PRESENTATION FROM THE ORANGE COUNTY FIRE AUTHORITY (F: 61.1)

A PowerPoint presentation was provided by Bradley Phoenix of the Orange County Fire Authority regarding the proposal for providing fire services to the City of Garden Grove.

OCFA Fire Services Proposal to Garden Grove City Council

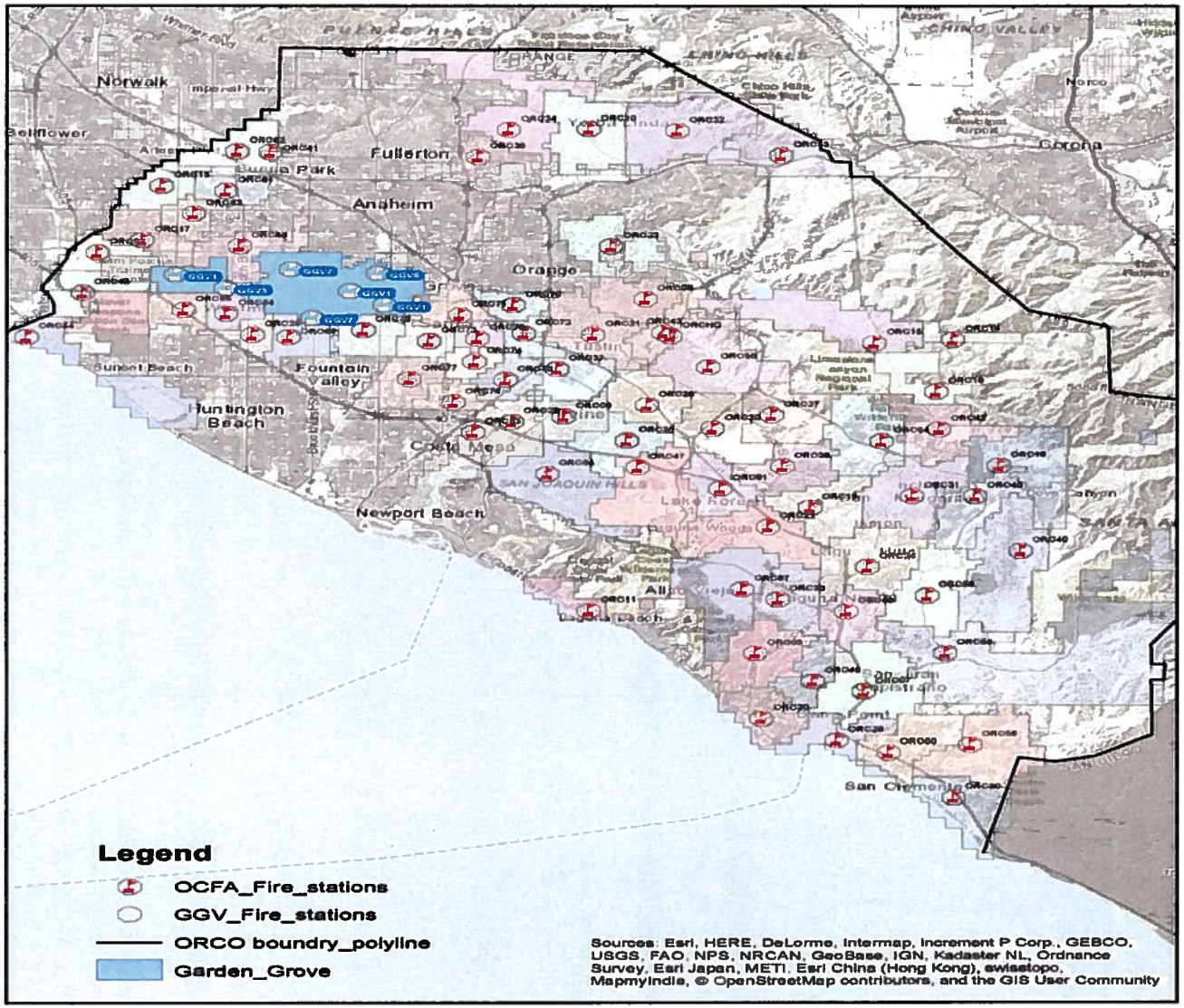
March 27, 2018

Proposal History

- OCFA received request for proposal September 22
- OCFA Board approved Staff to proceed September 28
- First meeting with City staff October 17
- OCFA Board unanimously approved the Fire Service Proposal (FSP) March 22

The OCFA

- Fiscally Strong Organization
- Serves 23 demographically diverse cities and Orange County unincorporated areas
- Serves 1.8 million residents in 571 square miles
- 7 Geographical Divisions, 1 Administrative Division, 9 Battalions
- 1,019 Firefighters and 172 reserve firefighters
- 297 non-safety personnel


Norwalk
Fullerton
Anaheim
Orange
Fountain Valley
Huntington Beach
Newport Beach
Corona
Norco
Sunset Beach
Legend
OCFA_Fire_stations
GGV_Fire_stations
ORCO boundry_polyline
Garden_Grove
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Governance

- Board of Directors
  - One council member from each city
  - Two members from OC Board of Supervisors
- Executive Committee
- Budget and Finance Committee
- Human Resources Committee
- City Managers' Technical Advisory Committee
- City Managers' Budget and Finance Committee

Types of City Membership

- Structural Fire Fund Members (16)
  - Funded through property taxes directly to the OCFA
- Cash Contract Cities (8)
  - Had previous fire department
  - Funded by individual cities
  - Contract costs based on Truck and Engine Company costs

Benefits to Garden Grove

Reduced cost for fire service in City

Increase in Paramedic response capabilities (133%)

Four-person staffing on all City assigned apparatus

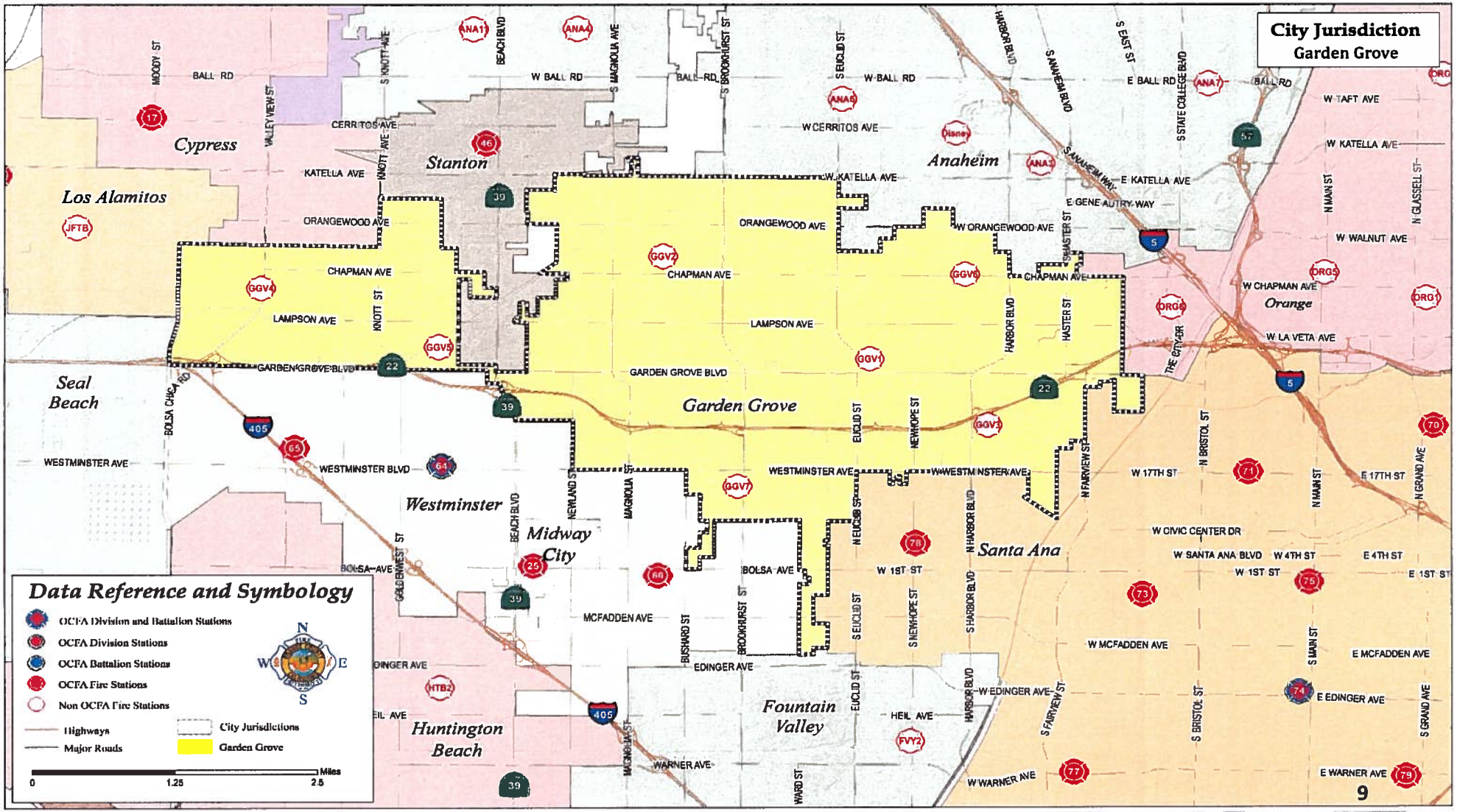
Use of OCFA emergency and non-emergency resources

- Haz-Mat, US&R, Helicopters, Dozers, Handcrew, etc.
- Community Education, Human Resources, Community Risk Reduction, Purchasing, EMS (Nurse Educator)

Benefits to OCFA

Strengthens Organization

- Garden Grove borders 6 OCFA service areas
  - More OCFA emergency resource response capabilities
  - Enhances regional services


City Jurisdiction
Garden Grove
Data Reference and Symbology
OCFA Division and Battalion Stations
OCFA Division Stations
OCFA Battalion Stations
OCFA Fire Stations
Non OCFA Fire Stations
Highways
Major Roads
City Jurisdictions
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Los Alamitos
Stanton
Anaheim
Seal Beach
Garden Grove
Westminster
Midway City
Huntington Beach
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Proposal Cost to Garden Grove

OCFA Proposal Cost Budget Comparison with annual increases

	2018/19	2019/20	2020/21	2021/22
OCFA Service Charge (A)	$22,592,221	$23,608,870	$24,671,258	$25,781,464
OCFA % Inc. Maximum	Included in cost	4.50%	4.50%	4.50%
2018/19 GGFD Budget Total (B)	$25,122,000	$25,912,000	$26,816,000	$27,339,000
% Increase		3.14%	3.49%	1.95%
Annual Savings (B-A)	$2,529,779	$2,303,129	$2,144,730	$1,557,523
Cumulative Savings		$8,535,161		

Summary of Start-Up costs	
Communications	$293,146
Facilities	$156,500
Personnel	$152,650
Service Center	$309,661
Fleet Services	$20,800
EMS	$203,468
Total	$1,136,225

Yearly Savings Comparison
Using 10 year average increases

	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
OCFA Contract	$ 30,993,512	$ 31,897,283	$ 32,827,408	$ 33,784,655	$ 34,769,816
	2.92%	2.92%	2.92%	2.92%	2.92%
GGFD Budget	$ 31,900,394	$ 32,600,715	$ 33,316,410	$ 34,047,817	$ 34,795,281
	2.20%	2.20%	2.20%	2.20%	2.20%
Savings	$ 906,882	$ 703,432	$ 489,002	$ 263,162	$ 25,465
Accumulated Savings	**$ 21,560,119**	**$ 22,263,551**	**$ 22,752,553**	**$ 23,015,715**	**$ 23,041,180**

Start Up Costs

Based on 84 Sworn		
Service Center $309,661	Helmet Shields Station Equipment Brush Helmets Wildland PPE Fire Shelters Wildland T-shirts	Goggles Rain Gear Apparatus Complement Uniforms Dress Uniforms Apparatus Decaling
Personnel Costs $152,650	Physicals Insurance (Risk Management) Livescan	
Fleet Services $20,800	Apparatus Repairs	
Comm/IT $293,146	Station Alarms Station Phones (Office & Fax) Tablets for Engines/Trucks Radios (Station & Mobile) Pagers OCFA Computer Programs	Station Network Station Computers Printers/Copiers Radio Pacset MDC's Vehicle Tech Upgrades
Facilities $156,500	Gear Grids Air Compressors New Refrigerators	Station Locks Safety on Gates New mattresses
EMS $203,468	Nurse Education Equipment	Standardize Equipment
Total Start-Up Costs: $1,136,225		

Paramedic Deployment

Paramedic Assessment Unit (PAU)
One Paramedic

Paramedic Engine (PME)
Two Paramedics

- Orange County EMSA – Requires a paramedic response to have at least two paramedics
- Whenever a PAU is dispatched to a paramedic level call a PME is also dispatched – impacting coverage
- Two-in Two-out (OSHA requirement for rescue)

