1-1-2005

Annual Actuarial Valuation, 2004

Firemen's Retirement System of St. Louis

FIREMEN'S RETIREMENT SYSTEM OF ST. LOUIS
ANNUAL ACTUARIAL VALUATION

October 1, 2004

GABRIEL, ROEDER, SMITH & COMPANY
ACTUARIES - CONSULTANTS

CONTENTS

GABRIEL, ROEDER, SMITH & COMPANY
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January 14, 2005

The Pension Board
Firemen's Retirement System of St. Louis
1601 South Broadway
St. Louis, Missouri 63104

Dear Board Members:

We are pleased to present the report of the actuarial valuation of the Firemen's Retirement System of St. Louis as of October 1, 2004. An actuarial valuation of the system is performed annually as required by the Missouri State statutes. The valuation has been done to measure the funding status of the System and determine the contribution for the year. It includes disclosure information required under GASB Statement No. 25. The assumptions and methods used were reviewed by the actuary and meet the parameters set for the disclosure presented in the financial section by Government Accounting Standards Board (GASB) Statement No. 25.

This valuation is based upon:

a) **Data Relative to the Members of the System**—Data for active members and persons receiving benefits was provided by the System's staff. We have tested this data for reasonableness.

b) **Asset Values**—The values of assets of the System were provided by the System's auditor. An actuarial value of assets was used to develop actuarial results for GASB Statement No. 25.

c) **Actuarial Method**—The actuarial method utilized by the System as required by Missouri State statutes is the Frozen Entry Age Actuarial Cost Method. The objective of this method is to recognize cost of the System on an aggregate basis as a level percentage of compensation. Any frozen unfunded actuarial accrued liability resulting from changes in plan provision, assumptions, or methods is separately amortized. All actuarial gains and losses under this method are reflected in future normal cost.

d) **Actuarial Assumptions**—The same actuarial assumptions as last year were used for this valuation. They are set out in the following pages.

e) **Measurement Date**—The measurement date was changed at the request of the board from September 1, 2004, to October 1, 2004.

The funding objective is to provide employer and employee contributions sufficient to provide the benefits of the System when due. The employer contributes the normal contribution rate (normal cost under Frozen Entry Age Actuarial Cost Method) plus the accrued liability rate (amortization of the frozen unfunded actuarial liability).

The valuation results set out in this report are based on the data and actuarial techniques described above, and upon the provisions of the Fund as of the valuation date. Based on these items, we certify these results to be true and correct.

Respectfully yours,

Michael R. Kivi, F.S.A.	Alex Rivera, A.S.A.
Senior Consultant	Senior Consultant

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INTRODUCTION

Purposes of the Actuarial Valuation

At your request we have performed the actuarial valuation of the Firemen's Retirement System of St. Louis as of October 1, 2004.

The purposes of an actuarial valuation are as follows:

- To determine the funding status of the System as of the valuation date,
- To determine the current contribution level of the System required to fund the current benefit provisions, and
- To provide accounting and other data required by the System.

Report Highlights

The table below compares the key actuarial results from the October 1, 2004, valuation to the prior year's results. Subsequent to the September 1, 2003, valuation, the Fund decided to change the valuation date. Therefore, this actuarial valuation reflects the thirteen-month period from September 1, 2003, to October 1, 2004. The key difference between this year's valuation and the prior year's valuation is the significant increase in the City contribution from $13.77 million for plan year ending August 30, 2004, to $17.77 million for plan year ending September 30, 2005. The primary reasons for the increase in contributions are: a shortfall in employer contributions; the recognition of deferred investment losses; and the spreading of cost under the frozen entry age method. Employer contributions for the plan years ending August 31, 2003, and September 30, 2004, were $19,776,899 less than anticipated by the actuarial valuations. During the year, the actuarial value of assets decreased from $391.0 million to $369.9 million as a result of the recognition of plan year 2002 investment losses. In addition, under the frozen entry age method, the normal cost calculation implicitly accelerates the recognition of actuarial gains and losses, including investment losses.

