



Memorandum

TO: PUBLIC SAFETY, FINANCE &
STRATEGIC SUPPORT
COMMITTEE

FROM: WILLIAM L. MCDONALD

SUBJECT: SEE BELOW

DATE: February 16, 2012

Approved

Date

2/9/12

**SUBJECT: 2010-2011 FINAL REPORT ON FIRE DEPARTMENT VACANCY AND
ABSENCE RATES AND THEIR IMPACT ON OVERTIME**

PURPOSE

In response to the City Auditor's April 2001 "Audit of the City of San José Fire Department's Overtime Expenditures" (Overtime Audit), the Fire Department prepares, on an annual basis, a report on year-end absence and vacancy hours. This report ensures that overtime funding and relief staffing levels are annually reviewed to ensure they are appropriately measured, funded, and managed. The 2010-2011 report presents absence and vacancy data for the Fire Department, outlines current staffing levels and projected attrition, and provides a discussion of relief staffing based on five years of data (2005-2006 through 2010-2011).

SUMMARY

In 2010-2011, significant reductions in sworn staffing at the Fire Department were necessary to meet the General Fund shortfall. A total of 79 line positions were eliminated in 2010-2011 with the reconfiguration of the Hazardous Materials Incident Team, the elimination of four engine companies, and the elimination of one truck company. This action reduced daily duty positions from 202 daily minimum staffing (DMS) in 2009-2010 to 179 DMS in 2010-2011. Absence hours in 2010-2011 increased from 288,678 hours in 2009-2010 to 306,409 in 2010-2011, representing an increase in absence rate¹ from about 14% in 2009-2010 to 16.8% in 2010-2011. However, a lower vacancy rate of 3.1% in 2010-2011 (vs. 4.2% in 2009-2010) however offset to some degree the overtime hours required to meet the 179 DMS in 2010-2011. The combined impact of a reduction in daily staffing (from 202 to 179) and the higher absence hours (offset by lower vacancy hours) resulted in a slight decrease in backfill hours required for DMS. Overtime to fill absences in DMS in 2010-2011 was \$8.4 million. (In 2009-2010, overtime to meet DMS was \$9.0 million.)

¹ Absence rate takes total absence hours for all line personnel and divides that by the total hours for line personnel at 2,920 hours per year.

BACKGROUND

Prior to 2005-2006, the Fire Department was unable to bring overtime expenditures within its annual overtime budget allocation. Concern regarding the Fire Department's over-expenditures led to the release of the 2001 Overtime Audit. However, in the past six years, the Fire Department's overtime year-end expenditures were lower than budgeted estimates. Although there are challenges to estimating absences due to illness and disability, the Department manages its DMS needs through a careful analysis of staffing projections, operational needs, and financial impact.

ANALYSIS

To meet the 2010-2011 daily minimum staffing levels established in the "Memorandum of Agreement Between the City of San José and the International Association of Firefighter's Local 230" (MOA), the Fire Department in 2010-2011 required 179² line positions in the ranks of Battalion Chief, Fire Captain, Fire Engineer, and Firefighter (Firefighter-Paramedic and Firefighter-EMT) on each daily shift (A, B, C). This required staffing level is referred to as daily minimum staffing (DMS). On a daily basis, the DMS level has to be maintained. When absences or vacancies occur, relief personnel and/or off-duty personnel who are brought back to work on overtime back-fill DMS assignments³.

In 2010-2011, the Fire Department's modified overtime budget was \$11.5 million; about \$8.5 million (74% of budget) was allocated to meet DMS requirements. Other components of the Fire Department's overtime budget included funding for fee-related activities, training to meet skill requirements, fire dispatch coverage, and discretionary overtime such as recruitment and testing and other miscellaneous activities. This report will be limited to drivers of overtime usage to meet DMS requirements, notably absences and vacancies in line duty positions. Finally, an analysis of overtime funding and relief staffing is presented to provide a comprehensive analysis of the Department's overtime usage for 2010-2011.