Deployment Comparison

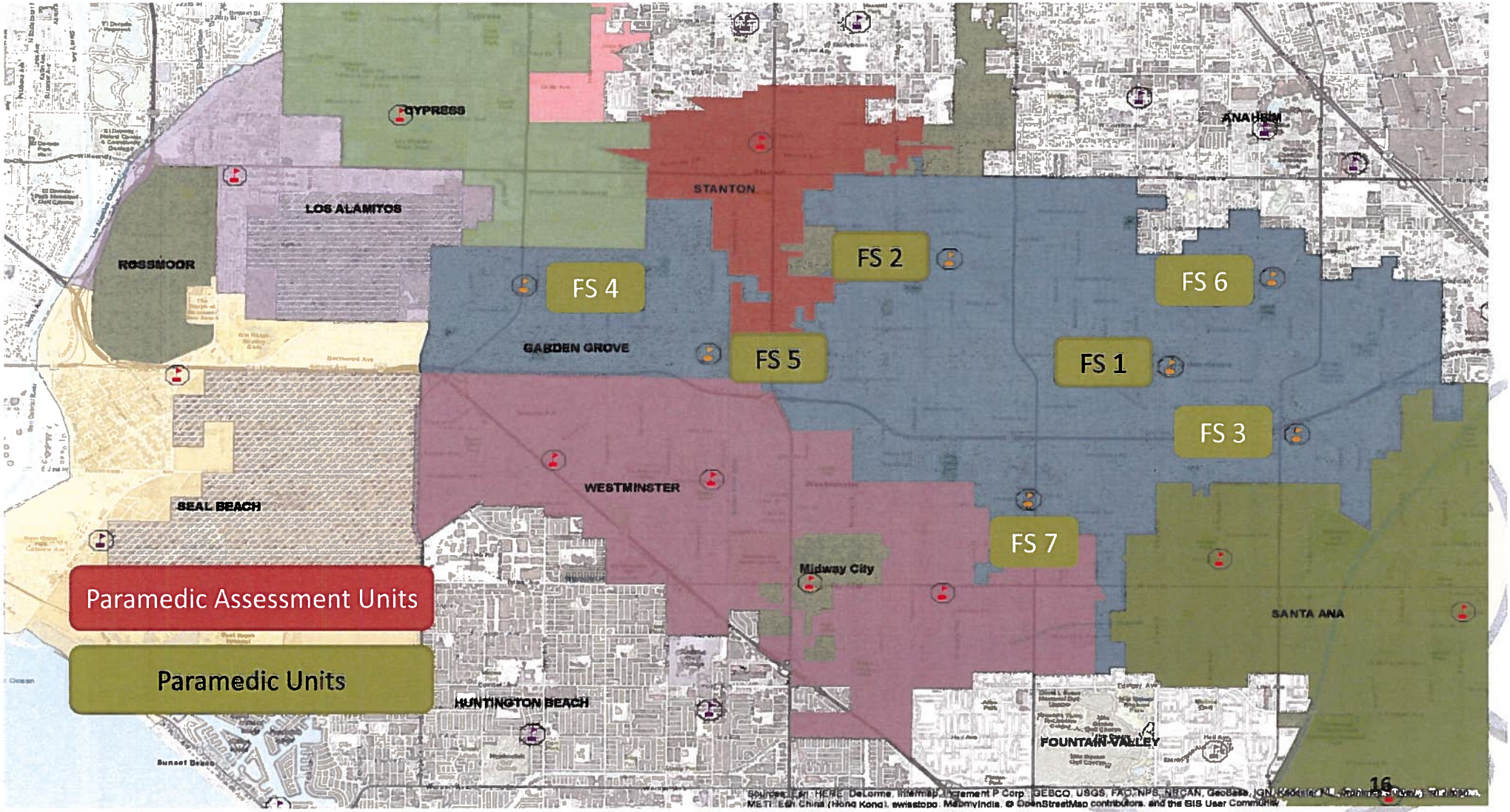
OCFA Proposal comparison with current Garden Grove deployment

	Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	Station 7	Daily Staffing
GGFD Current Deployment	Truck BLS Eng. PM Squad BC	PME	PAU	PAU	PME	PAU	PAU	29
OCFA	PMT BC	PME	PME	PME	PMT	PME	PME	29

1. **PME = Paramedic Engine, PMT = Paramedic Truck, PAU = Paramedic Assessment Unit**
2. **Indicates conversion to ALS capability**
3. **OCFA T64 is relocated to Garden Grove Station 5**

2016 GGFD Deployment Report

- Identified areas for improvement
- 3 phases over 3 years for GGFD deployment improvements
- Estimated Cost to City to implement - $2,069,920 (2016)
- OCFA FSP meets or exceeds Report identified areas for improvement on Day 1 of OCFA service
- 4 year savings of $16,814,841 to City from original projected cost


CYPRESS
LOS ALAMITOS
ROSSMOOR
STANTON
ANAHEIM
FS 2
FS 4
FS 6
GARDEN GROVE
FS 5
FS 1
FS 3
WESTMINSTER
SEAL BEACH
FS 7
Midway City
SANTA ANA
Paramedic Assessment Units
Paramedic Units
HUNTINGTON BEACH
FOUNTAIN VALLEY
Sunset Beach
Source: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Personnel/Transition

- Minimum 120 day timeline
- All GGFD sworn employees to transition, conditional on criminal record/DMV check and pre-employment medical
- Non-sworn personnel hired based on vacancies and OCFA needs

Retirement

- Four Options
  - Retire from Fire Service
  - Retire from PERS, join OCFA and enter under PEPRA
  - Utilize reciprocity as a PEPRA employee (hired after 2012)
  - Utilize reciprocity with OCERS into 3% at 55 formula

Facilities

- Ownership of fire stations remain with City of Garden Grove
- Expenses divided into 3 categories:
  - Start up costs -$156,500
  - Capital Improvements
    - Project costs that exceed $15,000
  - Yearly Maintenance
    - $15,000 per station for a total of $105,000 is in the contract cost – detail in FSP

Apparatus

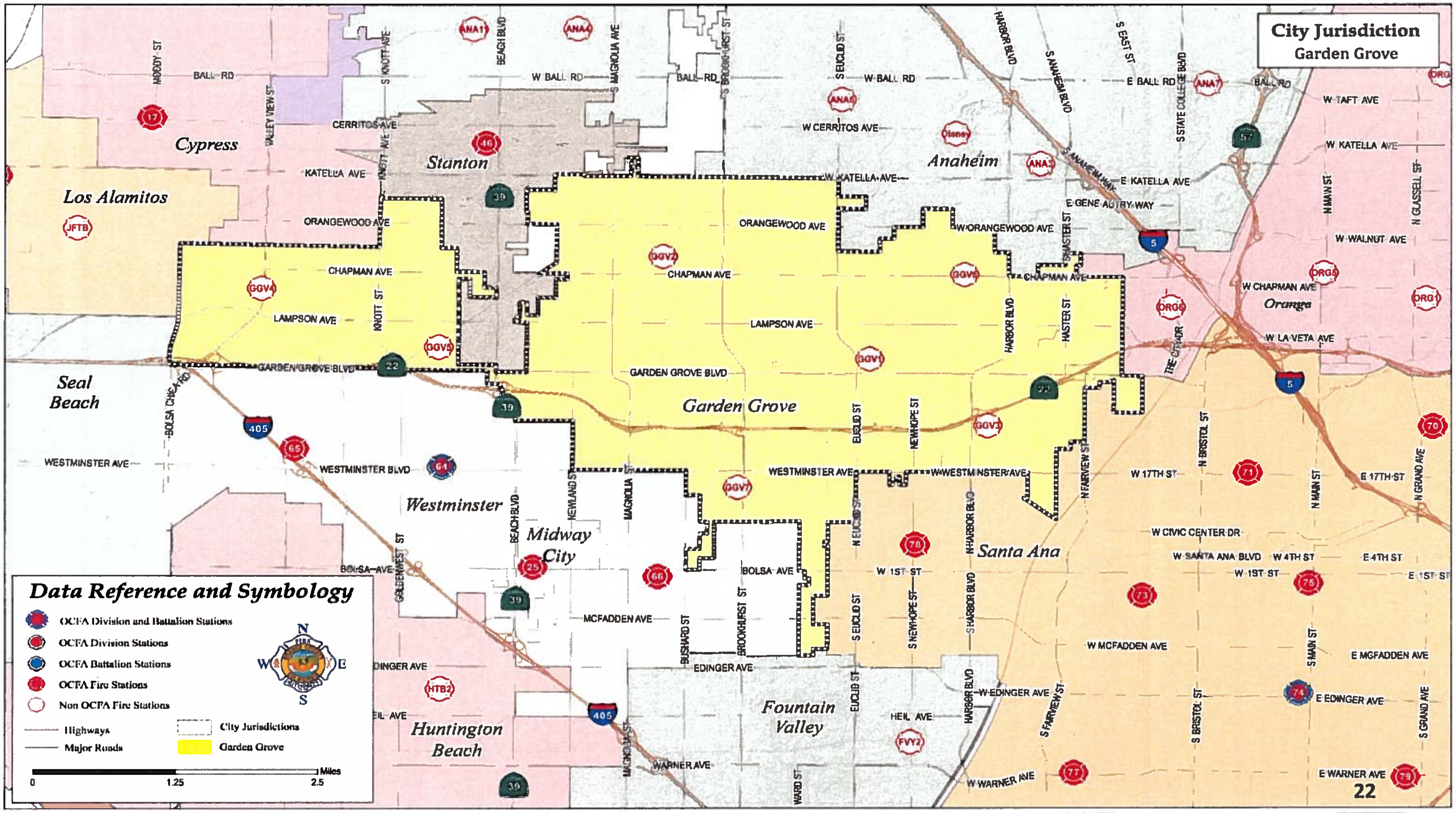
Proposal includes 10 Vehicles to OCFA from GGFD

- 6 Type 1 engines
- 1 Truck Company – Will be replaced with OCFA Truck
- 3 Small Vehicles

Options to City with other Fire Department vehicles

- Keep vehicles
- Sell on their own
- OCFA assistance with selling

Questions ?


City Jurisdiction
Garden Grove
Garden Grove
Anaheim
Stanton
Cypress
Los Alamitos
Seal Beach
Westminster
Midway City
Santa Ana
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Fountain Valley
Huntington Beach
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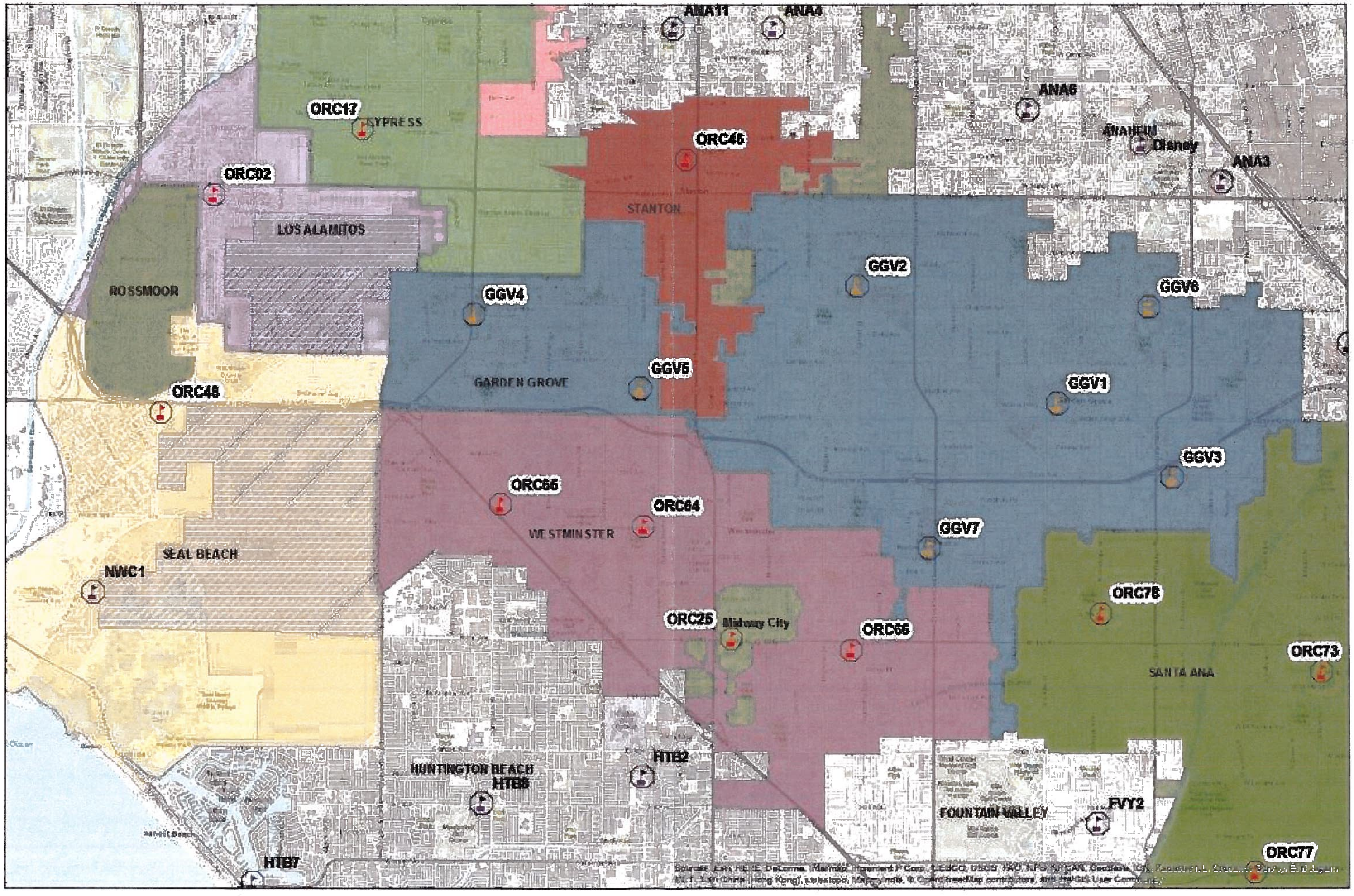
ANA11
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GARDEN GROVE
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ORC48
GGV3
ORC65
ORC64
WESTMINSTER
GGV7
SEAL BEACH
NWC1
ORC78
ORC25
Midway City
ORC66
ORC73
SANTA ANA
HTB2
HUNTINGTON BEACH
HTB6
FOUNTAIN VALLEY
FVY2
HTB7
ORC77

Orange County Fire Authority

Emergency Command Center

Work Schedule Analysis

March 8, 2018

Purpose

This white paper intends to overview the current work environment in the Emergency Command Center (ECC) and compare 24-hour and 12-hour shift schedules for dispatchers.

