

CALENDAR FOR THE BOARD OF DIRECTORS

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

BOARD CHAMBERS ROOM 107, ADMINISTRATION BUILDING, 651 PINE STREET
MARTINEZ, CALIFORNIA 94553-1229

MARY N. PIEPHO, CHAIR
JOHN GIOIA
CANDACE ANDERSEN
KAREN MITCHOFF
FEDERAL D. GLOVER

DAVID J. TWA, CLERK OF THE BOARD AND COUNTY ADMINISTRATOR, (925) 335-1900
DARYL L. LOUDER, FIRE CHIEF

The Board of Directors respects your time, and every attempt is made to accurately estimate when an item may be heard by the Board. All times specified for items on the Board of Supervisors agenda are approximate. Items may be heard later than indicated depending on the business of the day. Your patience is appreciated.

REVISED AGENDA
December 11, 2012

2:00 P.M. Convene and call to order.

SHORT DISCUSSION ITEMS

SD. 1 PUBLIC COMMENT (3 Minutes/Speaker)

SD. 2 CONSIDER Consent Items previously removed.

DELIBERATION ITEMS

D. 1 CONSIDER approving and authorizing the Fire Chief to implement the attached Service Reduction and Fire Station Closure Plan. (Daryl Louder, Fire Chief)

ADJOURN

GENERAL INFORMATION

The Board meets in its capacity as the Board of Directors of the Contra Costa County Fire Protection District pursuant to Ordinance Code Section 24-2.402. Persons who wish to address the Board of Directors should complete the form provided for that purpose and furnish a copy of any written statement to the Clerk.

Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the Clerk of the Board to a majority of the members of the Board of Directors less than 72 hours prior to that meeting are available for public inspection at 651 Pine Street, First

Floor, Room 106, Martinez, CA 94553, during normal business hours. All matters listed under CONSENT ITEMS are considered by the Board of Directors to be routine and will be enacted by one motion. There will be no separate discussion of these items unless requested by a member of the Board or a member of the public prior to the time the Commission votes on the motion to adopt. Persons who wish to speak on matters set for PUBLIC HEARINGS will be heard when the Chair calls for comments from those persons who are in support thereof or in opposition thereto. After persons have spoken, the hearing is closed and the matter is subject to discussion and action by the Board. Comments on matters listed on the agenda or otherwise within the purview of the Board of Directors can be submitted to the office of the Clerk of the Board via mail: Contra Costa County Fire Protection District Board of Directors, 651 Pine Street Room 106, Martinez, CA 94553; by fax: 925-335-1913.

The District will provide reasonable accommodations for persons with disabilities planning to attend Board meetings who contact the Clerk of the Board at least 24 hours before the meeting, at (925) 335-1900; TDD (925) 335-1915. An assistive listening device is available from the Clerk, Room 106. Copies of recordings of all or portions of a Board meeting may be purchased from the Clerk of the Board. Please telephone the Office of the Clerk of the Board, (925) 335-1900, to make the necessary arrangements. Applications for personal subscriptions to the Board Agenda may be obtained by calling the Office of the Clerk of the Board, (925) 335-1900. The Board of Directors' agenda and meeting materials are available for inspection at least 96 hours prior to each meeting at the Office of the Clerk of the Board, 651 Pine Street, Room 106, Martinez, California.

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www.co.contra-costa.ca.us

ADVISORY COMMISSION

The Contra Costa County Fire Protection District Advisory Commission is scheduled to meet next on TBD, at 7:00 p.m. at the District Administration Building, 2010 Geary Road, Pleasant Hill, Ca 94523.

**PERSONS WHO WISH TO ADDRESS THE BOARD MAY BE LIMITED TO THREE
(3) MINUTES**

AGENDA DEADLINE: Thursday, 12 noon, 12 days before the Tuesday Board meetings.

Glossary of Acronyms, Abbreviations, and other Terms (in alphabetical order):

The Contra Costa County Fire Protection District has a policy of making limited use of acronyms, abbreviations, and industry-specific language in its Board of Supervisors meetings and written materials. Following is a list of commonly used language that may appear in oral presentations and written materials associated with Board meetings:

AB Assembly Bill
ABAG Association of Bay Area Governments
ACA Assembly Constitutional Amendment
ADA Americans with Disabilities Act of 1990
AFSCME American Federation of State County and Municipal Employees