For operational and cost effectiveness, a certain number of relief staff positions are budgeted for each classification, in addition to the number of duty positions, to provide DMS back-fill and meet DMS levels. This relief staffing model minimizes the impact on off-duty line personnel who would otherwise be required to be held-over or to return to work on their days off to back-fill any DMS absences or vacancies. In 2010-2011, changes in retirement and other benefit costs increased the benefits-to-salaries ratio. On average, costs of retirement and other benefits comprised 54% of salaries⁴. Labor concessions in 2011-2012 reduced salaries for Fire sworn personnel by 10%. Increased costs for retirement and other benefits, however, increased the benefits rate to an average of 90%. With the benefits rate expected to remain above 50% in the coming years, balancing relief staffing and overtime funding will require careful management to meet operational needs while maintaining fiscal prudence.

² As described in 2010-2011 Adopted Operating Budget, the reduction in companies (four engines, one truck) and the reconfiguration of the Hazardous Materials Incident Team resulted in the elimination of 79 sworn positions, which reduced daily minimum staffing from 202 in 2009-2010 to 179 in 2010-2011

³ In 2010-2011, there were 88 relief personnel or 0.49 full-time equivalent relief position per daily minimum staffing position.

⁴ Average benefits rate in 2009-2010 was 42.3%, in 2008-2009 it was 42.9%

Absence Rates

The Fire Department analyzes absence and vacancy rates to determine the most efficient relief and overtime complement to meet daily minimum staffing. Displayed below are 2010-2011 absence hours by type of absences and by rank. Absence hours are hours that assigned personnel were not available to fill daily minimum staffing slots due to vacation, illness, disability, modified duty, compensatory time, funeral leave, jury duty, and/or administrative assignment. For 2010-2011, the Fire Department's absence hours for sworn line personnel in the ranks of Battalion Chief, Fire Captain, Fire Engineer, and Firefighters totaled 306,409 hours.

Chart No. 1
Absence Hours by Type & Rank: 2010-2011

Rank	<i>Vacation</i>	<i>Sick Leave</i>	<i>Disability^a</i>	<i>Modified Duty</i>	<i>Comp. Time</i>	<i>Funeral Leave</i>	<i>Misc^b</i>	<i>Admin Assign^c</i>	Total Hours
Battalion Chief	4,578	1,454	1,414	0	109	120	0	0	7,675
Fire Captain	35,077	20,180	18,346	12,557	521	789	1,512	2,240	91,222
Fire Engineer	38,570	25,442	21,124	13,299	766	1,783	0	0	100,984
Firefighter	37,262	32,196	25,247	8,919	557	1,899	448	0	106,528
Total Absence Hours (2010-2011)	115,487	79,272	66,131	34,775	1,953	4,591	1,960	2,240	306,409
<i>Total Absence Hours (2009-2010)</i>	<i>113,056</i>	<i>71,481</i>	<i>51,380</i>	<i>33,061</i>	<i>2,503</i>	<i>3,943</i>	<i>2,390</i>	<i>10,864</i>	<i>288,678</i>

^a Disability hours only for line personnel on 56-hour assignments.
^b Absence hours due to jury duty, witness, military, administrative
^c Temporary reassignment of line personnel for administrative assignments

With 625 line positions in 2010-2011, total absence hours between July 2010 and June 2011 were equivalent to 490 absence hours per line person (compared to 408 in 2009-2010). Although these hours of absence are not always taken in full-shift (24-hour) increments, the 2010-2011 absence level was equivalent to about 20.4 shifts per line person (compared to 2009-2010's 17.0 shifts).