Section 1. - Introduction

The ECC is an essential component of every OCFA emergency response. Although less visible to the community than firefighters, dispatchers are first to make contact with the public, obtain information about the emergency, and initiate a response. To support the critical and time-sensitive role of the ECC, adequate staffing is needed 24-hours a day and 7-days a week. Without sufficient staffing, there may be delays in rapidly answering 9-1-1 calls, initiating emergency response, and coordinating resources; all having the potential to impact public and firefighter safety.

Although ***staffing*** and ***scheduling*** are often used interchangeably, it is essential to clarify the distinction between the two terms. Staffing concerns *"the number of employees needed to do the job"* while scheduling assigns *"employees to specific time blocks to match the need"* (APCO, 2005, p. 67). That is, staffing is of critical importance because it determines the number of dispatchers on-hand to address phone and radio traffic. Decisions about shift lengths, meal and break times, and day on/off patterns are scheduling considerations and don't speak to staffing needs.

Section 1.1 - ECC Overview

The ECC is located at the Regional Fire Operations and Training Center (RFOTC) in Irvine, California, and operated by 27 shift dispatchers, three shift supervisors, and six administrators (Attachment 1). The ECC provides service to 1.8 million residents of Orange County who live in the 23 cities served and unincorporated areas of Orange County. In coordination with 9-1-1 centers throughout the county and state, emergency calls are answered, call nature and location identified, and resources dispatched. All dispatchers are Emergency Medical Dispatcher (EMD) certified to provide medical advice and treatment instruction to callers before the arrival of first-responders. Examples of instructions include

clearing airway obstructions, bleeding control, CPR, and childbirth procedures. Dispatchers also answer non-emergency phone lines to receive complaints and service-related requests.

The ECC serves as the Operational Area Coordinator for all Orange County fire service agencies, which provides mutual aid fire and rescue resources throughout the state. This responsibility includes handling requests from California's Statewide Fire and Rescue Mutual Aid system, dispatching and tracking of fire and rescue mutual aid resources, and coordinating asset movement.

Section 1.2 - Dispatcher Roles/Responsibilities

The ECC has four key positions that are staffed throughout the workday. Fire Communications Dispatchers (FCD) fill the roles of call-taker, primary dispatcher, and tactical radio operator, and one Fire Communications Supervisor (FCS) oversees and coordinates activities.

- Call-Takers obtain relevant information and inputs into Computer Aided Dispatch; sorts calls using medical criteria; provides pre-arrival instructions; calms emotional callers.
- Primary Dispatcher determines and dispatches appropriate personnel and apparatus; maintains the status of equipment, personnel, and apparatus as to location, availability, and ensures optimum coverage; serves as a liaison with the public and other public officials for inquiries and customer complaints.
- Tactical Radio Operators receive and process requests from field personnel over multiple radio frequencies; track incident and unit statuses; make notifications to assisting partner agencies.
- Shift Supervisors oversee the operations and employees, which includes: prioritizing and assigning work; conducting performance evaluations; ensuring staff is trained; administrative and disciplinary actions; supervises the disposition of emergency calls and the dispatching of fire suppression and EMS units.

Section 1.3 - Emergency Activity and Staffing Levels

Like fire departments across the nation, the OCFA is experiencing a steady annual increase in emergency activity and calls for service (National Fire Protection Agency, 2017). In the last five years, emergency activity has increased 24% (See Table 1); the expanding call volume directly affects the dispatchers as each call requires entry, dispatch, and tracking. In 2012, the ECC was staffed each day with seven dispatchers and one supervisor on a 24-hour period. After partnering with the City of Santa Ana, a part-time 12-hour position was added. As call volume continued to grow, one full-time dispatcher was added in 2016 and the part-time position converted to full-time in 2017. Today's daily staffing of the ECC includes nine dispatchers and one dispatch supervisor on a 24-hour shift schedule. Forced backfill is utilized to maintain daily staffing of eight dispatchers and one supervisor as agreed upon through the ECC Joint Labor-Management group.

Table 1 – Incident and Phone Activity

	2013	2014	2015	2016	2017
9-1-1 Calls Received	80,977	84,028 3.8% increase	93,005 10.7% increase	102,171 9.9% increase	106,452 4.2% increase
9-1-1 Answered within 15-seconds	99.87%	99.77%	99.72%	99.66%	99.54%
Incidents Dispatched	114,354	117,105 2.4% increase	130,713 11% increase	136,934 4.7% increase	141,858[1] 3.6% increases
Dispatchers per 24-hour shift	7 full-time 1 part-time	7 full-time 1 part-time	7 full-time 1 part-time	8 full-time 1 part-time	9 full-time
Supervisors per 24-hour shift	1 full-time	1 full-time	1 full-time	1 full-time	1 full-time

[1] Incident totals for 2017 are under final review by Strategic Services and should be considered preliminary

In 2017, the ECC dispatched on average 389 incidents and answered 292 9-1-1 calls each day. The number of incidents per hour was highest between 8 AM and 9 PM (averaging over 16 calls per hour) and lowest between 1 AM and 6 AM (Attachment 5). Weekdays were roughly 5% busier than weekends, and

Friday's statistically had the highest volume of emergency responses (Attachment 6). Seasonally, January and December were the most active months with on average over 400 responses each day (Attachment 7).

Section 2. - Analysis

While the focus of this paper is on scheduling differences between 24-hour and 12-hour shift schedules, it is first necessary to calculate 'how many' dispatchers are needed in the ECC at any one time – also known as the staffing level. Having an adequate number of dispatchers at their consoles ensures 9-1-1 calls are answered rapidly, units are dispatched, and radio traffic answered. When there is inadequate staffing, performance is negatively affected.

Section 2.1 - Staffing Level Standards

The goal of determining staffing levels is to figure out "the number of positions needed to comfortably handle the workload" (APCO, 2005, p. 2). As workload increases so do the needed number of dispatch personnel. A variety of public safety agencies and associations provide formulas and calculations for staffing levels although no single formula can be applied to all organizations.

Adequate staffing has its benefits to employees. In a 2005 study, up to one-third of dispatch centers were chronically understaffed, which was correlated to excessive overtime, employee burnout, high turnover rates, and empathy fatigue (APCO, 2005; Gendron, 2015). Understaffing and information overload contribute to stress, lower job satisfaction, and higher tolerance for errors (Pendleton, 2008).

The following bullet points identify a variety of approaches to calculating staffing levels. Part art and part science, staffing needs are often based on management experience, judgment, and performance measures. While staffing formulas often focus on the concept of workload to determine needed personnel, an important caveat requires attention. As a dispatch center approaches maximal efficiency, the margin to take on additional work diminishes. It is vital for dispatch centers to plan for unanticipated surges in call activity due to severe weather, natural disasters, and internal disruption. During peak

activity, every member of the dispatch center contributes and helps maintain critical 9-1-1 answering times and dispatch center performance.

- California Office of Emergency Services (Cal OES) – Under California's Governor of Emergency Services, serves "the public through effective collaboration in preparing for, protecting against, responding to, recovering from, and mitigating the impacts of all hazards and threats."
    - CalOES does not have a standard for 9-1-1 center minimum staffing.
    - 9-1-1 Calls: Ninety-five (95) percent of incoming 9-1-1 calls shall be answered within fifteen (15) seconds
- Emergency Call Tracking System (ECaTS) – Provided by the state of California, ECaTS *"is a statewide 9-1-1 call related data gathering system"* which gathers and analyzes data, and generates reports.
    - Based on 2017 phone data, two (2) to three (3) call takers are needed (based on time of day) to answer 90% of 9-1-1 calls within 10 seconds; two (2) to four (4) call takers are needed (based on time of day) to answer both 9-1-1 calls and administrative lines within 10 seconds (Attachments 12 & 13).
- International Association of Fire Chiefs (IAFC) – Mission "to provide leadership to current and future career, volunteer, fire-rescue and EMS chiefs, chief fire officers, company officers and managers of emergency service organizations throughout the international community through vision, information, education, services and representation to enhance their professionalism and capabilities."
    - IAFC does not have a standard for 9-1-1 center minimum staffing.
- International Organization of Standardization (ISO) – *"an independent, non-governmental international organization with a membership of 161 national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based,*

market-relevant International Standards that support innovation and provide solutions to global challenges."

- ISO points to NFPA 1221 to assess communications center performance

- National Emergency Number Association (NENA) – *"As The Voice of 9-1-1™, NENA is on the forefront of all emergency communications issues. The association serves its members and the greater public safety community as the only professional organization solely focused on 9-1-1 policy, technology, operations, and education issues. With more than 12,000 members in 48 chapters across the United States and around the globe, NENA promotes the implementation and awareness of 9-1-1, as well as international three-digit emergency communications systems."*
  - NENA offers a staffing calculator based on 9-1-1 calls and 10-digit emergency call volume (Attachment 3). The formulas, dating back to 2003, was designed for dispatch centers much smaller than the OCFA's; the calculated results of 33.4 needed dispatchers should be interpreted with the formula's limitation in mind.
- National Fire Protection Agency (NFPA) – *"The National Fire Protection Association (NFPA) is a global nonprofit organization, established in 1896, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards."*
  - "There shall be a minimum of two telecommunicators on duty and present in the communications center at all times."
  - "The Authority Having Jurisdiction (AHJ) shall ensure that there are sufficient telecommunicators available to effect the prompt receipt and processing of alarms needed to meet the requirements of section 7.4."
  - 9-1-1 Calls: Ninety-five (95) percent of incoming 9-1-1 calls shall be answered within fifteen (15) seconds, and ninety-five (99) percent of incoming 9-1-1 calls shall be answered within fifteen (40) seconds

- Alarm Processing: Ninety (90) percent of emergency alarm processing shall be completed within 64 seconds, and ninety-five (95) percent shall be completed within 106 seconds.

Section 2.2 - Shift Schedules

Shift work is a fact of life in dispatch centers. According to APCO, "the shift assignment is the most critical contributor to employees' feelings of control over their lives" (2005, p. 20). Most police and fire communications centers across the nation use 8-hour shifts (49%) with 10-hour shifts (10%) and 12-hour shifts (3%) less prevalent. The remainder of dispatch centers (38%) utilize combinations of 8, 10, 12, and 24-hour shifts or unique configurations that meet employee or agency needs. Table 2 displays a small sample of work schedules used by Orange County fire agencies, surrounding counties, agencies previously recognized in OCEA documents, and like-function centers; the number of entries in each column is not intended to infer how frequently each schedule is used throughout the state.

Table 2 – Survey of 9-1-1 Center Shift Schedules

12-hour		12/24-hour	24-hour	48-hour
CalFire/Riverside	Laguna Police/Fire	North County Fire	City of Montecito Fire	Marin County Fire
CalFire/San Diego	MetroNet Fire JPA		City of Stockton Fire	
San Diego City	Sacramento Regional		LA City (sworn FF's)	
Heartland (San Diego)	Ventura County Fire		Contra Costa Fire	
Costa Mesa Police/Fire	Verdugo Fire		San Ramon Valley FPD	
LA County			OCFA	

In Table 3, a side-by-side comparison of 24-hour and 12-hour schedules are listed, which show required personnel, costs, schedules, and strengths and weaknesses.

Table 3 – 24-hour schedule vs. 12-hour schedule

		24-hour shift schedule (current)	12-hour shift schedule (proposed)
Total Supervisors Required		3	4
Total Dispatchers Required		27	28
Total Salaries & Employee Benefits		$4,816,098	$5,347,544 (11.03% increase)
Start Time		7 AM	7 AM Day Shift 9 AM (1 dispatcher added) 1 PM (1 dispatcher added) 7 PM Night Shift
Shift Cycle		XOXOOXOXOOOO (X = work day)	XXOOXXXOOXXOOO (X = work day)
Shift Length		24-hours	12-hours
Hours Work at Console		15-hours	11-hours
Average Shifts per Month		10	15
Maximum Shift Duration		48-hours forced overtime 72-hours voluntary overtime	16-hours voluntary/forced overtime
Dispatchers	At RFOTC	Day = 9 dispatchers Night = 9 dispatchers	Day = 7 to 9 dispatchers Night = 5 to 7 dispatchers
Dispatchers	At ECC Console	Day = 5 to 9 dispatchers Night = 3 to 6 dispatchers	Day = 7 to 9 dispatchers Night = 5 to 7 dispatchers
Supervisors	At RFOTC	1	1
Supervisors	At ECC Console	All hours except 2 PM – 5 PM (3 hours) & 1 AM to 7 AM (6 hours)	All hours except 1 PM to 2 PM (1 hour) & 1 AM to 2 AM (1 hour)
Strengths		• Cost-effective • Nine (9) dispatchers on-site at all times for unforeseen surges in activity • Meets Staffing Level Standards (Sect. 2.1)	• Improved supervisor coverage and ratio of incidents per dispatcher (Attachment 9) • Replenished dispatchers every 12-hours • Meets Staffing Level Standards (Sect. 2.1)
Weaknesses		• Supervisors away from ECC for nine (9) hours of shift • Challenging to add 24-hour positions as center operations grow since all start at 7 AM • 15-hours of focused work per shift	• Call-back of additional dispatchers may be necessary for unforeseen surges in emergency activity (Attachment 2) • Requires two additional full-time positions (one FCD and one FCS) • 11-hours of focused work per shift

Section 2.3 - Financial Considerations (Attachment 4)

Position	Shift Schedule	Salary & Employee Benefits	Positions required	Total
Fire Communications Dispatcher	12-hour (proposed)	$165,513	28	$4,634,364
	24-hour (current)	$158,850	27	$4,288,950
Fire Communications Supervisor	12-hour (proposed)	$182,795	4	$713,180
	24-hour (current)	$175,716	3	$527,148
Annual Salaries & Benefits/12-hour schedule				$5,347,544
Annual Salaries & Benefits/24-hour schedule				$4,816,098
Cost Increase to move from 24-hour to 12-hour schedule				$531,446

Section 2.4 - Lessons learned from Ventura County Fire Department

The ECC Chief from Ventura County Fire Department (VCFD) was interviewed regarding their recent transition from 24-hour to 12-hour shifts. The following was shared with OCFA leadership.

