mitigate staffing and performance problems identified in this audit.

Introduction

This *Management Audit of the Santa Clara County Communications Department* was added to the Management Audit Division's Fiscal Year (FY) 2014-15 work plan by the Board of Supervisors of the County of Santa Clara, pursuant to the Board's power of inquiry specified in Article III, Section 302(c) of the Santa Clara County Charter. The Board added this audit after considering the annual County-wide audit risk assessment conducted by the Management Audit Division in accordance with Board policy.

Purpose, Scope and Objectives

The purpose of the audit was to examine the operations, management practices and finances of the County Communications Department, and to identify opportunities to increase the efficiency, effectiveness and economy of that administration. Work on this audit began with an entrance conference on February 16, 2016 and a draft report was issued to County Communications on March 9, 2017.

Two separate meetings on March 29, 2017 and April 4, 2017 were required to complete the exit conference with County Communications. In addition, we held an exit conference on April 10, 2017 with representatives of Facilities and Fleet and others regarding County Communications' capital improvements as described in Section 4 of this report and also met with County Finance Agency management on April 19, 2017 regarding County Communication's' cost allocation practices as described in Section 2 of this report.

A revised (final) report, incorporating feedback from the four exit conferences, was issued to the Department on July 19, 2017.

The audit's main objectives were:

- To assess 9-1-1 call answering and dispatch services, organizational structure and staffing in relation to workload
- To assess dispatch procedures, standards and performance measures for all dispatch communities
- To assess planning for future capital improvements, asset replacements and equipment upgrades

Audit Methodology

We interviewed key management personnel. These included the Director of County Communications Department before he retired, and the Deputy Chief of the County Fire Department who was temporarily assigned by the County Executive's Office to assist County Communications with its recruitment and retention efforts, and who later became its interim director. The County subsequently appointed a new director of

County Communications, who we also interviewed. Because the County Communications Department had three different directors over the course of our field work, we refer to them as “previous director,” “interim director,” and “new director” in this report to properly identify them and their dates of service, as shown in Table 1 below.

Table 1
2016 Department Leadership Change

Director	Throughout this report, referred to as:	Dates of Service
1	Previous Director	November 6, 2006 - September 11, 2016
2	Interim Director	September 12, 2016 - October 9, 2016
3	New Director	October 10, 2016 - present

Source: Santa Clara County Communications Department

Other management personnel interviewed were the managers of County Communications’ four major divisions (Budget & Finance, Operations, Support Services, and Technical Services).

We also interviewed line-level Communications Dispatchers I/I/III, Senior Communications Dispatchers, Supervising Communications Dispatchers, as well as various administrative staff.

We toured the communications center and the communications tower, which are in a restricted access area, on the top of “Communications Hill” at 2700 Carol Drive. We observed 9-1-1 call answering and dispatch activities during different shifts, different days of the week and different times of the day, for all dispatch communities.

We reviewed County Communications’ current and prior year budgets and actual costs. We also reviewed copies of the contracts between the Department and entities for whom it provides 9-1-1 call answering and dispatch activities, including the Sheriff’s Office, County Fire, County Emergency Medical Services (EMS), and other local government agencies. We reviewed County Communications’ cost allocation plan and fee schedule for the current and prior years.

We analyzed County Communications’ actual call data for all dispatch communities during FY 2014-15 to determine 9-1-1 call answer times, calls dropped and other pertinent call information. We used an industry-standard practice to determine the minimum number of call takers required to meet the average volume of incoming calls per hour in FY 2014-15. In addition, we compared for all of FY 2014-15 the number of actual call takers to the number of required call takers at every time on any given day.

We surveyed 10 comparison communications centers in the San Francisco-San Jose Bay Area and beyond, based largely on scope of responsibilities. The purpose of this survey was to compare key operations and management practices of those centers versus County Communications. The results of this survey are provided as Attachment I.1.

We also surveyed all employees of the Department to gauge their opinions about different aspects of working at County Communications. This survey asked employees to indicate their years of service, to tell us why they chose to work for County Communications, to assess their working conditions and to identify reasons why employees leave or stay at County Communications. We received survey responses from 49 employees. The results of this survey are provided as Attachment I.2.

We reviewed prior audits of County Communications, and all applicable Federal, State and local laws and regulations pertinent to the operations of the Department.

Compliance with Generally Accepted Government Auditing Standards

This management audit was conducted under the requirements of the Board of Supervisors Policy Number 3.35 as amended on May 25, 2010. That policy states that management audits are to be conducted under generally accepted government auditing standards (GAGAS) issued by the U.S. Government Accountability Office. We conducted this performance audit in accordance with GAGAS as set forth in the 2011 revision of the “Yellow Book” of the U.S. Government Accountability Office, except as described below. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. Except as described below, we believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Audit standard 6.84 necessitates that we identify limitations to our audit such as “....*scope limitations, restrictions on access to records, or other issues impacting the audit*” and describe the effect of those limitations on our conclusions. The following description meets that requirement.

Work on this audit began with an entrance conference on February 16, 2016. Almost immediately, our work was hampered by the previous director’s inability or unwillingness to maintain and provide us with timely, reliable and useful information on the Department’s key operations, management practices and finances.

At the entrance conference on February 16, 2016, we submitted an initial request for information to the Department. This included a request for actual call data for three years to determine call answer and dispatch times, dropped calls and other pertinent call information.

Several weeks later on March 11, 2016, Department management provided us with summary telephone activity. At that time we advised management that the information

was not sufficiently detailed to conduct the type of analysis required for this audit. We explained that we needed all incoming calls by emergency dispatch function as well as by initial ring time, answer time, dispatch time and call end time. To reduce the burden of gathering this data, we shortened our data request from three years to one year.

Over the next several months we repeatedly asked the Department for the requested data. Management periodically provided us with data from either the Department telephone or computer-aided dispatch (CAD) systems that was not sufficiently detailed for the purpose of our analysis. For example, we were provided with an email with call totals for the year without any means of determining what the compositions of the call total. On August 8, 2016, which was approximately seven months after the date of the entrance conference and our initial request for information, the Department provided us with a call dataset. However, County Communications receives the vast majority of its 9-1-1 emergency and non-emergency calls through its 7-digit administrative lines, but its telephone system cannot sort these calls by dispatch function. As a result, we could only assess the Department's overall performance, not its performance relative to specific dispatch functions (such as fire calls or calls for police). This, along with the inability to obtain more than one year of data, limited the scope of our audit. In addition, we repeatedly requested that the previous director or designee complete a survey that was also administered to other jurisdictions, and we sought assistance in developing that survey. The previous director provided no assistance and also did not complete the survey, despite numerous requests. Therefore, we did not have survey responses from County Communications to compare across jurisdictions. The effect of these limitations has been to narrow the scope of the audit and to limit the extent to which we can provide detailed information regarding Department operations to the Board of Supervisors. In all other respects, the audit complies with governmental auditing standards.

Since being appointed, the new director has responded to all our requests for information in a timely manner.

In accordance with auditing standards, we performed the following procedures:

Audit Planning - The task plan for this audit was developed after reviewing our annual County-wide audit risk assessment relative to County Communications, reviewing the results of our 2007 audit of County Communications, reviewing the Department's recent transmittals to the Board, and speaking with the previous director of County Communications.

Entrance Conference - An entrance conference was held with County Communications' staff, including the previous director of County Communications, to introduce the audit team, describe the audit program and scope of review, and to respond to questions. A letter of introduction from the Board, the audit work plan and a request for background

information were also provided at the entrance conference. Moreover, a letter was furnished to the staff by the Department's management to make them aware of the audit, and to advise them of how to reach the auditors if they wished to provide input.

Pre-Audit Survey - Audit staff reviewed documentation and other materials to obtain an overall understanding of the Department's operations, and to isolate audit areas that warranted more detailed assessments.

Field Work - Field work activities were conducted after completion of the pre-audit survey, and included: (a) a tour of the County Communications center, including observations of dispatchers on the job; (b) a further review of documentation and other materials; (c) analyses of data collected from systems maintained by County Communications and elsewhere in the County; (d) surveys of other dispatch centers to identify alternative policies and practices that might warrant consideration by the County; and, e) surveys of Department employees to gauge satisfaction with working conditions.

Draft Report - On March 9, 2017, a draft report was provided to the County Communications Department to describe the audit progress, and to share general information on our preliminary findings and conclusions. Relevant sections of the draft report were also provided to the Employee Services Agency, the Finance Agency, and the Facilities Department for their review and feedback.

Exit Conferences – Two separate meetings on March 29, 2017 and April 4, 2017 were required to complete the exit conference with the new director of County Communications and his staff, to obtain their views on the report findings, conclusions and recommendations, and to make corrections and clarifications as appropriate. Exit conferences were held with Facilities staff on April 10, 2017, and Finance Agency staff on April 19, 2017. An exit conference with the Employee Services Agency was not necessary as its feedback was received via email on April 11, 2017. Following these meetings, a revised draft was provided to County Communications on July 19, 2017 for use in preparing their formal written response.

Final Report - A revised (final) report was prepared and issued on July 19, 2017. The written responses are attached.

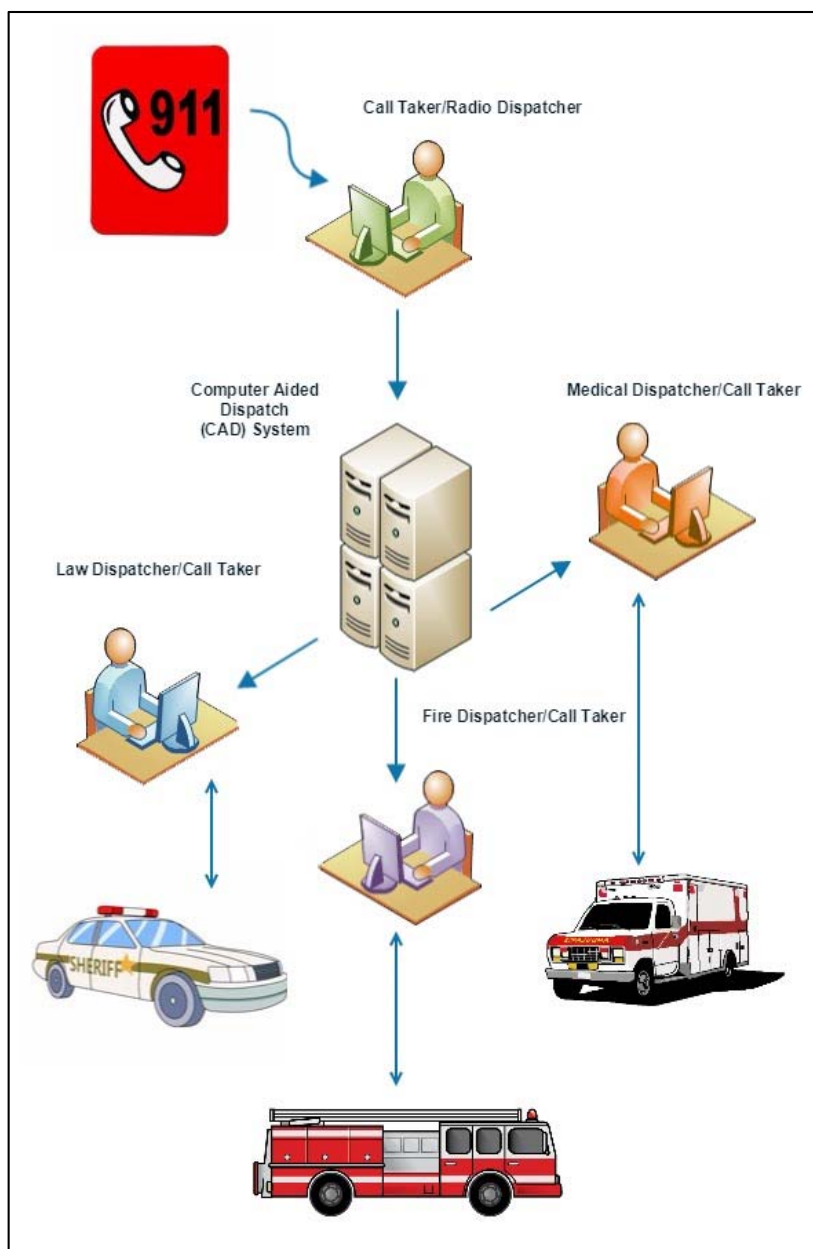
Background of the County Communications Department

The Board of Supervisors established the Santa Clara County Communications Department in 1948. The Communications Department provides: 9-1-1 call answering service to the public calling from the unincorporated areas of the County, and from several contract cities within the County; emergency radio dispatching for the Office of the Sheriff, County Fire, County EMS, and other local government agencies; and, emergency medical dispatch services, which include physician-approved medical instruction to 9-1-1 callers while paramedics are on the way to the scene of the medical emergency. The Communications Department also serves as a mutual aid coordinator for the mobilization of law enforcement, fire, and medical resources within one of the six mutual aid regions (Region II) established within the State.

9-1-1 Call Answering and Radio Dispatching Process

As described later in Section 3 of this audit report, County Communications' dispatchers function in the dual role of call takers and radio dispatchers. Call takers receive and handle all 9-1-1 calls for assistance from the public, certain County departments and other local government agencies. Call takers initiate and enter these calls into a Computer-Aided Dispatch (CAD) system and route the calls to the appropriate radio dispatchers in the law enforcement, fire, or medical communities. Radio dispatchers alert and assign responder personnel and resources to calls entered by the call takers. Radio dispatchers also communicate directly with responder personnel to track and record unit statuses, provide additional case details to responder personnel, and process field requests for additional resources, among other tasks. The number of call takers and radio dispatchers assigned to each shift varies, based on staff availability, workstation capacity, and daily call volume fluctuation, among other factors. Chart 1 on the following page illustrates the call taking and radio dispatching process.

Chart 1
9-1-1 Call Answering and Radio Dispatching Process

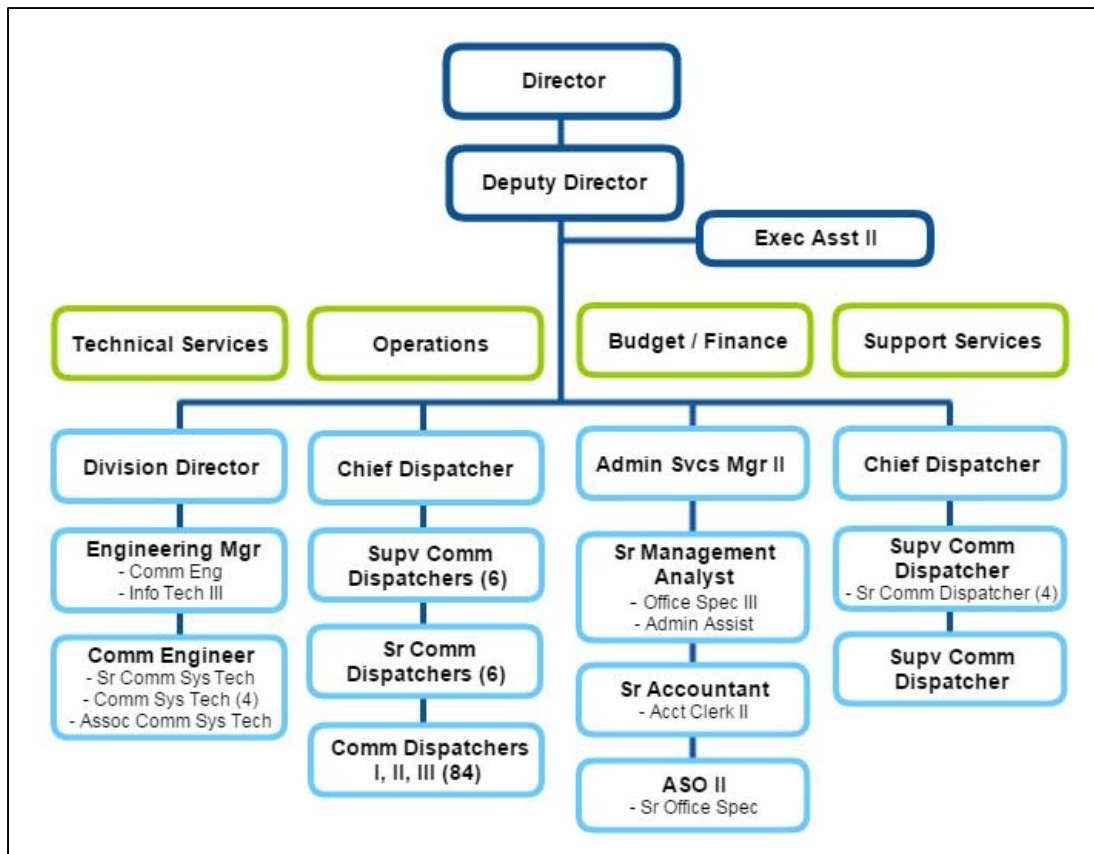


Notes: 1. This illustration should only be used to obtain a general sense of the call answering and dispatching process. Some details were purposefully simplified for clarity's sake. For instance, call takers are actually embedded in each dispatch community (i.e., law, fire, and medical). 2. Calls for local government services are handled by any available law, fire, or medical dispatchers during normal business hours, and by fire dispatchers after hours.

Organization and Staffing

As illustrated in Chart 2 below, the County Communications Department is under the supervision of the Director and Deputy Director, and consists of four major divisions (Budget & Finance, Operations, Support Services, and Technical Services). As of September 2016, County Communications had filled 92 of 129 positions, for a vacancy rate of 28.7 percent.¹ Of the 37 vacancies, 28 were in the entry-level Communication Dispatcher I/II/III positions, five were in the Senior Communication Dispatcher positions and two were in the Supervising Communication Dispatcher positions. Also vacant were the Technical Services Division Director position, and the Administrative Support Officer II position of the Budget & Finance Division.

Chart 2
County Communications Organizational Chart



¹ Of these 129 positions, 126 were authorized as part of the County's FY 2016-17 Adopted Budget. The other three positions were added by the Department as mid-year budget modification increases.

Call volume and workload

The County Communications center answered 364,874 incoming calls for assistance, and made 145,366 outgoing calls, for a total of 510,240 calls handled in FY 2014-15, as shown in Table 1 below.