Summary of Results	2004	2003
Total Contribution	$ 17,768,649	$ 13,765,477
Present Value of Benefits	534,183,575	534,025,296
Actuarial Value of Assets	369,893,135	391,020,699
Market Value of Assets [a]	384,990,002	370,984,931

[a] Excluding Future Benefit Fund

A reconciliation of the increase in City contributions is shown below (in millions).

Expected 2005 City contribution	$	14.24
Increase due to contribution shortfall		2.72
Increase due to investment loss		0.93
Other demographic gains		(0.12)
Actual 2004 City contribution	$	17.77

Asset Information

The market value of the assets of the fund, which are available for benefits, has increased from $371.0 million at the end of FY 2003 to $385.0 million at the end of FY 2004. Even though the market value increased during the year, the actuarial value of assets decreased significantly from $391.0 million to $369.9 million because of the recognition of deferred investment losses generated in plan year 2002. This is a direct consequence of the asset smoothing process.

The detailed determinations of asset values utilized in this valuation and asset growth in the last year are set out in Section A.

GASB Disclosure

The Firemen's Retirement System of St. Louis produces its accounting statements under the terms of GASB Statement Number 25. In section B, you will find Required Supplemental Information mandated by that statement.

Membership Characteristics

The next table shows the changes in the population of the fund. There have not been significant changes from the prior year.

Population	2004	2003
Retired Members	419	434
Disabled Members	337	344
Widows and Children	295	295
Total Inactive Members	**1,051**	**1,073**
Actives - Non-DROP	663	670
Actives - DROP [a]	12	33
Total Active and DROP Members	**675**	**703**

More detailed breakouts of the membership can be found in Section C.

Actuarial Assumptions and Methods

The actuarial cost method and assumptions used in this valuation are the same as those disclosed in the actuarial valuation report as of September 1, 2003. This set of assumptions and methods is described in Section D.

Plan Provisions

The plan provisions used in this valuation are the same as those disclosed in the actuarial valuation report as of September 1, 2003. This set of plan provisions is described in Section D.

[a] As of October 1, 2004, there are 147 employees with DROP account balances, of which 12 are active members participating in the DROP program.

SECTION A

Valuation Results and Asset Information

SUMMARY OF ACTUARIAL VALUATION RESULTS

Determination of City Contributions

Present Value of All Future Benefits	
Retirees and Beneficiaries	$ 264,931,872
Active Firemen	242,249,729
DROP Firemen	26,763,512
System Employees Benefit Fund	238,462
Total	**$ 534,183,575**
Assets	
Actuarial Asset Value (3-year smoothing)	$369,893,135
Present Value of Future Employee Contributions	19,284,654
Total	**$ 389,177,789**
Unfunded Accrued Liability	**$ 38,766,909**
Present Value of Future Normal Costs	**$ 106,238,877**
Present Value of Future Salary	**$ 240,782,479**
Normal Contribution Percent	**44.122%**
Covered Salary	**$ 33,153,764**
Annual City Contributions	
Normal Contribution	$ 14,628,218
Accrued Liability Amortization Payment	3,140,431
Grand Total	**$ 17,768,649**
Total Salary [a]	**$ 33,847,826**
Normal Contribution as a % of Total Salary	**43.22%**
Total Contribution as a % of Total Salary	**52.50%**

[a] Includes salary of active members participating in the DROP Plan

SUMMARY OF ACTUARIAL VALUATION RESULTS (CONTINUED)