Approximately one year ago, Ventura County Fire Department transitioned their ECC from 24-hour to 12-hour shifts. The decision to evaluate shift schedules originally came at the request of ECC staff who pointed to fatigue and extended shifts. There was also a monetary reason for looking at an alternate schedule due to employees being paid for all hours worked and attended training. Although the decision to look at the staffing options outside of 24-hour shifts was initiated by dispatch staff, the decision to change to a 24-hour shift was vigorously opposed. After a substantial review period, the Fire Chief decided to transition the ECC to 12-hour shifts. Some of the deciding factors were the addition of a Shift Supervisor in the center at all times, reduction of the extended 36 and 48-hour shifts, and elimination the pay issues related to 24-hour schedules.

A common argument made by dispatch staff when considering moving away from 24-hour shifts was the loss of constant staffing in the ECC for a significant event. This was a factor that was considered when evaluating data for the transition, and it was determined that the surge capacity was very rarely

used. Since the transition, there have been no issues with staffing and ability to handle incidents. An example provided by the VCFD ECC Chief was their staffing for the Thomas Fire (California's largest wildfire) earlier this year. Because the ECC was already up-staffed for predicted fire weather, and the event started around shift change, there was plenty of staff to work through the Initial Attack of what was described as a once in a lifetime incident.

One additional note the ECC Chief shared is that their shifts are 12.5-hours. The extra half hour is intended to be a briefing/training period followed by relief. The extra half hour makes shifts feel longer, but VCFD modeled the practice after the Ventura County Sheriff's Department who also works 12.5-hour shifts.

The ECC Chief advised that this was not a popular decision with the ECC staff, and 1-year later is still not positively viewed by dispatch staff. The most common complaint that the ECC staff has expressed since the transition is the 12-hour shifts extended to 16-hour shifts. The ECC Chief advised that this is a result of dispatchers not answering the call when there is last minute overtime available. Per the ECC Chief, this may be avoidable if there were better coordination between dispatchers. The center has a minimum staffing level established, and they will force employees to extend their hours after they are scheduled to go home up to 16-hours or force them to come back for their next shift early.

Finally, there was a lot of discussions that staff would be leaving if the change was made because some of the staff lives two to three hours away from the ECC. Ventura County Fire Department retained their dorms and allowed staff to sleep on site if they are working extended days, and at this point, the ECC has not lost any of their dispatch staff following the change. The ECC Chief recommends that significant notice is given to the employees if a change in schedule was implemented. Ventura County Fire provided dispatchers a 6-month notice, which provided sufficient time for all employees to prepare for the transition.

Section 2.5 – Safety Risk?

In open session presentations, the statement has been made that moving from 24-hour to 12-hour shifts is a public safety risk since there would be fewer dispatchers available to answer sudden surges in 9-1-1 calls. The assertion is based on the point that with 24-hour shifts, there are nine (9) dispatchers on duty at all times and that during sleep hours when only three (3) dispatchers are at consoles, the other six (6) can be awoken from adjacent dorms in a moment's notice. While having nine (9) dispatchers on-duty is advantageous, data from 2016 and 2017 suggests (Attachment 2) that assistance was required on few occasions; when help was needed, it was for short durations and involved one or two dispatchers. During the early morning hours, the proposed 12-hour shift would provide a minimum of five (5) dispatchers and one (1) supervisor at all times, and call-back would be required for instances where unexpected workload exceeded capacity. Based on this information, the statement that a 12-hour shift for dispatchers creates a safety risk for the citizens protected by the OCFA is not supported by call volume or the number of dispatchers who will be on duty.

Section 2.6 - Dispatcher Perspectives

In December of 2017, OCFA management received 25 letters from dispatchers and supervisors in opposition to changing shift schedules; a copy of each letter was provided to Board members at the December 2017, meeting. Letters detailed the negative impressions of a schedule change, which impacted personal lives and ECC operations. Personal impacts included an increased commute (frequency, safety, costs), negative financial impacts, and changes to lifestyle (routine, childcare, happiness). Professional concerns included dispatcher recruitment and retention, impacts to dispatcher capacity during unforeseen surges in activity, decreased service delivery, and firefighter safety. Three dispatchers indicated they would likely leave OCFA if a schedule change were to occur.

Section 3. - Summary

The ECC plays a critical role in the delivery of fire, rescue, and medical services. In an environment where seconds count, adequate daily staffing is needed to handle the workload. In addition to operational benefits, adequate staffing can improve employee health by reducing excessive overtime and dispatcher burnout.

In comparing the 24-hour (current) and 12-hour (proposed) work schedules, each meets the tenets of staffing level standards as identified in section 2.1. The 24-hour shift schedule is desired by current dispatchers and has the benefit of cost-effectiveness and nine (9) dispatchers continuously on duty for unforeseen surges in activity. The limitation of the 24-hour shift schedule is the lack of consistent supervision throughout the 24-hour period. The proposed 12-hour shift schedule replenishes dispatch staff every 12-hours, has a supervisor and dispatchers at consoles for a greater number of hours of the workday. The 12-hour shift schedule is opposed by existing dispatchers, requires two additional positions, and raises salary costs 11.03%.

Although not addressed in this whitepaper, future research should consider methods to enhance continuous ECC supervisorial oversight and the potential benefits of mixed shift schedules (8, 10, 12, and 24) to address rising call volume and peak activity during the day.

References

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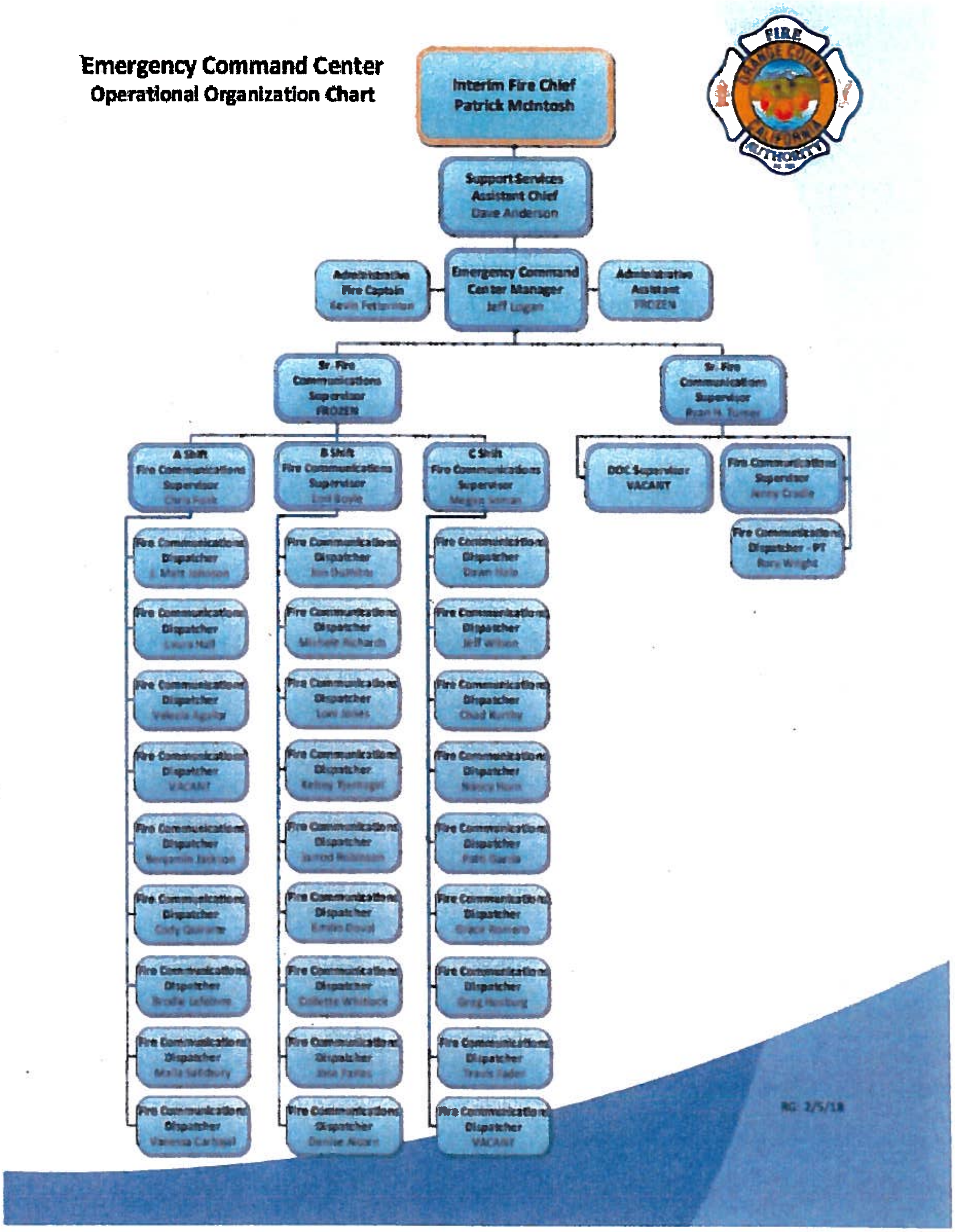
Attachment 1
ECC Organization Chart



Attachment 2
24-hour Shift Schedule
Interrupted Sleep Analysis

Below is a synopsis of "Interrupted Sleep" from 2016 and 2017 where dispatchers (on 24-hour shifts) were required to return from sleep/break to help with center workload.

2016

Dispatchers re-called from sleep break between 7 PM – 1 AM for unanticipated surge of activity (six dispatchers were on the floor under the current 24-hour schedule)

- 11 Instances of recalled dispatchers
    - Most entries indicate one to two dispatchers recalled
    - Duration of time spend on ECC Floor (1.25 to 1.5 hours)
    - Three (3) Instances when there was more than seven (7) dispatchers used on ECC floor
    - High occurrences between 7 PM at 8:30 PM

Dispatchers re-called from sleep break between 1 AM and 7 AM for unanticipated surge of activity (three dispatchers were on the floor under the current 24-hour schedule)

- 12 instances of recalled dispatchers
    - Most entries indicate one to two dispatchers recalled
    - Duration spent on ECC floor (1.5 to 2.5 hours)
    - One occurrence (Holy Jim Fire) where seven (7) dispatchers where on the floor 4:30 AM to 7:00 AM

2017

Dispatchers re-called from sleep break between 7 PM – 1 AM for unanticipated surge of activity (six dispatchers were on the floor under the current 24-hour schedule)

- Eight (8) Instances of recalled dispatchers
    - Most entries indicate one to two dispatchers recalled
    - Duration of time spend on ECC Floor (0.5 to 2 hours)
    - Brea Fire – nine (9) dispatchers 7:15 PM to 7:45 PM

Dispatchers re-called from sleep break between 1 AM – 7 AM for unanticipated surge of activity (due to (three dispatchers were on the floor under the current 24-hour schedule)

- Seventeen (17) Instances
    - Most entries indicate one to two dispatchers recalled
    - Duration of time spend on ECC floor (.5 to 3 hours)
    - Three (3) Instance when there was more than five (5) dispatchers on ECC floor
        - Cristianitos Fire - seven (7) dispatchers working 1:00 AM to 2:15 AM
        - Gypsum Fire - eight (8) dispatchers 1 AM to 2:30 AM
        - Fire Baker Canyon – seven (7) dispatchers working 2:45 AM to 4:00 AM

Attachment 3

National Emergency Number Association (NENA)– Staffing Calculator

Call Volume Category	Call Volume: Busy Hour Shift	Call Volume: Normal Shift	Call Duration in Seconds
9-1-1 calls	16	5.7	108.9
7-/10-digit emergency #	12.5	5.7	64.5

The above calls equate to approximately . . . 149,796 calls per year.

Determine Hours of Work Per Year to be Obtained from Each Call Taker

Enter number of days off per category in table below (highlighted cells).
It is realized that you may have telecommunicators with different numbers for each category.
Use the average numbers for your PSAP.

Days in year	365
Less Days Off:	
Weekends (i.e., 2 days per 52 weeks)	182
Paid Holidays Off	0
Vacation	18
Personal Days off	7
Training	1
Conference	1
Sick	3
Total Days off per Year	212

Days available to work	153
If work eight hours per day	12
Hours available to work	1836
Staffing Ratio* (Hours in Year/Hours Available)	4.77

*Staffing Ratio - How many persons must be hired to keep on position manned 24 x 7. It is calculated by dividing the number of hours in a year by the number of hours a call taker is available to work at a position.

