

CITY OF SAN JOSE
POLICE AND FIRE DEPARTMENT RETIREMENT PLAN

Actuarial Valuation
as of July 1, 1987

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April, 1988

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April 28, 1988

Board of Administration
Police and Fire Department
Retirement Plan
San Jose, California

Board Members:

This report presents the results of our Actuarial Valuation of the San Jose Police and Fire Department Retirement Plan as of July 1, 1987. The report gives our determinations of: (a) contribution requirements for members and the City, and (b) the actuarial present values of projected, accrued, and vested plan benefits.

The actuarial content of the report was prepared by me in accordance with generally accepted actuarial principles.

We thank the Secretary to the Board and his staff for provision of excellent data and their assistance with our questions.

Our report is presented in the following sections:

- I. CONTRIBUTION REQUIREMENTS
- II. FUNDING RATIO
- III. ASSETS AND INVESTMENT YIELD
- IV. PARTICIPANT DATA
- V. ACTUARIAL METHODS AND ASSUMPTIONS
- VI. SUMMARY OF PLAN PROVISIONS

We look forward to a discussion of our findings at your next meeting.

Sincerely,



Steven T. Itelson, F.S.A.,
Associate Actuary

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I. CONTRIBUTION REQUIREMENTS

A. Retirement Income Benefits

The City Code requires periodic actuarial valuation of the Police and Fire Department Retirement Plan, including determination of contribution requirements on a specified basis. The normal cost is determined on the entry age normal actuarial cost method for basic and cost-of-living benefits. The normal cost is divided in a three to eight ratio between the employees and the City, respectively.

These normal cost contributions do not meet the actuarial requirements of the plan. The supplemental present value* represents the discounted value of all future benefits in excess of the value of future normal costs. The supplemental present value of \$390.6 million exceeds the actuarial asset value by \$45.6 million. This Unfunded Supplemental Present Value (USPV) must be funded for the Plan to be in actuarial balance.

The Board adopted a funding period of 40 years in 1977; accordingly, the USPV is amortized over the 30 years remaining on that schedule. The amortization is as a level percentage of increasing payroll, using only the inflation component of 5.00% per annum. This is the same as amortization using dollars of constant value, assuming five percent inflation.

The resulting contribution requirements are as follows:

	<u>Percentage of Compensation</u>		
	<u>Basic</u> <u>Benefits</u>	<u>Cost of</u> <u>Living</u>	<u>Total</u>
Employee contributions	5.67%	2.26%	7.93%
City contributions			
Normal Cost	15.11%	6.04%	21.15%
Payment on USPV	(.31)	3.60	3.29
Total City Contribution	14.80%	9.64%	24.44%
Total contributions	20.47%	11.90%	32.37%

The assets for Basic Benefits exceed the supplemental present value. Hence the payment to amortize USPV is negative. The Board may want to transfer assets from the Basic Fund to the COL Fund to eliminate this overfunding.

*Also referred to as actuarial accrued liability, or past service liability.

Derivation of these contribution rates is shown in Table 1. In addition to these rates, the City pays for permanent cost-of-living benefits on a pay-as-you-go basis. As of July 1, 1987, the rate of such payments was \$132,000 per annum. Contribution requirements to support retiree health and dental insurance benefits are discussed in Subsections B and C.

Since the last actuarial valuation (as of July 1, 1985), the cost method has been changed, assumptions revised, and benefits improved. Utilizing the same methods, assumptions, and plan provisions as in 1985, the results for basic and cost-of-living provisions combined were as follows:

	<u>Same Plan and Actuarial Basis</u>	
	<u>July 1, 1987</u>	<u>July 1, 1985</u>
Employee Contributions	9.03%	8.56%
City Contributions		
Normal Cost	24.07%	22.84%
Payment on USPV	1.06	3.62
Total City Contribution	25.13%	26.46%
Total Contributions	34.16%	35.03%

On the cost method as used in 1985, the normal cost was based on new entrants. The increased age of new entrants since 1985 raised the normal cost rate, and lowered the payment on USPV. The effects on contributions of changing methods and assumptions are given in the experience review report. The effect of the Plan changes were given in various memoranda.

The actuarial assumptions used in the retirement income calculations are described in Section V. These assumptions represent a reasonable basis for determining contribution requirements and liabilities of the Plan.

B. Health Insurance Benefits

The Retirement Plan commenced payment of retiree health insurance premiums in September, 1984. The Plan pays the same amount for pensioners and beneficiaries as is paid for active employees. Eligibility for this benefit is either 15 years of service or a 37.5% of salary benefit.

As of July 1, 1985 the contribution rates were .75% of salary each for employees the City, for a total of 1.50% of compensation. Benefits have been extended to new spouses of retirees who marry after retirement, and to certain Central Fire retirees. The assumptions were revised, and funding has been extended to 10 years from July 1, 1987.

The level contribution to Fund benefits over the next 10 years is 2.35% of payroll. This has been divided to have the City pay 1.17% and the employees 1.18% of wages. The derivation of these results is shown in Table 2.

C. Retiree Dental Benefits

Retiree dental benefits have been paid from the Plan assets since 1986. The current premium level is \$41.00 per month. The contribution rate developed in Table 3 is 0.57% of covered payroll. This has been split as .29% for the City and .28% for employees.