Present Value of Future Benefits

Retirees		
1960 Plan	$ 100,174,090	
Prospective Widows and Children of Retired Firemen	15,062,261	
Ordinary Disability		
1960 Plan	2,403,311	
Prospective Widows and Children of Retired Firemen	548,020	
Accidental Disability		
1960 Plan	111,182,046	
1944 Plan	17,958	
Prospective Widows and Children of Retired Firemen	12,151,044	
Widows		
1960 Plan	23,004,425	
1944 Plan	15,117	
Old Plan	35,167	
Children		
1960 Plan	338,433	
Total Inactives		**$ 264,931,872**
Active Firemen		
Service Retirement	$ 154,414,843	
Ordinary Disability Retirement	6,890,468	
Accidental Disability Retirement	72,940,843	
Withdrawal Benefit	2,227,470	
Ordinary Death	3,401,771	
Accidental Death	2,374,334	
Total Actives		**$ 242,249,729**
DROP Firemen		
Account Balances [a]		
Actives	$ 7,738,884	
Retirees	12,734,874	
Refund of Member Contributions	1,297,801	
Future Account Additions and Benefits	4,991,953	
Total DROPS		**$ 26,763,512**
System Employees Benefit Fund		**$ 238,462**
Total Present Value Future Benefits		**$ 534,183,575**

[a] As of October 1, 2004, there are 147 employees with DROP account balances, of which 12 are active members participating in the DROP program.

SUMMARY OF ACTUARIAL VALUATION RESULTS (CONTINUED)

Actuarial Value of Assets

(1) **Expected Return on Market Value of Assets for Prior Year**

(a) Market Value of Assets as of 9/1/03 [a]	$370,984,931
(b) Adjustment to Beginning of Year Market Value of Assets	$ (6,834,947)
(c) Adjusted Market Value of Assets as of 9/1/03 [a]	$364,149,984
(d) Actual Income and Disbursements in Prior Year Weighted for Timing	

Item	Amount	Weight for Timing	Weighted Amount
i) Member Contributions	$ 2,873,886	50.0%	$ 1,436,943
ii) City Contributions & Misc.	2,055,201	50.0%	1,027,601
iii) Benefit Payments	(29,058,569)	50.0%	(14,529,285)
iv) Refunds	(945,482)	50.0%	(472,741)
v) Administration	(826,259)	50.0%	(413,130)
vi) Total			$ (12,950,612)

(e) Market Value of Assets Adj. for Actual Income and Disbursements [(c) + (d)(vi))]	$351,199,372
(f) Assumed Rate of Return on Plan Assets for the Year	7.625%
(g) Expected Return Over Thirteen Month Period	29,100,628
(h) Expected Market Value of Assets 10/1/04	$367,349,389

(2) **Actual Return on Market Value of Assets for Prior Year**

(a) Adjusted Market Value of Assets as of 9/1/03 [a]	$364,149,984
(b) Income (less investment income) for Prior Plan Year	(25,901,223)
(c) Market Value of Assets as of 10/1/04 [a]	384,990,002
(d) Actual Return [(c) - (b) - (a)]	$ 46,741,241

(3) **Investment Gain/(Loss) for Prior Thirteen Month Period**	$ 17,640,613

(4) **Actuarial Value of Assets as of 10/1/04**

(a) Market Value of Assets as of 10/1/04	$384,990,002
(b) Deferred Investment Gains and (Losses) for Last 3 Years	

	Plan Year	Gain/(Loss)	Weight for Timing	Deferred Amount
i)	2002	$ (80,126,055)	0.00%	$ -
ii)	2003	10,009,375	33.33%	3,336,458
iii)	2004	17,640,613	66.67%	11,760,409
iv)	Total	$ (52,476,067)		$ 15,096,867

(c) Actuarial Value of Assets [(a) - (b) (iv)]	$369,893,135

The calculated value is determined by adjusting the market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last 3 years at the rate of 33.33% per year.