Calculations for Staff based on above inputs and P.01 Grade of Service

	Shift: Busy Hour	Shift: Normal
9-1-1 calls in Erlangs	0.484	0.172
7-/10-digit emerg # calls in Erlangs	0.224	0.102
Total Erlangs per Shift . .	0.708	0.275
Call takers required per shift .	4	3
Number of shifts per day . .	1	1
Total Call Takers on watch in typical day		7
Staffing Ratio		4.77
Telecommunicators required for 24 x 7		**33.4**

Staffing options that the PSAP Manager should consider include:

1. Full time employees
2. Overtime (But recommended only to cover rare high-volume times or personnel absences owing to illness or other emergency)
3. Part time employees (Consider as a option for experienced telecommunicators who want to reduce working time but still want income and/or enjoy the work)

Attachment 4

Salary & Employee Benefits

Orange County Fire Authority
Fire Communications Dispatcher Cost Calculation

		Fire Communication Dispatcher				Fire Communication Supervisor			
	Includes 1 Hour Lunch->	24-Hr	12-Hr	10-Hr (4/10)	9-Hr (9/80)	24-Hr	12-Hr	10-Hr (4/10)	9-Hr (9/80)
KEY ASSUMPTIONS									
Base Hourly Rate (Top-Step)		37.41	37.41	37.41	37.41	41.71	41.71	41.71	41.71
Annual Hours		2,080	2,184	2,080	2,080	2,080	2,184	2,080	2,080
Night Assignment Hours [i]		-	1,456	1,387	1,387	-	1,456	1,387	1,387
Annual Built-In Overtime/FLSA Hours [ii]		169.60	104.00	-	-	169.60	104.00	-	-
Retirement Rate [iv]		34.08%	34.08%	34.08%	34.08%	34.08%	34.08%	34.08%	34.08%
Workers Comp Code		9410	9410	9410	9410	9410	9410	9410	9410
Workers Comp Rate [v]		4.258%	4.258%	4.258%	4.258%	4.258%	4.258%	4.258%	4.258%
Holiday Hours [vi]		118.00	118.00	108.00	108.00	118.00	118.00	108.00	108.00
Sick Hours for Backfill Overtime		96.00	96.00	96.00	96.00	96.00	96.00	96.00	96.00
Vacation/PAL Hours for Backfill Overtime [vii]		156.02	162.02	156.02	156.02	156.02	162.02	156.02	156.02
SALARY									
Regular Salary		$ 77,813	$ 81,703	$ 77,813	$ 77,813	$ 88,757	$ 91,085	$ 86,757	$ 86,757
Holiday Pay	Hourly rate * Holiday Hrs	4,452	4,452	3,965	3,965	4,963	4,963	4,421	4,421
Annual Built-In Overtime	Hourly rate * Built-In Overtime Hrs * 0.5	3,550	1,945	-	-	3,958	2,169	-	-
Night Assignment Pay	Hourly rate * Night Assignment Hrs	-	2,184	2,080	2,080	-	2,184	2,080	2,080
VT/Sick Leave Backfill OT [viii]	Hourly rate * (Sick + Vacation) * 1.5	14,142	14,479	14,142	14,142	15,767	16,143	15,767	15,767
EMD Bonus [ix]	5.00%	4,717	4,702	4,302	4,302	5,259	5,310	4,803	4,803
Educational Incentive [x]	5.00%	3,891	3,891	3,891	3,891	4,338	4,338	4,338	4,338
Total Salary		$ 108,585	$ 113,416	$ 106,253	$ 106,253	$ 121,043	$ 126,202	$ 118,227	$ 118,227
BENEFITS									
Retirement		$ 32,179	$ 33,718	$ 31,391	$ 31,391	$ 35,878	$ 37,508	$ 34,918	$ 34,918
Workers' Compensation		4,422	4,624	4,324	4,324	4,930	5,145	4,811	4,811
Health Insurance [xi]		12,110	12,110	12,110	12,110	12,110	12,110	12,110	12,110
Medicare	1.45%	1,574	1,645	1,541	1,541	1,755	1,830	1,714	1,714
Total Benefits		$ 50,285	$ 52,097	$ 49,366	$ 49,366	$ 54,673	$ 56,593	$ 53,553	$ 53,553
TOTAL SALARY & BENEFITS		$ 158,870	$ 165,513	$ 155,620	$ 155,620	$ 175,716	$ 182,795	$ 171,780	$ 171,780

Notes:

[i] Not applicable to 24-hr shifts. Per hour rate for "Night Diff Pay" = 5% of base salary/number of paid hours in the year, capped at $1.5/hour. Only hours worked between 4 pm and 8 am are entitled to Night Diff Pay.

[ii] Per timekeeping department, dispatchers qualify for FLSA overtime that affects retirement.
Assumes 24-Hr dispatchers have 7.3 hours of OT every pay period as a result of working their normal schedule.
Assumes 12-Hr dispatchers have 4.0 hours of OT every pay period as a result of working their normal schedule.

[iii] Not used.

[iv] Retirement rate based on 18/19 estimated rates for 2.7%@55 plan for employees hired prior to 1/1/2011.

[v] Based on FY 2018/19 Worker's Comp projections

[vi] 13 Holidays per year. 8-Hrs per Holiday for 24-Hr Shift and 12-Hr shift Employees per MOU + 2 Hrs. Spring Holiday. 8 Hrs per holiday for 9hr & 10 hr shift employees.

[vii] Assumes 120 hours vacation and 36 hours PAL time.

[viii] Backfill for Vac and Sick Leave are included due to constantly staffed position.

[ix] EMD bonus is 5% and applies to overtime hours.

[x] Assumes 5%. Does not apply to overtime hours.

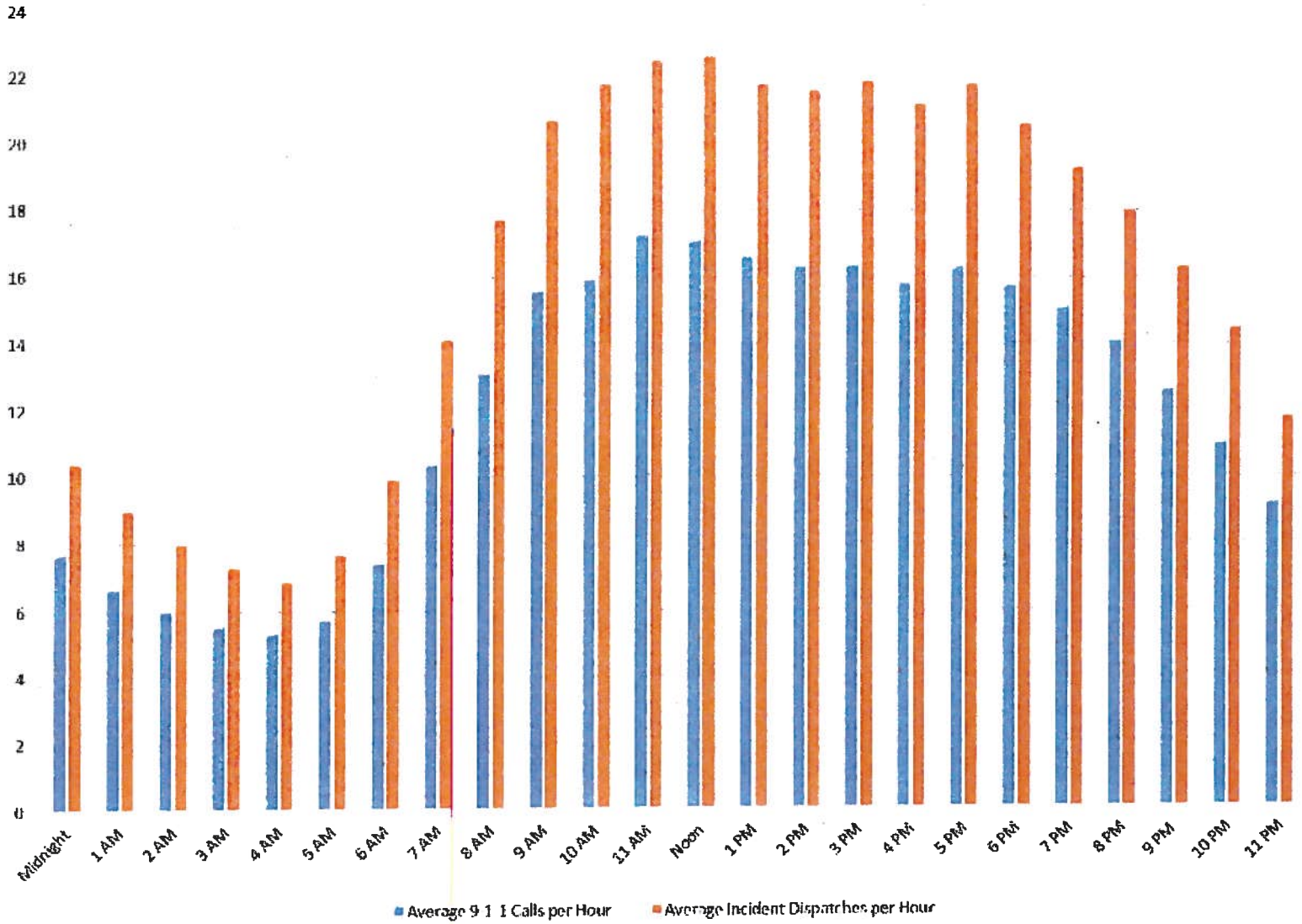
[xi] Based on FY 2018/19 health insurance amounts.

filename: ECC Dispatcher Calc, 3-7-18.xlsx

Print date: 3/7/2018

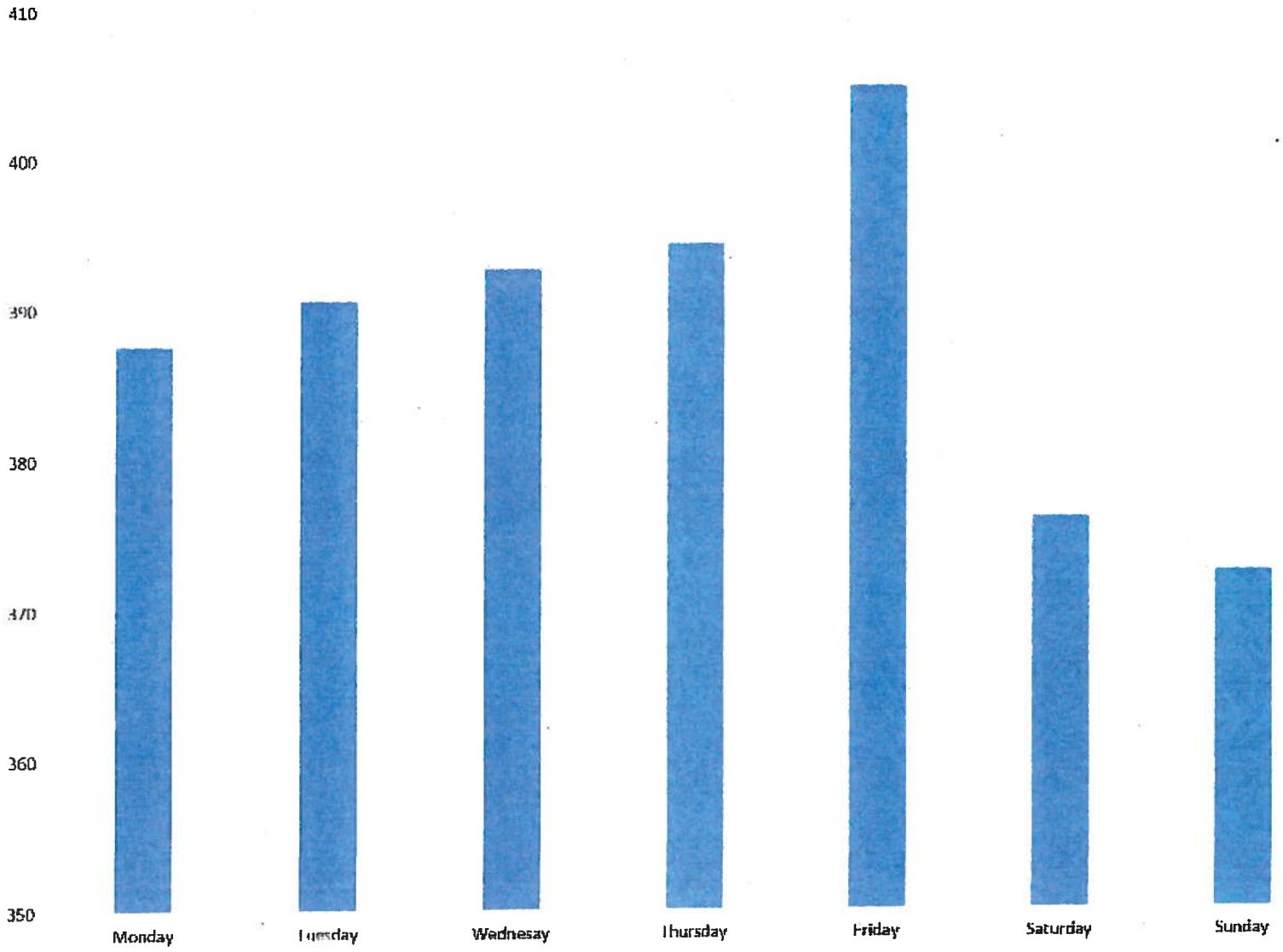
Attachment 5

Average 9-1-1 Calls and Incidents Dispatched by Hour (from 2017 data)