ARRA American Recovery & Reinvestment Act of 2009
BAAQMD Bay Area Air Quality Management District
BART Bay Area Rapid Transit District
BayRICS Bay Area Regional Interoperable Communications System
BGO Better Government Ordinance
BOC Board of Commissioners
CALTRANS California Department of Transportation
CAER Community Awareness Emergency Response
CAL-EMA California Emergency Management Agency
CAO County Administrative Officer or Office
CBC California Building Code
CCCPCD (ConFire) Contra Costa County Fire Protection District
CCHP Contra Costa Health Plan
CCTA Contra Costa Transportation Authority
CCRMC Contra Costa Regional Medical Center
CCWD Contra Costa Water District
CFC California Fire Code
CFDA Catalog of Federal Domestic Assistance
CEQA California Environmental Quality Act
CIO Chief Information Officer
COLA Cost of living adjustment
ConFire (CCCPCD) Contra Costa County Fire Protection District
CPA Certified Public Accountant
CPF – California Professional Firefighters
CPI Consumer Price Index
CSA County Service Area
CSAC California State Association of Counties
CTC California Transportation Commission
dba doing business as
EBMUD East Bay Municipal Utility District
ECCPCD East Contra Costa Fire Protection District
EIR Environmental Impact Report
EIS Environmental Impact Statement
EMCC Emergency Medical Care Committee
EMS Emergency Medical Services
et al. et alii (and others)
FAA Federal Aviation Administration
FEMA Federal Emergency Management Agency
FTE Full Time Equivalent
FY Fiscal Year
GIS Geographic Information System
HCD (State Dept of) Housing & Community Development
HHS (State Dept of) Health and Human Services
HOV High Occupancy Vehicle
HR Human Resources
HUD United States Department of Housing and Urban Development
IAFF International Association of Firefighters
ICC International Code Council
IFC International Fire Code
Inc. Incorporated
IOC Internal Operations Committee
ISO Industrial Safety Ordinance
JPA Joint (exercise of) Powers Authority or Agreement
Lamorinda Lafayette-Moraga-Orinda Area
LAFCo Local Agency Formation Commission
LLC Limited Liability Company
LLP Limited Liability Partnership
Local 1 Public Employees Union Local 1
Local 1230 Contra Costa County Professional Firefighters Local 1230
MAC Municipal Advisory Council
MBE Minority Business Enterprise
MIS Management Information System
MOE Maintenance of Effort
MOU Memorandum of Understanding
MTC Metropolitan Transportation Commission
NACo National Association of Counties
NEPA National Environmental Policy Act
NFPA National Fire Protection Association
OES-EOC Office of Emergency Services-Emergency Operations Center
OPEB Other Post Employment Benefits
OSHA Occupational Safety and Health Administration
PARS Public Agencies Retirement Services
PEPRA Public Employees Pension Reform Act
RFI Request For Information
RFP Request For Proposal
RFQ Request For Qualifications
SB Senate Bill
SBE Small Business Enterprise
SEIU Service Employees International Union
SUASI Super Urban Area Security Initiative
SWAT Southwest Area Transportation Committee
TRANSPAC Transportation Partnership & Cooperation (Central)
TRANSPAC Transportation Planning Committee (East County)
TRE or **TTE** Trustee
TWIC Transportation, Water and Infrastructure Committee
UASI Urban Area Security Initiative
UCOA United Chief Officers Association
vs. versus (against)
WAN Wide Area Network
WBE Women Business Enterprise

To: Contra Costa Fire Board of Directors
 From: Daryl L. Louder, Contra Costa Fire Protection Dist.
 Date: December 11, 2012
 Subject: Service Reduction and Fire Station Closure Plan



Contra
 Costa
 County

RECOMMENDATION(S):

CONSIDER approving and authorizing the Fire Chief to implement the attached Service Reduction and Fire Station Closure Plan.

FISCAL IMPACT:

Closing four fire stations for the second half of the current fiscal year is projected to save approximately \$3 million.

BACKGROUND:

Like many fire districts in the State, the Contra Costa County Fire Protection District is heavily dependent on property tax revenues to fund its operations. With the long and deep economic recession and the associated steep decline in the housing market, the funding the District has traditionally relied on for providing fire services has declined significantly. Additionally, due to retirement system investment losses and a change to the way in which the retirement system allocates costs, the District's annual pension expense has more than doubled. In response to worsening financial conditions, the District enacted a number of measures over the last few years to cut costs and improve efficiencies. To maintain service levels, reserve funds from prior year budget surpluses were used to bridge

☒ APPROVE

☐ OTHER

☒ RECOMMENDATION OF CNTY ADMINISTRATOR

☐ RECOMMENDATION OF BOARD
 COMMITTEE

Action of Board On: **12/11/2012** ☐ APPROVED AS RECOMMENDED ☐ OTHER

Clerks Notes:

VOTE OF SUPERVISORS

AYES _____ NOES _____

ABSENT _____ ABSTAIN _____

RECUSE _____

I hereby certify that this is a true and correct copy of an action taken and entered on the minutes of the Board of Supervisors on the date shown.