[a] Excluding Future Benefit Fund

Summary of Actuarial Valuation Results (Continued)

Amortization Schedule of Unfunded Accrued Liability

Date Established	Original Period	Outstanding Period 10/1/04	Payment End of Year	Outstanding Balance 10/1/04
9/1/1981	30	6 Years, 11 Months	$ -	$ 57,049
9/1/1982	30	7 Years, 11 Months	-	(1,932,392)
9/1/1983	30	8 Years, 11 Months	-	80,998
9/1/1984	30	9 Years, 11 Months	-	1,282,209
9/1/1985	30	10 Years, 11 Months	-	979,493
9/1/1986	30	11 Years, 11 Months	-	257,615
9/1/1987	30	12 Years, 11 Months	-	1,622,512
9/1/1988	30	13 Years, 11 Months	-	(2,779,079)
9/1/1989	30	14 Years, 11 Months	-	357,740
9/1/1990	30	15 Years, 11 Months	-	471,881
9/1/1990	30	15 Years, 11 Months	-	1,749,113
9/1/1991	30	16 Years, 11 Months	-	(965,546)
9/1/1993	30	18 Years, 11 Months	-	1,868,300
9/1/1996	30	21 Years, 11 Months	-	245,277
9/1/1999	30	24 Years, 11 Months	$835,438	9,200,639
9/1/2000	30	25 Years, 11 Months	$335,172	3,741,140
9/1/2001	30	26 Years, 11 Months	($134,627)	(1,521,314)
9/1/2002	30	27 Years, 11 Months	$2,104,448	24,051,272
Total			**$ 3,140,431**	**$ 38,766,909**

On May 13, 1998, the City of St. Louis conducted a bond issue in the amount of $27,943,654. This amount was equal to the present value on that date of the scheduled unfunded accrued liability amortization payments through August 31, 2010, and was applied to prepay those scheduled payments. Therefore, there will be no amortization payments for the bases established before the bond issue until August 31, 2011. The outstanding balance for these bases is the present value on the valuation date of the payments due on and after August 31, 2011. Amortization payments for bases established after the bond issue are made beginning in the plan year in which the base was established.

SUMMARY OF ACTUARIAL VALUATION RESULTS (CONTINUED)

The valuation balance sheet shown below demonstrates the sources of income required to fund the current present value of future benefits as of the valuation date.

Valuation Balance Sheet

Sources of Funds

Actuarial Asset Value		**$ 369,893,135**
Present Value of Future Contributions		
Members at 8% of Future Compensation	$ 19,262,599	
Members at 1% of Future Compensation	22,055	
Total		**$ 19,284,654**
City's Future Contributions		
Normal Cost	$ 106,238,877	
Accrued Liability	38,766,909	
Total		**$ 145,005,786**
Grand Total		**$ 534,183,575**

Summary of Actuarial Valuation Results (Continued)

Change in Market Value of Assets

Receipts		
Paid by City		
Allocated to General Reserve Fund		$ 2,055,201
Members' Contribution		
To Members' Savings Fund		$ 2,873,886
Income Received on Investments		
Allocated to Member's Savings Fund	$ 5,878,875	
Allocated to Benefit Reserve Fund	33,368,441	
Allocated to General Reserve Fund	6,667,666	
Allocated to Future Benefit Fund	618,665	
Allocated to Expense Fund	826,259	$ 47,359,906
Total Receipts		**$ 52,288,993**
Disbursements		
Payment to Retired Members and Dependents:		
From Benefit Reserve Fund		
To Retirees, Beneficiaries, and Dependents		$ (29,058,569)
From Future Benefit Fund		
To Retirees, Beneficiaries, and Dependents		$ (229,924)
From Members Savings Fund		
Withdrawals, Deaths, and Retirements		$ (945,482)
Operating Expenses		$ (826,259)
Total Disbursements		**$ (31,060,234)**
Net Operating Income		**$ 21,228,759**
Fund Balance September 1, 2003		**$ 375,811,113**
Prior Period Adjustment to Fund Balance at September 1, 2003		**$ (6,834,947)**
Fund Balance October 1, 2004		**$ 390,204,925**

DESCRIPTION OF FUNDS

For administrative purposes, the assets of the System are accounted for as five separate funds, as described below. The first four funds were established by Ordinance 49623. The other fund, the Future Benefit Fund, was established by Ordinance 61414. Only the assets of the first four funds are considered when determining the actuarial funding requirements.