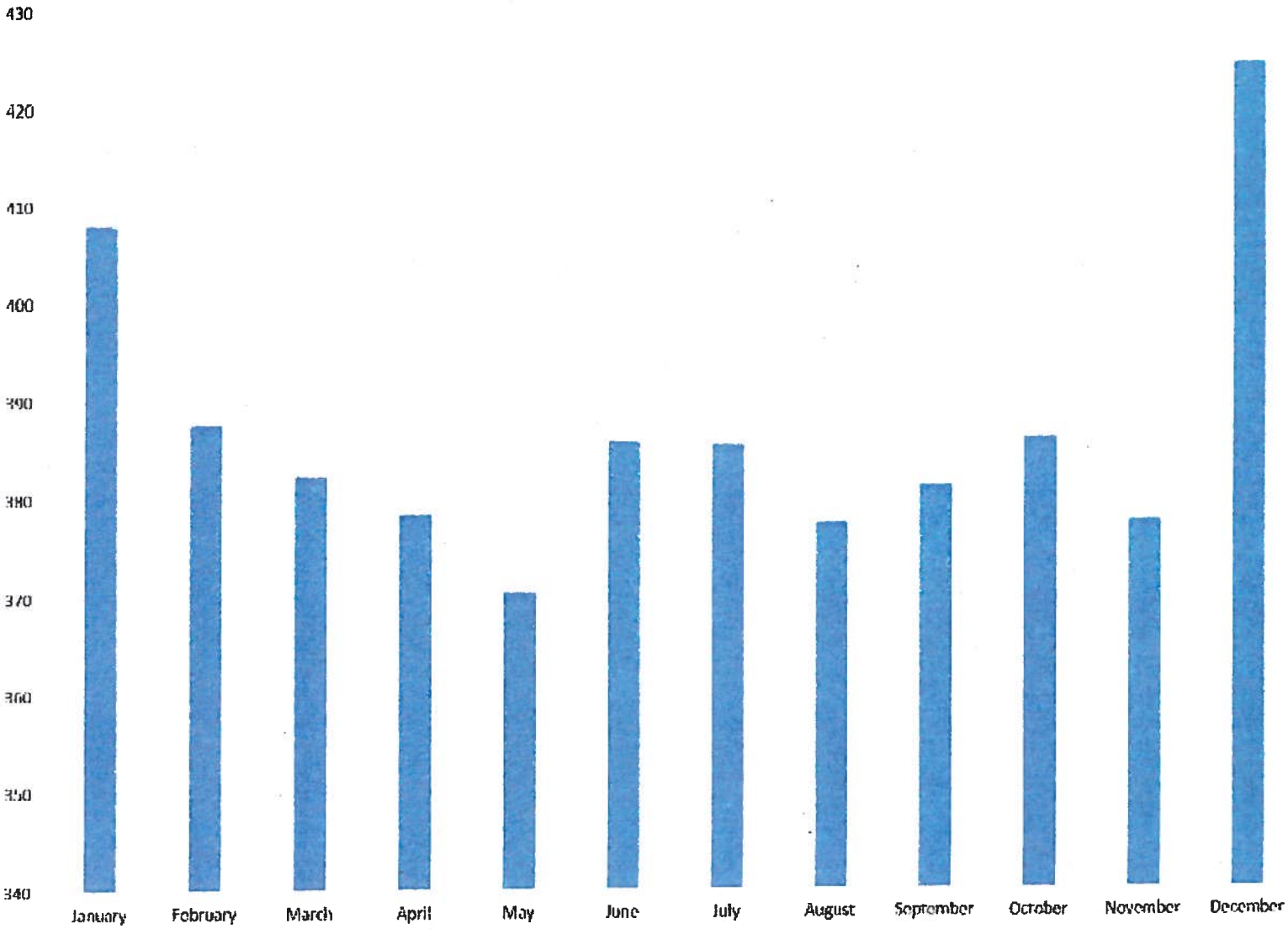
Attachment 6

Average Incidents Dispatched by Day of Week (from 2017 data)



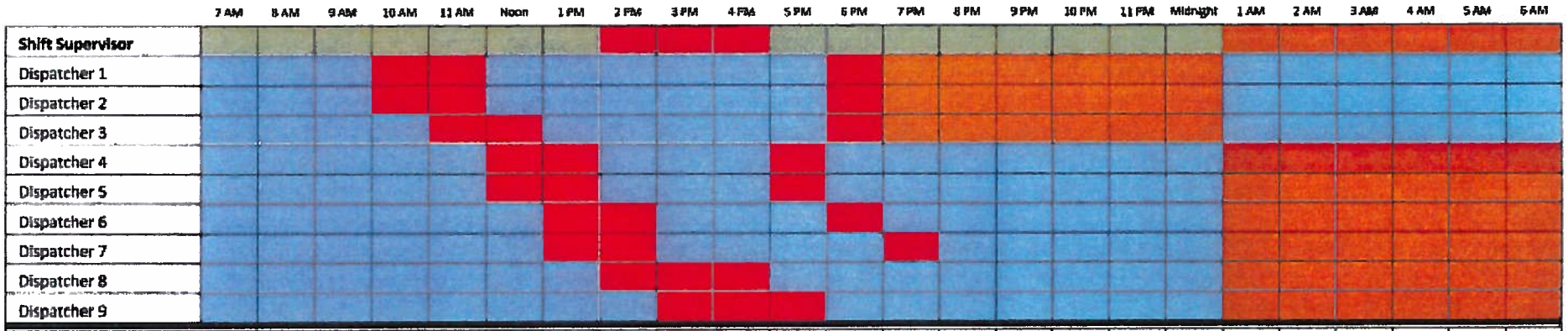
Attachment 7

Average Incidents Dispatched each Day by Month (from 2017 data)



Attachment 8

24-hour work schedule (Current work schedule)



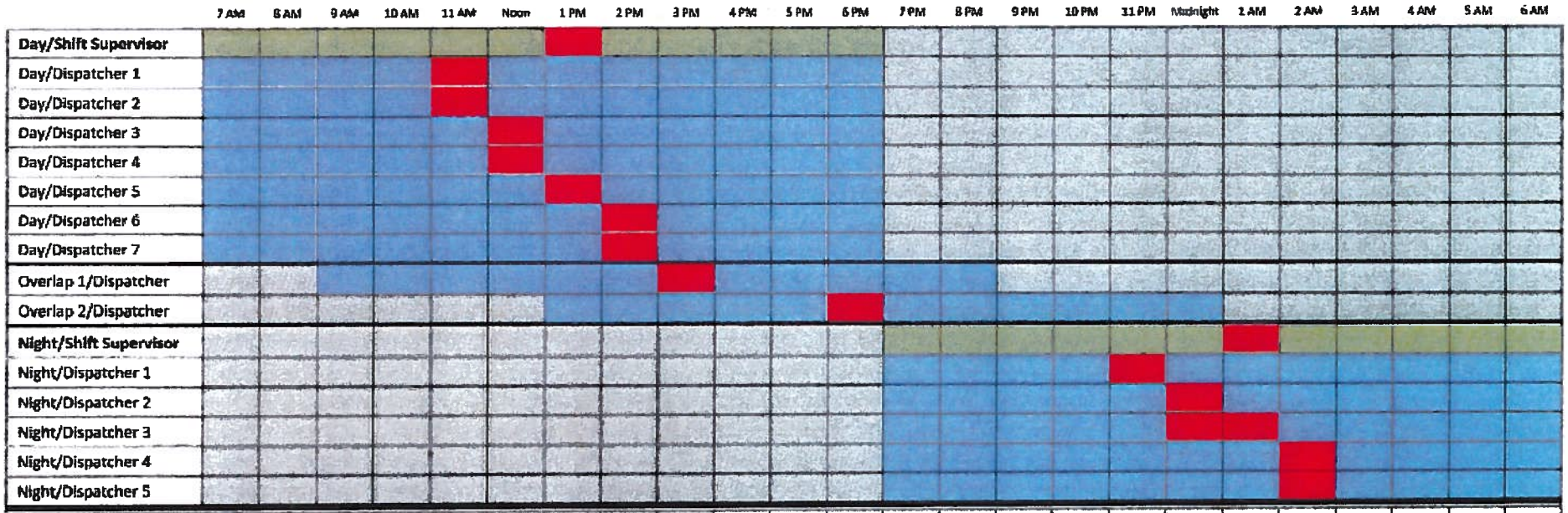
	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Midnight	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
Dispatchers on Floor	9	9	9	7	6	6	5	6	7	7	6	5	5	6	6	6	6	6	3	3	3	3	3	3
Supervisors on Floor	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0
Avg. Incidents per hour	14.1	17.7	20.7	21.8	22.5	22.6	21.8	21.6	21.9	21.2	21.8	20.6	19.3	18	16.3	14.5	11.8	14.1	10.4	9	8	7.3	6.9	7.7
Ratio of incidents per dispatcher on floor	1.6	2.0	2.3	3.1	3.8	3.8	4.4	3.6	3.1	3.0	3.6	4.1	3.9	3.0	2.7	2.4	2.0	2.4	3.5	3.0	2.7	2.4	2.3	2.6

Dispatcher on Dispatch Floor
Supervisor on Dispatch Floor
Break Hour (subject to immediate recall)
Sleep/Unpaid (subject to immediate recall)

The ratio of incidents per hour and dispatchers on floor each hour is calculated in the last row of the table. The average for the 24-hour period is 3 incidents per dispatcher per hour.

Attachment 9

12-hour work schedule (Proposed/Draft work schedule)



	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Midnight	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
Dispatchers on Floor	7	7	8	8	6	6	8	7	8	9	9	8	7	7	6	6	5	4	4	3	5	5	5	5
Supervisors on Floor	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
Avg. incidents per hour	14.1	17.7	20.7	21.8	22.5	22.6	21.8	21.6	21.9	21.2	21.8	20.6	19.3	18	16.3	14.5	11.8	14.1	10.4	9	8	7.3	6.9	7.7
Ratio of incidents per dispatcher on floor	2.0	2.5	2.6	2.7	3.8	3.8	2.7	3.1	2.7	2.4	2.4	2.6	2.8	2.6	2.7	2.4	2.4	3.5	2.6	3.0	1.6	1.5	1.4	1.5

	Dispatcher on Dispatch Floor
	Supervisor on Dispatch Floor
	Not on Duty
	Break Hour (subject to immediate recall)

The ratio of incidents per hour and dispatchers on floor each hour is calculated in the last row of the table. The average for the 24-hour period is 2.5 incidents per dispatcher per hour. This is a 16.7% decrease as compared to 24-hour schedule.

The proposed 12-hour schedule is for seven (7) day shift dispatchers, two (2) overlapping dispatchers, and five (5) night shift dispatchers. The number of night shift dispatchers may need to be reassessed in the future as workload is lowest between the hours of 1 AM and 7 AM. It may prove beneficial to reassign night shift positions to an earlier portion of the day where workload is higher.

Attachment 10

Schedule Comparison – 24-hour vs. 12-hour schedule

Dispatchers/Supervisors Working at Consoles

Dispatchers	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Midnight	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
24-hour schedule	9	9	9	7	6	6	5	6	7	7	6	5	5	6	6	6	6	6	3	3	3	3	3	3
12-hour schedule	7	7	8	8	6	6	8	7	8	9	9	8	7	7	6	6	5	4	4	3	5	5	5	5
Net Difference	-2	-2	-1	+1			+3	+1	+1	+2	+3	+3	+2	+1			-1	-2	+1		+2	+2	+2	+2

Supervisors	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Midnight	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
24-hour schedule	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0
12-hour schedule	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
Net Difference							-1	+1	+1	+1										+1	+1	+1	+1	+1

The numbers in RED indicate less personnel on the ECC floor when comparing 24-hour schedule (existing) vs. 12-hour scheduling. The numbers in GREEN indicate where 12-hour personnel working at consoles to address workload.

Work Production

Dispatchers			
24-hour schedule	9 dispatchers	15-hours of work on ECC floor by each	135 man-hours each 24-hour period
12-hour schedule	14 dispatchers	11-hours of work on ECC floor by each	154 man-hours each 24-hour period

Supervisors			
24-hour schedule	1 supervisor	15-hours of work on ECC floor	15 man-hours each 24-hour period
12-hour schedule	2 supervisors	11-hours of work on ECC floor by each	22 man-hours each 24-hour period

The number in GREEN indicate a greater number of dispatchers at consoles to address workload.

Attachment 11

Schedule Comparison – 24-hour vs. 12-hour schedule
Dispatchers and Supervisors at RFOTC

Dispatchers	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Midnight	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
24-hour shift	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
12-hour shift	7	7	8	8	8	8	9	9	9	9	9	9	7	7	6	6	6	6	5	5	5	5	5	5
Net Difference	-2	-2	-1	-1	-1	-1							-2	-2	-3	-3	-3	-3	-4	-4	-4	-4	-4	-4

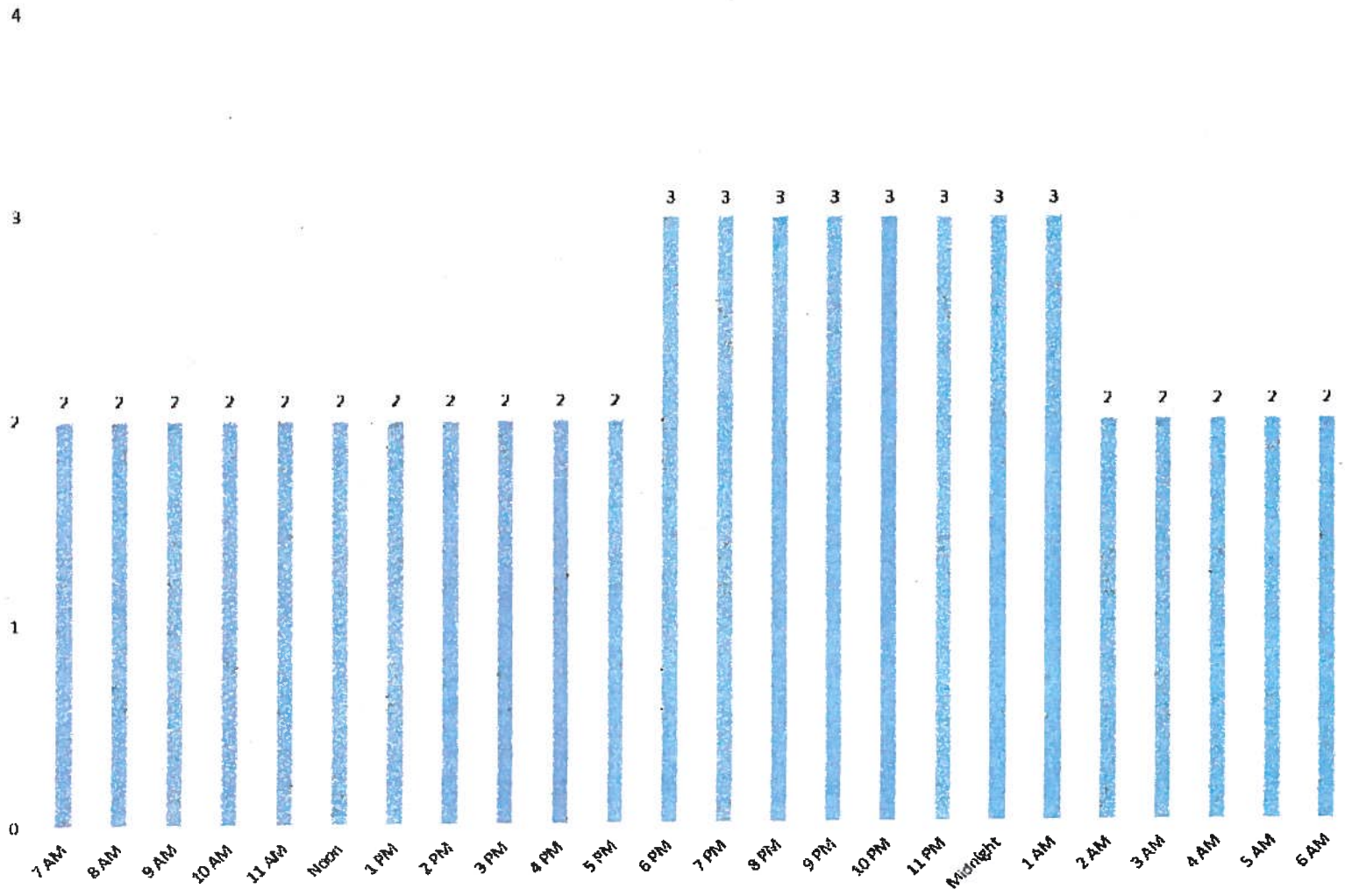
Dispatch Supervisors	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Midnight	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
24-hour shift	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12-hour shift	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Difference																								