D. Summary

The total contribution rates are 9.39% of wages for employees and 25.90% of payroll for the City. The components are as follows:

	<u>Contributions as Percentage of Payroll</u>		
	<u>Employees</u>	<u>City</u>	<u>Total</u>
Retirement Income	7.93%	24.44%	32.37
Retiree Medical	1.18%	1.17	2.35
Retiree Dental	<u>.28</u>	<u>.29</u>	<u>.57</u>
Total	9.39%	25.90%	35.29%

Table 1

Determination of Contribution Requirements
Retirement Income Benefits
Dollar Amounts in Thousands

	<u>Basic Benefits</u>	<u>Cost-of- Living Benefits</u>	<u>Total</u>
1. Present Value of Future Benefits			
a. Active Members	\$368,624	\$140,625	\$509,249
b. Terminated Vested Members	1,891	849	2,740
c. Pensioners	62,609	41,005	103,614
d. Beneficiaries	5,876	6,104	11,980
e. Total	<u>\$439,000</u>	<u>\$188,583</u>	<u>\$627,583</u>
2. Present Value of Future Normal Costs	\$170,432	\$ 66,504	\$236,936
3. Supplemental Present Value = (1) - (2)	268,568	122,079	390,647
4. Actuarial Value of Assets	272,943	72,072	345,015
5. Unfunded Supplemental Present value = (3) - (4)	(4,375)	50,007	45,632
6. Amortization of (5)	(221)	2,530	2,309
7. Amortization as % of Payroll	(.31%)	3.60%	3.29%
8. Total Normal Cost as Percentage of Payroll			
a. City	15.11%	6.04%	21.15%
b. Employees	5.67	2.26	7.93
c. Total	<u>20.78%</u>	<u>8.30%</u>	<u>29.08%</u>
9. Total City Contribution Rate (7) + (8a)	14.80%	9.64%	24.44%
10. Total Employee Contribution Rate = (8b)	5.67%	2.26%	7.93%
11. Total Contribution Rates	20.47%	11.90%	32.37%
12. Covered Payroll	\$ 70,196	\$ 70,196	\$ 70,196

Note: Amortization payments based on 30-year funding from July 1,
1987 with payments increasing 5% per annum.

San Jose Police & Fire

Table 2

Retiree Health Insurance Funding Calculations

<u>Year</u>	(1) Projected Annual Cost Per Retiree	(2) Estimated Number of Insured Retirees	(3) Estimated Annual Cost = (1) x (2)
1987-88	\$2,250	452	\$1,017,000
1988-89	2,441	481	→ 1,174,000
1989-90	2,649	510	1,351,000
1990-91	2,874	540	1,552,000
1991-92	3,118	572	1,783,000
1992-93	3,383	604	2,043,000
1993-94	3,671	638	2,342,000
1994-95	3,983	674	2,685,000
1995-96	4,321	712	3,077,000
1996-97	4,689	752	3,526,000

Level Cost Calculation Over Ten Years

- (1) Present Value of Future Benefits = \$13,148,000
- (2) Actuarial Value of Assets = \$837,000
- (3) Net Present Value to be Funded = (1) - (2) = \$12,311,000
- (4) Present Value of Future Salaries = \$523,177,000
- (5) Level Contribution Rate = (3) ÷ (4) = 2.35% of payroll, payable periodically during the year.

Notes: (1) See Section V for actuarial assumptions.

(2) Projected annual cost per retiree adjusted to \$2,250 to account for changes in remarriage rules. Assume average cost increases 8.5% per annum, of which 0.5% attributable to remarriage rules.

(3) As of July 1, 1987, 452 retirees and beneficiaries had health insurance paid by the Plan. This included 354 with Blue Cross (78.32%), 92 with Kaiser (20.35%) and 6 with Lifeguard (1.33%).

San Jose Police and Fire

Table 3

Retiree Dental Insurance Funding Calculations

<u>Year</u>	(1) Projected Annual Cost Per Retiree	(2) Estimated Number of Insured Retirees	(3) Estimated Annual Cost = (1) x (2)
1987-88	\$492	477	\$235,000
1988-89	531	508	270,000
1989-90	574	539	309,000
1990-91	620	571	354,000
1991-92	669	605	405,000
1992-93	723	639	462,000
1993-94	781	675	527,000
1994-95	843	713	601,000
1995-96	911	753	685,000
1996-97	984	795	781,000

Level Cost Calculation Over Ten Years

- (1) Present Value of Future Benefits = \$2,970,000
- (2) Actuarial Value of Assets = \$5,000
- (3) Net Present Value to be Funded = (1) - (2) = \$2,965,000
- (4) Present Value of Future Salaries = \$523,177,000
- (5) Level Contribution Rate = (3) ÷ (4) = .57% of payroll, payable periodically during the year.

- Notes: (1) See Section V for actuarial assumptions.
- (2) Projected annual cost per retiree of \$41.00 monthly per covered family for the 1987-88 fiscal year. Premium cost assumed to rise 8% per annum.
- (3) As of July 1, 1987, all retirees and beneficiaries had dental insurance paid by the Plan. Seven child beneficiaries were excluded.

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II. FUNDING STATUS

There are various ways to measure the progress of funding a retirement system. One measure is the level of the assets in relation to the supplemental present value. This unfunded liability is amortized as part of the contribution rate in Section I.