At about 2,920 hours per line person per year, absence hours in 2010-2011 averaged 16.8%⁵, absence rates by rank were as follows:

Battalion Chief	15.5%
Fire Captain	21.0%
Fire Engineer	16.6%
Firefighter	14.5%

Total absence hours (including absences due to temporary administrative assignments) increased by 17,731 hours from 288,678 hours in 2009-2010 to 306,409 hours in 2010-2011. Absence hours due to disability and sick leave usage increased from 2009-2010, offset by significant decrease in the absence hours due to administrative assignments. The reduction in absence hours due to administrative assignments reflects the Fire Department's commitment in its 2008-2009 Final

⁵ In 2009-2010, the average absence rate was 14.0%

Report on Absence and Vacancy Rates to managing overtime expenditures and limiting administrative assignments to authorized levels. In addition, beginning 2010-2011, the Department includes an update on the status of administrative positions in its Bi-Monthly Financial Report (BFR) to the Public Safety, Finance and Strategic Support Council Committee, and will identify any special unbudgeted administrative assignments.

In 2010-2011, the Fire Department was budgeted for 34 sworn personnel in administrative assignments to manage the following programs: Emergency Dispatch, Safety, Facilities, Emergency Medical Services, Training, Fire Prevention, Special Operations, Arson, Vehicle, Public Information, and Wildland. Although the Department manages administrative assignments to the 34 sworn administrative positions, two additional Fire Captains were temporarily redeployed to assist with grant-related projects⁶ and to complete the redesign of the training modules⁷. Upon completion of these assignments, the two Captains went back to line duty. It should be noted that in 2010-2011, absences from line duty due to unbudgeted administrative assignments dropped by about 80% from 2009-2010⁸.

As previously discussed, to maintain daily minimum staffing (DMS), absences are filled by relief staff and when no relief is available, duty positions are filled by overtime. The information below provides annual salary costs as well as hourly salary rate for 2010-2011. The hourly rate for sworn line personnel is calculated at 112 hours per pay period. Overtime for backfilling absences and vacancies is calculated at 1.5 times base hourly salary rate as displayed below.

Rank ⁹	Base Annual Salary	Base Pay per Pay Period	Base Hourly Rate ¹⁰	Overtime Hourly Rate
Battalion Chief	\$ 157,601.60	\$ 6,061.60	\$ 54.12	\$ 81.18
Fire Captain	\$ 125,881.60	\$ 4,841.60	\$ 43.23	\$ 64.84
Fire Engineer	\$ 109,366.40	\$ 4,206.40	\$ 37.56	\$ 56.34
Firefighter	\$ 98,238.40	\$ 3,778.40	\$ 33.74	\$ 50.61

Vacancy Rates

Due to minimum staffing requirements, vacancies have the same impact as absences on overtime costs. Vacancies in sworn ranks occur due to retirement from the organization or separations from employment. In 2010-2011, the Fire Department's emergency response line positions were vacant for a total of 55,888 hours, or 3.1% vacancy rate. (In 2009-2010, vacancy hours for line positions totaled 85,344 hours, or 4.2% vacancy rate.) At the end of 2010-2011, there were 44 sworn

⁶ One Fire Captain with Special Operations training and grants was necessary to develop a Special Operations grant-funded training program.

⁷ In 2010-2011, the reductions in fire companies impacted the Department's ability to conduct training activities without incurring additional overtime. Training modules had to be redesigned to accomplish training goals while minimizing impact to services and overtime.

⁸ In 2009-2010, absences from line duty due to unbudgeted administrative assignments totaled 10,864 hours.

⁹ Salary Information provided at top step for each rank

¹⁰ Average hours per pay period is 112 hours

vacancies (out of a total of 665 sworn positions). Although the Department has consistently been filling vacancies in a timely manner and has successfully filled paramedic duty positions to meet service level needs, vacancies in 2010-2011 were strategically reviewed in light of proposed 2011-2012 budget actions.

Back-Fill for Duty Positions

On a daily basis, the DMS level is supplemented with relief personnel and/or off-duty personnel who are brought back on overtime to back-fill DMS assignments due to absences and vacancies.