The table shows that the Communications center answered most incoming calls (164,527) on its 7-digit administrative lines. The call data obtained from AT&T (the Department's contracted telephone service provider) was not sufficiently detailed to show these calls by dispatch function (such as fire or law enforcement). Nor were these calls identified as 9-1-1 emergency or non-emergency calls. The Communications center answered another 144,041 incoming calls via a two-point automatic circuit, or "ring down," that has a telephone at each end. When the telephone on one end is picked up (by a contract city for example), the phone on the other end in the Communications center automatically rings. No dialing is required. The Communications center answered another 56,209 incoming calls on telephone lines specifically designated for 9-1-1 emergency calls for law, medical, and fire services. A small portion of these calls (97) were answered on outgoing lines.

This workload translates to a daily average of approximately 1,000 incoming calls, and 398 outgoing calls.

Table 1
Call Volume in FY 2014-15

Call Type	FY 2014-15	Percent
Incoming calls		
<i>7-digit admin</i>	164,527	32.2%
<i>Ring down</i>	144,041	28.2%
<i>Law 9-1-1</i>	42,721	8.4%
<i>Medical 9-1-1</i>	12,587	2.5%
<i>Fire 9-1-1</i>	901	0.2%
<i>Outgoing</i>	97	0.02%
Subtotal	364,874	71.5%
Outgoing calls		
	145,366	28.5%
Total	510,240	100.0%

Source: AT&T

Dispatching Performance

To receive State funding for operating as a 9-1-1 call center, the County Communications Department must adhere to mandatory standards established by the California 9-1-1 Emergency Communications Branch (CA 9-1-1 Branch), including its call answer time standard. This standard were recently updated, but at the time of this analysis, the standard for answering 9-1-1 calls was that “during the busiest hour of any shift, ten (10) seconds shall be the maximum amount of time in which incoming 9-1-1 calls are to be answered.”²

The FY 2014-15 data indicates that County Communications is not meeting this standard. Based on 9-1-1 calls received on telephone lines specifically designated for 9-1-1 law, fire, and medical emergencies (other 9-1-1 calls received on other lines, such as 7-digit administrative lines, could not be disaggregated by AT&T), we determined that the busiest hour of any shift was 4 p.m., and that the Department answered only 80.3 percent of 9-1-1 calls received during this hour within 10 seconds.

Overall, the Department answered a slightly smaller percentage of 9-1-1 calls throughout the 24 hours of the day (80.2 percent) including those received at 4 p.m. within 10 seconds, as shown in Table 2 below.

Table 2
Call Statistics in FY 2014-15

Time of Day	No. of 9-1-1 Calls	% Answered w/ 10 secs.	Avg. Answer Time
<i>4 pm (busiest hour of any shift)</i>	3,474	80.3%	6.8 secs.
<i>All 24 hours of the day</i>	56,209	80.2%	7.2 secs.

Source: AT&T

Notes: Of the 56,209 total calls received on telephone lines designated for 9-1-1 emergencies, 42,721 were received on designated 9-1-1 law lines, 12,587 were recieved on designated 9-1-1 medical lines, and 901 calls were received on designated 9-1-1 fire lines.

² The new standard is “Ninety-five (95) percent of incoming 9-1-1 calls shall be answered within fifteen (15) seconds.” California 9-1-1 Emergency Communications Branch, Operations Manual, Chapter 1 – Standards. Revised September 2016.

FY 2016-17 Budget

The FY 2016-17 Adopted Budget for the County Communications Department included total expenditures of \$26,288,651, which were offset by expense reimbursements and other revenues of \$7,517,528, with General Fund support of \$18,771,123, as shown in Table 3 below. The General Fund accounted for about 71.0 percent of total revenues.

Table 3
County Communications' FY 2016-17 Budget

FY 2016-17	Budgeted Amount
Expenditures	
Salaries & Benefits ¹	\$19,099,348
Other Expenses	<u>7,189,303</u>
Total Expenditures	\$26,288,651
Revenues	
General Fund Support	\$18,771,123
Expense Reimbursements ²	6,320,752
Other Revenues	<u>1,196,776</u>
Total Revenues	\$26,288,651

Source: Report ZFMP003, BU 190, County's SAP Accounting System

Notes: 1. Provides for 126.0 Full-Time Equivalent (FTE) positions, including trainees. As previously mentioned, three additional positions were added as mid-year budget modification increases. 2. Includes expense reimbursements from entities for whom County Communications provides 9-1-1 call taking and dispatch services, including other County departments, contract cities and other local government agencies.

Department Accomplishments

Audits typically focus on opportunities for improvements within an organization, program or function. To provide additional insight into the operations of the County Communications Department, we requested that the Department provide some of its noteworthy achievements. These are highlighted in Attachment I.3.

Survey of Other Dispatch Centers

As previously noted, we surveyed 10 comparable communication centers nationwide, as shown in Table 4 on the following page. Of these surveyed centers, eight are located within California, including six in the San Francisco-San Jose Bay Area, and two in other states.

The Santa Clara County Communications Department is somewhat unique in that it functions as both a primary public safety answering point (PSAP) fielding all incoming 9-1-1 calls and a secondary PSAP to which 9-1-1 calls are transferred from a primary PSAP. None of the surveyed centers are both; they are either primary or secondary PSAPs.

However, County Communications shares other important characteristics with the surveyed centers. Chief among these is the fact that County Communications is responsible for dispatching for all dispatch communities (i.e., law enforcement/fire/medical). Four of the surveyed centers handle dispatching for all dispatch communities. These include the City and County of San Francisco Department of Emergency Management, San Mateo County Public Safety Communications, Prince George's County Office of Homeland Security-Public Safety Communications (Maryland), and Johnston County Emergency 9-1-1 Communications (North Carolina).³ Four other surveyed centers handle dispatching for their fire and medical communities only. These include the Alameda County Regional Communications Center, the Contra Costa Regional Fire Communications Center, the City of Oakland Fire Department, and the Sacramento Regional Fire/Emergency Medical Services Communications Center. Two other centers handle dispatching for their law enforcement communities only. These are the City of San Jose Police Department, and the San Diego County Sheriff's Department.

When appropriate, we included responses from the surveyed centers in in this audit report. We note that survey responses are self-reported data, and we did not verify the accuracy of this data.

³ The nonprofit standard-setting International Academies of Emergency Dispatch (IAED) has designated the communication centers of Prince George's and Johnston Counties as the fourth and fifth triple "Accredited Center of Excellence" (or Tri-ACE) in the world. A Tri-ACE designation signifies a communication center's accreditation in the law enforcement, fire, and medical protocols developed by the IAED.

Table 4
Dispatch Centers Surveyed

Jurisdiction	PSAP Status
<i>In State - Within the Bay Area</i>	
Alameda County Regional Communications Center	Secondary
Contra Costa Regional Fire Communications Center	Secondary
City of Oakland Fire Department	Secondary
City and County of San Francisco Department of Emergency Management	Primary
City of San Jose Police Communications	Primary
San Mateo County Public Safety Communications	Primary
<i>In State - Outside of the Bay Area</i>	
Sacramento Regional Fire/EMS Communications Center	Secondary
San Diego County Sheriff's Department	Primary
<i>Out of State</i>	
Prince George's County Office of Homeland Security-Public Safety Communications	Primary
Johnston County Emergency 911 Communications	Primary

Source: Board of Supervisors Management Audit Division

Recommendation Priorities

The priority rankings shown for each recommendation in the audit report are consistent with the audit recommendation priority structure adopted by the Finance and Government Operations Committee of the Board of Supervisors, as follows:

Priority 1: Recommendations that address issues of non-compliance with federal, State and local laws, regulations, ordinances and the County Charter; would result in increases or decreases in expenditures or revenues of \$250,000 or more; or, suggest significant changes in federal, State or local policy through amendments to existing laws, regulations and policies.

Priority 2: Recommendations that would result in increases or decreases in expenditures or revenues of less than \$250,000; advocate changes in local policy through amendments to existing County ordinances and policies and procedures; or, would revise existing departmental or program policies and procedures for improved service delivery, increased operational efficiency, or greater program effectiveness.

Priority 3: Recommendations that address program-related policies and procedures that would not have a significant impact on revenues and expenditures, but would result in modest improvements in service delivery and operating efficiency.

Dispatch Center Survey 2016 - Results

1. Please provide the contact information for the primary respondent.

N/a

2. Which of these best describes your communications center?

There were 10 respondents. Multiple responses were allowed. Thus, percentages total to more than 100.0 percent.

	No. of Responses	Percent
1. Primary PSAP.....	6	60.0%
2. Secondary PSAP.....	5	50.0%
3. Other (please explain).....	1	10.0%
- SCC has centralized ALS ambulance transport dispatching.		

3. Which of these services are dispatched by your center?

There were 10 respondents. Multiple responses were allowed. Thus, percentages total to more than 100.0 percent.

	No. of Responses	Percent
1. All of the below.....	4	40.0%
2. Fire services.....	4	40.0%
3. Medical services.....	4	40.0%
4. Law enforcement services.....	2	20.0%
5. Other (please explain).....	0	0.0%

4. What is your total full-time equivalent (FTE) position count?

There were 7 respondents. FTE

- San Francisco Emergency Mgt. 241
- San Jose City Police..... 164.5
- Santa Clara County.....126
- Johnston County E911..... 62
- Sacramento Regional Fire/EMS..... 50
- Oakland City Fire..... 23
- Contra Costa County Fire..... 23

5. Approximately how many of your center's FTE are:

Executive staff

There were 7 respondents. FTE

- San Francisco Emergency Mgt. 6

- San Diego Co. Sheriff..... 4
- San Jose Police..... 3
- Sacramento Regional Fire/EMS..... 3
- Santa Clara County 2
- Oakland City Fire..... 1
- Contra Costa County Fire..... 1

Administrative & other support staff

- There were 7 respondents. FTE
- San Francisco Emergency Mgt.12
 - Santa Clara County 9
 - Sacramento Regional Fire/EMS..... 5
 - San Diego Co. Sheriff..... 2
 - Oakland City Fire..... 1
 - San Jose Police..... 1
 - Contra Costa County Fire..... 1

Dispatchers

- There were 7 respondents. FTE
- San Francisco Emergency Mgt. 167
 - San Jose Police..... 140
 - San Diego Co. Sheriff..... 100
 - Santa Clara County 97
 - Sacramento Regional Fire/EMS..... 36
 - Oakland City Fire..... 22
 - Contra Costa County Fire..... 18

Engineers & technicians

- There were 4 respondents. FTE
- Santa Clara County 10
 - Contra Costa County Fire..... 3
 - Oakland City Fire..... 0
 - San Jose Police..... 0

Training staff

- There were 5 respondents. FTE
- Santa Clara County 7
 - San Francisco Emergency Mgt. 7
 - San Jose Police..... 5
 - Oakland City Fire..... 0
 - Contra Costa County Fire..... 0

IT staff

- There were 6 respondents. FTE
- San Francisco Emergency Mgt. 22
 - Sacramento Regional Fire/EMS..... 6

- Santa Clara County 1
- Oakland City Fire..... 0
- San Jose Police..... 0
- Contra Costa County Fire..... 0

Other staff (please specify)

There were 4 respondents.

- Santa Clara County
 - Extra help for academy and dispatching needs
- San Jose Police
 - 6 Supervising PSDs, 14 Senior PSDs (Leads)
- San Francisco Emergency Mgt.
 - 21 supervisors, 6 watch coordinators
- Sacramento Regional Fire/EMS
 - additionally, 4 part time volunteer and 2 part time admin

6. About how many dispatcher FTEs are currently vacant?

There were 8 respondents. FTE

- San Francisco Emergency Mgt. 25
- Santa Clara County 23
- San Jose Police.....15
- Sacramento Regional Fire/EMS..... 2
- Oakland City Fire..... 2
- Johnston County E911..... 0
- San Diego Co. Sheriff..... 0
- Contra Costa County Fire..... 0

7. Who trains your new dispatchers?

There were 8 respondents. Only one response was allowed. Thus, percentages total to 100.0 percent.

	No. of Responses	Percent
1. Full-time CTOs.....	4	50.0%
2. Experienced dispatchers	3	37.5%
3. Part-time CTOs	1	12.5%
4. Other (please explain).....	0	0.0%

8. About how many 9-1-1 calls does your center receive annually?

There were 5 respondents. No. of Calls

- San Francisco Emergency Mgt. 600,000
- San Jose City Police..... 450,000
- Johnston County E911..... 150,000
- Sacramento Regional Fire/EMS..... 150,000
- Contra Costa County Fire..... 65,000

9. Thinking of the totals calls you listed in Question #8 above, approximately what percentage of calls are for:

Law enforcement services

There were 4 respondents. Percent

- San Francisco Emergency Mgt. ... 85.0%
- Johnston County..... 58.0%
- Sacramento Regional Fire/EMS..... 0.0%
- Contra Costa County Fire..... 0.0%

Fire services

There were 4 respondents. Percent

- Contra Costa County Fire..... 21.0%
- Johnston County..... 20.0%
- Sacramento Regional Fire/EMS ... 15.0%
- San Francisco Emergency Mgt. 5.0%

Medical services

There were 4 respondents. Percent

- Sacramento Regional Fire/EMS.... 85.0%
- Contra Costa County Fire..... 79.0%
- Johnston County..... 22.0%
- San Francisco Emergency Mgt. 10.0%

Other services

There was 1 respondent.

- San Jose Police
 - Unknown – we don't track this information

10. What is the average amount of time in which your incoming calls are answered?

There were 4 respondents. No. of Secs.

- Contra Costa County Fire..... 7
- San Francisco Emergency Mgt. 7
- San Jose City Police..... 7
- Johnston County E911..... 9

11. What is your center's current time to dispatch? Ex. Approx. 90 percent of calls for law enforcement services are dispatched within 60 seconds.

Law enforcement services

There were 2 respondents.

- San Francisco Emergency Mgt.
 - Priority A: average 3:20 answer to dispatch
- Johnston County E911
 - 90.0% in 75 secs.

Fire services

There were 3 respondents.

- San Francisco Emergency Mgt.
 - average 1:35 answer to dispatch
- Johnston County E911
 - 90.0% in 60 secs.
- Contra Costa County Fire
 - Average 14 seconds; 90th percentile 27 seconds

Medical services

There were 3 respondents.

- San Francisco Emergency Mgt.
 - average 2:02 answer to dispatch
- Johnston County E911
 - 90.0% in 70 secs.
- Contra Costa County Fire
 - Average 14 seconds; 90th percentile 27 seconds

Other services

There was 1 respondent.

- San Jose Police
 - Tracked differently: call processing/1st key stroke to event entry for Priority 1: 1.24 for Priority 2: 1.62. Call queuing time/event entry to dispatch for Priority 1: 1.63 for Priority 2: 11.07 (times are in minutes)

12. What is your center's dispatch shift schedule? Ex. 8-hour shifts, 5 days per week.

There were 5 respondents.

- San Jose City Police
 - 10 hour shifts, 4 days per week
- Johnston County E911
 - 12 hour shifts
- Contra Costa County Fire
 - 6 dispatchers per shift with a minimum of 5 working; 24-hour shifts on the Kelly schedule
- San Francisco Emergency Mgt.
 - split roughly evenly between 5-8s and 4-10s
- Sacramento Regional Fire/EMS
 - 12 hour shifts, 3 on/3 off

13. Does your center offer split shifts? Ex. Two employees share one FTE position.

There were 5 respondents. Only one response was allowed. Thus, percentages total to 100.0 percent.

	No. of Responses	Percent
1. No.....	4	80.0%

2. Other (please explain).....1 20.0%
 - 2 part-time positions in calltaking rank, 3 part time positions in dispatch rank, we also offer per diem for both
3. Yes..... 0 0.0%

14. How does your center allocate dispatcher shifts? Ex. Shift bidding model assignments.

There were 5 respondents.

- San Jose City Police
 - Dispatch positions are based on channel needs. 8 channels, 2 service positions, 2 relief positions from 07:00-02:00. Radios are simulcast from 0200-0700 so only 4 channels are needed. For calltaking, based on assignment needs and call answering times.
- Johnston County E911
 - Seniority
- Contra Costa County Fire
 - Shifts are bid only when a vacancy arises, and is handled in seniority order. Employees must occupy a shift for at least 1 year once a bid is awarded. Generally there is little movement, as we are routinely fully staffed.
- San Francisco Emergency Mgt.
 - Twice yearly shift bidding by seniority
- Sacramento Regional Fire/EMS
 - annual shift bid, based on seniority

15. What is the average annual hours worked by your center's dispatchers?

There were 5 respondents.

- San Jose City Police
 - In 2014, 1,830 hours; in 2015, 1,682 hours
- Johnston County E911
 - 2,200 hours
- Contra Costa County Fire
 - Approximately 3,200 hours per dispatcher, including overtime
- San Francisco Emergency Mgt.
 - 1,888 hours
- Sacramento Regional Fire/EMS
 - 2,260 hours

16. Thinking of the average annual hours you listed in Question #15 above, approximately how many are overtime hours?

There were 5 respondents.

- San Jose City Police
 - In 2014, 165 hours; in 2015, 176 hours
- Johnston County E911
 - 120 hours
- Contra Costa County Fire
 - 250-300 hours

- San Francisco Emergency Mgt.
 - 266 hours
- Sacramento Regional Fire/EMS
 - 208 hours/year FLSA built into schedule; approx. 70 additional overtime hours

17. Does your center have a mandatory overtime policy, requiring dispatchers to work more than a standard 40-hour workweek?

There were 5 respondents. Only one response was allowed. Thus, percentages total to 100.0 percent.

	No. of Responses	Percent
1. Yes.....	5	100.0%
2. No.....	0	0.0%
3. Other (please explain).....	0	0.0%

18. Approximately how long is your dispatcher recruitment process from the time the job is posted to when candidates are hired?

There were 5 respondents.

- San Jose City Police
 - 6-9 months
- Johnston County E911
 - 2 months
- Contra Costa County Fire
 - Varies, but generally about 3 months
- San Francisco Emergency Mgt.
 - 6-9 months
- Sacramento Regional Fire/EMS
 - 2 months

19. How long are your new dispatcher training and probationary periods?

There were 5 respondents.

- San Jose City Police
 - 1 year probation. Call taking training is approx. 6 months, radio training is about 1 year
- Johnston County E911
 - 6 months
- Contra Costa County Fire
 - 4-5 months for training; 12 month probationary period
- San Francisco Emergency Mgt.
 - Training: 8 months; probation: 6 months after training
- Sacramento Regional Fire/EMS
 - training takes approx. 12 months; probation for lateral = 12 mos., for non-lateral = 30 mos.