Another measure is the present value of projected benefits. This value must be disclosed in accordance with Governmental Accounting Standards Board (GASB) Statement No. 5 effective with the fiscal year beginning July 1, 1987. Its requirements include computation of the pension benefit obligation, or PBO. This amount includes projection of salary increases, but prorates all potential future occurrences for service as of the determination date. The PBO differs from the supplemental present value because the later incorporates a leveling of contributions under the entry age normal method. The PBO is shown belows of July 1, 1987:

<u>Participant Category</u>	<u>PBO</u>
Retirees and beneficiaries	\$115,594,000
Inactive vested participants	2,740,000
Active participants	<u>268,429,000</u>
Total	\$386,763,000

The ratio of assets to the PBO is one measure of funding status. As of July 1, 1987, the actuarial asset value of \$345,015,000 represented 89.21% of the total present value of projected benefits. The GASB funding ratio would have been 90.94% based on the prior assumptions and plan of benefits, with PBO equal to \$379,406,000. The change in assumptions reduced PBO to \$370,045,000; the benefit changes raised it to \$386,763,000. The ratio would be higher if the market value or book value of assets were used instead of the actuarial value.

In prior reports the funding status was measured by the present value of benefits earned to date. Future salary increases are excluded for active members; the present values for non-actives are the same in both the PBO and this accumulated benefit value. This measure is required for private plans under Financial Accounting Standards Board Statement 35 and 87.

As of July 1, 1987, the actuarial present value of accumulated plan benefits was \$332,387,000, based on the new assumptions and benefits. The actuarial value of assets represents 103.80% of this present value. The effect of the change in assumptions was to lower the actuarial value of accrued benefits by \$14,586,000, while the change in plan provisions raised the value by \$12,989,000. On the same Plan and assumptions as utilized of July 1, 1985, the accumulated benefits funding ratio would have been 103.30% as of July 1, 1987, an increase from 91.60% shown in the 1985 report.

*Actuarial
obligation 333,984,000*

Of the \$332,387,000 present value of accrued benefits, \$264,655,000 is for vested benefits and \$67,732,000 is for non-vested benefits.

These measures of funding status are useful only when they are followed over time to see periodic changes. The ratios decline when benefits are increased, and depend on the actuarial assumptions used, especially the interest rate. The pattern of changes in actuarial contribution requirements and the appropriateness of the assumptions are also important in analyzing funding status of a pension plan.

III. ASSETS AND INVESTMENT YIELD

The audit report as of June 30, 1987 shows net assets of \$351,074,000 for the combined Retirement and Cost-of-Living Funds. That amount includes fixed income investments at amortized cost, equities at original cost, and adjustments for amounts payable and receivable. The market value for the combined Funds was \$379,732,000.

A different basis has been adopted for actuarial valuations. Realized and unrealized appreciation and depreciation are spread over five years, beginning with the fiscal year in which they occur. This basis is used for such gain and loss after June 30, 1983. In Table 4 we present the determination of the actuarial value of investments.

During the 1986-87 fiscal year, there was net appreciation of \$10,087,000, of which 20% is recognized and 80% deferred as of July 1, 1987. Similarly, part of the appreciation (depreciation) from other years is recognized, and part is deferred as of July 1, 1987. Total appreciation since the method began is \$50,875,000 of which \$17 million is recognized and \$33,875,000 deferred at this time. This reserve will help offset any market value decreases subsequent to the valuation date. The result is an actuarial value of investments of \$341,959,000 for all benefits combined.

Table 5 presents the total assets on the actuarial basis. The Funds have increased to a total of \$345,857,000, from \$245,837,000 as of July 1, 1985. This is an increase of over 40%. Of the \$346 million actuarial value of assets, \$837,000 is allocated to retiree medical, \$5,000 to retiree dental, \$72,072,000 to cost-of-living, and \$272,943,000 to basic benefits.

Table 6 presents a summary of income and disbursements on the actuarial basis over the past two years. Contributions were \$23.7 million in the year 1985-86 and rose 6.4% to \$25,257,000 the subsequent year.

Benefit payments in the year 1986-87 were over \$9.3 million, including \$733,000 paid for retiree health insurance premiums and \$221,000 for retiree dental benefit.

Net investment income on the actuarial value basis includes interest and dividends. It also includes 20% of each year's total appreciation (or depreciation) which has not been fully recognized. Net investment income was \$36,055,000 for the year 1986-87, and \$31,938,000 the prior year. These represent net yields of 11.94% and 12.58%, respectively. There is \$33.9 million of appreciation since June, 1983 that will be recognized in future years.

Table 4

Determination of Actuarial Value of Investments
As of June 30, 1987
(All Amounts in Thousands of Dollars)

<u>Year Ending</u>	<u>Market Value</u>	<u>Book Value</u>	<u>Unrealized Appreciation to Date</u>	<u>Unrealized Appreciation in Year</u>	<u>Realized Appreciation in Year</u>	<u>Total Appreciation</u>	<u>Deferred Appreciation</u>	
							<u>Percentage</u>	<u>Amount</u>
6/30/83	\$182,181	\$181,712	\$ 469	N/A	N/A	N/A	N/A	N/A
6/30/84	185,543	201,843	(16,300)	\$(16,769)	\$ 1,485	\$(15,284)	20%	\$(3,057)
6/30/85	253,345	247,278	6,067	22,367	1,537	23,904	40%	9,561
6/30/86	326,533	292,185	34,348	28,281	3,887	32,168	60%	19,301
6/30/87	375,834	347,176	28,658	(5,690)	15,777	10,087	80%	8,070
						\$ 50,875		\$33,875
Market Value of Investments					\$375,834			
Less: Deferred Appreciation					<u>33,875</u>			
Actuarial Value of Investments					\$341,959			