ATTESTED: December 11, 2012

David J. Twa, County Administrator and Clerk of the Board of Supervisors

Contact: Chief Daryl Louder,
 925-941-3500

By: , Deputy

cc:

BACKGROUND: (CONT'D)

the gap caused by the decline in property tax revenues.

In November 2012 the voters in the District's 300 square mile service area had the opportunity to vote to approve a temporary special tax measure. The measure received 53% of the votes, but under State law it needed a two-thirds supermajority to be successful.

Prior year reserve funds are now nearly exhausted and the District must reduce operating costs significantly to operate within its current revenue stream.

Given the difficulty in obtaining a supermajority vote on any new tax and to avoid potential layoffs should the measure be unsuccessful, the District left certain positions vacant as attrition occurred. As of December 1, 2012, the District has 219 filled firefighter positions. The minimum staffing requirement with 28 stations/crews is 255 firefighters. The vacancies are being staffed by recalling personnel on an overtime basis.

Cuts have already been made in non-operational areas. At this time the District has no option but to reduce direct service delivery levels to the community. Due to the low baseline level of resources, further reductions will have an adverse impact on response times, operational capacity, and the District's ability to protect and serve the community.

The attached plan proposes the closure of four stations in January 2013. The anticipated savings from this service level reduction is estimated at \$3 million for the remainder of fiscal year 2012-13. The District has already realized some personnel cost reductions by allowing positions to remain vacant and staffing them with overtime personnel. (The savings results from the difference between the hourly overtime rate and the fully loaded cost of filling a position on a permanent basis.) Therefore, reducing suppression staffing by four functional units (i.e., stations) will result in a reduction to the District's overtime expense in FY 12-13:

Fire Captain Weighted Hourly Rate: \$38.59
Fire Engineer Weighted Hourly Rate: \$34.16
Firefighter/Firefighter-Paramedic Weighted Hourly Rate: \$29.24
Weighted Rate - All Positions: \$34.00
Weighted Overtime Rate: \$51.00

$\$51.00 \times 24 \text{ Hours} \times 3 \text{ Positions} \times 181 \text{ Days} = \$664,632$
Workers' Compensation @ 8.5% = \$56,494
Medicare @ 1.45% = \$9,637
Savings/Station = \$730,763

Estimated Savings for Four (4) Fire Stations in FY 12-13 = \$2,923,052

Note: This item was originally calendared for deliberation on December 4, 2012. The Fire Board of Directors voted to delay providing direction to the Fire Chief on potential station closures for one week -- i.e., until December 11, 2012.

CONSEQUENCE OF NEGATIVE ACTION:

The savings from station closures will not be recognized in the current fiscal year, resulting in more severe service level reductions in the following fiscal year (FY-13/14).

CHILDREN'S IMPACT STATEMENT:

Not applicable.

Contra Costa County Fire Protection District
Service Reduction and Fire Station Closure Plan

Since the recession began in 2008, property tax revenue for the Fire District has declined by approximately \$32 million. During this period, the Fire District has taken a number of actions to reduce costs in order to maintain essential service delivery.

During the past five years, the District has utilized reserve funds to keep all of our fire stations staffed and protect the community. In an effort to obtain needed revenue, the District placed a parcel tax measure on the ballot in November. Measure Q received support from the majority of the voters. Unfortunately, it did not receive the votes necessary for passage at the “super majority” threshold. The reserve funds have been expended and the District can no longer afford to maintain current service levels.

The service delivery model is based on community threat, industry standards, (e.g. response time, staffing levels, operational capabilities), the risk level the community is willing to accept, and services the community expects/demands. Currently, the District does not meet industry standards or best practices for staffing levels, response times, assembly of an effective firefighting force, or number of specialty units, e.g. truck companies. Reducing resources and closing fire stations will only exacerbate this already challenging situation.

The contingency plan outlined at the October 23, 2012, Board of Directors’ meeting indicated that the District would close four fire stations in January. This would save approximately \$3M for the current fiscal year. Closing fire stations reduces expenditures, but it also reduces public protection in the respective areas and across the entire response system. Stations will be selected based on the following criteria:

- Community threat/risk
- Call volume
- Ability of adjoining fire stations to “absorb” the call volume and work load
- Proximity of adjoining automatic and mutual aid fire stations
- Transportation corridors
- Impact on response times

The District will work collaboratively with our automatic/mutual aid and private sector partners (e.g., AMR), in an effort to minimize the adverse effects of service reductions. It is important to note that we can utilize other agencies to supplement our response efforts but not to supplant our responsibilities.