Member's Savings Fund: All contributions by members are credited to this Fund. Interest at a rate determined by the Board is credited annually on the minimum balance in each member's account during the preceding year. Withdrawal refunds of member's accumulated contribution are charged to this Fund. Upon retirement or death of an active member after October 2, 1983, the member's own contributions are refunded to him while the balance of his accumulated contribution fund is transferred to the Benefit Reserve Fund.

Benefit Reserve Fund: Upon retirement or death, this fund is credited with the remaining balance of the member's accumulated contribution fund after his own contributions have been refunded to him from the Member's Savings Fund. It is also credited with an additional amount from the General Reserve Fund which, when added to the Benefit Reserve Fund, will be adequate to provide the present value of all benefits payable to all members and beneficiaries currently receiving benefits. All annuities granted are payable from this Fund.

General Reserve Fund: Contributions made by the City are credited to this Fund, and the reserves for benefits not provided by member's contributions are accumulated in this fund.

Future Benefit Fund: The entire fund is excluded from the assets used to determine the contribution requirement for the upcoming year. Through the SHARE program, ½ of the return on the fund is used to provide ad-hoc increases for members not eligible for other benefit increases.

SUMMARY OF ACTUARIAL VALUATION RESULTS (CONTINUED)

Fund Balances

	Total	Members Savings Fund	Benefit Reserve Fund	General Reserve Fund	Future Benefit Fund
Balance, August 31, 2003	$ 375,811,113	43,802,765	268,626,727	58,555,439	4,826,182
Prior Period Adjustment-Contribution Receivable	(6,834,947)			(6,834,947)	
Adjusted Balance, August 31, 2003	368,976,166	43,802,765	268,626,727	51,720,492	4,826,182
Additions					
Member Contributions	2,873,886	2,873,886	-	-	-
City Appropriations	1,870,730	-	-	1,870,730	-
Airport Appropriations	184,471			184,471	
Interest and Dividends Received	46,533,647	5,878,875	33,368,441	6,667,666	618,665
Transfer Due to Surplus/Deficit	-	(3,830,807)	(8,004,727)	11,835,534	-
Total Additions	51,462,734	4,921,954	25,363,714	20,558,401	618,665
Deductions					
Benefit Payments	(29,288,493)	-	(29,058,569)	-	(229,924)
Refunds w/o Interest and Withdrawals w/ Interest	(945,482)	(945,482)	-	-	-
Total Deductions	(30,233,975)	(945,482)	(29,058,569)	-	(229,924)
Balance, September 30, 2004	**$ 390,204,925**	**47,779,237**	**264,931,872**	**72,278,893**	**5,214,923**

SECTION B

GASB Statement No. 25

SUPPLEMENTARY INFORMATION
SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio [a]	Covered Payroll	UAAL as a % of Covered Payroll
	(a)	(b)	(b) - (a)	(a) / (b)	(c)	((b) - (a)) / (c))
10/1/2004	$ 369,893,135	$ 408,660,044	$ 38,766,909	90.5%	$ 33,847,826	114.5%
9/1/2003	$ 391,020,699	$ 429,972,716	$ 38,952,017	90.9%	$ 34,648,486	112.4%
9/1/2002	$ 427,199,947	$ 466,310,235	$ 39,110,288	91.6%	$ 34,520,010	113.3%
9/1/2001	$ 456,143,883	$ 470,607,738	$ 14,463,855	96.9%	$ 32,626,002	44.3%
9/1/2000	$ 441,611,320	$ 457,572,578	$ 15,961,258	96.5%	$ 31,559,439	50.6%
9/1/1999	$ 418,662,926	$ 430,622,174	$ 11,959,248	97.2%	$ 29,749,169	40.2%
9/1/1998	$ 402,930,619	$ 404,999,272	$ 2,068,653	99.5%	$ 29,163,258	7.1%
9/1/1997	$ 359,482,059	$ 387,846,182	$ 28,364,123	92.7%	$ 27,532,033	103.0%
9/1/1996	$ 322,828,029	$ 352,177,194	$ 29,349,165	91.7%	$ 26,464,431	110.9%
9/1/1995	$ 308,145,045	$ 337,903,084	$ 29,758,039	91.2%	$ 25,810,605	115.3%