San Jose Police and Fire

Table 5

Assets of the Fund as of June 30, 1987 and 1986
Actuarial Value Basis
(All Amounts in Thousands of Dollars)

	<u>6/30/87</u>	<u>6/30/86</u>
Investments	\$341,959	\$292,571
Cash	245	-
Accounts Receivable:		
Employee Contributions	\$ 293	\$ 255
City Contributions	855	759
Accrued Interest	4,069	3,678
Other	<u>3,184</u>	<u>1,707</u>
Total Receivables	<u>8,401</u>	<u>6,399</u>
Total Assets	\$350,605	\$298,970
Accounts Payable	<u>4,748</u>	<u>5,063</u>
Net Assets Available for Plan Benefits	<u>\$345,857</u>	<u>\$293,907</u>

San Jose Police and Fire

Table 6

Summary Statement of Income and Disbursements for
Plan Years Ending June 30, 1987 and 1986, Actuarial Value Basis
(All Amounts in Thousands of Dollars)

	<u>1987</u>	<u>1986</u>
Contribution Income:		
Employee Contributions	\$ 6,424	\$ 5,931
City Contributions	<u>18,833</u>	<u>17,808</u>
Total	\$ 25,257	\$ 23,739
Investment Income:		
Interest	\$23,167	\$21,786
Dividends	3,241	2,444
Net Rental Income	117	49
Write-up(down)*	10,174	8,159
Less: Professional Fees & Expenses	<u>644</u>	<u>500</u>
Net Total	36,055	\$ 31,938
Benefit Payments:		
Account Refunds	\$ 206	\$ 228
Health Insurance Premiums	954	675
Retirement Benefits	<u>8,202</u>	<u>6,704</u>
Total	<u>9,362</u>	<u>7,607</u>
Net Increase in Assets	\$ 51,950	\$ 48,070
Assets, Beginning of Year	<u>293,907</u>	<u>245,837</u>
Assets, End of Year	\$345,857	\$293,907

*Represents that portion of realized and unrealized appreciation (depreciation) recognized for the year under the asset valuation method.

IV. PARTICIPANT DATA

Detailed information on active, retired, survivor and vested terminated members was provided on computer tape by the Secretary to the Board. Discussion of actual decrements as compared to assumptions were presented in the experience review.

A. Active employees

The valuation as of July 1, 1985 included 1,615 active employees (962 police, 653 fire). During the 1985-87 period, 35 of those members terminated (3 retained vested rights), 65 retired on service-connected disability, and there were six service retirements. There were three active member deaths.

There were 148 new members (including transfers and re-hires), increasing the active membership to 1,654 as of July 1, 1987, 2.4% higher than in 1985. Average salary increased from \$38,397 to \$42,440, or at the rate of 5.13% per annum. Distributions of these participants by age, service and average salary are shown in Tables 7-A, 7-B and 7-C. Table 8 gives a distribution by salary and department. Of the 1,654 active participants, 996 (60%) had met the ten-year service requirement for a vested benefit.

B. Vested Terminated Employees

There were 20 former employees retaining vested rights to deferred pensions as of July 1, 1985. After addition of 3 new vested terminations, there were 23 such participants as of July 1, 1987.

C. Retired Participants

There were 345 retired members as of July 1, 1985. During the succeeding two years, 19 retirees died. There were 75 new pensions awarded (including six service retirements and 65 service-connected disabilities). Hence there were 401 retired members as of July 1, 1987.

A distribution of these awards by type and benefit amount is shown in Table 9. The same awards are distributed by type and age in Table 10. The average benefit was \$1,672 monthly, including \$1,309 in Basic benefits. Average pensioner age was 59-1/2.

D. Survivors

Seventy beneficiaries of deceased retirees and actives were included in the July 1, 1985 census. Seven of those members died and there were 20 new beneficiaries. Hence there were 83 survivors in pay status as of July 1, 1987. These members are distributed by department and monthly pension in Table 11, and by age and department in Table 12. The average survivor benefit was \$879 per month.

The following summarizes membership data as of July 1, 1987 and 1985.

	<u>7/1/87</u>	<u>7/1/85</u>
<u>Actives</u>		
Number	1,652	1,615
Average Age	38.6	38.0
Average Service	12.3	11.7
Total Annual Salaries*	\$70,196,000	\$62,012,000
Average Annual Salary*	\$ 42,440	\$ 38,398

<u>Retirees</u>		
Number	401	345
Average Age	59.4	59.0
Average Monthly Pension**	\$1,672	\$1,387

<u>Survivors</u>		
Number	83	70
Average Monthly Pension**	\$879	\$665

<u>Vested Terminated</u>		
Number	23	20
Average Monthly Pension Payable at Age 55	\$1,138	\$1,057

*Including increases of 4% for fire and 4% for police scheduled for 1987-88, and 5% and 6% respectively for 1985-86.