Chart No. 2
Absence and Vacancy by Rank: 2010-2011

Rank	<i>Absence Hours</i>	<i>Vacancy Hours</i>	<i>Hours Requiring Back-Fill</i>	<i>Total Absence & Vacancy Rate</i>
Battalion Chief	7,675	8,848	16,523	33.3%
Fire Captain	91,222	25,424	116,646	26.8%
Fire Engineer	100,984	8,512	109,496	18.0%
Firefighter	106,528	13,104	119,632	16.3%
Total	306,409	55,888	362,297	19.9%

Total absence and vacancy hours in 2010-2011 required 362,297 hours of backfill.

Staffing Levels and Anticipated Retirements

In preparing projections of near-term and long-range vacancies, staff analyzes the Fire Department's line staff's years of service and age ranges and based on various retirement eligibility scenarios¹¹, prepares staffing projections. At this time, the Department does not anticipate issues filling vacancies created by retirements.

Relief Staffing

To summarize the earlier overview, when a daily minimum staffing (DMS) position is unfilled, either due to an absence or a vacancy, to meet DMS levels, the position must be back-filled. There are three ways in which this can occur: overtime, relief personnel, or by higher-classing someone in a lower rank to back-fill the position (which also then requires back-fill).

With retirement and other benefits costs exceeding 50% of salaries and overtime paid at 1.5 times the hourly rate, it is easy to conclude that use of overtime is a less costly method (versus relief staffing) of meeting DMS. Careful analysis should however be made to consider fatigue and other factors resulting from excessive use of overtime. In addition, operational needs may not be addressed by matching out-of-duty staff (on overtime) with required skills. Meeting service needs

¹¹ Retirement eligibility scenarios include 30 years of service at any age; 50 years of age with 25 years of service; and 55 years of age with 20 years of service

and ensuring safety of the public and of Fire personnel should be considered along with financial analysis in determining a relief and overtime staffing complement to meet DMS.

Taking the benefits rate aside for the time being, an appropriate staffing model would consider analysis of absence and vacancy hours in 2010-2011 for each rank, per pay period. The relief model estimates the number of relief positions needed to back-fill absences and vacancies when there are the fewest hours of absence and vacancy during the year (baseline). The baseline is the lowest number of absence and vacancy hours used by the personnel in each rank in the 2010-2011 pay periods. Once the baseline is established based on the actual absence and vacancy data, it can then be determined, by rank, how many relief positions should be staffed. The 2010-2011 baseline hours (lowest absence and vacancy hours that occurred in any pay period) are as follows:

- Fire Captain = 3,079 hours (in 2009-2010 = 3,056 hours)
- Fire Engineer = 3,366 hours (in 2009-2010 = 4,107 hours)
- Firefighter = 3,216 hours (in 2009-2010 = 2,969 hours)

Chart No.3
2010-2011 Daily Minimum Staffing and Relief Staffing By Rank

Rank	Daily Minimum Staffing Positions	Total Minimum Staffing Positions (for 3 shifts)	Total Relief Positions *	Total Line Positions (3 Shifts + Relief)
Battalion Chief	5	15	2	17
Fire Captain	42	126	23	149
Fire Engineer	63	189	19	208
Firefighter	69	207	44	251
Total	179	537	88	625

The relief staffing as displayed in this chart reflects the relief staffing model developed in 1992. Consistent with prior years' reports, to determine baseline hours by rank, five years of data by rank on absence and vacancy hours are used to smooth out potential anomalies in any given year. Utilizing this methodology a comparison of the vacancy/absence baseline hours and coverage hours by relief staff is presented as follows:

Chart No. 4
Average Five-Year Baseline Data and Relief Personnel (Hours)