20. What steps has your center taken to attract more candidates? Ex. Increased pay, streamlined testing, etc.

There were 5 respondents.

- San Jose City Police
 - Streamlined testing (eliminated POST exam), recent pay increase, created entry level radio dispatch versus lateral or promotion only, created business cards to hand out at all times (ex: leave the card with a tip for good food service)
- Johnston County E911
 - Increased pay and emd, efd, epd protocols
- Contra Costa County Fire
 - 24-hour shifts are our biggest recruitment tool. Pay is above-average and is even more increased with the 24-hour shift model (FLSA pay supplements the base salary). Generally no other recruitment is necessary because the center is usually fully staffed --- we only hire dispatchers from other agencies because of the shifts and pay. Our most recent position, for example, attracted 31 candidates, all of which were experienced dispatchers at other public safety agencies.
- San Francisco Emergency Mgt.
 - Continuous posting; higher pay (a few years ago was a big adjustment)
- Sacramento Regional Fire/EMS
 - quick hiring process including background, we are involved in networking and working with many, many centers and our reputation is good, we take very good care of our staff who is like family

Employee Survey 2016 - Results

1. Please indicate your years of service at County Communications.

There were 49 respondents. Only one response was allowed. Thus, percentages total to 100.0 percent.

	No. of Responses	Percent
• 10 years or more.....	28	57.1%
• Less than 5 years	13	26.5%
• 5 to 10 years	8	16.3%

2. Listed below are a number of factors why individuals apply for employment at County Communications. Please check three factors for why you chose County Communications.

There were 49 respondents. Multiple responses were allowed. Thus, percentages total to more than 100.0 percent.

	No. of Responses	Percent
• Interest in serving a vital public safety function.....	43	87.8%
• Compensation and benefits package.....	41	83.7%
• Opportunities for career development and growth.....	24	49.0%
• Work schedule compatibility.....	14	28.6%
• Other (please specify).....	13	26.5%
- The most common response was "job security."		
• Prestige associated with working for County Communications....	12	24.5%

3. Listed below are a number of statements about County Communications. Please indicate whether you agree or disagree with each statement by checking one box per row.

There were 49 respondents. Only one response was allowed. Thus, percentages total to 100.0 percent.

Entry level pay for my position is fair and equitable compared to most dispatch agencies.

	No. of Responses	Percent
• Agree.....	26	53.1%
• Disagree	12	24.5%
• No opinion	11	22.4%

Opportunities for career advancement motivates me to remain at the Department.

	No. of Responses	Percent
• Agree.....	23	46.9%
• Disagree	18	36.7%
• No opinion	8	16.3%

My direct supervisor provides adequate direction and leadership which motivates me to remain at the Department.

	No. of Responses	Percent
• Disagree	25	51.0%
• Agree.....	20	40.8%
• No opinion	4	8.2%

I am appropriately recognized for my work and contributions to the organization.

	No. of Responses	Percent
• Disagree	28	57.1%
• No opinion	11	22.5%
• Agree.....	10	20.4%

Our work facilities are clean and sanitary.

	No. of Responses	Percent
• Disagree	34	69.4%
• Agree.....	13	26.5%
• No opinion	2	4.1%

Our work facilities are properly maintained and in good working condition.

	No. of Responses	Percent
• Disagree	33	67.4%
• Agree.....	10	20.4%
• No opinion	6	12.2%

Over the past year, operational and management changes at the Department have provided motivation for me to stay in the Department.

	No. of Responses	Percent
• Agree.....	26	53.1%
• Disagree	14	28.6%
• No opinion	9	18.4%

4. Listed below are a number of reasons why personnel may voluntarily leave County Communications. For each reason, please indicate whether it might cause others to leave, or might cause you to leave, or both. If you do not believe the reason listed is an actual reason you or others might leave, please select "No Opinion." You can check more than one box per row.

There were 49 respondents. Multiple responses were allowed. Thus, percentages total to more than 100.0 percent.

Inadequate base pay.

	No. of Responses	Percent
• Reason others may leave.....	27	55.1%
• No opinion	21	42.9%
• Reason I may leave.....	6	12.2%

Inadequate benefits (e.g. retirement or health).

	No. of Responses	Percent
• No opinion	35	71.4%
• Reason others may leave.....	14	28.6%
• Reason I may leave.....	5	10.2%

Inadequate initial and in-service training.

	No. of Responses	Percent
• Reason others may leave.....	28	57.1%
• No opinion	21	42.9%
• Reason I may leave.....	4	8.2%

Inadequate schedule options.

	No. of Responses	Percent
• Reason others may leave.....	30	61.2%
• No opinion	17	34.7%
• Reason I may leave.....	13	26.5%

Can receive competitive compensation elsewhere with comparatively less responsibilities.

	No. of Responses	Percent
• Reason others may leave.....	34	69.4%
• Reason I may leave.....	15	30.6%
• No opinion	14	28.6%

Minimal promotional opportunities.

	No. of Responses	Percent
• No opinion	24	49.0%
• Reason others may leave.....	19	38.8%
• Reason I may leave.....	12	24.5%

Inadequate or poor facilities.

	No. of Responses	Percent
• Reason others may leave.....	31	63.3%
• No opinion	17	34.7%
• Reason I may leave.....	10	20.4%

Inadequate support from supervisors and managers.

	No. of Responses	Percent
• Reason others may leave.....	29	59.2%
• Reason I may leave.....	21	42.9%
• No opinion	17	34.7%

Hostile or inappropriate work environment.

	No. of Responses	Percent
• Reason others may leave.....	31	63.3%
• Reason I may leave.....	18	36.7%
• No opinion	16	32.7%

Personal reasons (e.g. long commute and/or high stress).

	No. of Responses	Percent
• Reason others may leave.....	36	73.5%
• Reason I may leave.....	18	36.7%
• No opinion	8	16.3%

County of Santa Clara

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Communications Department

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Recent Departmental Accomplishments

Microwave Upgrade

- This project, currently in the procurement phase will upgrade the microwave infrastructure and add a new microwave link from County Communications to Berger Drive.

Technical Services Software Solution

- Currently in deployment phase of ComShop software to improve current legacy system that will improve work order tracking, billing and allocation of human resources.

SCADA System

- The replacement SCADA system will be used to monitor critical infrastructure throughout the County including all radio towers that support fire, sheriff and EMS. Tied to the Microwave upgrade project.

Building Replacement

- The current administration has requested, through the capitol planning process, for the replacement of the building. We expect this will be a multi-phased project. Phase one will consist of securing funding for a building replacement study.

Workspace Assessment/Replacement

- Final design and negotiation stage of complete replacement of workspace for all administrative and technical staff.
- After a workplace assessment was completed, it was identified that workgroups were not co-located. This project will co-locate staff into functional workgroups.
- Complete asbestos abatement of technical services flooring.

Employee Health/Wellness

- In close coordination with the County Wellness program, implemented a Department specific, employee focused wellness program, "Wellness 24/7".
- Rolling out several initiatives at the 2017 National Telecommunicator Week, April 10-17, 2017.

CAD Replacement

- Completed a needs assessment and secured a funding source to replace the current CAD system that is 30+ years old.

- Coordinated the project with the needs of partner agencies to procure a consolidated RMS/CAD solution.
- Developed ISD and consultant resources to align County capability with the project scope. Project has kicked off with implementation expected in two-to-three years.

Building Access Control/Physical Security

- Completed secure access control (key card access) to provide an additional layer of security to Dispatch Operations and server room designed to further secure sensitive criminal justice information and systems used by dispatch staff.

Budget/Finance Budget FY17 Adjustment

- Completed a full review and audit of prior budgeting processes.
- Submitted a performance-based budget request for the first time in the Department's history.
- Engaged division heads to be an active participant in budget development and execution.
- Appropriately programmed funds for specific needs to more accurately and transparently present the Department fiscal activities.

Organizational Development

- We are providing Just Culture training for the entire organization with a focus on the Department's greatest assets- our employees. Additionally, we are reviewing the roles and responsibilities for each administrative position and re-establishing the appropriate level of authority for those positions.

Senior Leadership Team (SLT)

- Within the last year, County Communications has successfully on-boarded a new Director, Deputy Director and Division Director of Technical Services. These positions were filled after an exhaustive national talent search.
- With half of the SLT new to the Department and the County, we are focused on development of our team dynamics and modeling positive behavior as we lead by example and set the expectation moving forward.

Culture

- The new senior leadership team conducted an off-site strategic planning session for the first time in the Department's history. At this session the leadership team established a new vision for the Department with a focus on core values and Just Culture.
- The Department has retained the services of a leading professional services consultant to lead a comprehensive and on-going leadership training experience. Additionally, they are conducting an employee engagement project that includes surveys, focused groups, interviews and on-going training of staff.

- The Department conducted a SWOT Analysis of our organization and goals. The information learned has helped us prioritize and move forward.

Recruitment and Hiring

- Developed a short-term aggressive hiring plan for CY 2017. This included holding 4 dispatch academics.
- To facilitate the hiring of 48 dispatchers, Department staff worked with ESA on the recruitment process and built new relationships with three background investigation companies to handle this drastically increased workload. Hiring went from ~2-4 per year to an estimated 48 in CY 2017.

Employee Development

- Enabled technical services staff to attend much needed industry training that has been solely missing.

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Section 1. Adopting Recommended Practices in Recruitment and Retention

Background

County Communications' mission is to provide high quality, cost effective emergency communications services to the public and the public safety community through coordinated emergency 9-1-1 call answering and dispatch services.

Problem and Adverse Effect

County Communications has an excessive number of vacancies, particularly in its dispatcher positions. For example, as of September 2016, the vacancy rates for Senior Dispatchers and Dispatchers I/II/III were at 50.0 percent and 32.2 percent, respectively. Vacancies among Dispatcher I's were largely driven by "probationary releases," which is the discharge of an employee during a probationary period. Because of high vacancy rates among its dispatcher positions, County Communications has required an average of eight hours per week of mandatory overtime for dispatchers to meet the County's emergency 9-1-1 call answering and dispatch needs. Research (see Footnote 1 of this section for sources) shows that, across a wide range of workers, meeting staffing needs with mandatory overtime results in employee burnout, reduced work performance, reduced job satisfaction, and health problems. It can also have unhealthy social costs, such as reduced parenting and family time, and diminished quality of services. We surmise that mandatory overtime and its associated effects may increase employee turnover, thereby exacerbating the vacancies that necessitate mandatory overtime.

Recommendations, Savings and Benefits

County Communications should implement, or improve upon its implementation of, as many of the recommended practices described herein to reduce employee turnover and fill vacant positions.

BACKGROUND

Like 9-1-1 centers nationwide, County Communications never closes. As a 24 hours per day/7 days per week/365 days per year operation, it provides the vital connection between the residents of Santa Clara County and emergency responders. Therefore, it is essential for County Communications to be sufficiently staffed to meet the County's 9-1-1 call answering and dispatch needs. However, like 9-1-1 centers nationwide, County Communications is undergoing a severe shortage of dispatchers. The reasons why dispatch centers are undergoing shortages vary, including employee turnover, slow

recruitment and hiring processes, and the time it takes to train new dispatchers, among other factors.

The Department has high vacancy rates, particularly in its entry-level dispatcher positions

County Communications has high vacancy rates, particularly in its dispatcher positions, as shown in Table 1 below. As of September 2016, the overall Department-wide vacancy rate was approximately 29.0 percent. The vacancy rates for Dispatchers I/II/III and Senior Dispatchers were higher at 32.2 percent and 50.0 percent, respectively. The Department's executive staff reported that the high vacancy rate in the Senior Dispatcher positions is due to the fact that the Department has intentionally left Senior Dispatcher positions vacant, while simultaneously maintaining as many Dispatcher I/II/III positions filled as practicable to ensure that all 9-1-1 calls are answered and handled effectively.

Table 1
Department-Wide Vacancies as of September 2016

Type of Classification	Authorized		Rate
	Position	Vacancies	
	Count		
Dispatchers I/II/III	87	28	32.2%
Sr Dispatchers	10	5	50.0%
Supv Dispatchers	8	2	25.0%
Director/Deputies/Exec Assist	4	1	25.0%
Admin Assistants	5	1	20.0%
Accountants/Analysts	3	0	0.0%
Chief Dispatchers	2	0	0.0%
Technicians	7	0	0.0%
Engineers	3	0	0.0%
Total	129	37	28.7%

Source: Santa Clara County Communications Department

Notes: Includes 126 positions authorized as part of the County's FY 2016-17 Adopted Budget, and three additional positions added during the fiscal year.

Department staff attribute the high vacancy rates among dispatcher positions to two primary factors:

- there has been an upward trend in employee separations in recent years, and
- the County's recruitment efforts have not kept pace in replacing these employees.

In addition, County Communications' managers have not conducted a Department-wide survey to identify the reasons why employees stay at County Communications, and the factors that would encourage employees to stay longer. Nor have they developed a formal retention plan to address these issues.

High vacancies have led to the use of mandatory overtime for coverage

Because of high vacancy rates among its dispatcher positions, County Communications has required an average of eight hours per week of mandatory overtime for dispatchers (or the equivalent of two hours above the standard 10-hour work shift) to meet the County's emergency 9-1-1 call answering and dispatch needs. Research shows that, across a wide range of workers, meeting staffing needs with mandatory overtime results in employee burnout, reduced work performance, reduced job satisfaction, and health problems. For example, a meta-analysis by the U.S. Centers for Disease Control and Prevention found that overtime in general was associated with poorer perceived general health, increased injury rates, more illnesses, or increased mortality in 16 of 22 studies.¹ In addition, the authors of a research paper from a nonpartisan nonprofit organization found that overtime takes its toll not only on workers, but also on their families, communities and employers.² According to the authors, more hours spent at work can translate into reduced parenting and family time, and diminished quality of goods and services. We surmise that mandatory overtime and its associated effects may increase employee turnover, thereby exacerbating the vacancies that necessitate mandatory overtime.

¹ Caruso, Hitchcock, Dick, Russo, & Schmit, 2004. "Overtime and Extended Work Shifts: Recent Findings on Illness, Injuries and Health Behaviors." U.S. Centers for Disease Control and Prevention.

² Jorgensen & Golden, 2002. "Time after time, Mandatory Overtime in the U.S. Economy." Economic Policy Institute.

Employee separations from the Department have increased in recent years

The overall separation rate for all positions has fluctuated widely over the past 10 fiscal years, as illustrated in Table 2 below, but has shown an upward trend in recent years from 6.3 percent in FY 2012-13 to a high of approximately 15 percent in both FY 2015-16 and FY 2016-17. This is consistent with the national turnover rate for dispatcher positions, which averages between 15.0 percent and 17.0 percent, according to research conducted on behalf of the Association of Public-Safety Communications Officials.³

Table 2
10-Year History of Employee Turnover
FY 2007-08 Through FY 2016-17

Fiscal Year	Authorized Position Count	Separations	Rate
2007-08	113	12	10.6%
2008-09	113	17	15.0%
2009-10	112	7	6.3%
2010-11	112	7	6.3%
2011-12	112	14	12.5%
2012-13	112	7	6.3%
2013-14	112	11	9.8%
2014-15	112	13	11.6%
2015-16	121	18	14.9%
2016-17 Projected	129	19	14.8%
Average	114.8	12.5	10.8%

Source: Previous Years' Budgets & Human Resource Payroll System (HaRP) (*PeopleSoft*) data, County of Santa Clara

Notes: In FY 2016-17, there were seven actual separations through October 2016. At the audit exit conference, Department executive staff reported seven additional separations through March 2017. Based on this information, we project a total of 19 separations for all of FY 2016-17.

³ Taylor, Gardner, Clark, & McCombs, 2005. "APCO Project RETAINS - Staffing and Retention in Public Safety Communication Centers." University of Denver Research Institute.

Employee separations from the Department are largely driven by “probationary releases”

As shown in Table 3 below, over the past 10 years, from FY 2007-08 through FY 2016-17, most employee separations from County Communications occurred among its entry-level Dispatcher I positions. They accounted for 42.0 percent of all classes of separating employees over the 10 years. Table 3 also shows that among Dispatcher I’s, the single largest number of separations at 24 was as a result of a “probationary release,” or the discharge of an employee during a probationary period. Per Department policy, County Communications uses an 18-month probationary period (from date of hire) to ascertain whether a new employee will be retained.⁴ If a new employee’s performance is substandard during the probationary period, he/she is discharged from service.

Table 3
10-Yr History of Employee Separations
FY 2007-08 Through FY 2016-17

Classification	Retirements	Prob. Releases	Resignations	Transfers Out	Personal Reasons	Deaths	Misconducts	Total	%
Dispatcher I		24	14	8	1			47	42%
Dispatcher II	11	4	5	2	3	1		26	23%
Dispatcher III	6		2	2		2	1	13	12%
Sr Dispatcher	7		1					8	7%
Supv Dispatcher	8							8	7%
Chief Dispatcher	2							2	2%
Comm Systems Tech	1		1					2	2%
Office Specialist III	1			1				2	2%
Account Clerk				1				1	1%
Admin Support Officer II	1							1	1%
Comm Engineering Mgr	1							1	1%
County Comm Director	1							1	1%
County Comm Div Dir	1							1	1%
Total	40	28	23	13	5	3	1	113	100%
%	35%	25%	20%	12%	4%	3%	1%	100%	

Source: Human Resource Payroll System (HaRP) (PeopleSoft) data, County of Santa Clara

Notes: 1. The table includes all employee separations through October 2016. It does not include the seven additional separations through March 2017 that the Department reported to us at the audit exit conference. 2. According to the Department, the Dispatcher II who reportedly died actually retired before dying.

⁴ Policy Number 4.1.9 (2002 & 2010). Santa Clara County Communications Department.

New (dispatcher) employees are trained first in the law enforcement area, followed by either the fire or medical areas depending upon current departmental needs. Training includes proper use of telephone and radio dispatching equipment, acronyms, codes, and the Computer Aided Dispatch (CAD) system, among other subjects. This CAD system is old and requires employees to utilize esoteric command prompts to execute actions (which is discussed further in the next audit section). Memorization and hands-on application are emphasized and continually tested. Employees must achieve minimal passing scores to continue training.