In an effort to provide a balance between controlling costs and providing some level of public safety, the following options are provided:

Planned Actions:

- Close four (4) fire stations in early January as previously indicated
- Savings – Approximately \$3M
- Impact – Reduced service delivery and public safety
- Efforts to minimize the impact –
 - Leverage automatic/mutual aid, and private sector partners
 - Potentially up-staff one or two units to expedite interior fire attack operations
 - Utilize existing reserve force to provide some coverage for closed stations when available
 - Work to develop and implement an EMS only (paramedic and EMT or 2- EMTs) unit in some or all of the affected stations during peak call volume time periods of 8 A.M. to 8 P.M.
 - Develop and implement an EMS only reserve or volunteer program to cover the affected stations during the non-peak periods
 - Limit the response to some non-life threatening emergencies and public service calls
 - Enhanced use of dynamic resource deployment, e.g. posting
 - Utilize software to evaluate optimal fire station locations and response configurations
 - Continue to monitor and evaluate service delivery impacts

Fire Stations Identified for Closure:

- Fire Station #4 – 700 Hawthorne Drive, Walnut Creek
- Fire Station #11 – 6500 Center Avenue, Clayton
- Fire Station #12 – 1240 Shell Avenue, Martinez
- Fire Station #16 – 4007 Los Arabis Avenue, Lafayette

Service Reduction Framework

Purpose:

This plan identifies actions that will be implemented if inadequate funding is available to staff the current 28 fire stations in the District. It is important to recognize that any reduction in staffing and functional units will have an adverse impact on service delivery in the community. This includes:

- The inability to respond to some types of 911 calls
- Longer response times to emergency incidents
- Longer time period to assemble an effective firefighting force to meet operational needs (NFPA-1710)
- More severe fire conditions and fire spread to exposed buildings and vegetation
- Altered strategy and tactics to offset increased safety threats/risks
- Delay in providing life-saving medical treatment and care
- Limiting the ability to participate in the automatic and mutual aid system in the County and State

This plan will provide a broad framework for the multitude of actions, (e.g. operational personnel, fiscal, public communications, etc.) that must take place if reductions are necessary. The goal is to minimize the adverse impact to the community, ensure the safety of first responders, and communicate effectively with all stakeholder groups. This plan outlines a phased, “soft landing” approach in order to provide time to evaluate and monitor the many dynamics associated with the process.

Timeline:

January 1, 2013 to implementation of the FY-2013/2014 budget cycle.

Functional Steps:

1. Identify and prioritize up to ten (10) fire stations that will potentially be closed in order to reduce costs. Stations will be selected based on the following criteria:
 - a. Community threat/risk
 - b. Call volume
 - c. Ability of adjoining fire stations to “absorb” the call volume and work load
 - d. Proximity of adjoining automatic and mutual aid fire stations
 - e. Transportation corridors
 - f. Impact on response times
2. Determine the average number of fire stations that are staffed daily on an overtime basis. This should equate to an average of four to five companies.
 - a. Beginning January 1, 2013, overtime will no longer be utilized to staff the four (4) fire stations and those fire stations will be closed. Selection will be based on stations that have the least impact to the overall operation of the District. This will begin to reduce expenses in the FY-12/13 Budget and limit expenditure of reserve funds.

- b. Prior to fire station closures, notify stakeholders and conduct public meetings in the affected areas so the residents are aware of the fire station closures and the potential impact to the community.
 - c. Notify automatic aid and mutual aid partners regarding the reduced ability to provide aid and the potential for increased need of aid.
 - d. Notify Contra Costa County Emergency Medical Services Agency and American Medical Response (AMR) of the impending reduction in resources and work with them to minimize the impact to the EMS system.
 - e. It is recommended that the District will no longer respond to lower priority incidents such as non-life threatening (BLS) medical emergencies, property damage service calls, i.e. broken water pipes, lockouts with no life safety threat, etc.
 - f. Reduce response algorithms to certain incident types, e.g. fire alarms to a single unit.
 - g. Modify strategy and tactics for firefighting and rescue operations and conduct training for all operational personnel.
 - h. Utilize reserve firefighters to the extent possible for overhaul, “fire watch”, incident cleanup, etc.
 - i. Evaluate and implement different training delivery methodologies, apparatus repair systems, logistical support, etc. that will minimize the out of service or out of district time for field units.
 - j. Secure closed facilities, disconnect utilities, close fueling sites, etc.
 - k. Minimum staffing will be maintained at the remaining 24 fire stations until the beginning of the FY-13/14 Budget cycle.
3. Staff will evaluate the current number of vacancies and the attrition that occurs in early March through the end of the fiscal year.
 - a. If a reduction in force is necessary, layoff notifications will be made in accordance with Personnel Management Regulations and applicable Memorandums of Understanding (MOU).
 4. Evaluate appropriate cost reduction strategies or initiatives, e.g. outsourcing services, elimination of programs, etc. and implement as part of the FY-13/14 Budget.
 5. During the FY-13/14 Budget process, evaluate non-operational support positions that will be eliminated or kept vacant to align with the budget.
 - a. If a reduction in force is necessary, layoff notifications will be made in accordance with Personnel Management Regulations and applicable MOU’s.
 - b. Personnel will be reduced in “rank” as necessary to align with the number of budgeted positions in accordance with “Layoff” Personnel Management Regulations/MOU’s.
 6. Determine the number of fire stations that must be closed in order to align with FY - 13/14 budget projections.
 - a. If a reduction in force is necessary, layoff notifications will be made in accordance with Personnel Management Regulations/MOU’s.
 - b. Personnel will be reduced in rank as necessary to align with the number of budgeted positions in accordance with “Layoff” Personnel Management Regulations/MOU’s.
 - c. Prior to fire station closures, conduct public meetings in the affected areas so the residents are aware of the fire station closures and the potential impact to the community.