The numbers in RED indicate less total dispatchers at the RFOTC when comparing 24-hour schedule (existing) vs. 12-hour scheduling; the number indicates a decreased capability to address unforeseen surges in workload and may require call-back.

Attachment 12

Emergency Call Tracking System (ECaTS)

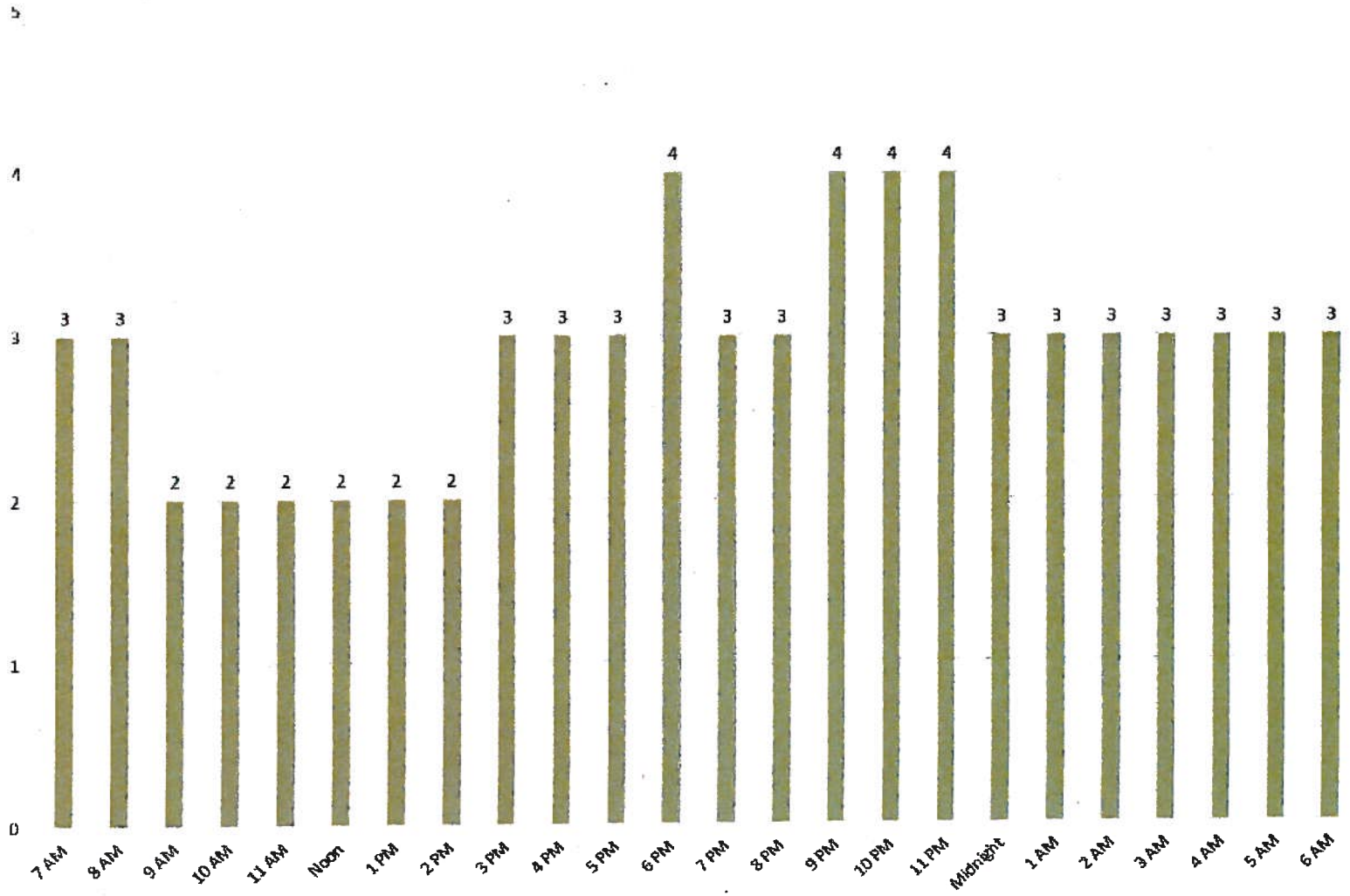
Needed call takers to answer 9-1-1 calls within 10 seconds (90th percentile) - based on 2017 data



Attachment 13

Emergency Call Tracking System (ECaTS)

Needed call takers to answer 9-1-1 AND administrative phone calls with 10 seconds (90th percentile) - based on 2017 data



Response to

Orange County Fire Authority

Emergency Command Center

Work Schedule Analysis March 8, 2018

Purpose

This paper is a response to the white paper published by the Orange County Fire Authority titled Orange County Fire Authority Emergency Command Center Work Schedule Analysis March 8, 2018. The purpose is to identify portions of the initial report that have left out key information or are presenting information that is not completely accurate. Each section, table and/or attachment will be addressed individually. Where a section, table or attachment is skipped, there appears to be no issue with any statements or data within that item.

Section 1.- Introduction- The acknowledgement of the Emergency Command Center as "an essential component of every OCFA emergency response" (Orange County Fire Authority (OCFA), 2018, p. 2) is appreciated and fully supported. It is also agreed that any failure to adequately staff the Emergency Command Center can result in "delays in rapidly answering 9-1-1 calls, initiating emergency response, and coordinating resources" (p. 2).

Serving as the Operational Area Coordinator for the state's mutual aid system brings an additional workload not required of other dispatch centers. During periods of moderate to heavy fire activity within the State of California (and often out-of-state), the ECC is tasked with "handling requests from (the) California Statewide Fire and Rescue Mutual Aid System, dispatching and tracking of fire and rescue mutual aid resources, and coordinating asset movement" (Orange County Fire Authority (OCFA), 2018, p. 3) A number of these resources are not a part of OCFA, placing additional responsibilities on ECC supervisors and dispatch staff during an already active time of the year. ECC staff performs additional work in the Resource Ordering and Status System (ROSS) to process requests for resources and personnel to respond to incidents throughout the state.

Section 1.3- Emergency Activity and Staffing Levels- This section states that "emergency activity has increased 24%" over the past five years. The data in Table 1- Incident and Phone Activity to support this statistic includes only 9-1-1 calls. According to the ECC Statistical Summary issued monthly by OCFA staff, total 9-1-1 calls for 2017 stood at 106,533 versus 106,452 as stated in the white paper. In addition, there were approximately 77,869[1] calls received via the 10-digit emergency lines. When both methods of receiving emergency calls is calculated, the increase in emergency activity over the last five years is closer to 26.5 percent. As noted in Table 1, OCFA ECC dispatchers have consistently answered over 99 percent of 9-1-1 calls within 15 seconds (Orange County Fire Authority (OCFA), 2018, p. 4). Also of importance is an understanding that even though there is a delineation between 9-1-1 lines, 10-digit emergency lines and business,

[1] Approximate number of calls in 2017. 10-digit emergency calls and business line calls were combined for January 2017. Numbers approximated using average of following 11 months percent of 10-digit emergency calls received.

or administrative, lines, requests for assistance can come in to ECC through any of those three methods. It is not unusual to receive an emergency call on a business line.

The part-time position that is identified as having been converted to full-time in 2017 was not actually converted to full-time until 2018. The staffing of the position was not reflected in the OCFA Staffing program until February 1, 2018. Until that time, the position remained a part-time position, staffed for 12 hours only.

Incidents Dispatched presented in Table 1 represent only emergency activity. In terms of incident numbers issued (which represent calls that were entered and had a unit assigned) the numbers are slightly higher. One possible explanation for this could be the difference between CAD's issuance of incident numbers (triggered by a dispatcher entering a call location and incident type) and incidents entered and completed in the Orange County Fire Incident Reporting System (OCFIRS). For 2015-2017, there were also a number of ADVISED calls entered. These include such things as street repairs or utility work that affect emergency response routes and incidents where an inspector is on-site testing an alarm system or OCFA has been advised that a system is being worked on and will be offline for a period of time. Each of these incidents requires a dispatcher to enter a call just as if it were an emergency, so that an active call is in the Computer-Aided Dispatch (CAD) system. This may also contribute to the difference in numbers in that if an ADVISED call was inadvertently entered as an incident, an incident number would be generated instead of an ADVISED call notice. Entering ADVISED calls is done to prevent the inadvertent dispatching of resources to these incidents causing an unnecessary "code three" response, placing responding units and the public at risk and exposing OCFA to potential liability. The table below includes the amount of incident numbers issued and the ADVISED call types in the total number of incidents per year.

Table 1- Incidents per Year

	2013	2014	2015	2016	2017
Incidents Dispatched- OCFA Report	114,354	117,105 3.8% increase	130,713 11% increase	136,934 9.9% increase	141,858 4.2% increase
Incident Numbers Issued			133,821	139,723	144,610
ADVISED Incidents Entered			10,336	10,596	10,711
Total Incidents			144,157 23.1% increase	150,319 4.27% increase	155,321 3.32% increase
Difference			10.28%	9.77%	9.49%

Recalculating the daily statistics based on the numbers shown for 2017 brings the total incidents dispatched per day to 425 (vs. 389 as stated). In addition to the average 292 9-1-1 calls answered daily, OCFA dispatchers answered an average of another 213 10-digit emergency calls per day and answered or placed an average of 330 business line calls per day. This is a total average of 835 phone calls answered or placed during a 24-hour period.

Section 2.1- Staffing Level Standards- The bullet point for the Emergency Call Tracking System (ECaTS) notes the number of call takers required to meet certain benchmarks. It is important to note that ECaTS is a statistical reporting tool. It is not a standard based on any recommendations of any professional fire service or telecommunications industry organization. The stated benchmark 90% of calls answered within 10 seconds is not consistent with the NFPA 1221 standard "Ninety-five (95) percent of incoming 9-1-1 calls shall be answered within fifteen (15) seconds, and ninety-(nine) (99) percent of incoming 9-1-1 calls shall be answered within (forty) (40) seconds" noted later in the section (Orange County Fire Authority (OCFA), 2018, pp. 6-7).

Section 2.2- Shift Schedules- Table 3 shows a side-by-side comparison of the current 24-hour schedule and one potential schedule for 12-hour shifts. It is important to note that no schedule rotation outlining shift hours, start times, staggered schedules, break times, number of dispatchers per shift, floor coverage, etc. was ever presented to the employee group. There are a number of options and this is a meet-and-confer item. Any information presented in Table 3 regarding the 12-hour shift is preliminary and subject to change.

Hours Work at Console- For 24-hour shift, all current break time is included when calculating hours spent at the console. With 12-hour shifts, additional break time beyond the meal hour needs to be considered. Allowing for a fifteen-minute break for each block of time on either side of the meal hour, hours at the console is closer to 10.5.

Supervisors- For 24-hour shifts, it is noted in the table, and discussed in other portions of the document, that the supervisor is away from the console from 2 pm to 5 pm daily. During this time, the ECC staff is supervised by either one of the day staff (Fire Communications Supervisor or Senior Fire Communications Supervisor) or an identified move-up (or "acting") supervisor, which is an experienced dispatcher who is responsible for handling the duties of the supervisor in his/her absence. If need, the supervisor is immediately available to be recalled to the floor. During the supervisor's sleep hours (0100-0700), there is a move-up supervisor identified. Again, the supervisor can be recalled immediately to the floor, if necessary.

Strengths- For the 24-hour shift option, it is noted that "Nine (9) dispatchers are available at all times for unforeseen surges in activity" (Orange County Fire Authority (OCFA), 2018, p. 9). While the timing and frequency of this surge in activity cannot be determined, they are hardly "unforeseen." As an emergency service provider, OCFA is well-aware of the increased activity during certain periods. Whether it is holiday weekends or wildland fire season, we prepare annually for these occurrences. One example: based on our Fire Danger Operating Plan and Annual Operating Agreement with CALFIRE, OCFA increases resource staffing during times of high fire danger. This has included additional ECC staff. With 24-hour staffing, two-thirds of the ECC staff is off-duty during these times and can be used to augment staffing or be placed on-call to respond if activity warrants. With the 12-hour option, only one-half of the staff is available

to provide full coverage of any needed positions. One-quarter of the staff is already working and one-quarter is schedule to cover the next twelve hours and is only available to cover the first four hours or the last four hours of the overlap (based on a maximum shift length of sixteen hours).