[a] Frozen Entry Age Liability

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Annual Required Contribution

	GASB Statement #25 Annual Required Contribution			Statutory Annual Required Contribution		
Valuation Date	Per Actuarial Valuation	Percentage Contributed	Percentage of Covered Payroll	Per Actuarial Valuation	Percentage Contributed	Percentage of Covered Payroll
2004	$ 9,721,831	0.0% [a]	28.7%	$ 13,765,477	0.0% [a]	40.7%
2003	4,289,689	47.9%	12.4%	8,913,102	23.1%	25.7%
2002	3,514,488	95.7%	10.2%	3,365,007	100.0%	9.7%
2001	3,300,380	107.4%	10.1%	3,544,385	100.0%	10.9%
2000	2,905,731	111.9%	9.2%	3,251,579	100.0%	10.3%
1999	5,953,105	47.6%	20.0%	2,836,561	100.0%	9.5%
1998	8,814,900	74.6%	30.2%	6,576,414	100.0%	22.6%
1997	10,948,933	84.6%	39.8%	9,262,597	100.0%	33.6%
1996	11,029,725	102.3%	41.7%	11,286,200	100.0%	42.6%
1995	12,799,795	85.8%	49.6%	10,978,431	100.0%	42.5%

[a] $1,870,730 receivable at 09/30/04

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

The information presented in the required schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follow:

Valuation date:	October 1, 2004
Actuarial cost method:	Entry Age - Frozen Initial Liability
Amortization method:	30-year closed period from establishment
Remaining amortization period:	Various
Asset valuation method:	3-year smoothed market

Actuarial assumptions:

Investment rate of return	7.625%
Projected salary increases	4.500%
Includes inflation at	3.500%
Cost-of-living adjustments	

Under Age 60

Service	COLA
20-24 Years	1.500%
25-29 Years	2.250%
30 or more Years	3.000%

Over Age 60

5% with a maximum of 25% in increases after age 60

SECTION C

Data Reflecting Plan Membership

DATA REFLECTING PLAN MEMBERSHIP

Summary of Membership as of October 1, 2004

Retirees and Dependents

	Number	Monthly Pension
Retirees		
1960 Plan	419	$ 970,132
Ordinary Disability		
1960 Plan	19	22,971
Accidental Disability		
1960 Plan	317	899,054
1944 Plan	1	438
Widows		
1960 Plan	277	226,171
1944 Plan	1	200
Old Plan	3	600
Children		
1960 Plan	14	5,007
Total	**1,051**	**$ 2,124,573**

Active and DROP

	Number	Compensation	Member's Annual Contribution
Actives - Non-DROP	663	$ 33,153,764	
Actives - DROP	12	694,062	
Total	**675**	**$ 33,847,826**	**$ 2,873,886**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Active Non-DROP Members as of October 1,2004
By Attained Age and Years of Service

Attained Age		Years of Service to Valuation Date							
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Up	Totals
25-29	12	9							**21**
	$ 435,935	362,720							**$ 798,655**
30-34	26	61	6						**93**
	$ 973,476	2,582,915	304,328						**$ 3,860,719**
35-39	16	61	76	18					**171**
	$ 601,594	2,579,194	3,834,210	989,326					**$ 8,004,324**
40-44	4	39	82	81	7	1			**214**
	$ 157,132	1,715,720	4,137,113	4,427,161	408,938	76,606			**$ 10,922,670**
45-49	3	11	10	22	23	30			**99**
	$ 111,781	492,220	499,261	1,235,583	1,310,496	1,886,117			**$ 5,535,459**
50-54	1	2	2	1		33			**39**
	$ 35,950	86,869	97,395	77,129		2,128,179			**$ 2,425,522**
55-59		1				10	9	2	**22**
		44,987				598,468	538,332	130,193	**$ 1,311,980**
60-64							1	3	**4**
							52,582	241,853	**$ 294,435**
Totals: Count	**62**	**184**	**176**	**122**	**30**	**74**	**10**	**5**	**663**
Payroll	**$ 2,315,868**	**7,864,626**	**8,872,307**	**6,729,199**	**1,719,434**	**4,689,371**	**590,914**	**372,045**	**$ 33,153,764**