- d. Notify automatic aid and mutual aid partners regarding the reduced ability to provide aid and the potential for increased need of aid.
 - e. Notify Contra Costa County Emergency Medical Services Agency and American Medical Response (AMR) of the impending reduction in resources and work with them to minimize the impact to the EMS system.
7. Implement necessary changes to staffing and service levels.
- a. Continue to evaluate/monitor strategy/tactics for safety and effectiveness
 - b. Continue to evaluate/monitor service delivery for impact
 - c. Continue to evaluate/monitor budget

Contra Costa County Fire Protection District Analysis of Service Delivery Models

The Contra Costa County Fire Protection District is an “all hazards” organization that provides fire, rescue, and emergency medical services (EMS), to 600,000 residents over a 304 square mile service area. Additionally, the District provides a number of community safety or support functions such as fire prevention (code enforcement, plans review, fire protection system checks, and vegetation management), life safety education, regional dispatch services, training, apparatus repairs, logistics, etc. The District protects the cities of Antioch, Clayton, Concord, Lafayette, Martinez, Pittsburg, Pleasant Hill, San Pablo, and Walnut Creek as well as unincorporated areas of the County including Bay Point, El Sobrante, and Pacheco. In 2011, the District responded to 41,500 incidents.

The Fire District is a government entity and not a business. As such, we do have to consider more than enhancing shareholder wealth, maintaining profit margins, and ensuring return on investment. As a government organization, our highest priority is providing quality fire protection, emergency medical care, and rescue services for our community. However, we do subscribe to basic business principles such as providing the best service and value to our customers, conducting operations and utilizing our resources in an effective and efficient manner, and controlling/reducing costs where possible. We constantly evaluate industry standards, best practices, and other business models to help ensure that we are providing the appropriate level of services in an efficient and cost effective manner. Additionally, we benchmark against other organizations to evaluate our service delivery and support operations.

Each community has unique characteristics such as threats/risks, demographics and population density, environmental factors (area served, topography, water supply, weather, transportation corridors, etc.), stakeholder groups, baseline resources, availability of mutual and automatic aid, etc. that must be evaluated before service delivery decisions are made. Service delivery options or solutions that are appropriate for one community may be unacceptable for another community as many of the relevant factors are different.

The area served by the District contains a number of high risk occupancies including, refineries and bulk storage facilities, chemical plants, hazardous materials transportation (rail, ship, pipeline, and highway), high rise buildings, large commercial and industrial buildings, multiple-family dwellings, health care facilities, and institutional and educational facilities. Additionally, the area presents a significant wildland fire-urban interface threat, as well as potential for natural disasters such as floods and earthquakes. The District routinely responds to structure fires, vegetation fires, medical emergencies, vehicle accidents, rescue calls, utility emergencies, etc. As such, the District’s “all-hazards” approach provides added value to the services we provide to the community.

Fire and emergency medical service delivery is predicated on community threat/risk, local standards, industry standards, and best practices. Based on the County’s General Plan, the current performance measure for the District is to respond within five minutes 90 percent of the time for urban areas. This measure relates to travel time only. The Contra Costa County EMS

Agency requires a 7.5 minute response time for medical emergencies. The National Fire Protection Association (NFPA) recommends a response time of six minutes 90% of the time. This includes dispatch, turnout, and travel time. In 2010, with 30 fire companies, our response time averaged 6 minutes and 16 seconds. Currently, with 28 companies, our average (not the 90 percentile goal) response time is 6 minutes and 36 seconds. Although the time has increased by 20-seconds, more significant impacts have not been realized yet due to all 28 fire stations remaining open and staffed. However, these statistics indicate that we do not meet the performance standards established by the General Plan or national standards.