To address early separations as a result of probationary releases, we recommend bifurcating training such that employees are trained first as call-takers. Once they become proficient as call-takers, only then should they be trained to carry out dispatching services. This will reduce “drop outs” who are unable to memorize and apply the user-based commands necessary for dispatching duties in the first months of employment.

Most employee turnover occurred after either (a) more than five years of service or (b) less than one year of service

Employee turnover occurred most often in the late stages of a career at County Communications. A career of more than five years of service accounted for 52.0 percent of all lengths of service, as shown in Table 4 below. The majority of this turnover was as a result of retirements, which accounted for 35.0 percent of all separation types, as shown in Table 4. As previously mentioned, County Communications should conduct a standard Department-wide survey to identify the reasons why employees stay at County Communications, and the factors that would encourage employees to stay longer. And it should develop and implement a formal retention plan to address these issues.

Turnover occurred second-most often in the early stages of a career. A career of less than one year of service accounted for 34.0 percent of all service lengths, as shown in Table 4. As can be seen, most of this turnover was as a result of “probationary releases.”

Table 4
10-Yr History of Employee Tenure
FY 2007-08 Through FY 2016-17

Turnover Period	Retirements	Prob. Releases	Resignations	Transfers Out	Personal Reasons	Deaths	Misconducts	Total	%
More Than 5 Years	40	0	8	5	2	3	1	59	52%
Less Than 1 Year	0	20	9	8	1	0	0	38	34%
1 Year to 5 Years	0	8	6	0	2	0	0	16	14%
Total	40	28	23	13	5	3	1	113	100%
%	35%	25%	20%	12%	4%	3%	1%	100%	

Source: Human Resource Payroll System (HaRP) (*PeopleSoft*) data, County of Santa Clara

Notes: 1. The table includes all employee separations through October 2016. 2. One of the three deaths over the past 10 years was actually a retirement, according to the Department.

RECOMMENDED PRACTICES

Attachment 1.1 to this audit section represents our assessment of the County Communications Department's efforts with respect to commonly recommended recruitment and retention practices. The Department has already implemented some (but not all) of these practices. We believe it should implement, or improve upon its implementation of, as many of these practices as possible to reduce turnover and fill vacant positions. Highlights of our assessment include:

Develop a strategic recruitment and selection plan - With respect to addressing early separations as a result of probationary releases, we recommend developing a strategic recruitment and selection plan containing clear marketing and outreach goals with measurable outputs and outcomes to determine success.

Current practice - Components of a strategic recruitment and selection plan are in place. In FY 2015-16, County Communications worked with the County's Employee Services Agency (ESA) to streamline the recruitment process. For example, they shortened the total processing time from seven to four months, and developed a two-year recruitment calendar with key dates and timelines. However, neither County Communications nor ESA has developed and published a strategic recruitment and selection plan with marketing components to provide direction on how to consistently and effectively undertake recruitment and hiring.

Review and update job classifications - We recommend regularly reviewing and updating job classifications to ensure changes in job complexity, duties, and responsibilities are properly represented and reflected in job descriptions.

Current practice - ESA staff reported that they, along with the County Communications Department, recently reviewed and updated job classifications for the Dispatcher I, Supervising Dispatcher, and one of the Division Director positions. Other classifications have not been updated.

Publish the office's vision, mission, etc. - -We recommend publishing the office's vision, mission, history, job expectations, and prominently display the minimum qualifications for employment.

Current practice - County Communications' website contains a mission statement. But it does not have a vision statement that outlines the future of the organization. Nor does it effectively portray the history and strengths of the organization. For example, its "History of County Communications" page has only four historical dates and photographs. Job expectations and minimum qualifications for employment are only displayed in the links to job advertisements.

Create a mentoring program - We recommend creating a formal mentoring program for new employees.

Current practice - This type of program does not currently exist. County Communications should gauge employee interest in such a program. If sufficient interest exists, County Communications should develop and implement one in part to help minimize probationary releases.

CONCLUSION

County Communications has an excessive number of vacancies, particularly in its dispatcher positions. These vacancies are driven by early employee separations, largely as a result of probationary releases. To improve its recruitment and retention efforts overall, and address its high vacancy and separation rates in particular, County Communications should implement, or improve upon, as many of the recommended practices described herein and in the attachment as possible.

RECOMMENDATIONS

It is recommended that the County Communications Department:

- 1.1 Regularly review and update all job classifications to ensure changes in job complexity, duties and responsibilities are properly represented and reflected in job descriptions. (Priority 1)

- 1.2 Publish, on its website, the office's vision, mission, history, job expectations, and minimum qualifications for employment to promote and foster candidate self-screening. (Priority 1)
- 1.3 Bifurcate training such that new (dispatcher) employees are trained first as call-takers. Once they become proficient as call-takers, only then should they be trained to carry out dispatching services. This will reduce "drop outs" who are unable to memorize and apply the user-based commands necessary for dispatching duties in the first months of employment. (Priority 1)
- 1.4 Conduct a Department-wide survey to identify the reasons why employees stay at County Communications, and the factors that would encourage employees to stay longer, and develop a formal retention plan to address these issues. (Priority 2)
- 1.5 Develop a strategic recruitment and selection plan with clear marketing and outreach goals, and a candidate selection component, which describes, and ultimately publicizes, the characteristics that the County is looking for in a dispatcher. (Priority 2)

SAVINGS AND BENEFITS

Filling County Communications' dispatcher vacancies would ensure that County Communications is sufficiently staffed to meet the County's emergency 9-1-1 call answering and dispatch needs, while simultaneously avoiding mandatory overtime for coverage.

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<u>Recruitment Strategies & Methods</u>	<u>Recommendation</u>	<u>Strengths</u>	<u>Weaknesses</u>
1.1	The organization should have a formal recruitment plan containing a clear marketing/outreach plan with measureable outputs and outcomes to determine success.	Over the past year, County Communications has worked with ESA to streamline the dispatcher recruitment process. They have also developed a two-year recruitment calendar, with two academies completed in 2016, and four scheduled in 2017.	Components of a strategic recruitment plan are in place, but neither County Communications nor ESA has developed a formal one. The two should coordinate to develop and implement such a plan with measureable marketing/outreach outputs and outcomes.
1.2	Marketing efforts should be formalized in a strategic plan or otherwise, focus on key job satisfaction and compensatory benefits of becoming a dispatcher versus pursuing other professions.	Web-based marketing is significant. There is a direct link from County Communications' website to ESA's website where the Department's employment opportunities are posted. ESA also posts the Department's employment opportunities on other websites, including APCO International and Monster.com.	The Department does not currently have connections with local high schools or colleges. It should talk with local high schools and colleges about the possibility of mutually establishing a dispatcher feeder program.
1.3	As part of effective marketing strategy, the organization should have developed an effective "employer brand" to attract qualified applicants (e.g. best technology in the region).	The Department's website publicizes that County Communications was the first county in the State and 11th county nationwide to become an Accredited Center of Excellence in emergency medical dispatching.	Employer branding is not readily apparent in marketing efforts. County Communications and ESA should incorporate this honor in marketing efforts to attract qualified applicants.
1.4	As part of strategic planning, the organization should have developed a formal criterion, and profile, for the types of applicants desired, resulting in attracting the "right" candidate types as opposed to weeding out the "wrong" candidates.	County Communications' job descriptions contain sufficient detail to foster candidate "self screening." For example, job descriptions contain a list of specific Knowledge, Skills and Abilities (KSAs) that qualified applicants must possess for any dispatching jobs.	This has been accomplished.
1.5	Recruitment should be coordinated with other public safety entities.	County Communications has working relationships with other County public safety departments, such as the Sheriff's Office and County Fire, and partners with them to host recruiting events throughout the State.	Recruiting events are not advertised on County Communications' website. Instead there is a link from the Department's website to the Sheriff's Office where recruiting events are advertised. County Communications should advertise recruiting events on its website.
1.6	The organization should offer a competitive compensation package consistent with the region.	Compensation packages appear to be competitive against other dispatch centers in the region. However, a detailed comparison of compensation packages in the region was beyond the scope of this analysis.	
1.7	Job descriptions should be consistent with the expectations and knowledge, skills, and abilities required of the job.	Job descriptions list the KSAs needed and other basic requirements.	This has been accomplished.
1.8	Job classifications should be regularly reviewed and updated to ensure that changes in job complexity are properly represented and subsequently reflected in job descriptions.	Job classifications are periodically reviewed.	ESA recently reviewed and updated job classifications for entry-level and supervising dispatcher positions. Both classifications are key to recruiting efforts. However, ESA should regularly review and update job classifications for all dispatcher positions.
1.9	The organization should effectively advertise in various local, regional and national mediums and have a dedicated budget for such advertising.	The County advertises on www.scc.gov and in some national web-postings, such as APCO International and Monster.com.	Except for www.scc.gov, advertisement in local/regional media is minimal. The County should explore local print media and regional web-postings. Neither County Communications nor ESA has a dedicated budget for such advertising.

<u>Recruitment Strategies & Methods</u>	<u>Recommendation</u>	<u>Strengths</u>	<u>Weaknesses</u>
2.0	The organization should participate in various recruiting methods, including career days, job fairs and other events.	County Communications partners with other public safety departments and participates in various recruiting events.	County Communications does not advertise recruiting events on its website. It should do so.
2.1	The organization should use a dedicated and regularly updated website as a cornerstone of cost-effective recruitment marketing.	Both County Communications and ESA's websites contain information about jobs. ESA's website contains additional information about the hiring process.	County Communications' website should contain additional information about the hiring process. For example, it would be helpful to post "frequently asked questions" from applicants. Both County Communications and ESA should enhance their websites as marketing tools.
2.2	The website should publish the organization's vision, mission, history, job expectations, and prominently display the minimum qualifications for employment.	County Communications' website has a mission statement.	County Communications' website does not have a vision statement that outlines the future of the organization. Nor does it effectively portray the history/strengths of the Department. For example its "History of County Communications" page has a handful of historical dates and photographs. Minimum qualifications for employment are only displayed in links to job advertisements.
2.3	The website should include a video advertisement of the organization's dispatch operations in streaming video or similar technology.		There is no video advertisement technology in use.
2.4	Recruitment should focus reasonable efforts on professions often dominated by women.		County Communications does not target any particular group or profession. The Department should focus reasonable efforts on professions often dominated by women.
2.5	To the extent possible, "hotlinks" to the organization's website should be hosted on the websites of other organizations.		Hotlinks are not hosted. The County should develop relationships with other organizations that are likely to allow links to County Communications' employment opportunities.
2.6	To expedite self-screening given the technological requirements of a dispatch position, applications should be only accepted through the internet.	With the exception of part-time Extra Help employment, all applications for County employment are only accepted through the Internet.	
2.7	Market surveys should be periodically conducted by HR to compare salaries and benefits against market competitors.	Realignment of salaries and benefits are part of the contract negotiations process. For example, effective June 22, 2015, dispatcher I-III classifications received a pre-negotiated 5% realignment.	
2.8	The organization should have a recruitment committee providing oversight of the recruitment program.		County Communications has not formed a dedicated committee overseeing recruitment. It should do so.
2.9	The organization should have formal and identified recruiters.	One full-time ESA staff is dedicated to all Human Resource (HR) efforts, including recruitment, for County Communications.	County Communications has not identified any staff within the Department that is responsible for recruitment.
3.0	A thorough process of identifying, selecting, training, and evaluating recruiters should be completed. The organization should communicate that effective recruitment is a high priority.		ESA is solely responsible for hiring and evaluating staff to recruit, among other HR duties. There is no indication that ESA evaluates its staff based on effective recruitment outcomes.

<u>Recruitment Strategies & Methods</u>	<u>Recommendation</u>	<u>Strengths</u>	<u>Weaknesses</u>
3.1	Identified recruiters should have received formal recruitment training consistent with CALEA or other professional standards.		This has not been accomplished. ESA should provide its one staff dedicated to recruitment for County Communications with formal recruitment training consistent with CALEA or other professional standards.
3.2	The organization should encourage word-of-mouth advertising, and reward employees for identifying qualified applicants who join the organization.		Neither County Communications nor ESA rewards employees for identifying qualified applicants who join the organization. They should coordinate to develop an Employee Referral Program to reward employees for identifying initial hires and/or those who pass probation. The County should dedicate a budget for this purpose.
3.3	The process for selection of recruits should be thorough in terms of assessing a candidate's qualifications and job suitability.	County Communications' selection process is very thorough with multiple elements, including testing components, interview panels and background checks.	
3.4	The application/selection process should be streamlined to contain only essential steps necessary to confirm a candidate's probable job success. The process should be consistent with other dispatcher selection programs.	As previously mentioned, over the past year, County Communications and ESA has worked to streamline the recruitment process. For example, new hires are allowed up to one year from date of hire to pass the California POST certification exam. Prospective candidates were previously required to pass the exam as a part of the recruitment process.	
3.5	Lateral candidates should undergo a streamlined application/selection process.		This has not been accomplished. County Communications and ESA should develop and publish a streamlined application/selection process for lateral transfers. For instance, they could eliminate the CritiCall test for the individual currently working as a dispatcher and who can show proof of passing a dispatcher training program elsewhere.
3.6	The application process should be expedited to limit wait time from the prospective candidate's perspective. For example, background investigations should take a reasonable amount of time.	County Communications has historically contracted two vendors to perform background investigations. Recently, it contracted a third vendor to do the same. This has hastened the amount of time it takes to process such investigations.	There may be other opportunities to further streamline the application/selection process. The County should review and update the process as necessary.

<u>Retention Strategies & Methods</u>	<u>Recommendation</u>	<u>Strengths</u>	<u>Weaknesses</u>
3.7	The organization should have an independent and formalized retention plan as a component of a broader strategic plan. This plan should start by identifying factors that employees like and dislike about the organization, as well as what would encourage employees to stay longer.		Neither County Communications nor ESA has an independent, formalized retention plan. They should identify the reasons why employees stay at County Communications, factors that would encourage employees to stay longer, and develop a retention plan to address these issues.

<u>Retention Strategies & Methods</u>	<u>Recommendation</u>	<u>Strengths</u>	<u>Weaknesses</u>
3.8	The organization should offer a competitive compensation package consistent with the region.	As previously mentioned, compensation packages appear to be competitive and consistent with the region. However, a detailed comparison of compensation packages was beyond the scope of this analysis.	
3.9	The organization should offer cost-of-living salary adjustments.	As previously mentioned, realignments of salaries and benefits are part of the contract negotiations process.	
4.0	The organization should offer incentives such as longevity pay, tuition reimbursement, etc., consistent with regional competitors.	The County offers tuition reimbursement and various incentive pays. For example, employees assigned to perform Emergency Medical Dispatch services receive an additional 5% of base salary. Employees assigned to train dispatchers receive an additional \$3.20, \$3.80, or \$4.00 per hour depending on their own job classification. In addition, bilingual pay is \$150 per month.	County Communications does not offer longevity pay. It should do so to encourage employees to stay longer.
4.1	Compensation practices should recognize the achievement of specialized skills (e.g., Communications Training Officers, or CTOs) and/or certifications.	As mentioned above, employees who perform Emergency Medical Dispatch services and CTOs receive additional compensation.	
4.2	The organization should offer job-sharing, part-time employment and other flexible work options.	The County offers part-time Extra Help employment. In addition, split code classifications are part of the contract negotiation process. The SEIU contract currently provides for three split code classifications. Each split code allows two employees to share an agreed upon work schedule. If requested by workers, additional split codes must be approved by the Communications Director.	In survey interviews for this audit, several employees indicated that County Communications should increase the total number of split codes offered. For those employees who want a shortened work schedule or who might otherwise leave, additional split codes may encourage them to stay longer. The Department should explore the feasibility of adding more split codes.
4.3	The organization should have up-to-date facilities and technologies and ergonomically-designed work stations.		County Communications' facilities and technologies are problematic. Its main building was built in 1959. It must be repaired and/or replaced soon. The Department's computer-aided dispatch (CAD) system runs on software that is no longer supported. It is likely that a new CAD system must be designed and/or purchased. The Department's work stations are not standardized. Instead they are made up of disparate desks and chairs that do not appear to be ergonomically-designed.
4.4	The organization should provide breaks and allow meals to be taken away from work stations.		This has been accomplished.
4.5	Managers should take a professional interest in the individual objectives and priorities of employees.	Over the past year, staff/management relations have improved. County Communications' new management team has provided more opportunities for staff improvement, e.g., committee participation, new skills development, etc.	

<u>Retention Strategies & Methods</u>	<u>Recommendation</u>	<u>Strengths</u>	<u>Weaknesses</u>
4.6	The organization should support employees and demonstrate that they value their contributions to ensure long-term employee commitment.	County Communications recognizes three staff per year as Dispatcher of the Year during Telecommunicator Week and one staff per year in the County's Employee of the Month program. The Department publicizes these employee recognitions on its website.	Based on the aforementioned survey interviews, there is a perception that despite these recognitions, County Communications does not value its employees. Whether this perception is real or not, County Communications should explore additional opportunities for improvement as it relates to employee support.
4.7	The organization should effectively communicate to ensure that employees feel both informed and listened to. The organization should follow through on expectations that have been created, thereby ensuring long-term employee commitment.	County Communications has communicated with staff through various mediums over the years, including mandatory shift meetings and emails. Over the past year, County Communications has published all staff/management meeting minutes that describe among other things any operational changes.	
4.8	The organization should have an effective performance management program to award high performance, and discourage or remediate low performance.		Salary adjustments are the exclusive purview of MOUs between employee labor unions and the County. Nevertheless, one-on-one performance evaluations should be done annually to acknowledge and encourage (if not reward) high performance, and to identify those areas the employee needs improvement. Currently, evaluations are done periodically and not consistently.
4.9	The annual performance evaluation should include a career development components, such as development of an annual training plan and development of annual performance goals.		Though one-on-one performance evaluations cannot be used for any salary-setting purpose, they can be used as means by which supervisors and employees communicate openly about performance, and establish mutual goals for progress.
5.0	The organization should have a process that encourages and includes employee input about decisions that impact the workplace.	The Department engages employees through monthly labor-management meetings, bargaining negotiations, and project-based feedback. Over the past year, the Department hosted three "open-forum" sessions where employees are invited to opine on the direction of the organization and any other work-related matters.	The Department should host at least one "open forum" session per year to encourage input from as wide a spectrum of employees as possible.
5.1	There should be a formalized and regularly updated training needs assessment process that includes all staff.	County Communications' Support Services Division was recently restructured in part to improve Department-wide training. One full-time Support Services staff is now the designated Training Coordinator for the entire Department. He is responsible for assessing needs and developing/delivering programs, e.g., the CTO program.	
5.2	There should be a systematic review of the in-service training curriculum to ensure needs are met.		This has not been accomplished. In collaboration with the new Training Coordinator, shift supervisors and managers should evaluate internal training needs and delivery of training.