DATA REFLECTING PLAN MEMBERSHIP
(CONTINUED)

Active DROP Members as of October 1,2004
By Attained Age and Years of Service

Attained Age		Years of Service to Valuation Date 20-24	25-29	30 & Up	Totals
40-44					
45-49		3	2		**5**
		$ 151,673	116,139		**$ 267,813**
50-54		2	1	1	**4**
		$ 101,823	51,747	51,875	**$ 205,445**
55-59				3	**3**
				220,804	**$ 220,804**
Totals:	Count	**5**	**3**	**4**	**12**
	Payroll	**$ 253,496**	**167,887**	**272,679**	**$ 694,062**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Service Retirees - 1960 Plan

Age 9/30/2004	Number	Monthly Allowance	Age 9/30/2004	Number	Monthly Allowance
46	3	$ 4,996.52	70	14	$ 33,512.06
47	1	1,433.54	71	13	32,853.71
48	2	3,983.46	72	15	39,620.47
49	3	5,974.55	73	18	41,645.72
50	6	10,620.76	74	8	17,250.90
51	4	6,952.69	75	11	22,237.81
52	4	7,850.13	76	8	16,495.29
53	3	4,303.15	77	18	39,106.64
54	9	17,464.31	78	14	27,344.08
55	3	4,817.21	79	13	31,817.31
56	6	9,462.37	80	8	15,925.76
57	6	13,976.13	81	15	31,552.27
58	8	17,932.76	82	5	13,410.95
59	8	19,440.45	83	10	19,389.23
60	3	8,007.66	84	11	19,549.07
61	7	19,714.39	85	2	2,997.32
62	13	31,045.86	86	4	6,754.34
63	14	39,903.57	87	9	17,046.99
64	16	48,019.69	88	3	5,690.34
65	27	75,820.65	89	4	8,204.80
66	19	50,205.63	90	3	4,620.04
67	16	42,246.08	91	2	2,815.15
68	13	34,035.29	92	2	3,761.54
69	13	35,539.46	93	1	1,422.20
			94	1	1,362.16
			Total	**419**	**$ 970,132.46**
			Average Monthly Allowance		**$ 2,315.35**
			Average Age		**70.0**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Ordinary Disability Retirees - 1960 Plan

Age 9/30/2004	Number		Monthly Allowance
36	2	$	1,821.13
39	1		922.43
49	1		796.70
53	1		995.22
56	2		3,317.32
62	3		2,924.86
63	1		3,042.88
68	1		437.50
71	1		2,089.50
75	1		1,069.39
81	1		437.50
83	1		1,554.82
85	1		1,396.80
86	1		437.50
90	1		1,727.19
Total	**19**	**$**	**22,970.74**
Average Monthly Allowance			**1,208.99**
Average Age			**63.8**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Accidental Disability Retirees - 1960 Plan