Response times are a critical element for public safety. A standard time-temperature curve model indicates that a fire will double in size every two (2) minutes and flashover (rapid fire growth to full involvement of the structure with no chance of survival) will occur in less than eight (8) minutes. From an emergency medical services perspective, clinical brain damage occurs in four to six (4 – 6) minutes without oxygen and brain death occurs in eight (8) minutes. Multiple incidents occurring simultaneously and/or large scale/long-term (multiple alarm) incidents will quickly deplete available resources and exacerbate the extended response times. Another factor that affects our response time and overall capacity is the availability of mutual and automatic aid from neighboring jurisdictions. Currently, a number of our assisting agencies have closed fire stations and reduced capabilities. This reduces their ability to support the District and increases their requests for assistance.

When discussing service delivery options, it is important to review industry standards and best practices and benchmark against other similar jurisdictions when evaluating staffing requirements and models. The International City/County Management Association (ICMA) recommends one firefighter per 1,000 population as a standard for adequate staffing levels. The LAFCO Municipal Service Review from August of 2009 indicated that the District staffing level was .6 per 1,000 residents. This is below the County average of .7/1000 and the Bay Area average of .9/1,000 residents. Due to the de-staffing of two units, the current ratio is .44 firefighters/1,000 residents. This is an extremely low staffing/resource level to protect 600,000 residents, especially considering the community risk and urban setting. Any reduction in fire companies and staffing will only exacerbate our current staffing deficiencies. Cities of comparable populations, (e.g. Denver, Portland, and Tucson) and smaller cities (e.g. Fresno, Oakland, Sacramento, Tulsa, Virginia Beach, Long Beach, Cleveland, and Kansas City) all have ratios of one firefighter per 1,000 residents or greater. The NFPA also recommends four-person minimum staffing on each unit. The District currently staffs each unit with three personnel.

This data demonstrates the significant staffing shortages and lack of capacity that already exists within the District. A number of other jurisdictions across the nation have been forced to remove fire companies from service due to budget constraints. However, as noted, many of those jurisdictions have much greater depth, capacity, and staffing levels for their baseline resources. As such, the impact is not as severe and they have greater flexibility to reallocate resources or consider alternative delivery models. Organizationally, the District is flat and lean and does not meet industry standards or best practices. Although we provide excellent service to the community, there are a significant number of capacity and infrastructure needs that are unmet.

Analysis of Service Delivery Models

Due to the current staffing and capacity baseline levels, any reduction in service delivery will present a serious threat to the community. Every effort should be made to prevent this to the extent possible. A deliberative analytical process must be utilized to determine if service delivery options are viable and appropriate for the community. To this end, the District has explored the following service delivery options:

- Service adjustment based on emergency incidents that occur during different times of day and days of the week.
- Reduction in staffing per unit
- Different configurations to respond to emergency medical incidents
- Use of reserve firefighters or volunteers

It is important to note that every option evaluated reduces the protection and service to the community and diminishes an already insufficient response capability.

Service Adjustment Model (SAM):

The SAM would maintain minimum protection/service to all portions of the community until funding is available to restore full service. The statistics for the District indicate that approximately 80% of our incidents were EMS related. Additionally, the majority of incidents occur from approximately 8 A.M. to 8 P.M. on Monday through Friday with some peak periods on Saturday as well. Similar to many businesses, it is possible to align our resources with service delivery demands. However, this is not the ideal model for public safety agencies as the risk of miscalculations, deviations from statistical norms, or outliers will suffer much greater consequences than in the private sector. The District must maintain some additional capacity in the event of significant incidents or multiple emergencies occurring simultaneously. Many residential fires occur during non-peak nighttime and early morning hours when the residents are most vulnerable. In fact, the District has experienced a number of fires where rescues were required during the off-peak time periods. It is critical to maintain some level of presence in all areas of our community in order to provide protection and service and maintain acceptable response times. This is not a traditional approach for the fire service in light of our fixed facilities and 24-hour shift. However, compared to station closures, it demonstrates the ability to adapt to changing environments and subscribe to business principles. Due to low staffing and resource baseline levels, this model should only be a temporary solution that avoids fully closing fire stations. The five versions of the SAM that were evaluated provide financial savings ranging from \$1.5M to \$2M which is the equivalent to the closure of a fire station.

Certainly there are a number of specific challenges and risks related to the SAM. However, the basic concept of the SAM is outlined below:

- This is a temporary solution to a severe fiscal challenge. All units should be restored to a 3-person engine based platform as soon as fiscal conditions permit.
- 28-functional units will be staffed during peak service demand periods on Monday through Saturday from 8 A.M. to 8 P.M.
- At 8 P.M. on Monday through Saturday and all day Sunday, five units will transition from engine companies to “squads” and be reduced to 2-person staffing. This service

Analysis of Service Delivery Models

adjustment is based on service demands (call volume and type of incidents) in the affected areas.