<u>Retention Strategies & Methods</u>	<u>Recommendation</u>	<u>Strengths</u>	<u>Weaknesses</u>
5.3	Training should be provided to meet basic in-service update training and required certifications.	Training courses are provided to meet POST's continuing professional training (CPT) requirement of 24 hours per employee every two years, and IAED's Emergency Medical Dispatcher requirement of 12 hours of continuing education per employee per year.	
5.4	In-service training hours should average at least 40 hours per employee per year, which is the commonly acknowledged best practice relative to training.	County Communications tracks POST and IAED-required training hours for individual employees, and makes them available to supervisors and managers for review.	County Communications does not currently track training hours beyond what is required by POST and IAED. Tracking all training hours would allow the Department to ascertain the average level of training per employee per year.
5.5	All newly assigned supervisors should attend a mandatory supervisory class.	All newly assigned supervisors and managers must attend a supervisory and discipline of employees class.	This has been accomplished.
5.6	Employees should be able to participate in task forces, when feasible, in areas of personal interest.	Employees are able to volunteer for Incident Dispatch Teams (IDTs), which are a new but proven concept of bringing dispatchers into the field, e.g. the Superbowl 50 Command Post at the Forty Niners SC stadium. They are also able to become CTOs as opportunities arise.	This has been accomplished.
5.7	Periodic rotation of individuals assigned to specialized positions should be conducted to provide opportunities for all interested employees to participate.	Rotation of staff in/out of two specialized " <i>client-liaison</i> " positions occurs approximately every 3 years.	County Communications should explore the feasibility of providing other opportunities for employees to participate.
5.8	The collective bargaining agreement should provide a clear policy for filing grievances.	The MOUs clearly describe the steps in the grievance process.	
5.9	Dedicated staff should be assigned to the labor relations function to provide support, administration, interpretation and application of the collective bargaining agreements.	There are shop stewards that provide union representation and leadership within County Communications.	
6.0	A viable, formal mentoring program for new employees should exist.		This type of program does not currently exist. County Communications should gauge employee interest in such a program, and develop one provided that there is interest.
6.1	The organization should employ a formal career development program to promote professional growth, to inspire personal motivation and to enhance effectiveness.		This type of program does not currently exist. County Communications should develop and implement a formalized career development program for all staff.
6.2	Exit interviews should be routinely conducted to determine the causes for turnover, and data should be collected and analyzed to determine possible trends that can be rectified.	County Communications offers interviews to all exiting employees.	Most exiting employees do not participate in these interviews. County Communications should continue to offer interviews and evaluate information obtained from them for patterns/trends.

Section 2. Allocating Public Safety Dispatching Costs More Accurately and Equitably

Background

The Santa Clara County Communications Department provides public safety dispatching services for County departments, contract cities and other local government agencies. The Department allocates all of its dispatching costs to customers by four major services areas (law enforcement, fire, medical, and other local government functions) in amounts that are proportionate to the staffing allocation percentages of the four areas.

Problem and Adverse Effect

The Department does not have written procedures that provide for a regular review of actual staffing percentages which are used to allocate dispatching costs to customers. It is unclear when the Department last updated these percentages. We examined a sample of daily deployment schedules for FY 2014-15, and determined that these schedules do not match the planned staffing percentages of the Department's cost recovery and customer billing methodology. If future dispatching costs are not accurately allocated by customer, the Department risks undercharging customers in some areas and overcharging customers in other areas.

Recommendations, Savings and Benefits

The Department should adopt written procedures that provide for a regular review, preferably on an annual basis, of its actual staffing percentages. This would ensure that its dispatching costs are accurately and equitably allocated to customers on an ongoing basis.

BACKGROUND

The Santa Clara County Communications Department provides public safety dispatching services for County departments, contract cities and other local government agencies. It also provides technical services for the design, implementation and maintenance of radio and data communications systems for some of the same customers.

The Communications Department recovers its costs for these two types of services via two separate and distinct methods. To recover its technical services costs, the Department bills customers for the costs of technical services that are directly attributable to them.

To recover its dispatching services costs, the Communications Department allocates to all benefitting customers the costs of dispatching services by the four major services

areas in amounts that are proportionate to the staffing allocation percentages of the four areas. This methodology for how the Department allocates its dispatching services costs (as opposed to its technical services costs) is the subject of our findings and recommendations in this audit section.

Current Practice

Before he retired in 2016, the then Communications Director provided us with a copy of the Department's written cost allocation methodology, dated March 3, 2015, and corresponding work paper. He reported he was personally responsible for developing, implementing and maintaining the methodology. Per the methodology, the Department allocates all of its dispatching costs, including "salaries, benefits, services, supplies, direct and indirect costs" by four major service areas in amounts that are "proportionate to the normal daily 24-hour staffing for the areas," as shown in Table 1 below. The costs for each service area are then spread to customers that receive those services. Because dispatching services vary in type, duration, frequency and complexity, the Department applies weighting factors to each service to reflect appropriate level of work required. A higher weighting indicates greater complexity and time commitment is involved in performing the service. For example, a simple database check is weighted with a one, whereas the creation of an event (or the entry of a call into the Computer-Aided Dispatch system) is weighted with a five, nine or 12, respectively for medical, fire/other local government, and law enforcement events. Generally, law enforcement events are more complex than other events requiring multiple services, such as database checks, event updates, and extra field resources.

Table 1
Cost Allocation Percentages by Service Area

Service Area	Methodology-% Staffing
Law Enforcement	48.42%
Medical	32.88%
Fire	9.62%
Other Local Government Functions	9.08%
Total	100.00%

Source: Cost recovery & customer billing methodology, March 3, 2015, Santa Clara County Communications Department

Notes: The retired Communications Director's work paper indicates that these staffing allocation percentages are based on the direct allocation of 40.5 Full-Time Equivalent (FTE) dispatchers over three shifts during a 24-hour period (i.e., 15 FTE dispatchers on "day" shift, 15 FTE dispatchers on "swing" shift and 10.5 FTE dispatchers during "grave" shift).

No policies or procedures to provide for a regular review of staffing allocation percentages

The Department has not incorporated its methodology for allocating dispatching services costs into its Department-wide policy and procedure manual. We recommend that it do so as soon as possible. This would ensure that existing employees implement and maintain the methodology, and that new employees are trained in accordance with its procedures.

Further, the methodology does not contain procedures on how often the Department should review and update its staffing allocation percentages for the purpose of allocating dispatching services costs to customers. The Department's Budget and Fiscal staff advised us that the retired Director personally reviewed these percentages annually, but they could not recall when the percentages were last updated. By not developing and implementing such procedures, the Department is at risk of inaccurately allocating costs for its law enforcement, fire, medical, and other local government functions when staffing changes occur. If its costs are inaccurately allocated, the Department may undercharge customers in some areas and overcharge customers in other areas. Therefore, we recommend that the Department develop and implement procedures to conduct a regular review, preferably on an annual basis, of its staffing allocation percentages.

Current staffing allocation percentages do not reflect planned or actual staffing deployment schedules

The Communications Department provided us with all daily staff deployment schedules for FY 2014-15. These schedules were not in an electronic format and therefore, we could not easily aggregate and analyze staffing for the entire year. Instead, we analyzed staffing for a total of 36 days (i.e., three consecutive days per month) spread throughout the year. Every day of the week, weekends and holidays (e.g., New Year's Eve and Day) were represented in the sample. We determined that the Department's actual staffing percentages for FY 2014-15 do not match the planned staffing percentages of its cost allocation methodology, as shown in Table 2 on the following page.

(Note: If the Department determines that actual staffing percentages do not meet planned staffing percentages, it will issue credits to customers at the end of the year, or cease to bill customers for the last months of the year. Though this may be an effective "backstop" to correct any overcharges, it is not an efficient way to do business, given that the Department has no written procedures that provide for a regular review of its actual staffing percentages which are used to allocate dispatching costs.)

Table 2
Comparison of Cost and Staffing Allocation Percentages

Service Area	Methodology-% Staffing	Actual-% Staffing
Law Enforcement	48.42%	36.82%
Medical	32.88%	31.32%
Fire	9.62%	22.77%
Other Local Government Functions	9.08%	9.08%
Total	100.00%	100.00%

Source: Santa Clara County Communications Department

Note: The Department does not separately assign staff to dispatch services for other local government functions; instead those calls are dispatched by any available law, fire, or medical dispatchers during normal business hours, and by fire dispatchers after hours. For this analysis, we assumed the same 9.08 percent that the Department used in the past to allocate costs to other local government functions, and that the majority of calls for other local government functions (90 percent) are dispatched during normal business hours. Accordingly, we reduced each of the actual staffing allocations for the law, fire and medical by approximately 2.7 percent to account for dispatching calls for other local government functions during normal business hours, and by an approximate additional 1.0 percent for fire to dispatch calls for other local government functions after hours.

The greatest areas of difference between actual staffing percentages and planned staffing percentages of the Department's methodology are in the areas of law enforcement and fire.

- The Department actually staffed law enforcement at approximately 37.0 percent of all service areas versus the planned 48.0 percent of its methodology.
- Conversely, the Department actually staffed fire at approximately 23.0 percent of all service areas versus the planned 10.0 percent of its methodology.

These differences suggest that the Communications Department's initial allocation of dispatching costs to law enforcement and fire in FY 2014-15 was inaccurate. Going forward, if the Department uses current staffing allocation percentages, it would allocate a smaller percentage of costs to law enforcement, and a larger percentage of costs to fire. Law enforcement customers would realize less costs, such as the Office of the Sheriff. Fire customers would realize more costs, including County Fire and the Saratoga Fire District.

CONCLUSION

The Department's methodology for allocating dispatching services costs has not been memorialized in the Department-wide policy and procedure manual. The methodology itself does not have written procedures that provide for a regular review of actual staffing percentages which are used to allocate dispatching costs to customers. By not developing and implementing such procedures, the Department is at risk of inaccurately allocating costs to its customers when staffing changes occur. If costs are inaccurately allocated, the Department may undercharge customers in some areas and overcharge customers in other areas.

RECOMMENDATIONS

It is recommended that the County Communications Department:

- 2.1 Incorporate its methodology for allocating dispatching services costs into the Department-wide policy and procedure manual. (Priority 3)
- 2.2 Adopt written procedures that provide for a regular review, preferably on an annual basis, of its actual staffing percentages. (Priority 3)

SAVINGS AND BENEFITS

By incorporating its methodology for allocating dispatching services costs into the Department-wide policy and procedure manual, County Communications would ensure that existing employees implement and maintain the methodology, and that new employees are trained in accordance with its procedures. By developing and implementing written procedures that provide for a regular review of its staffing allocation percentages, County Communications would ensure that dispatching costs are accurately and equitably allocated to its customers when staffing changes occur.

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Section 3. Deploying Staff More Efficiently and Effectively

Background

The public, certain County departments and other local government agencies rely on the Santa Clara County Communications Department to answer 9-1-1 calls for assistance consistently and quickly. To receive State funding for operating as a 9-1-1 call center, the Department must adhere to the California 9-1-1 Emergency Communications Branch standards, including its standard for answering 9-1-1 calls. This standard was recently updated, but at the time of this analysis, it required that during the busiest hour of any shift, 9-1-1 calls must be answered within 10 seconds.

Problem and Adverse Effect

The Department currently uses staff who function in the dual role of call taker and radio dispatcher. The number of call takers and radio dispatchers assigned to each shift varies, based on staff availability, workstation capacity and daily call volume fluctuation, among other factors. We determined that at all times of the day in FY 2014-15, there were an insufficient number of assigned call takers. As a result, the Department did not meet the 10-second call answer time standard. It answered only 80.3 percent of 9-1-1 calls on telephone lines specifically designated for 9-1-1 emergencies within 10 seconds. By not meeting the standard, the Department jeopardizes State funding, and more importantly, it jeopardizes the deployment of emergency dispatch services in a timely manner. This problem is ultimately due to the large number of vacancies at the dispatch center, and is in spite of the Department's use of mandatory overtime to fill out the schedules.

Recommendations, Savings and Benefits

The Department should increase the assigned call takers per shift, or deploy assigned call takers for longer periods of time each shift, provided that such deployment does not negatively impact the dispatch center's performance. The Department should also eliminate the dual call taker/radio dispatcher role of staff and replace it with dedicated call takers and dedicated radio dispatchers. Implementation of these recommendations would likely result in faster times to answer calls and faster times to dispatch services, but requires vacant positions to be filled, and for the Department to reassess its staffing needs once vacancies are filled.

BACKGROUND

The Communications Department's Dispatcher I, II and IIIs function in the dual role of call takers and radio dispatchers. Call takers are responsible for answering and assessing all incoming 9-1-1 calls for assistance, entering calls into a Computer Aided Dispatch (CAD) system, and electronically routing the calls to the appropriate radio dispatchers in one of the four major service areas (law enforcement, fire, medical, and

other local government functions). Radio dispatchers alert and assign responder personnel to the calls entered into CAD by the call takers. Radio dispatchers are also responsible for a range of other functions, including but not limited to communicating directly with responder personnel to track and record unit statuses, provide additional case details to responder personnel, and process field requests for additional resources. At the time of this audit, call taker and radio dispatcher functions were combined such that staff would have to interrupt one function to perform the other function.

(Note: Many other dispatch centers similarly use dually-functioning call takers/dispatchers. However, some jurisdictions believe it is an inherently unsafe practice for dispatchers to be answering 9-1-1 calls due primarily to the possibility that a dispatcher may have to choose between answering a distress call on the radio versus answering a 9-1-1 call.)¹

The number of call takers and radio dispatchers assigned to each shift varies, based on staff availability, workstation capacity, and daily call volume fluctuation, among other factors.

Because the work level varies throughout the day, the Department schedules overlapping shifts to provide the dispatch center with extra staff at the times of the day when the workload is greater staff. It currently uses five 10-hour shifts (A, B, C, D, and E) beginning at 9 p.m., 1 a.m., 7 a.m., 11 a.m., and 4 p.m., respectively. The shifts overlap.

The Department also schedules mid-shift position changes to accommodate the staffs of two shifts, sometimes three shifts, at various times of the day, and to appropriately resize its workforce to meet the specific needs of each dispatch community throughout the day. To accomplish this scheduling, it uses seven non-overlapping periods of varying lengths of time, beginning at 1 a.m., 2 a.m., 7 a.m., 11 a.m., 4 p.m., 5 p.m. and 9 p.m.

To further illustrate how mid-shift position changes work, we attached to this audit section a copy of the Communications Department's actual staff deployment schedule (*redacted of sensitive content including employee names*) for January 1, 2015. Position assignments (e.g., Med 1, Med 2, C1, C2, etc.) run down the left side of each page, and position start times (in military time) run across the top of each page. The un-redacted version of the schedule (with employee names) shows that there were multiple mid-shift position changes throughout the day. For example, at 1 a.m., two employees were working as call takers (C1 & C2). One hour later at 2 a.m., the same two employees were reassigned to work as law enforcement dispatchers (Law 3 & Law 4).

¹ For example, see the August 22, 2016 internal memorandum from the Administrator of the Emergency Communications Center (Arlington, Virginia) to the Director of Office of Emergency Management (Arlington, Virginia). Located online at: <<https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/5/2017/01/EPAC-ECCStaffing.pdf>>

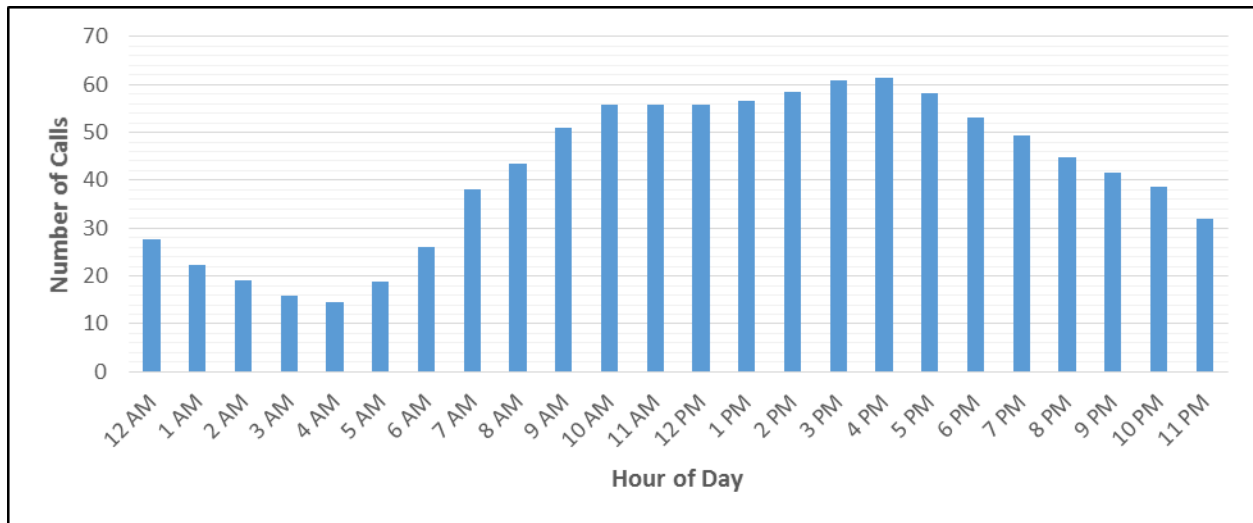
Analysis of Call Volume Relative to Call Taker Staffing

As discussed in Section 1 of this audit report, the Communications Department had high vacancy rates, particularly in its Dispatcher I, II and IIIs at 32.2 percent. In light of these vacancies, we utilized a call center staffing calculator software, called cc-Modeler Pro, to identify the optimal scheduling of existing staff to meet incoming call volume at various times throughout the day within a preferred timeframe. The software is based on a generally accepted call center traffic formula, called “Erlang C,” for determining the minimum number of telephone lines and call takers required to handle a given volume of calls.²

Current Call Volume and Distribution

During FY 2014-15, Communications staff answered a total of 364,874 incoming calls for assistance. This equates to approximately 1,000 calls per day, or an average of 42 calls per hour. As shown in Chart 1 below, incoming call volume was at its lowest at 4 a.m., with an average of 15 calls per hour, steadily increasing throughout the day, and reaching its highest at 4 p.m. and 5 p.m., with an average of 61 calls per hour.