**Including permanent cost-of-living benefits paid outside the Plan.

Table 7-A

Census of Active Police Participants as of July 1, 1987
(figures in parentheses are average compensation)

Age	Total	Years of Service						
		1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Total...	997 (\$42,699)	229 (\$37,450)	253 (\$41,208)	177 (\$43,863)	171 (\$44,476)	115 (\$48,095)	48 (\$49,685)	4 (\$70,985)
Under 25..	22 (\$33,923)	22 (\$33,923)						
25 - 29..	147 (\$38,043)	108 (\$37,098)	39 (\$40,659)					
30 - 34..	244 (\$40,937)	71 (\$38,821)	134 (\$41,206)	39 (\$43,867)				
35 - 39..	221 (\$43,115)	22 (\$38,698)	64 (\$41,411)	86 (\$44,227)	49 (\$45,372)			
40 - 44..	202 (\$44,587)	5 (\$36,043)	16 (\$41,758)	43 (\$43,225)	93 (\$44,308)	45 (\$48,420)		
45 - 49..	99 (\$47,091)	1 35,368		9 (\$43,411)	21 (\$43,153)	48 (\$48,573)	20 (\$49,909)	
50 - 54..	55 (\$48,167)				8 (\$44,419)	22 (\$46,385)	24 (\$49,918)	1 (\$75,323)
55 - 59..	7 (\$56,750)						4 (\$47,158)	3 (\$69,540)
60 - 64..								
65 & Over								

San Jose Police and Fire

Table 7-B

Census of Active Fire Participants as of July 1, 1987
(figures in parentheses are average compensation)

Age	Total	Years of Service						
		1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Total...	657 (\$42,050)	85 (\$35,142)	91 (\$39,340)	198 (\$41,913)	113 (\$43,339)	103 (\$45,550)	60 (\$46,926)	7 (\$50,937)
Under 25..	7 (\$32,253)	7 (\$32,253)						
25 - 29..	40 (\$35,967)	27 (\$34,402)	13 (\$39,219)					
30 - 34..	86 (\$37,791)	38 (\$34,845)	36 (\$39,645)	12 (\$41,560)				
35 - 39..	120 (\$40,629)	12 (\$34,770)	29 (\$38,631)	72 (\$42,212)	7 (\$42,664)			
40 - 44..	174 (\$42,520)		13 (\$40,201)	74 (\$41,575)	65 (\$43,888)	22 (\$43,022)		
45 - 49..	150 (\$44,665)			32 (\$41,585)	40 (\$42,716)	64 (\$46,283)	14 (\$49,877)	
50 - 54..	55 (\$46,604)	1 (\$91,071)		7 (\$43,604)	1 (\$37,337)	17 (\$46,065)	29 (\$46,433)	
55 - 59..	22 (\$46,581)			1 (\$48,304)			16 (\$45,153)	5 (\$50,805)
60 - 64..	2 (\$54,556)						1 (\$48,304)	1 (\$60,808)
65 & Over	1 (\$41,728)							1 (\$41,728)

San Jose Police and Fire

Table 7-C

Census of All Active Participants as of July 1, 1987
(figures in parentheses are average compensation)

Age	Total	Years of Service						
		1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Total...	1,654 (\$42,441)	314 (\$36,825)	344 (\$40,714)	375 (\$42,833)	284 (\$44,024)	218 (\$46,892)	108 (\$48,152)	11 (\$58,227)
Under 25..	29 (\$33,520)	29 (\$33,520)						
25 - 29..	187 (\$37,559)	135 (\$36,559)	52 (\$40,299)					
30 - 34..	330 (\$40,117)	109 (\$37,435)	170 (\$40,875)	51 (\$43,325)				
35 - 39..	341 (\$42,240)	34 (\$37,311)	93 (\$40,544)	158 (\$43,309)	56 (\$45,033)			
40 - 44..	376 (\$43,630)	5 (\$36,043)	29 (\$41,060)	117 (\$42,182)	158 (\$44,135)	67 (\$46,647)		
45 - 49..	249 (\$45,629)	1 (\$35,368)		41 (\$41,986)	61 (\$42,866)	112 (\$47,264)	34 (\$49,896)	
50 - 54..	110 (\$47,386)	1 (\$91,071)		7 (\$43,604)	9 (\$43,632)	39 (\$46,245)	53 (\$48,011)	1 (\$75,323)
55 - 59..	29 (\$49,035)			1 (\$48,304)			20 (\$45,554)	8 (\$57,830)
60 - 64..	2 (\$54,556)						1 (\$48,304)	1 (\$60,808)
65 & Over	1 (\$41,728)							1 (\$41,728)

San Jose Police and Fire

Table 8

Distribution of Active Participants on July 1, 1987
by Annual Compensation

<u>Annual Compensation</u>	<u>Number of Employees</u>		
	<u>Police</u>	<u>Fire</u>	<u>Total</u>
Under \$30,000	-	-	-
\$30,000 - \$31,999	-	-	-
\$32,000 - \$33,999	58	43	101
\$34,000 - \$35,999	29	19	48
\$36,000 - \$37,999	37	167	204
\$38,000 - \$39,999	72	19	91
\$40,000 - \$44,999	568	232	800
\$45,000 - \$49,999	186	153	339
\$50,000 - \$54,999	3	1	4
\$55,000 - \$59,999	32	3	35
\$60,000 - \$64,999	-	14	14
\$65,000 & Over	<u>12</u>	<u>6</u>	<u>18</u>
Total	997	657	1,654

Note: "Compensation" is July 1, 1987 rate including increases scheduled for 1987-88.