- The reduction in staffing will be facilitated by releasing personnel on overtime at 8 P.M.
- All squads will be staffed with a minimum of one paramedic.
- Policies, procedures, training and management controls would be implemented to limit the risk and ensure the safety of the 2-person units.
- Squads will be prohibited from engaging in any interior fire operations (search and rescue and suppression) until the arrival of a fully-staffed engine company.

Pro:

- All stations remain staffed at some level 24/7
- Resources are adjusted based on service demands
- Savings of \$1.5 - \$2M

Con:

- A number of residential structure fires occur at night or non-peak hours. Residents are typically sleeping and at their most vulnerable time during this period. Recognition that the fire is occurring and subsequent notification may be delayed due to the public sleeping. This leads to more significant fire growth and need for search and rescue operations.
- 2-person squads are not permitted to conduct interior search and rescue or fire suppression operations due to safety concerns and OSHA regulations.
- It will take a longer time period to assemble an adequate firefighting force and meet NFPA-1710 recommendations.
- Flexible staffing models are most appropriate when adequate baseline resources exist. Units are added to the baseline during peak demands and de-staffed during non-peak periods.
- Savings are not adequate to eliminate the fiscal deficit.

Reduction in Staffing Levels from 3 to 2 per Unit:

The NFPA recommends a staffing level of four persons per unit in order to provide safe and effective operations and assemble an adequate firefighting capability in a timely manner. Currently, the District staffs all functional units with three firefighters/ paramedics.

Pro:

- Each of the three positions on the apparatus (includes all three shifts) equates to approximately \$500K to staff for a year. Reduction in staffing on a portion or all of the functional units would save \$500K per position per year.

Con:

- In 2010, the National Institute of Standards and Technology (NIST) issued a study entitled “Report on Residential Fireground Field Experiments.” The study addressed 22 operational performance tasks based on staffing levels and response time to structure fires in a “typical” 2,000 square foot single family dwelling. The study concluded the following:
 - A 2-person crew took 10% longer than a 3-person crew to apply hose streams to the seat of the fire.
 - A 2-person crew took 25% longer than a 3-person crew to ladder and ventilate the structure.
 - A 2-person crew took 25% longer than a 3-person crew to conduct search and rescue operations.
 - A 2-person crew took 57-seconds longer than a 3-person crew to advance hose lines to the building.
 - Both 3-person and 2-person crews failed to meet the NFPA-1710 recommendations of assembling an adequate firefighting force of 15 personnel on-scene within 8 minutes. However, the 2-person crew took a longer time period and required more units to assemble the 15 personnel. The 8-minute time frame is a critical factor in order to intervene before flashover of the structure when rapid fire spread with no chance of victim survival occurs.
- The fire will grow and intensify and the safety of the public and responders will be compromised as additional units and response time is required to attach the fire. Currently, we dedicate five units and a command officer to obtain the required firefighting force. With 2-person staffing, eight units and a command officer would be required to obtain the same staffing. Since these units would be required to respond from further distances so overall fire operations will be delayed.
- The NIST study only addresses residential fires in an average sized single-family dwelling. The District serves a highly urban area with significant risk levels including heavy industry, hazardous materials, large commercial and high rise buildings, multiple-family dwellings, etc. Currently, the District operates with only 44% of the recommended staffing levels and I am unaware of any urban department that protects a population of 600,000 that operates with this staffing level or 2-person fire crews.
- A study conducted by San Diego State University in 2010 entitled “Initial Attack Effectiveness” addressed staffing for wildland firefighting. The study evaluated 2, 3, 4, and 5 persons on each hose line. This did not include the pump operator/officer in charge. Due to safety concerns and failure to execute the task, they did not even attempt to study one person advancing the hose line which is what would occur with a 2-person crew.

Different Configurations to Respond to Emergency Medical Incidents:

The Contra Costa County Emergency Medical Services (EMS) Plan identifies an integrated response with fire-based first responders and private transportation providers. The two entities collaborate and complement each other to provide the highest quality and most reliable service to the public with acceptable response times. While this mission for the fire service is clearly articulated in the County EMS plan, it also provides added value by fire resources that are

geographically distributed to provide fire protection for the community. All life-threatening medical emergencies such as cardiac arrest, heart attacks, difficulty breathing, allergic reactions, trauma, stroke, etc. require rapid response and medical intervention. Fire-based EMS provides highly trained paramedics and EMTs for these patients in a timely manner. Additionally, the fire units remain in the community and are available for subsequent emergencies while the medic unit transports the patient to the hospital. In many cases, it can take an hour for the medic unit to transfer the patient to hospital staff, complete reports, clean and restock the unit. The fire-based units continue to provide EMS and other services during this time period.