For the 12-hour shift option, one strength identified is the replenishment of dispatchers every 12 hours. Later in the report, in the interview with the Ventura County ECC chief, it is stated that a "common complaint that the ECC staff has expressed since the transition is the 12-hour shifts is extended to 16-hour shifts" (Orange County Fire Authority (OCFA), 2018, p. 11). This contradicts the statement regarding replenishing staff every 12-hours.

A weakness identified for the 24-hour shift option is the challenge "to add 24-hour positions as center operations grow since all start at 7 AM" (Orange County Fire Authority (OCFA), 2018, p. 9). There is no documentation to support this claim. In fact, there have been two full-time positions added since 2015 with little difficulty. No discussions with the labor group have occurred to discuss staggering shift start times for staff on the 24-hour shift schedule. The previous part-time position was a twelve-hour shift from 0800 to 2100 (one unpaid meal hour break).

One weakness stated for the 12-hour shift is that calling back additional staff "may be necessary for unforeseen surges in emergency activity" (Orange County Fire Authority (OCFA), 2018, p. 9). Again, these are hardly entirely unforeseen and it <u>will</u> be necessary to callback additional personnel to ensure effective ECC operations and service to the public. Please see the discussion regarding surge capacity later in this document.

One item not addressed in the original report is the consequences of a dispatcher (or dispatchers) calling in sick, becoming sick during the shift, or suffering an injury. In such a case it would likely be necessary to force one or more dispatchers to cover the vacancy. With a maximum shift length of sixteen hour as identified in the report, one dispatcher would be forced to cover the first four hours of the shift and then another dispatcher forced to come in early and cover the last four hours of the shift. Depending on what day of the shift cycle this occurs on, the only option might be to force two dispatchers on the relieving shift. The result is a four-hour coverage gap. If this happens for both the "day" shift and the "night" shift, the result is eight hours of missed coverage in ECC in that 24-hour period. The current 24-hour schedule provides the ability to cover the entire 24-hour period with one or two dispatchers, depending on the shift cycle. There are no gaps in coverage and no floor coverage gaps.

Section 2.4- Lessons learned from Ventura County Fire Department- In this section, it is stated that the Ventura County Fire Department had "plenty of staff" to handle the Thomas Fire. The fire is one of the largest fires to-date in California history. It is noted that the fire started "around shift change", which is significant to note. Had it not happened at shift change, there would not have been any additional staff to holdover. This quite probably would have had a negative effect on the ability to handle the incident, even in the "Initial Attack" phase. It is impossible to count

on any major incident starting "around shift change" (Orange County Fire Authority (OCFA), 2018, pp. 10-11) In fact, the Canyon Fire started in the afternoon, and the Canyon 2 fire at approximately 9:45 am. Neither of these times are current (or proposed) shift change times.

Contact with representatives from the employee group at Ventura County Fire Department has discovered that one supervisor and four dispatchers have left their employment with the agency. According to a Service Employees International Union representative, the employee representation group recently surveyed the dispatchers (the group that had originally proposed and supported the schedule change to 12-hours), and 100 percent desire to return to the 24-hour shift schedule (Personal conversation, March 2018). Also, Ventura County Fire Department has staffed their ECC with 30 dispatchers (budgeted for 40). Table 2 below presents a comparison of demographics between Ventura County Fire and OCFA.

Table 2- Comparison of Ventura County Fire Department and OCFA Demographics

Agency	Ventura Co.[2]	OCFA	Difference
Data			
Population	480,000	1,800,000	275%
Stations	32	72	125%
2015 Incidents	40,142	133,821	233%
2016 Incidents	41,611	139,723	236%
Budgeted Staff	40	27	-33%
Actual Staff	32	25	-22%
Incidents per Actual Dispatcher			
	Ventura Co.	OCFA	Difference
2015	1,254.44	5,146.96	310%
2016	1,300.34	5,373.96	313%

Research has indicated that the number of interrupted sleep hours for 2016 was 73 versus the stated 23 and in 2017 was 130 versus the stated 25. These hours included those from the Canyon Fire and Canyon 2 Fire, which are not addressed in the original report. It is important to note here that these numbers are limited to interrupted sleep hours (7 pm to 7 am). While emergency activity can certainly surge during these hours and create the need to bring additional staff to the floor, two of the primary incidents that often require immediate assistance from additional staff are Remote Rescues and Vegetation Fires. Both of these incidents have much higher occurrences rates during daylight hours. There is no mention of interrupted meal hours, which are during the day, and would provide a better snapshot of surges in activity that included these two types of incidents.

[2] Ventura County Fire Department 2016 Annual Report (Ventura County Fire Department, 2017)

Surge capacity-

Day-to-day- For day-to-day operations in ECC, the ability to have additional staff available immediately should not be underestimated. During times of high emergency incident or emergency call volume, staff needs to be available to respond and assist in answering phone calls, handling radio traffic, ensuring adequate move-up and cover of vacant stations, or other support activities. There have been numerous occasions when ECC staff were delayed going, or were needed to be called back from, meal breaks during hours of the shift. Many of these instances were not captured in Staffing. When emergency call volume exceeds the capacity of ECC staff on the floor, help is needed immediately. The statistics provided in the study indicate that, when staff was recalled from sleep, the duration ranged from 1.25 to 2.5 hours. This indicates the urgency of the need for assistance. It is not practical to callback staff that may be, at best 30 to 45 minutes away, and wait for them to arrive to handle incident or phone traffic. 9-1-1 calls and emergencies will not wait that long. It is also reasonable that during times of high call or incident volume, staff will not be available to place a number of phone calls to contact and confirm the response of off-duty staff.

During incidents that have multiple units assigned (structure fires, vegetation fires, remote rescues, etc.), the assigned tactical dispatcher for that division is dedicated to the incident. Another tactical dispatcher will assume the duties of monitoring the "routine" tactical frequency(ies) for the division(s) that tactical dispatcher was assigned. In the event of more than one such incident, it is often necessary to have another dispatcher assist in monitoring the impacted tactical frequencies. These incidents result in a significant amount of radio traffic and support needs (calling utility companies, land management agencies, etc.). The ability to recall staff from breaks provides the capacity to support these incidents.

Extended incidents- Following the Santiago and Freeway Complex fires in 2007 and 2008 respectively, a great deal of research and effort went into the development of the Rapid Attack and Mobilization Plan (RAMP) for OCFA. Identified after the fires was the need to develop a plan and process to provide for "surge" capacity for the OCFA to handle a large emergency or emergencies and continue handling the day-to-day service to our citizens. Apparatus were inventoried, equipment complements adjusted, staffing policies updated and an organizational structure based on ICS principles established to stand-up the Department Operations Center (DOC). A key component in handling a large emergency, or multiple large emergencies, is the staffing of Expanded Dispatch in ECC. While the study noted the times and incidents where additional staff was on the ECC floor for local incidents, two major incidents and the impact on staffing were left out. During the Canyon Fire and Canyon 2 Fire, ECC staff were committed to Expanded Dispatch in support of these incidents. The number of additional staff needed to handle the incidents ranged from a low of two to as many as eleven dispatchers and supervisors. Expanded Dispatch was staffed around the clock for both of these incidents. The 24-hour shift

schedule allowed additional positions to be staffed and personnel rotated through appropriate sleep breaks.

While switching to a 12-hour shift schedule provides a consistent level of staff on the ECC floor, it eliminates the surge capacity for the inevitable times when additional staff are needed. These times are during critical incidents and volumes. The inability to support surge capacity will result in delays in answering phone lines (quite probably including 9-1-1 lines), missed radio traffic, and an inability to provide the necessary support to Operations staff at the scene of critical incidents and the normal day-to-day incidents.

The study identifies the number of call takers needed to answer 9-1-1 calls within 10 seconds ninety percent of the time and also the number of call takers needed to answer 9-1-1 and administrative lines within 10 seconds ninety percent of the time. While seeming to make sense and demonstrate the benefits of 12-hour shifts, a few pieces of information provide a better picture. The first lies in the performance measure itself. In Table 1 of the report, it is stated that current staffing is answering over ninety-nine percent of 9-1-1 calls within fifteen seconds. NFPA 1221 uses a fifteen second time benchmark as well. The only mention of a ten-second benchmark is in the ECaTS discussion. As previously noted, ECaTS is reporting software only and is not any sort of standard supported by a recognized public safety organization (Orange County Fire Authority (OCFA), 2018, pp. 4-6, 26-27). This appears to be accepting a lower level of performance than is currently being provided. Another key point is identifying a "call taker." To properly handle incident radio traffic volume, ECC staffing from 0700 to 0100 is a minimum of one primary dispatcher, three tactical dispatchers, and one supervisor. The primary dispatcher and tactical dispatchers do not have answering 9-1-1 or 10-digit emergency line calls as their primary responsibility. They are support to the call takers. Additional staff above four dispatchers are assigned as call takers. In a situation where staff is recalled from sleep or breaks, there are additional personnel that can be assigned as call takers to handle the increased call volume and ensure meeting the call-answering standard. Current staffing of nine dispatchers means the availability of two dispatchers more than if ECC were staffed with seven dispatchers. This means two additional call takers available under the 24-hour shift schedule than would be available during significant time periods of the 12-hour staffing scenario. As a reminder, the schedule and coverage presented in the report is only one possible scenario and no conversations regarding the establishment of a schedule have occurred. Without additional support, tactical dispatchers will likely be placed in a position of choosing whether to answer the radio or answer the phone. If the primary dispatcher must be engaged in answering phone calls, errors or delays in resource assignment to incidents become more probable.

It may seem reasonable to make the statement that answering 9-1-1 or 10-digit emergency lines should be a priority for all dispatchers and anything else can wait. However, if the missed radio traffic from a field unit is related to the safety of the crews at an incident (request for law enforcement immediately; lost, missing or trapped firefighter; wires down; etc.), the result could be catastrophic. While few of these incidents have occurred within OCFA, the fact is that this is a

risky business and there are times when unexpected things happen. In these instances, not only is it imperative to have a dispatcher that can be dedicated to that incident until the situation is resolved. A lack of available personnel to recall jeopardizes the ability to do so.

Whether discussing day-to-day operations or extended incident operations, the consequences of a coverage gap due to illness or injury are exacerbated. In addition to an increase in activity, there would be fewer personnel to handle the call volume and breaking away to try to call staff back would be nearly impossible in any rapid or beneficial time frame.

The Standards of Cover adopted by the OCFA Board of Directors delineates a Total Response Time standard of 7 minutes and 22 seconds eighty (80) percent of the time and 8 minutes and 30 seconds ninety (90) percent of the time. Included in the Total Response Time is call processing time by ECC (Orange County Fire Authority (OCFA), 2006, p. 49). The lack of additional immediately available staff to assist in answering 9-1-1 and 10-digit emergency line calls has significant potential to impact the OCFA's ability to meet the standards set forth by the Board of Directors. In the scenario of a coverage gap due to illness or injury of one or more dispatchers, there is almost certain to be a negative impact to this performance standard.

Summary

It is vitally important that OCFA's Emergency Command Center be staffed adequately and effectively. The number of incidents dispatched by ECC continues to increase year after year. As to be expected, there is a correlated increase in 9-1-1 and 10-digit emergency line calls. It must be ensured that sufficient staff are available to cover the day-to-day operations and the to-be-expected surges in activity. OCFA's ECC serves as more than just a dispatch center for the OCFA. As Operational Area Coordinator for the California Statewide Fire and Rescue Mutual Aid System, it supports local, regional, statewide and national emergencies. It also functions as the communications hub for major incidents within Orange County, often regardless of jurisdiction. These responsibilities place additional workload on ECC staff and require staffing considerations for managing such incidents.

The professionally-trained men and women of OCFA's ECC provide a vital link between first responders and those in need of emergency assistance. As Emergency Medical Dispatchers, they provide critical instructions to patients and callers prior to the arrival of emergency medical personnel. As skilled radio operators, they provide vital support to the Operations Section during emergency incidents. They proudly serve the OCFA and the citizens who rely on them to be there in their time of need.

The current ECC work schedule of 24-hour shifts provides significant benefit to the OCFA in the ability to respond to increased emergency activity, support extended incident operations through Expanded Dispatch, and ensure full coverage of the shift and full effectiveness in serving the citizens and supporting the organization. In addition to providing staff needed handle the day-to-day operations of ECC, a surge capacity is maintained that provides the ability to immediately meet any increased staffing needs in ECC. A change to a 12-hour shift schedule would remove the surge capacity and potentially provide less coverage of ECC on a daily basis.

The potential addition of the City of Garden Grove as a Cash Contract City member of the OCFA brings seven more fire stations (for a total of 79), a new battalion, several additional apparatus, and between 14,000 and 15,000 more incidents per year. Initial reviews of the proposal being considered by the OCFA Board of Directors for submittal to the City of Garden Grove do not indicate adding any additional ECC staff (Orange County Fire Authority (OCFA), 2018). The potential increase in phone calls, incidents dispatched and other added workload on current ECC staff further underscores the need for surge capacity.

One final note, had the employee group come forward at the beginning of negotiations and proposed a change in staffing ECC that resulted in the need to promote and hire additional staff, could result in a decreased level of staffing in ECC, removed the surge capacity currently maintained at no additional cost and required an increase in salary and benefit costs that exceeded half a million dollars, would it still be so vigorously supported by the OCFA and the Board of Directors?

References

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