San Jose Police and Fire

Table 9

Distribution of Pensioners as of July 1, 1987
By Type and Total Monthly Pension

Monthly Benefit Amount	Police			Fire			Total		
	Service	Service Connected Disability	Non- Service Disability	Service	Service Connected Disability	Non- Service Disability	Service	Service Connected Disability	Non- Service Disability
Total.....	33	147	11	19	179	12	52	326	23
Under \$600.....	3	1	-	-	1	-	3	2	-
\$ 600 - 799....	1	4	1	1	4	3	2	8	4
800 - 999....	5	12	1	4	17	2	9	29	3
1,000 - 1,199....	3	24	1	2	13	1	5	37	2
1,200 - 1,399....	3	12	-	5	25	2	8	37	2
1,400 - 1,599....	1	22	3	2	28	3	3	50	6
1,600 - 1,799....	3	14	3	2	22	1	5	36	4
1,800 - 1,999....	1	18	1	-	17	-	1	35	1
2,000 - 2,199....	3	9	1	-	9	-	3	18	1
2,200 - 2,399....	3	8	-	1	23	-	4	31	-
2,400 - 2,559....	1	4	-	1	9	-	2	13	-
2,600 - 2,799....	2	10	-	-	5	-	2	15	-
2,800 & Over.....	4	9	-	1	6	-	5	15	-

San Jose Police and Fire

Table 10

Distribution of Pensioners as of July 1, 1987
By Type and Age

Monthly Benefit Amount	Police			Fire			Total		
	Service	Service Connected Disability	Non- Service Disability	Service	Service Connected Disability	Non- Service Disability	Service	Service Connected Disability	Non- Service Disability
Total.....	33	147	11	19	179	12	52	326	23
Under 40.....	-	10	-	-	-	-	-	10	-
40 - 44.....	-	16	-	-	10	1	-	26	1
45 - 49.....	-	19	1	-	12	2	-	31	3
50 - 54.....	1	23	1	-	28	3	1	51	4
55 - 59.....	9	26	-	3	47	1	12	73	1
60 - 64.....	2	28	4	1	39	2	3	67	6
65 - 69.....	6	15	2	3	16	1	9	31	3
70 - 74.....	5	7	2	3	20	2	8	27	4
75 - 79.....	2	1	1	2	6	-	4	7	1
80 - 84.....	5	1	-	3	-	-	8	1	-
85 & Over.....	3	1	-	4	1	-	7	2	-

San Jose Police and Fire

Table 11

Distribution of Beneficiaries by Monthly Pension
and Department

Amount	Police	Fire	Total
Total.....	40	36	76
Under \$400.....	-	3	3
\$ 400 - 499....	3	3	6
500 - 599....	9	6	15
600 - 699....	1	2	3
700 - 799....	4	5	9
800 - 899....	5	6	11
900 - 999....	4	3	7
1,000 - 1,099...	2	2	4
1,100 - 1,199...	4	2	6
1,200 - 1,399...	2	2	4
1,400 - 1,599...	2	-	2
1,600 & Over.....	4	2	6

Note: This table excludes 7 children receiving benefits.

San Jose Police and Fire

Table 12
Distribution of Beneficiaries
by Age and Department

Amount	Police	Fire	Total
Total.....	40	36	76
Less than 40.....	3	1	4
40 - 44.....	3	2	5
45 - 49.....	3	2	5
50 - 54.....	1	3	4
55 - 59.....	6	3	9
60 - 64.....	5	7	12
65 - 69.....	6	5	11
70 - 74.....	3	3	6
75 - 79.....	6	6	12
80 - 84.....	2	2	4
85 & Over.....	2	2	4

Note: This table does not include child beneficiaries.

San Jose Police and Fire

V. ACTUARIAL METHODS AND ASSUMPTIONS

We have utilized an actuarial cost method known as the entry age normal cost method for funding both the basic and cost-of-living benefits. This method is required under the City Code and is used in situations where a cost is desired which will remain relatively level as a percentage of the participating payroll.

Under the entry age normal method, the total contribution requirement has two components: an annual normal cost and a payment with respect to the unfunded supplemental present value (USPV).

The annual normal cost for each employee is calculated as the level percentage of pay required over that employee's period of covered employment to fund the total expected benefits. The unfunded supplemental present value is amortized over 40 years beginning July 1, 1977 (30 years as of July 1, 1985) in amounts level in constant dollars assuming 5% inflation.

The actuarial assumptions are generally classed as economic (investment yield, salary scale, post-retirement cost-of-living), post-retirement mortality (beneficiary, healthy and disabled retirees), and pre-retirement decrements (service-connected and non-service death and disability, termination, and retirement). Each employee is projected from current status to latest possible retirement by application of these assumptions. Those used in the valuation as of July 1, 1987 are described below. Many assumptions were changed effective this year.

Investment Yield and Asset Valuation

The actuarial calculations are based on the assumption that the net effective yield on the assets will be 8.00% per year. Assets are carried at adjusted market value; gain and loss occurring after June 30, 1983 (realized or unrealized) are spread over five years.

Salary Projection

A salary projection is used in any actuarial valuation to estimate the salary progression of employees in the future. The salary projection used is graded, from 7% at age 25, to 6% at age 50, then to 5.5% increase at age 60 and over. Regardless of age, increases of 10.00% per year are assumed during the first five years after employment. These rates are revised from the prior valuation. The salary increase from entry at age 25 to retirement at age 50 averages 7.13% per annum.