It is important to note that any transfer of service from the public sector to the private sector will result in additional costs for the consumers. None of the stakeholders have the additional capacity to absorb a loss of resources. Additionally, increases in private sector EMS units will be single dimensional as they cannot provide fire suppression and rescue services.

The District is often asked why large fire apparatus is dispatched to emergency medical incidents. Residents question the use of a fire engine or ladder truck for this response as opposed to a smaller more fuel efficient model. The large fire apparatus provides a very flexible and versatile platform to conduct our “all-hazards” mission. The entire team can respond to an incident and provide medical care. In many life threatening emergencies (cardiac arrest, trauma, etc.) when carrying heavy patients or when dealing with limited access, all three members of the crew, as well as the medic unit personnel, are needed to provide care. If another serious emergency occurs (structure fire, rescue, etc.) while the crew is on the scene of the initial medical emergency, the entire crew can respond once the initial patient is stabilized and care is transferred to the medic unit. The engine with full staffing can be diverted to higher priority calls (e.g. structure fire instead of a BLS medical emergency or heart attack instead of a fire alarm) if necessary to provide the best service. Again, this highlights the flexibility of the system when limited and inadequate resources are available.

Pro:

- Smaller units are more fuel efficient.
- Less mileage and maintenance on the large apparatus
- 2-person crews can treat many of the non-life threatening patients
- This is an effective model if the 2-person units are in addition to and augment the fire suppression units. Units assigned to selected fire stations could handle the majority of the EMS incidents and the suppression units would assist on life-threatening emergencies. During fire and rescue incidents both units may be available to respond to provide adequate staffing for operations.

Con:

- Need to purchase up to 28 light response vehicles equipped with emergency warning devices, radios, computer-aided dispatch, etc. This equates to a minimum of \$30K per vehicle.
- Significant increase in fleet size, maintenance, insurance, etc.

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- When a subsequent incident occurs, the crew will be fragmented. The smaller EMS vehicle may not be available and the fire apparatus will have to respond with one crew member. It is unsafe for a lone operator to drive under emergency conditions, talk on the radio, look at the map or the CAD display, etc. Additionally, once he/she arrives, operational effectiveness is either non-existent or delayed until the remainder of the crew arrives.
- With a very low and lean staffing/resource baseline, the existing units must be flexible, able to divert, and have the ability to respond from incident to incident to perform our all-hazard mission. Other jurisdictions have been able to implement this solution; however, they are starting with a higher per unit staffing level and a greater number of resources so the baseline is not eroded.

Use of Volunteers or Reserve Firefighters:

Volunteers or reserve firefighters could be utilized to staff out of service units, reduce overtime costs, or augment existing staffing levels. The District currently sponsors a reserve program; however, participation has been limited and unreliable.

Pro:

- Volunteers and reserves function at a lower per hour rate for training and emergency response.
- Additional resources or units may be available to supplement or augment existing career units.
- Residents have an opportunity to contribute to and serve their community.
- Volunteers should be recruited to assist with administrative and other support functions that will reduce costs or free uniformed staff to work in front-line operational positions.
- A systematic approach where explorers, cadets, and graduates from community college fire academy programs are utilized as supplemental staffing would enhance their experience and provide additional support personnel.

Con:

- Beginning in 2004, Senate Bill (SB) 1207 and Assembly Bill (AB) 2118 required extensive training for volunteers/reserves. SB 1207 mandates that all training required by Cal-OSHA for career personnel also applies to volunteer/reserve firefighters. AB 2118 provides for penalties for non-compliance. This includes initial, as well as on-going, refresher training which is required on an annual basis.
- Each volunteer/reserve must complete a background check, physical examination, and training prior to participating. The estimated cost \$10K to prepare each volunteer.
- Each volunteer/reserve must be equipped with structural and wildland personal protective clothing, fitted SCBA face piece, etc. The approximate cost is \$5,000 per person.
- Inconsistent attendance to training by our current reserve participants affects our ability to adequately train the personnel and maintain required standards.
- Generally, the number of volunteer and reserve programs have been declining across the nation. Due to training requirements, legal liability, general economic conditions and

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pressures, societal norms, and turnover, the volunteer/reserve programs have not been reliable or cost effective in many instances.

- Again, this is an urban area with significant community threats/risks, and significant service delivery demands. Full-time, reliable resources are necessary to ensure a safe and effective public safety system.

In summary, the Contra Costa County Fire Protection District has evaluated a number of alternative service delivery models. As noted before, each community has unique characteristics that must be evaluated to determine if specific options and solutions, or variations are appropriate. Due to the low staffing and resource baseline levels, all of the options that were evaluated actually reduce the performance, flexibility, and service levels of the District.

The District will continue to evaluate industry standards, best practices, and other business models and benchmark against other organizations to help ensure that we are providing the appropriate level of services in an efficient and cost effective manner.