Chart 1
Incoming Calls by Hour of Day in FY 2014-15



Source: Santa Clara County Communications Department

² The formula was developed by Agner Krarup Erlang (1878-1929), a Danish mathematician, statistician and engineer, who invented the fields of traffic engineering and queueing theory. It has become a foundational element of present-day telecommunication network studies.

Variables Affecting Call Center Staffing Requirements

The Erlang C formula states that the minimum number of staff required to handle a given volume of incoming calls at various times of the day is based on the following variables:

1. Incoming calls per hour – As previously mentioned, during FY 2014-15, County Communications staff answered an average of 42 calls per hour.

Percentage of incoming calls answered within a given number of seconds (or “the performance standard” for short) – To receive State funding for operating as a 9-1-1 call center, County Communications must adhere to California 9-1-1 Emergency Communications Branch (CA 9-1-1 Branch) standards, including its standard for answering 9-1-1 calls.³ This standard was recently revised, but at the time of this analysis, it required that during the busiest hour of any shift, all 9-1-1 calls for assistance must be answered within 10 seconds.⁴ Based on data for FY 2014-15 obtained from AT&T Inc. (the Department’s contracted telephone service provider), we determined that the busiest hour of any shift was 4 p.m., and that the Department answered only 80.3 percent of 9-1-1 calls received during this hour within 10 seconds.⁵ Overall, the Department answered a slightly smaller percentage of 9-1-1 calls throughout the 24 hours of the day (80.2 percent) including those received at 4 p.m. within 10 seconds.

2. Average call duration - This is the amount of time, in seconds, between when a staff member answers a call and the time the staff member ends the call. Based again on data obtained from AT&T on 364,874 incoming calls received in FY 2014-15, we calculated an average call duration of approximately 77 seconds.

(Note: The average call duration in calendar year 2016 was approximately 67 seconds, based on additional call data obtained from the Department at the audit exit conference. However, due not only to differences in the period of time reviewed, but also in the types of calls measured (for example, the 2016 average includes data from abandoned calls – those “abandoned” by callers before they connected with a call taker or radio dispatcher, while the FY 2014-

³ Contingent upon the County Communications Department’s adherence to all CA 9-11 Branch mandatory standards, the State provides it with funding for Customer Premise Equipment (CPE) such as telephones, routers, switches, etc. The funding is for rolling five-year periods. The Department received \$518,000 of CPE funding for the five-year period ending in 2016. The Department will be eligible for additional CPE funding only after it exhausts these funds, which it intends to do this year. It plans to install a new telephone system this year.

⁴ As of September 2016, the new standard states “ninety-five (95) percent of incoming 9-1-1 calls shall be answered within fifteen (15) seconds.”

⁵ This percentage is based solely on incoming calls received on telephone lines specifically designated for 9-1-1 law, fire, and medical emergencies. It does not account for 9-1-1 calls that may have been received on other lines, such as 7-digit administrative lines, because AT&T could not disaggregate them for this analysis.

15 average excludes it), we could not draw meaningful comparisons between the two averages.)

3. Average post-call wrap-up time – This is the amount of time, in seconds, needed by a staff member for data entry or other administrative tasks after each call. Because wrap-up time is not captured by either the Department's telephone or CAD systems, for this analysis, we used a per call estimate of 30 seconds.

(Note: The Department suggested at the audit exit conference that this 30-second estimate is too low, so we researched the matter further, and found one way to calculate wrap-up time at any call center is to divide 1) total handling time less total hold time and total talk time by 2) the total number of calls. Using 2016 call data, because the FY 2014-15 call data was not sufficiently detailed, we performed this calculation which resulted in an even lower average wrap-up time of approximately 5 seconds. Thus, we have maintained our original estimate.)

Current staffing levels

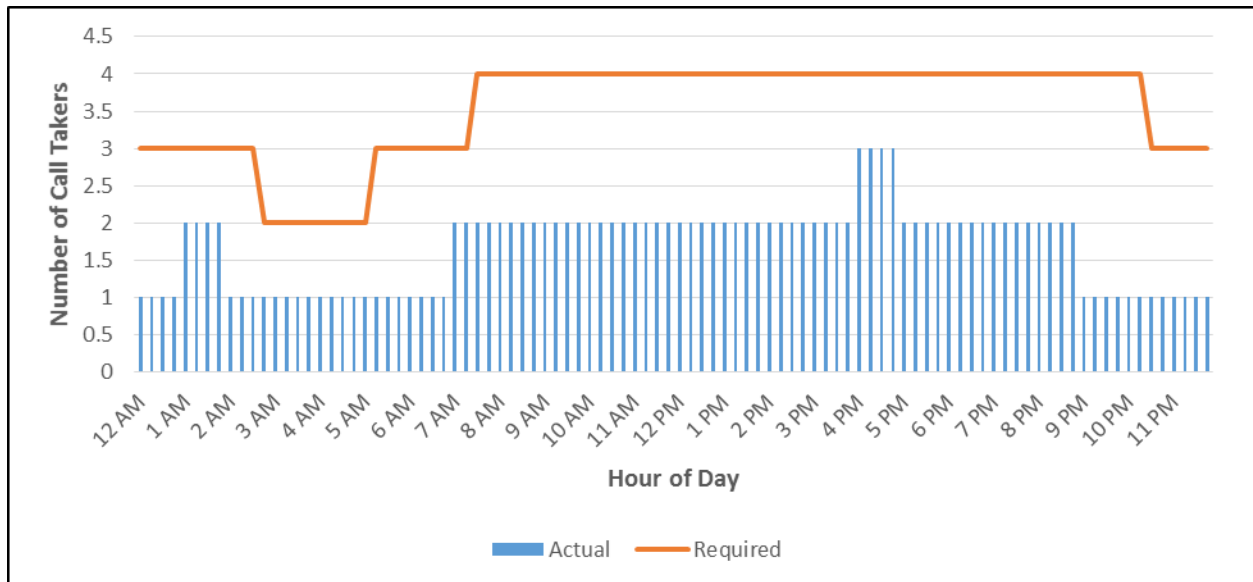
Based on the results of our the Erlang C analysis, we graphed in Chart 2 on the following page the number of staff who were needed to work as call takers (required call takers) to meet the average volume of incoming calls per hour on any given the day in FY 2014-15 versus the number of staff who actually worked as call takers (actual call takers).⁶

As illustrated in Chart 2, we determined that two full-time equivalent (FTE) call takers were required during the slowest hours of the day, and four FTE call takers were required during the busiest hours. To determine if, and how, the Department was staffing to meet these levels, we compiled data from a sample of daily staff deployment schedules in FY 2014-15 on the number of assigned call takers (as opposed to assigned radio dispatchers). Based on a sample of 10 percent of these deployment schedules, there were, on average, between one and three actual call takers on duty on any given day in FY 2014-15. Thus, we conclude that there was an insufficient number of call takers. Nevertheless, the call data obtained from AT&T indicates that all calls in FY 2014-15 were answered by the Department.⁷ Therefore, a portion of all calls must have been answered by assigned radio dispatchers (as opposed to assigned call takers). Accordingly, the space between the line and the columns of Chart 2 represents the number of assigned radio dispatchers who actually answered calls at various times of the day.

⁶ The software we used for this analysis is for incoming calls only. Consequently, we excluded 145,366 outgoing calls made in FY 2014-15. If it had been possible to include them, it is likely they would have impacted the need for call takers and radio dispatchers equally, since both answer and presumably, make calls.

⁷ Except for abandoned calls (or about 3 percent of all calls).

Chart 2
Actual Call Takers Compared to Required Call Takers in FY 2014-15



Source: Santa Clara County Communications Department

Estimating the number of calls answered annually by radio dispatchers

Estimating the annual number of calls answered by radio dispatchers (as opposed to call takers) involves multiple steps, as follows.

To start, we converted calls per hour (42 per hour) to the equivalent values for 15 minute intervals, as call arrival times varied by hour, and sometimes by the minute of each hour. We determined that to answer these calls, County Communications was required to deploy between two and four FTE call takers at various times of the day. Under this scenario, each call taker must answer, on average, between 1.6 and 3.75 calls every 15 minutes. We also determined that in FY 2014-15, there were, on average, between one and three FTE call takers on duty on any given day. We subtracted the number of actual call takers from the number of required call takers, and the resulting shortage was between one and three FTE call takers. Finally, we multiplied this shortage by the average number of staff required to answer calls every 15 minutes. This equates to approximately 514 calls per day, or 187,762 per year. Interestingly, actual call takers handled slightly less calls per year than radio dispatchers. They handled approximately 483 calls per day, or 176,143 per year.

CONCLUSION

The County Communications Department is currently understaffed in its dually functioning call taker/dispatcher positions, which has in turn led to sub-optimal call answer times, in spite of the Department's use of mandatory overtime to fill out the schedules.

RECOMMENDATIONS

It is recommended that the County Communications Department:

- 3.1 Increase the number of assigned call takers per shift, or deploy assigned call takers for longer periods of time per shift, provided that such deployment does not negatively impact the Communication center's performance. (Priority 1)
- 3.2 Eliminate the dual call taker/radio dispatcher role and replace it with dedicated call takers and dedicated radio dispatchers. This requires vacant positions to be filled. (Priority 1)
- 3.3 Regularly measure (preferably annually or alternatively bi-annually) incoming calls per hour, percentage of incoming calls answered within 10 seconds, average call duration, and average post-call wrap-up time, and identify the optimal scheduling of staff to meet any given volume of calls throughout the day. (Priority 2)

SAVINGS AND BENEFITS













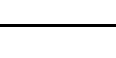
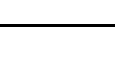










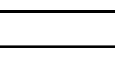
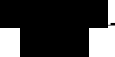
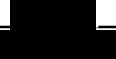
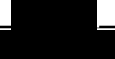




Implementation of Recommendations 3.1 and 3.2 would have no financial impact on the County's General Fund, as vacant positions are already funded. Once current vacancies are filled, the County Communications Department could reassess its staffing needs. Implementation of Recommendation 3.3 would have little to no financial impact on the General Fund, since Erlang C software may be purchased from several vendors for a nominal price and the Department's call data may be obtained from AT&T at no cost. More costly technology is available that would allow the Department to integrate its CAD and telephone systems, and monitor hourly call volume and other statistics in real-time. That technology, however, is not required for the type of analysis performed in this audit section.

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WATCH I DAILY DEPLOYMENTDate January 1, 2015Day ThursdayJulian 1

WOOC _____

 Supv _____
 Supv _____
 Senior _____
 Senior _____

Position	0000	0100	0200
Med 1			
Med 2			 @ 0400
Med 3			 til 0400
Med 4			
Fire 1			 @ 6
Fire 2			 @ 6
Fire 3/LG1			
Fire 4/LG2			
Law 1			
Law 2			
Law 3			
Law 4			
Law 5			
Law 6			
C 1			
C 2			
C 3			
C 4			
C 5			
C 6			
Relief			
Relief			 til 4/M2
Relief			 til 6/F2
Trng			
Trng			
Trng			
Trng			
Other			
Other			
	11	13	9

Other Time Used:

_____ hrs	_____ hrs	_____ hrs
_____ hrs	_____ hrs	_____ hrs
_____ hrs	_____ hrs	_____ hrs
_____ hrs	_____ hrs	_____ hrs
_____ hrs	_____ hrs	_____ hrs
_____ hrs	_____ hrs	_____ hrs
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Notes:

NEW YEAR DAY TIME SHEET PLEASE***

WATCH II DAILY DEPLOYMENT

Date January 1, 2015

Day Thursday

Supv _____




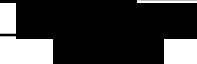







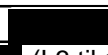

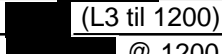








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





Supv _____

Senior _____

Senior _____

Position	0700	1100
Med 1		 @ 1200
Med 2		
Med 3		
Med 4		
Fire 1		 @ 1200
Fire 2		
Fire 3/LG1		
Fire 4/LG2		
Law 1		
Law 2		 (L3 til 1200)
Law 3		 @ 1200
Law 4		
Law 5		
Law 6		
C 1		
C 2		
C 3		
C 4		
C 5		
C 6		
Relief	 - Fire	 - Med
Relief	 - Med	 - Fire
Relief		
Trng		
Trng		
Trng		
Trng		
Other		
Other		
	11	11

Other Time Used:

	SL	4	hrs		SL	5	hrs	_____	hrs
	V	4	hrs	_____				_____	hrs
	V	5	hrs	_____				_____	hrs
	V	10	hrs	_____				_____	hrs
	V	10	hrs	_____				_____	hrs
	V	10	hrs	_____				_____	hrs
	MOT	4	hrs	_____				_____	hrs
	MAT	5	hrs	_____				_____	hrs

Notes:

WATCH III DAILY DEPLOYMENT

Date January 1, 2015

Day Thursday

Supv _____

Julian 1

WOOC _____

Supv _____

Senior _____

Senior _____

Position	1600	1700	2100
Med 1			
Med 2			
Med 3			
Med 4			
Fire 1			
Fire 2			
Fire 3/LG1			
Fire 4/LG2			
Law 1			
Law 2			
Law 3			
Law 4			
Law 5			
Law 6			
C 1			
C 2			
C 3			
C 4			
C 5			
C 6			
Relief			- Med
Relief		@1800	- Med
Relief			- Fire
Trng			
Trng			
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Other			
Other	Exer:		

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Section 4. Inadequate Asset Maintenance and Replacement Management and Reporting

Background

In 1997, the Board of Supervisors adopted policies establishing a countywide process for departments to plan capital projects. There are 10 facilities and structures operated by County Communications, including its main headquarters adjoined with a radio receiver building and antenna tower, along with seven radio repeater towers set up around the South Bay region. These facilities require an estimated \$4.5 million in maintenance costs, and have an estimated replacement value of \$14.8 million. As of September 30, 2016, County Communications also maintained over 977 capitalized assets, dating back to 1975, which were acquired for \$21.5 million, and retain approximately \$12.3 million in book value after depreciation.

Problem

County Communications does not maintain an asset maintenance and replacement plan. Although Facilities and Fleet (FAF) conducts a periodic facility condition assessment, County Communications staff are not involved in, or conferred with, during this assessment, and FAF has not shared their resulting reports and data with the Department. Best practices in asset management recommend adopting a system to monitor asset conditions that includes information describing the asset, its location, physical dimensions, maintenance history, replacement costs, operating costs and impacts, usage statistics, and other contextual information to assist the administration and governing board in prioritizing its capital improvement investments.

Adverse Effect

With only a facility condition assessment based on financial estimates, the Board of Supervisors and County Executive lack imperative details during the annual Capital Improvement Plan review. The Board does not have information on how the condition of assets, including failing infrastructure, impairs the quality of services provided by County Communications employees and received by the public. Ultimately, the Department jerry-rigged equipment to keep its radio system operable, and nearly 70 percent of staff who responded to our survey reported dissatisfaction with the condition of Department facilities.

Recommendations, Savings and Benefits

County Communications should create a comprehensive asset maintenance and replacement plan so the County Executive and Board of Supervisors can more appropriately plan for the maintenance and replacement of fixed assets, particularly those vital assets including the Computer-Aided Dispatch and County Communications headquarters.

Asset Management and Accountability

The County of Santa Clara uses a variety of assets to deliver its services to the public including land, facilities, vehicles, and other equipment. State and local law require the County to inventory and track its assets as prudent stewards of public monies.

California Government Code Section 24051 requires the manager of every County department to file an annual inventory of all property under his or her charge in a manner prescribed by the local governing board. In conjunction with State law, the County of Santa Clara requires in Section A15-14 of the Ordinance Code that all County property be inventoried by department managers on an annual basis in accordance with policies set forth by the Director of Finance and Controller. Asset management policies can be found in the Controller-Treasurer's *Fixed Assets Administrative Guide*.

According to the *Administrative Guide*, fixed assets are "tangible and intangible assets of significant value with useful life that extends beyond one year, and are broadly classified as land, buildings and improvements, easements, infrastructure, equipment, and certain computer software."

County Communications' Assets

County Communications operates its primary dispatch center at a remote, hilltop facility built around 1959, adjoined with a radio receiver and antenna tower. There are also seven radio repeater towers placed around the South Bay region. The Technical Services Division has one radio engineer and six technicians to maintain the radio infrastructure; however, the Department's general facility maintenance is provided by Facilities and Fleet (FAF) since it is primarily funded by the General Fund. According to FAF's 2015 Facility Condition Index (FCI) assessment, these facilities maintain a replacement value of \$14.8 million requiring \$4.5 million in maintenance repairs.

Aside from facilities, County Communications owns approximately 977 fixed assets that were acquired with \$21.5 million, have subsequently been depreciated by \$9.2 million, and maintain a book value of \$12.3 million. These assets include computers, routers, monitors, servers, radios, and other equipment.

County Communications' Maintains No Asset Replacement Plan for Equipment

The audit team found that although the Department's equipment type assets were recorded in the County's financial management system, SAP, management did not maintain a more detailed inventory including asset condition and location. Without an active inventory of equipment that is monitored by management, staff are unable to account for the use and location of all Department assets. The Department requested, and the County Executive approved, a write-off of 59 assets that were unable to be located for Fiscal Year 2015-2016. These assets were purchased between 1975 and 2010 with an initial cost of \$723,675 and reportedly maintained no net book value.

These assets included monitors, routers, servers, radio equipment and other equipment. By implementing a more detailed asset replacement plan, the Department can monitor the age, use, and condition of its operational equipment and can better plan for maintaining or replacing such equipment. Regularly monitoring such inventory will also ensure that the disposition of equipment is properly recorded and mitigate the potential for fraud and waste.

County Communications' Maintains No Facility Asset Replacement Plan

The audit team requested an inventory of all facility assets and any associated capital replacement plan that might contain descriptive information and operating statistics of the Department's facilities; however, Department management explained that no such documents were internally maintained. Although the Department maintains an inventory of fixed assets in SAP, the Department's inventory does not include buildings and land. Capitalized buildings and land are recorded in SAP, but older structures capitalized prior to the implementation of SAP may be missing from this inventory. The audit team found that none of County Communications' original buildings or land are listed in SAP's inventory.