Post-Retirement Benefit Increases

Benefit increases are triggered by increases in the Consumer Price Index. We assume pensions will increase by 3% per year, the maximum allowed under the City Code.

*Summary of Mortality
 1983 Male Group Annuity
 Mortality Table
 developed by:
 Thomas Parker Fowler
 7/20/84 - NYC, NY*

Mortality Rates After Retirement

In estimating the amount of the reserve required to pay an employee's retirement benefits for the remainder of his and his spouse's lifetime, it is necessary to make an assumption with respect to expected mortality rates. For this purpose, the 1983 male Group Annuity Mortality Table has been used for service retirees. For beneficiaries, the 1983 female Group Annuity Mortality Table is used.

For disabled pensioners, the mortality rate used is the California P.E.R.S 1982-86 experience study disability retirement mortality rates. The schedule below shows the annual mortality rates and life expectancies these tables provide.

Age	Deaths Per 1,000 Lives			Life Expectancy (Years)		
	Retiree	Beneficiary	Disabled Retiree	Retiree	Beneficiary	Disabled Retiree
45	N/A	1.12	6.0	N/A	38.7	30.0
50	4.34	1.83	7.7	28.2	34.0	25.9
55	6.81	2.82	11.4	23.9	29.3	22.1
60	10.18	4.71	15.9	19.8	24.8	18.4
65	17.32	7.85	26.5	15.9	20.5	15.0
70	30.59	13.76	41.4	12.4	16.3	12.2
75	49.55	26.66	55.6	9.5	12.7	9.9

Termination Rates

The termination rates used in an actuarial valuation are intended to reflect all probable terminations of employment, including voluntary withdrawal from service, disability, retirement and death. These rates involve a forecast of the number of employees in various age brackets who will leave the coverage of the System prior to becoming eligible for a pension, as well as the number who will qualify for disability benefits. The non-vested employer contributions made on behalf of these employees who leave prior to attainment of pension eligibility become available for the payment of pensions to others. A complete set of these probabilities is shown in Table 13. Rates of retirement for service, service-connected disability and non-service disability were revised as a result of the experience review.

Retiree Health and Dental Insurance Benefits

Funding of these benefits is done on a ten-year level percentage of payroll basis, assuming covered payroll increases 7% per annum. Eligible retirees elect medical coverage under Blue Cross, or Health Maintenance Organizations Kaiser and Lifeguard. Depending on the coverage chosen, the retiree or survivor may pay part of the cost of these medical benefits. There are two alternative dental programs. No retiree contributions are required.

Annual premium increases of 8.50% are assumed for medical benefits, of which .50% is for the remarriage change. For dental, an inflation factor of 8% is assumed.

Growth in coverage rolls and investment income are assumed as for valuation of retirement income benefits. The mix of coverages is assumed to continue as now exists.

Administrative Expenses

We have made no allowance for administrative expenses. Professional fees paid from the Retirement Funds are principally investment expenses, and are treated as part of net yield.

Other Assumptions

We have also assumed that 75% of the participants will have a spouse at the time of retirement who is three years younger than the member.

Table 13
San Jose Police and Fire Department Retirement Plan
Probabilities of Separation Prior to Retirement

<u>Age</u>	<u>Service- Connected Death</u>	<u>Non- Service Death</u>	<u>Service- Connected Disability</u>	<u>Non- Service Disability</u>	<u>Withdrawal</u>	<u>Service Retirement</u>
20	.0001	.0004	.0000	.0000	.0743	.0000
21	.0001	.0004	.0001	.0000	.0715	.0000
22	.0001	.0004	.0002	.0000	.0686	.0000
23	.0001	.0005	.0003	.0000	.0657	.0000
24	.0001	.0005	.0004	.0000	.0628	.0000
25	.0001	.0005	.0005	.0000	.0225	.0000
26	.0002	.0005	.0006	.0001	.0215	.0000
27	.0002	.0005	.0007	.0001	.0204	.0000
28	.0002	.0005	.0008	.0001	.0194	.0000
29	.0002	.0005	.0009	.0001	.0183	.0000
30	.0003	.0005	.0010	.0001	.0173	.0000
31	.0003	.0005	.0013	.0002	.0162	.0000
32	.0003	.0005	.0016	.0002	.0152	.0000
33	.0004	.0006	.0019	.0002	.0141	.0000
34	.0004	.0006	.0022	.0003	.0131	.0000
35	.0004	.0006	.0026	.0003	.0120	.0000
36	.0005	.0006	.0030	.0003	.0110	.0000
37	.0005	.0006	.0035	.0004	.0100	.0000
38	.0006	.0007	.0040	.0004	.0089	.0000
39	.0006	.0007	.0045	.0005	.0079	.0000
40	.0007	.0007	.0050	.0005	.0068	.0000
41	.0007	.0008	.0070	.0006	.0058	.0000
42	.0008	.0008	.0095	.0007	.0047	.0000
43	.0009	.0009	.0125	.0007	.0039	.0000
44	.0009	.0010	.0160	.0008	.0032	.0000
45	.0010	.0010	.0200	.0008	.0027	.0000
46	.0011	.0011	.0250	.0009	.0020	.0000
47	.0011	.0012	.0310	.0009	.0014	.0000
48	.0012	.0012	.0390	.0010	.0007	.0000
49	.0013	.0013	.0490	.0010	.0003	.0000
50	.0014	.0014	.0600	.0012	.0002	.0100
51	.0014	.0015	.0700	.0010	.0001	.0200
52	.0015	.0016	.0800	.0007	.0000	.0400
53	.0016	.0018	.0900	.0004	.0000	.0700
54	.0017	.0019	.0100	.1001	.0000	.1000
55	.0018	.0021	.1700	.0000	.0000	.1500
56	.0019	.0023	.2100	.0000	.0000	.1000
57	.0020	.0025	.2500	.0000	.0000	.1000
58	.0021	.0028	.2900	.0000	.0000	.1500
59	.0022	.0031	.3200	.0000	.0000	.1500
60	.0023	.0035	.3400	.0000	.0000	.2000
61	.0024	.0039	.3600	.0000	.0000	.2000
62	.0025	.0044	.3750	.0000	.0000	.3000
63	.0027	.0049	.3880	.0000	.0000	.3000
64	.0028	.0056	.4000	.0000	.0000	.5000
65	.0000	.0000	.0000	.0000	.0000	1.0000