	Average Absence and Vacancy Hours Baseline	Coverage by Relief Staff	Difference in Coverage by Relief (shortfall)/surplus	(Decrease)/Increase in Estimated Relief Staff Needed to Cover Average Baseline Absence and Vacancy
Fire Captain	2,818	2,576	(242)	(2.16)
Fire Engineer	3,788	2,128	(1,660)	(14.82)
Firefighter	3,057	4,928	1,871	16.70
Total	9,663	9,632	31	(0.28)

The chart above shows that overall the total number of relief positions in 2010-2011 was the appropriate level, using five years' average baseline methodology. However, as the baseline analysis indicates that an adjustment in relief staffing would be required, notably in the Fire Engineer and Firefighter ranks. Various circumstances and anticipated budget actions have caused the Department to generally maintain the relief staffing per rank¹². The Department will be implementing a one-year Squad Car Pilot Program in March 2012. Five squads will be two-person companies, staffed with one Fire Engineer and one Firefighter/Paramedic. Squad cars will respond to lower medical priority calls. The Pilot Program would also change the staffing configuration of 11 companies resulting in a reduction of the total number of duty Fire Captain and Fire Engineer positions and in an increase in the number of duty Firefighter/Paramedic positions. If squad car service model is implemented on a permanent basis, proposals to change the current deployment of personnel and apparatus including relief staffing will be brought forward as part of the 2013-2014 budget process.

Status of Audit Recommendations

The following recommendations included in the April 2001 Audit Report, have now been closed:

- *Recommendation #7 – Review sick leave data to establish benchmarks for sick leave use and identify possible patterns of abuse and take appropriate follow-up actions.*
- *Recommendation #8 - Implement a proactive sick leave reduction program to inform line personnel of the benefits of conserving sick leave and rewarding personnel with perfect attendance.*

In the City Auditor's Report of June 30, 2010, both recommendations are categorized as "closed".

¹² In 2008-2009, two Fire Captain relief positions were eliminated but no adjustments were made in the number of relief Fire Engineer and Firefighter positions. In previous years, availability of lower ranked line employees to fill absences in higher ranks was a more cost-effective method, rather than adjusting the relief mix. In addition, with anticipated budget actions, the Department chose to be prudent and maintain relief staffing configuration.

CONCLUSION

In 2010-2011, the 16.8% absence rate and 3.1% vacancy rate resulted in approximately 18,000 more hours requiring back-fill when compared to 2009-2010. Absence hours were higher due to disability and sick leave usage increasing from 2009-2010, partially offset by a significant decrease in the absence hours due to administrative assignments. Vacancy hours were slightly lower than 2009-2010 due mainly to the reductions in overall sworn Fire staff as part of the 2010-2011 Adopted Operating Budget.

The Fire Department continues to provide the City Manager's Budget Office with regular updates on overtime expenditures, administrative assignments, and operational developments that could have financial impacts. This coordination has assisted Fire Administration in managing resources and ensuring that overtime expenditures ended each fiscal year at below budgeted levels since 2005-2006.

As described in the 2010-2011 Annual Report, the Fire Department reduced its minimum staffing overtime budget by \$3.8 million to generate savings for the 2011-2012 Operating Budget. This reduction was part of the Flexible Brown-Out Plan, described in depth in the 2011-2012 Adopted Operating Budget. Due to higher than anticipated absence rates through the first few months of 2011-2012 and Department-wide understaffing at the Fire Engineer rank, overtime expenditures were higher than budgeted but necessary to maintain acceptable fire service response times. In total, \$760,000 in overtime funding was added to the Fire Department's budget in order to mitigate the additional overtime expenditures. As part of the 2012-2013 budget process, the Administration will conduct an analysis to identify the ongoing funding needed for Fire Department minimum staffing.

Although the Audit recommendations have now been "closed", the Fire Department will continue to work with the Budget Office to provide a report on the following: staffing levels, absence and vacancy rates, a forecast of short-term and long-term vacancies, overtime and the use of relief staffing, as well as the potential impact of the Squad Car Pilot Program on minimum staffing requirements.

COORDINATION

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

/s/
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Fire Chief