Facility Condition Index Assessment

Although County Communications' buildings and land are not recorded in SAP, FAF maintains an alternative inventory of all land and buildings under its service. FAF conducts a Facility Condition Index (FCI) assessment on 20 percent of facilities every year, meaning any given facility receives an updated assessment approximately every five years.

FCI ratings are commonly used in public sector asset management plans to assess the physical condition of a facility. The FCI of a building is calculated by dividing the projected cost of repairs by the current replacement value of the structure, resulting in a ratio between 0.00 and 1.00. Ratings are commonly sorted into the following brackets:

- 0.00 indicates that a facility is brand new and in pristine condition;
- 0.20 indicates that a facility is in poor condition;
- 0.50 indicates a facility is in serious condition and should be strongly considered as a priority for structural restoration or demolition and replacement; and,
- 1.00 indicates that a facility is in the worst possible condition.

The audit team attempted to obtain FAF's method for calculating projected repair costs and replacements values, but the department only provided categories of costs used to calculate the repair and replacement values, and not the calculations. Due to the variation in methods that governments can use in calculating facility condition, FCI ratings may not accurately represent actual repair and replacement costs or physical

conditions, and could be paired with other measures for more comprehensive condition assessments that improve capital planning prioritization.¹

County's Capital Outlay and Capital Improvement Processes Are Inadequate to Address Needs of County Communications

In a survey of County Communications staff, 67 percent of respondents expressed dissatisfaction with Department facilities. In accordance with Board Fiscal and Budget Policy 4.10, *Capital Outlay Policy*, County administration is responsible for annually preparing and submitting a 10-year Capital Improvement Plan (CIP) to the Board of Supervisors in conjunction with the annual budget. The CIP is supposed to outline annual phasing and cash flow for each capital project designated as a priority by County administration. Individual County departments are responsible for identifying CIP needs and submitting project and funding proposals to County administration.

County's Capital Improvement Plan is Noncompliant with Board Policy and Best Practice

Although the County Executive provides an annual CIP to the Board of Supervisors during the annual budget review, this document estimates capital needs only five years in advance, instead of the 10 years required by Board Policy 4.10. In addition, the CIP is not a budget document that identifies funding for specific CIP projects, but rather, is used as a planning tool to inform the Board and stakeholders of upcoming CIP costs. This practice falls short of best practices in financial management that recommend governments not only plan, but identify and establish ongoing funding for capital maintenance and replacement costs, whether through the annual budget or other financing mechanisms.²

County's Capital Improvement Plan Lacks Sufficient Detail for Appropriately Planning Asset Maintenance and Replacement

Requiring departments to select annual capital improvement requests without guidance or direction on how to prioritize such needs may result in inadequate prioritization of scarce capital dollars among Department priorities or across different departments. Consequently, County Communications maintains no policies on how department management prioritizes their annual capital outlay requests.

Although FAF conducts their periodic FCI assessment, County Communications does not have direct access to these reports, County Communications staff were not familiar with these facility assessments, and FAF management confirmed that their FCI assessments are not typically shared with end-user departmental staff. Without regular access to FAF's facility inventory and FCI data, County Communications management

¹ United States Government Accountability Office. FAA Facilities: Improved Condition Assessment Method Could Better Inform Maintenance Decisions and Capital Planning efforts. September 2013.

² Government Finance Officers Association. Best Practice Advisory: Asset Maintenance and Replacement. March 2010.

lacks crucial information regarding the condition of their operating facilities that would otherwise assist them in prioritizing and submitting their annual capital improvement needs. County Communications management should establish a policy and practice to confer with FAF and obtain operational statistics on their capital facility assets during the annual capital outlay process. Such a plan would comply with financial management best practices that recommend departments develop complete asset inventories with detailed condition assessments for continually planning capital maintenance and replacement needs.²

County's Capital Improvement Plan Inadequately Addresses County Communications' Overall Asset Maintenance and Replacement Needs

During our evaluation of the Department's asset management, we found several examples of capital maintenance and replacement needs not adequately addressed in the County's capital outlay process:

- **County Communications management lack operational detail on the useful life cycles of their facility assets.** As discussed, the audit team requested a copy of any asset replacement plan, and no document or compilation of relevant data existed. Department management was unaware their main headquarters maintained an FCI score of 0.33 (anything above 0.20 being in poor condition), that one of their seven repeater towers maintained a rating of 0.88 (a score of 1.00 indicates a facility is in the worst possible condition), and that all of their facilities had an average rating of 0.28.³
- **FCI assessments are used by the County Executive in the CIP; however, FCI assessments are determined by financial estimates and do not capture the end-user experience.** The Department is not involved in the FCI assessment process, and the audit team confirmed with FAF that they do not confer with departmental staff using facilities undergoing an FCI assessment. Consequently, when the Board is presented with the CIP, having only the FCI to rely upon for prioritizing capital investments overlooks operational issues relating to County Communications' facilities, such as vital radio equipment vulnerability, pest intrusions, regular plumbing and sewage failures, and roof leaks.
- **Staff are periodically exposed to pest intrusions in the workplace.** From February 2012 through January 2017, the audit team found 15 work orders from County Communications to FAF for assistance in dealing with insect and rodent infestations. These work order requests resulted in over 50 receipts for service from FAF's contract exterminator within the same time period. Requests describe insects as emerging from walls and HVAC ducts, as well as reports of rodents

³ It is important to note that while County Communications' facilities have an average FCI rating of 0.28, this rating is below the average of 0.38 for all county facilities, and there are at least four major facilities above 0.50 including Elmwood, Civic Center, Main Jail North, and Main Jail South. However, due to the variance in how governments calculate FCI ratings and the application to different classes of assets, FCI ratings can be inaccurate or misleading as mentioned earlier in this report.

crawling in the ceiling and around the workplace. Wild rodents and insects not only pose a health risk to employees, but their presence in the work place may distract dispatchers while responding to emergency calls. **Nearly 70 percent of staff who responded to our survey reported dissatisfaction with the cleanliness and sanitation of Department facilities.**

- **Vital radio equipment is exposed daily to moisture and risks overheating without a proper, permanent cooling system.** The audit team found service requests dating to August 2012 from County Communications to FAF requesting assistance repairing the failing HVAC system built around the Department's central radio equipment. As the Department has invested in newer radio equipment, these electronic devices generate a substantial amount of heat that run the risk of overheating without proper cooling. Department staff installed an auxiliary cooling unit to mitigate overheating; however, this unit produces up to 10 gallons of condensation a day that is collected in plastic bins placed adjacent to the radio equipment, as depicted in Exhibit 1.

Exhibit 1
County Communications' Auxiliary Radio Cooling Unit



Source: County Communications' 2018 Capital Project Funding Request

Maintaining this temporary cooling system continues to expose County Communication's central radio network to potential water damage and equipment failure. This exposure to heat and moisture may lead to damage of radio equipment. Any damage resulting in inoperability would also create a service gap

in the county's radio communications as there is currently no backup system. Department management requested \$260,000 to upgrade the HVAC system as a part of the Fiscal Year 2015-16 capital outlay process, but this request was denied during review by County administration and never made it before the Board of Supervisors for consideration. However, these repairs were ultimately approved as a part of FAF's Fiscal Year 2016-17 maintenance backlog

During our exit conference with FAF and County Executive management, staff reported that this ad hoc cooling system set up was put in place by Department staff without FAF oversight. This lack of communication further demonstrates the need for regular communication channels between FAF and County Communications to ensure that when other capital outlay requests are not funded, that Departmental staff receive guidance and support from FAF in implementing short-term solutions for urgent operational needs.

- **Aged plumbing and sewer lines regularly fail at County Communications' main facility leading to clogged and overflowing sinks, toilets, and showers.** From January 2012 through September 2016, there were 135 service requests from the Department to FAF for assistance repairing its plumbing lines. FAF's service request summaries detail at least \$61,527 in FAF labor costs associated with responding to these service requests. This does not include the cost of supplies and equipment to repair and replace plumbing, nor does it include the cost of possible contractors that may have been used for specific service requests as this information was not available in FAF's service request summary report provided to the audit team. Regardless, the rate of plumbing related service requests demonstrate the need for significant retrofitting or replacement, and pose health risks to employees when wastewater and sewage overflow.
- **Weathered and aged roofing on County Communications' headquarters have caused the facility's roofing to regularly leak during rainy seasons.** From April 2012 through March 2016, there were 24 service requests from County Communications to FAF for assistance attending to the roofing repairs, of which a majority of these calls related to leaks around the facility. County Communications relies heavily on technology to carry out its mission. As the facility continues to age and weather, the Department risks exposing its equipment to water damage as multiple new leaks occur each year.
- **County Communications relies upon an antiquated computer-aided dispatch (CAD) system to run its primary dispatching operations.** Built in 1978 by a vendor that is no longer in existence, the Department's CAD system is nearly 40 years old having gone through one major update in 1994. The CAD system is written in three programming languages, the original structure coded in a now esoteric programming language that County Information Services Department (ISD) staff are cautious to modify due to lack of technical expertise.

Although ISD has worked with the Department to develop modules that upgrade specific dispatching functions, the core platform for managing incidents has exceeded product obsolescence. For example, dispatchers must type in command prompts to execute actions in the Department's current CAD system whereas modern systems allow users to preprogram command prompts in functional keys on the keyboard or as point-and-click buttons on the user interface. The Department has identified the difficulty of learning so many different command codes as a frequent cause of new dispatchers failing to pass the probationary phase. With user-defined commands, dispatchers save time not typing each command out. Contemporary CAD systems also typically permit user-based configuration of the command screens so dispatchers can adjust the organization of dispatch commands based on their workflow preference. Modern user-based commands and configurations not only have the potential to expedite call and dispatch response times, but may impact employee retention through improved ergonomics. Since user-based commands and configurations are contextual to the user, a modern CAD system may also impact the success of dispatcher trainees as operating the CAD system becomes more intuitive.

During the course of this audit, County Communications management submitted a capital outlay request of almost \$12.2 million to replace and upgrade their CAD system in Fiscal Year 2017-18. The estimated cost to replace the CAD system equates to approximately 46 percent of County Communications' total adopted budget of \$26.3 million in Fiscal Year 2016-17, and over 169 percent of the Department's services and supplies budget of \$7.2 million, not including ongoing annual support costs. Replacing the CAD system is a significant cost relative to the Department's annual budget. Had the Department and County administration maintained a comprehensive asset maintenance and replacement plan in accordance with best practices, County Communications management would have been able to project the useful lifecycle of this system in advance while appropriately planning a budget for replacement.

Overall, we observed that in addition to an obsolete CAD system, County Communications' main facility has experienced a variety of ongoing structural issues including a failing HVAC system, deteriorating plumbing, leaking roofs, and pest intrusions. While these are all serious issues that put County Communication's emergency radio systems at risk, as well as the health of county employees, there are no projects relating to these issues in the County Executive's 2017-2021 CIP. The audit team identified \$3.2 million recommended for County Communications in the CIP; however, Department management explained that these funds relate to a workstation project and a waterless fire suppression project.

It is imperative that FAF begins to confer with County Communications administration during their FCI assessments to obtain a more comprehensive understanding of how the condition of their facilities physically impact their staff and operations. County Communications should also adopt an asset maintenance and replacement plan that inventories all capital assets and periodically measures information assessing physical

condition and useful life cycle such as maintenance history, replacement costs, operating costs, usage statistics, physical descriptions, and other measurements deemed appropriate as recommended by the Government Finance Officers Association (GFOA) Best Practice advisory on *Asset Maintenance and Replacement*.

CONCLUSION

County departments can submit capital outlay requests to county administration annually; however, the County Executive and FAF maintain no policies on how departments should assess and prioritize their capital improvement needs. Departments are not required to maintain asset maintenance and replacement plans, consequently placing County Communications in a position where the Department maintains little to no information on the condition of their facility assets. Aside from the inventory of fixed assets recorded in SAP, the Department maintains no other records or plans to assist management in determining when fixed assets require maintenance or replacement. Due to the lack of policies and management information, County Communications recently wrote-off 59 missing equipment assets and continues to operate in an aging facility with structural issues not being captured in the County's CIP. By adopting a comprehensive asset maintenance and replacement plan, the Department will compile and maintain a detailed inventory of assets to more appropriately plan for the maintenance and replacement of assets going forward.

RECOMMENDATIONS

It is recommended that County Communications:

- 4.1 Compile and adopt an asset maintenance and replacement plan in accordance with best practices from the Government Finance Officers Association. (Priority 2)
- 4.2 Prioritize capital outlay requests to maintain or replace critical assets that have exceeded their useful lifecycle and product obsolescence, including the computer-aided dispatch system and Department headquarters. (Priority 1)
- 4.3 Establish a policy and business practice to request Facility Condition Index data and reports, and other maintenance reports from Facilities and Fleet during the annual capital outlay process. (Priority 2)
- 4.4 Establish a policy and business practice to confer with Facilities and Fleet during periodic Facility Condition Index assessments. (Priority 2)

SAVINGS, BENEFITS AND COSTS

No material financial impact is anticipated on the Department for implementing these four recommendations as creating an asset replacement plan, prioritizing capital outlay requests, and collaborating with FAF can be absorbed as administrative assignments.

Implementation of Recommendation 4.2 will not directly create a financial impact, but addressing County Communication's antiquated assets will likely lead to substantial costs. Department management estimate a replacement CAD to cost \$12.2 million. Although FAF's FCI assessment places a replacement value of \$14.8 million on County Communications' main facility, this number is an estimate not likely representing the true cost of building a new facility elsewhere. Alternatively, FAF estimates that at least \$4.5 million is needed to address structural improvements according to their FCI assessment, should the County not pursue a new structure.

Going forward, adopting these recommendations will give County Communications a roadmap to continuously evaluate the condition of its facilities and assets to ensure that management is appropriately planning and budgeting for their ongoing maintenance and inevitable replacement.

Section 5. Workforce and Succession Planning

Background

Workforce planning is a human resources tool used by organizational management to continually assess its staffing performance and needs. Although workforce planning is a best practice in human resource management, the County of Santa Clara does not require such plans by ordinance or policy.

Problem

County Communications does not maintain a workforce plan, nor does management have alternative policies or business practices to regularly evaluate its workforce.

Adverse Effect

Without a workforce plan, County Communications' management failed to address staffing shortages leading to adverse impacts on the organization. These include high vacancy rates in Dispatcher classifications, low staff morale that impacted and threatened employee retention, recruitment and training of new employees. Management had begun implementing changes in its recruitment and training practices during the course of this audit.

Recommendations, Savings and Benefits

With a workforce plan in place, County Communications' management will have a tool to regularly assess the performance of its workforce and proactively identify problems that adversely impact its operations, thereby improving employee morale, recruitment and retention efforts, and dispatch performance.

Workforce Planning

Workforce planning is an aspect of human resources management in which managers of an organization continually align its workforce and staffing resources with the organization's mission and objectives. Although this practice is not required by statute, County ordinance, or policy, it is a best practice to use this data-driven approach to more effectively evaluate the ongoing staffing needs of an organization.

County of Santa Clara and County Communications Lack a Workforce Plan

Since workforce planning is a human resource management tool, coordination and guidance for adopting and implementing workforce plans typically stem from departments overseeing human resources. For example, the federal Office of Personnel Management (OPM) offers information and tools online for assisting public sector agencies in setting up workforce and succession plans. The OPM also assists federal agencies in establishing these plans. Similarly, the California Department of Human Resources has a Division of Statewide Workforce Development Programs and Special Projects (CalHR) that offers guidance and tools to assist state agencies in adopting workforce and succession plans.

Although workforce planning support is common in other agencies, the County of Santa Clara does not require, by law or policy, departments to develop such plans. Consequently, County Communications maintains no workforce plan to regularly monitor, evaluate, and plan for ongoing staffing needs.

Staffing Service Gaps Could Have Been Mitigated with a Workforce Plan

Using the CalHR California Workforce Planning Model, the audit team found several instances in which a proactive management approach to empirically evaluating staffing needs could have mitigated service gaps, including some discussed in other sections of this report. The following is an overview of each phase in the Workforce Planning Model and how these tools could positively impact County Communications.

Phase 1: Set the Strategic Direction for the Workforce Plan

Phase 1 initiates the creation of a workforce plan through five steps:

- 1) Obtain executive support
- 2) Build a steering committee
- 3) Align workforce planning to department strategic goals
- 4) Identify environmental factors
- 5) Analyze impact of environmental factors

The first phase of developing a workforce plan is establishing buy-in from management at the Department. Although the Department had no plans for assessing its workforce, its long-term Director retired in September 2016. Subsequently, the successor, an interim director from County Fire Department, took actions satisfying Phase 1. In October 2016, the audit team was provided a copy of a draft strategic plan for 2016-17. Department management created a steering committee to assess the environmental factors affecting County Communication's operations and identified departmental objectives, and near-term goals.

Phase 2: Gather and Analyze Departmental Data for the Workforce Plan

Phase 2 involves four steps to empirically assess a departments' workforce needs:

- 1) Perform a workforce supply analysis
- 2) Perform a demand analysis
- 3) Perform a gap analysis
- 4) Develop a list of classifications by risk level

In a workforce supply analysis, a department should start by evaluating its roster of staff to identify trends in:

- Staffing levels
- Diversity: age, gender, ethnicity
- Appointment status (permanent, temporary, etc.)
- Separations (retirements, transfers, voluntary and involuntary separations)
- Vacancies

- Recruitments
- Retirement risk (average age, length of service)

Although County Communications has initiated management buy-in for a strategic plan, management currently does not have a practice of using staffing metrics to assess workforce needs. In conjunction with this audit, the audit team conducted analyses that are typically involved in assessing the workforce supply.

In Section 1: Adopting Best Practices in Recruitment and Retention of this report, the audit team compiled statistics on staffing levels and vacancy rates by job classification. There was a significant number of vacancies in Dispatcher classifications that require remedial action from management to improve recruitment and retention. As we discuss in Section 3: Deploying Staff More Efficiently and Effectively, our Erlang-C staffing analysis functioned as a demand and gap analysis to show how the deficiency in staffing levels impacted the Department's call response times. This type of performance evaluation should be conducted every six to 12 months in accordance with a workforce plan that continually assesses the performance of its workforce relative to workload.