VI. SUMMARY OF PLAN PROVISIONS

The principal features of the 1961 San Jose Police and Fire Department Retirement Plan are as follows:

1. Normal Service Retirement:

Age requirement: 55
Service requirement: 20 years (no requirement if age 65).

Pension amount: 2.50% of Final Compensation times years of service; maximum benefit is 75% of Final Compensation (for 30 years of service).

2. Unreduced Early Retirement:

Age requirement: 50
Service requirement: 25 years
Alternative: Any age with 30 years of service.

Pension amount: Same as Normal Service Retirement.

3. Reduced Early Retirement:

Age requirement: 50
Service requirement: 20 years

Pension amount: Service Retirement pension accrued reduced for interest from age 55. Reduction factors based on interest rates adopted by the Board as needed.

4. Vested Benefits:

Age requirement: None
Service requirement: 10 years

Pension amount: 2.50% of Final Compensation times years of service; maximum benefit is 75% of Final Compensation (for 30 years of service). Benefits begin at later of age 55 and 20 years after employment date.

5. Non-Service Disability Retirement:

Age requirement: None
Service requirement: 2 years

Pension amount: 32% of Final Compensation for the first 2 years of service, plus 1% for each year thereafter, up to 50% for 20 years of service. For retirement with more than 20 years of service, pension is 2.50% Final Compensation times years of service (maximum 30 years).

6. Service-Connected Disability
Retirement:

Age requirement: None
Service requirement: None

Pension amount: 50% of Final Compensation or 2.50% of Final Compensation times years of service (maximum of 30 years), if greater.

7. Non-Service-Connected
Death Benefit:

Age requirement: None
Service requirement: 2 years

Pension amount: 32% of Final Compensation for the first 2 years of service, plus 1% for each year thereafter, to a maximum of 50% of Final Compensation. This amount is payable to a spouse. Benefits for dependent children are:

1 child: 25% of Final Compensation
2 children: 37.5% of Final Compensation
3 or more children: 50% of Final Compensation

Maximum family benefit is 75% of Final Compensation.

If no spouse or children, a lump sum equal to the greater of the employee's accumulated contributions or \$1,000 is paid.

These benefits paid for active employee death or death after non-service disability.

8. Service-Connected Death Benefit:

Age requirement: None
Service requirement: None

Pension amount: Annuity of 50% of member's Final Compensation payable to surviving spouse. Benefit amount for dependent children is 25% of Final Compensation per child. Maximum family benefit is 75% of Final Compensation.

These benefits paid for active employee death, and for death after service or service-connected disability retirement.

9. Post-Retirement Death

Benefits, Vested Termination: Payable to a spouse: 2.50% of Final Compensation times years of service. For children, 1.25% (1.875% for two, or 2.50% for three children) times Final Compensation times years of service. Maximum of 20 years of service; family maximum benefit is 75% of Final Compensation.

10. Termination Benefit:

In lieu of any other pension benefit, an employee may elect to receive, upon termination of employment, an amount equal to his employee contributions accumulated with 2% interest per annum.

11. Final Compensation:

Average monthly compensation during the highest 12 consecutive months, but not more than 108% of compensation paid in 12 months preceding the last 12 months of service.

12. Service:

Members shall receive credit for each year of full-time employment from date of hire until date of termination, including proportional credit for days.

13. Employee Contribution:

Three-elevenths of the actuarial cost of the plan benefits for new entrants. The recommended rates are 7.93% of pay for income benefits plus 1.18% for retiree health insurance benefits and .28% for the retiree dental program, a total of 9.39% of compensation. The employee contribution rate totalled 9.39% prior to this valuation, but the allocation deferred.

14. Eligible Beneficiaries:

Spouse to whom member married at both retirement date and death for post-retirement annuities; spouse at time of active employee death; children under age 18 (age 22 for full-time students).

15. Cost-of-Living Adjustment:

Retiree and survivor benefits are increased or decreased annually by the annual increase or decrease in the Consumer Price Index (maximum adjustment applied: 3%). The excess over 3% is accumulated and applied to future years when CPI change is less than 3%). Such adjustments are included in beneficiary annuities.

16. Retiree/Survivor Health and Dental Insurance Benefits:

Eligibility requirements:

Either 15 years of service, or collecting a pension of 37.5% of Final Compensation. Special rules apply for former County Central Fire employees.

Benefit amount:

Retirement Fund pays same amount for coverage that the City pays for the corresponding active member. The retiree pays the balance (if any).