The Department should also integrate additional risk assessments anticipating staffing needs. In Section 1 of this report, the audit team compiled data on the volume of separations from County Communications, highlighting the increase of separations from 6.3 percent of all staff in FY 2012-13 to 14.8 percent in FY 2016-17. Turnover statistics also indicate that over a 10 year period, 25 percent of employees terminated employment within their first year of probation, while another 35 percent of employees separated due to retirement. With nearly 60 percent of separations occurring at the start of the employment cycle or from retirement, this data provides management valuable insight on the need for improving recruitment and training of new employees, as well retaining its current workforce to mitigate imminent retirements. As demonstrated in Exhibit 1 below, about 28 percent of the workforce will be eligible for retirement in five years, and about 42 percent will be eligible in 10 years.

Exhibit 1
County Communications Retirement Eligibility

Eligibility for Retirement	Percentage
As of 7/1/16	12%
5 Years (7/1/21)	28%
10 Years (7/1/26)	42%

Source: Analysis of County Communications staffing roster

After analyzing workforce metrics, the Department should compare its observations to its objectives and goals aligned in the strategic plan. These empirical observations will help the Department identify its service gaps and act as the framework for Phase 3, in which the Department should develop a workforce strategy to close service gaps.

Phase 3: Develop the Workforce Strategies and Plan

Phase 3 is implemented through six steps:

- 1) Classifying workforce planning issues
- 2) Presenting gap analysis findings and determining priorities
- 3) Developing strategies to address these priorities
- 4) Presenting recommendations to senior leaders
- 5) Developing a workforce plan
- 6) Creating an action plan

After conducting a gap analysis, Phase 3 requires the Department to compile an action plan for addressing workforce planning issues. Using the audit team's similar analysis of workforce needs in Sections 1 and 3 of this report, we identified several workforce issues:

- High turnover in new dispatcher trainees
- A high volume of employees retiring or eligible for retirement in the near future
- Need for retaining current employees due to turnover and retirement

These staffing issues impact the organization's overall mission of responding to emergency calls for service in an efficient and effective manner, as discussed in Section 3 of this report. From November 4, 2016 through November 18, 2016, the audit team administered an anonymous survey to County Communications employees to inquire about general attitudes and morale working for the organization. A summary of this survey is attached to the introduction of this report, but we provide the following observations of concern based on the 49 responses received:

- 51 percent of responding employees disagreed that their direct supervisor provided adequate direction and leadership
- 57 percent of responding employees disagreed that they are recognized for their contributions to the organization
- 69 percent of responding employees disagreed that their work facility is clean and sanitary
- 67 percent of responding employees disagree that their work facility is properly maintained and in good working condition

Seeing that the majority of responding employees felt unsupported and unappreciated by management, in addition to feeling that their work facility is unclean and in disrepair (see also report Section 4), we see these issues as threats to the Department's workforce. If staff are unhappy with their work environment, there is more incentive for current staff to seek alternative employment options or to retire as soon as they are eligible.

Succession planning is an integral aspect of developing a workforce strategy as management should structure a path for employees to advance into leadership and management positions. Succession planning ensures leadership continuity by facilitating a knowledge transfer from tenured employees to employees exhibiting leadership potential. Mentorship programs, like those discussed in Section 1 of this report, are an example of succession planning. However, if tenured staff leave for alternative employment opportunities due to discontent, succession planning is adversely impacted

when employees exhibiting leadership potential leave or when senior staff members who retain institutional knowledge leave or retire without transferring their knowledge.

We also acknowledge that with the management change over this past year, 53 percent of employees indicated in the survey that they feel motivated to stay with the Department due to operational and managerial changes. It is imperative that management continue to address employee concerns to improve retention as a part of the workforce plan.

Phases 4 & 5: Implement Strategies & Evaluate the Workforce Plan

After the Department has conducted a gap analysis and identified necessary actions to address these service priorities, management should implement these changes as a part of the fourth phase. A workforce plan is a living document that should be periodically reviewed by management, at least on an annual basis, to update workforce performance metrics and identify possible new trends in service gaps. Phase five of the workforce plan includes evaluating how the efficacy of the workforce plan.

Workforce Planning Could Mitigate County Communications' Service Gaps

If County Communications' maintained a workforce plan to regularly assess its performance, the Department could have proactively addressed recruitment and retention issues years in advance. Large vacancy rates in Dispatcher classifications could have been mitigated, as well as their subsequent impact on staffing morale and call response times.

CONCLUSION

Workforce planning is a best practice for government organizations to regularly assess the performance of its workforce, and proactively address service gaps. Without a workforce plan, or similar analytical practice, County Communications' management allowed one third of its workforce to become vacant before management evaluated its recruitment and retention practices. Such vacancies create an adverse and compounding effect on employee morale and employee retention. County Communications' should create and adopt a workforce plan based on the CalHR Workforce Planning Model to appropriately assess its workforce needs and mitigate staffing and performance problems identified in this audit.

RECOMMENDATIONS

It is recommended that County Communications:

- 5.1 Create and adopt a workforce plan based on California Department of Human Resources' Workforce Planning Model. (Priority 2)

SAVINGS, BENEFITS AND COSTS

No immediate material financial impact is anticipated for implementing Recommendation 5.1 as workforce planning can be absorbed as a function of County Communications' management and administration. Implementing this recommendation with help management better evaluate staffing needs and service deficiencies on a regular basis, and could improve employee morale, employee recruitment and retention, and dispatching performance.

County of Santa Clara

Office of the County Executive

Communications Department

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San Jose, California 95125-2032

(408) 977-3200 FAX 408-279-2666



Date: August 7, 2017

To: Board of Supervisors' Management Audit Division

From: Jason Bivens, Director

Subject: Management Audit Response (Final)

The County Communications Department (Communications) appreciates the opportunity to provide a response on the Management Audit Report. We commend the thorough and thoughtful manner in which the Board of Supervisors' Management Audit Division has performed their work and the care taken to understand our various systems and complex processes. We look forward to implementing the many meaningful improvements contained within these recommendations.

SECTION 1. ADOPTING RECOMMENDED PRACTICES IN RECRUITMENT AND RETENTION

1.1 Regularly review and update all job classifications to ensure changes in job complexity, duties and responsibilities are properly represented and reflected in job descriptions. (Priority 1)

Communications Response

AGREE; the County Communications Department will review job classifications on a regular basis, and, if necessary, develop recommended changes and/or updates. We will subsequently collaborate with the Employee Services Agency (ESA) to examine, negotiate and implement the changes based on the County's Merit System Rules.

1.2 Publish, on its website, the office's vision, mission, history, job expectations, and minimum qualifications for employment to promote and foster candidate self-screening. (Priority 1)

Communications Response

AGREE; the County Communications Department leadership team developed a strategic plan in October 2016, which included a new vision, values, and mission statements. Those items and the history of the department have been published on the department's website. As part of an overall recruitment strategy, an interactive recruitment section of the website is under development and will include the minimum: the job qualifications, background process and an overview of "a day in the life of a dispatcher" at Santa Clara County Communications. It will allow candidates to

understand the entire hiring process and workplace environment. Our hope is this information will allow applicants to self-evaluate their likelihood for success.

- 1.3 Bifurcate training such that new (dispatcher) employees are trained first as call-takers. Once they become proficient as call-takers, only then should they be trained to carry out dispatching services. This will reduce “drop outs” who are unable to memorize and apply the user-based commands necessary for dispatching duties in the first months of employment. (Priority 1)**

Communications Response

AGREE; The County Communications Department is currently in the process of replacing the aged Computer Aided Dispatch (CAD) system, and implementing several other new integrated systems into the department’s overall 9-1-1 system over the next thirty-six (36) months. To avoid duplication of effort over such a short period of time the department intends to redesign and bifurcate the training process into multiple stages including for promotional opportunities within the dispatcher classifications.

- 1.4 Conduct a Department-wide survey to identify the reasons why employees stay at County Communications, and the factors that would encourage employees to stay longer, and develop a formal retention plan to address these issues. (Priority 2)**

Communications Response

AGREE; the County Communications Department has engaged a leading professional services consultant to assist with departmental organizational change, leadership development and cultural change. As part of this engagement the employees have completed a comprehensive survey querying them on a broad range of topics surrounding recruitment, retention, culture, and management support. The department’s leadership team is utilizing the results of the survey to institute changes in each of the strategic categories.

- 1.5 Develop a strategic recruitment and selection plan with clear marketing and outreach goals, and a candidate selection component, which describes, and ultimately publicizes, the characteristics that the County is looking for in a dispatcher. (Priority 2)**

Communications Response

AGREE; the County Communications Department has been funded in FY18 to procure professional services assistance for the development of a strategic recruitment plan, targeted recruitment programs, and marketing and public outreach strategies. This is a multi-year effort, and the department has begun requirements development for the procurement of services.

SECTION 2. ALLOCATING PUBLIC SAFETY DISPATCH COSTS MORE ACCURATELY AND EQUITABLY

2.1 Incorporate its methodology for allocating dispatching services costs into the Department-wide policy and procedure manual. (Priority 3)

Communications Response

AGREE; the County Communications Department has issued an informal competitive proposal for professional services to analyze the department's dispatch services billing methodology, propose modifications based on California standards, codes and regulations as well as national best practices. Once completed the new billing methodologies will be memorialized in a standard operating procedure and implemented.

2.2 Adopt written procedures that provide for a regular review, preferably on an annual basis, of its actual staffing percentages. (Priority 3)

Communications Response

AGREE; the County Communications Department is in the process of developing a standard operating procedure in combination with the work from recommendation 2.1 that will include measures to be evaluated on an annual basis, including actual staffing percentages.

SECTION 3. DEPLOYING STAFF MORE EFFICIENTLY AND EFFECTIVELY

3.1 Increase the number of assigned call takers per shift, or deploy assigned call takers for longer periods of time per shift, provided that such deployment does not negatively impact the Communication center's performance. (Priority 1)

Communications Response

AGREE; the legacy design of the dispatch operations division, in combination with the staffing level of independent dispatchers, does not allow for the deployment of full time call takers at this time, however it is in the strategic plan to accomplish this within the next 18 months.

3.2 Eliminate the dual call taker/radio dispatcher role and replace it with dedicated call takers and dedicated radio dispatchers. This requires vacant positions to be filled. (Priority 1)

Communications Response

AGREE; the department will work with ESA to review, modify and potentially expand the current job specifications to allow for this new dedicated role. This work is planned for the next 18 months, and is in alignment with the implementation plan from recommendation 3.1.

3.3 Regularly measure (preferably annually or alternatively bi-annually) incoming calls per hour, percentage of incoming calls answered within 10

seconds, average call duration, and average post-call wrap-up time, and identify the optimal scheduling of staff to meet any given volume of calls throughout the day. (Priority 2)

Communications Response

AGREE; data analysis is an extremely important component in the operation of an emergency call center, and the ability to glean performance measures both internally and for our stakeholders will allow for the improvement of emergency service delivery with the County. The legacy phone system, which is in the process of being replaced, has limited ability to independently provide the comprehensive data necessary to get an in-depth analysis and provide value added change. The system is also not integrated with other key systems such as the Computed Aided Dispatch (CAD) system. The implementation of our new phone system will remedy this lack of quantitative data. We continue to utilize the State provided system, Emergency Call Tracking System (ECaTS) to track our 9-1-1 call data.

SECTION 4. INADEQUATE ASSET MAINTENANCE AND REPLACEMENT MANAGEMENT AND REPORTING

4.1 Compile and adopt an asset maintenance and replacement plan in accordance with best practices from the GFOA. (Priority 2)

Communications Response

PARTIALLY AGREE; the department agrees that an asset maintenance and replacement plan should be adopted as the department has a significant amount of capital investment for which it is responsible for including, radio system and microwave system infrastructure components. However, the Communications Department disagrees that it can solely adopt and maintain the plan as it relies heavily on its partnership with other departments to assess assets within their subject matter expertise and then advise the department so it can appropriately plan and budget for any capital maintenance and replacement needs. Two examples of this partnership need is with our core facilities and our partnership with the Facilities and Fleet Department (FAF), as well as with the IT network infrastructure and our partnership with the Information Services Department (ISD).

4.2 Prioritize capital outlay requests to maintain or replace critical assets that have exceeded their useful lifecycle and product obsolescence, including the CAD system and Department headquarters. (Priority 1)

Communications Response

AGREE; the department is in the process of procuring a consultant that will assist the department in its overall cost recovery methodologies as well as create required departmental policies and procedures that take into account the replacement of critical infrastructure components, including but not limited to the CAD system and core facilities.

4.3 Establish a policy and business practice to request FCI data and reports, and other maintenance reports from FAF during the annual capital outlay process. (Priority 2)

Communications Response

PARTIALLY AGREE; Partially agree; the department agrees that there is a need for an overarching policy and business practice to provide County Communications and other departments with FCI data, reports, and other maintenance reports. However, the department disagrees that this should be established within individual departments. FAF has an existing procedure in place to conduct assessments on County facilities and their maintenance needs, including County Communications. FAF disseminates the reports and it is incumbent upon FAF to provide the departments the assessment data. County Communications will institute a practice of requesting the information from FAF annually if it's not automatically received by the department.

4.4 Establish a policy and business practice to confer with FAF during periodic FCI assessments. (Priority 2)

Communications Response

PARTIALLY AGREE; the department agrees that there is a need for the establishment of a business practice to have departments, including County Communications, participate in facility assessments and maintenance needs. However, the department disagrees that it should be County Communications that establishes such a practice. FAF establishes FCI assessment guidelines for the frequency of the assessments and schedules them, so it should be incumbent on that department to engage the target department when the assessment cycle occurs. County Communications is committed to working with FAF to participate in the periodic FCI assessments when they are scheduled and conducted.

SECTION 5. WORKFORCE AND SUCCESSION PLANNING

5.1 Create and adopt a workforce plan based on CalHR's Workforce Planning Model. (Priority 2)

Communications Response

AGREE; the department has developed a Strategic Plan that includes the development of both short-term and long-term recruitment strategies. In addition to this work, the department has begun the development of a workforce and succession plan using the CalHR model. We anticipate the plan to be complete within twelve months of the procurement of a professional services vendor that the department was funded for in FY18, and who will assist the department in both efforts.

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County of Santa Clara

Employee Services Agency

County Government Center, East Wing
70 West Hedding Street, 8th Floor
San Jose, California 95110-1705



DATE: August 9, 2017

TO: Board of Supervisors' Management Audit Division

FROM: John P. Mills, Deputy County Executive
Director, Employee Services Agency

SUBJECT: **Management Audit of County Communications**

This memo is in response to the recommendations pertaining to the Employee Services Agency (ESA) in the report of the management audit of County Communications conducted by the Board of Supervisors' Management Audit Division. ESA appreciates the opportunity to provide a response to these recommendations. ESA commends the thorough and thoughtful manner in which the Board of Supervisors' Management Audit Division has performed its work and the care taken to understand ESA's various processes and constraints.

SECTION 1. ADOPTING RECOMMENDED PRACTICES IN RECRUITMENT AND RETENTION

1.1 Regularly review and update all job classifications to ensure changes in job complexity, duties and responsibilities are properly represented and reflected in job descriptions.

ESA Response: Agree

Prior to the commencement of a recruitment, ESA, in partnership with the hiring department, reviews the current job specification to ensure that it captures the typical tasks and employment standards required by the department and possessed by successful candidates. If ESA and the hiring department agree that no changes to the job specification are necessary to have a successful recruitment, the job specification remains intact and the recruitment commences. For Fiscal Year 2017, ESA administratively revised 59 job specifications that impacted 920 positions county-wide. (This number only takes into account the number of job specifications that were ultimately modified, not the total number of job specifications reviewed.)

In addition to the recent revisions to the Communications Dispatcher I and Supervising Communications Dispatcher job specifications, ESA has also recently revised the Associate Communication Systems Technician, Communication Systems Technician, Senior Communication Systems Technician, Communications Engineering Manager, and Division Director—Communications Engineering & Technical Services, all within the

past nine months, to ensure that the job specifications accurately describe the duties of these jobs.

1.5 Develop a strategic recruitment and selection plan with clear marketing and outreach goals, and a candidate selection component, which describes, and ultimately publicizes, the characteristics that the County is looking for in a dispatcher.

ESA Response: **Agree**

Working backwards from the pre-scheduled academy dates, ESA, in partnership with County Communications, has mapped out the recruitment timelines for the next two years, including job posting dates, application review timelines, CritiCall testing dates, and hiring interview timelines. As each recruitment cycle is completed, any necessary modifications to future recruitment cycles based on lessons learned are implemented to enhance performance outcomes.

The recruitment plan contains specific website locations used for marketing the Communications Dispatcher I job postings, including CalOps, National Emergency Number Association (NENA), and the Association of Public-Safety Communications Officials (APCO). In addition, ESA has contracted with Careers In Government to automatically publish County job postings to a variety of websites, including LinkedIn, Twitter, Facebook, Google+, Beyond.com, Zip Recruiter, and Glassdoor, among others. ESA is reviewing the response levels to County job postings on each of these sites to ensure the marketing strategy is effective. Additionally, ESA recently revamped its website to be more user friendly to mobile devices, and to provide more information to potential applicants up front regarding how to apply, how to prepare for various testing processes, and the steps involved in the recruitment and hiring process. The revamped ESA website also has a Highlighted Job Opportunities link to direct traffic to critical recruitments. Furthermore, ESA utilizes Google Analytics to determine traffic patterns to the ESA website and makes adjustments based on this information as appropriate.

A key component of the County Communications recruitment plan is the eight unclassified Communications Dispatcher I positions added in the FY 2018 Budget. These positions will be used to fill the academy for training purposes. Once they have completed the academy, the newly trained staff will move into the coded Communications Dispatcher I positions and start their probationary period. This strategy has worked well for similarly situated classifications that require successful completion of a training period before recruits can start in the permanent positions, including Sheriff's Correctional Deputy Cadet, Deputy Sheriff Cadet, and Eligibility Worker I. The first unclassified Communications Dispatcher I recruitment was recently completed, with a turnaround time of less than two months, from posting (5/26/2017) to eligible list referred (7/20/2017).

In addition to the definition, typical tasks, and employment standards required of the position, the recent unclassified job posting also included additional information for potential candidates, such as the various required steps in the recruitment and background process, the benefits received if hired, probationary period information, and how the classified positions are alternately staffed. This additional information should better inform potential applicants up front so that they can assess with more certainty whether becoming a Communications Dispatcher is the right career path for them.