Age 9/30/2004	Number	Monthly Allowance	Age 9/30/2004	Number	Monthly Allowance
27	1	$ 3,265.16	62	4	$ 14,822.93
28	1	3,265.16	63	4	11,903.04
34	1	3,198.00	64	18	56,932.56
38	2	6,504.97	65	5	10,414.22
39	2	6,530.32	66	14	41,133.14
40	4	12,590.13	67	11	27,318.78
41	5	15,993.12	68	11	31,112.70
42	4	12,294.69	69	16	45,270.58
43	5	15,886.93	70	7	15,858.17
44	7	23,063.11	71	6	14,866.94
45	2	7,696.11	72	9	23,300.71
46	8	26,859.35	73	6	14,724.53
47	7	23,769.50	74	9	23,092.85
48	3	8,275.52	75	4	7,622.15
49	5	14,789.57	76	8	16,469.97
50	10	33,376.70	77	4	8,278.02
51	4	12,090.69	78	11	18,399.43
52	6	18,190.61	79	7	11,379.66
53	9	29,832.79	80	2	3,412.84
54	9	30,391.66	81	3	6,114.67
55	9	27,517.82	82	2	4,540.67
56	7	27,501.59	83	2	2,818.44
57	7	21,716.38	84	4	6,315.77
58	6	19,705.80	85	1	3,406.10
59	4	13,663.80	87	1	1,735.31
60	6	18,856.56	89	1	820.63
61	12	38,271.28	90	1	1,891.99
			Total	**317**	**$ 899,054.12**
			Average Monthly Allowance		**$ 2,836.13**
			Average Age		**61.9**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Accidental Disability Retiree - 1944 Plan

Age 9/30/2004	Number	Monthly Allowance
84	1	$ 437.50
Total	**1**	**$ 437.50**
Average Monthly Allowance		**$ 437.50**
Average Age		**84.0**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Widows - 1960 Plan

Age 9/30/2004	Number	Monthly Allowance	Age 9/30/2004	Number	Monthly Allowance
14	1	$ 1,428.74	72	6	$ 6,736.52
38	1	1,868.76	73	11	9,587.48
39	1	1,959.66	74	10	8,692.42
41	1	1,944.64	75	7	6,887.66
45	1	978.88	76	8	5,450.22
50	1	1,631.40	77	16	12,652.72
51	1	1,021.26	78	11	8,090.48
52	3	4,958.74	79	5	3,484.85
53	3	4,349.08	80	11	6,396.80
54	2	3,834.33	81	14	9,254.92
55	2	2,719.85	82	8	5,262.28
57	1	564.54	83	5	2,994.24
58	2	2,206.56	84	6	3,185.41
59	4	3,958.23	85	6	3,686.36
60	3	3,672.56	86	4	2,110.35
61	3	4,971.15	87	5	2,844.80
62	3	4,506.22	88	9	3,981.38
63	9	10,428.85	89	6	2,680.20
64	11	13,185.59	90	8	2,785.40
65	10	9,236.45	91	5	2,594.21
66	4	3,723.20	92	5	2,121.46
67	5	2,489.44	93	1	213.45
68	11	9,497.69	94	3	1,568.76
69	5	4,568.49	95	2	800.70
70	8	6,408.46	98	1	410.70
71	6	5,094.78	99	2	489.54
			Total	**277**	**$ 226,170.86**
			Average Monthly Allowance		**$ 816.50**
			Average Age		**74.6**

DATA REFLECTING PLAN MEMBERSHIP
(CONTINUED)

Widows - 1944 Plan

Age 9/30/2004	Number		Monthly Allowance
81	1	$	200.00
Total	**1**	**$**	**200.00**
Average Monthly Allowance		**$**	**200.00**
Average Age			**81.0**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Widows - Old Plan

Age 9/30/2004	Number	Monthly Allowance
83	1	$ 200.00
86	1	200.00
92	1	200.00
Total	**3**	**$ 600.00**
Average Monthly Allowance		**$ 200.00**
Average Age		**87.0**

DATA REFLECTING PLAN MEMBERSHIP (CONTINUED)

Children - 1960 Plan

Age 9/30/2004	Number	Monthly Allowance
6	1	$ 388.93
11	1	391.93
14	3	947.45
15	1	499.87
16	1	388.93
17	1	324.35
19	1	373.75
20	1	128.08
22	1	259.72
23	1	931.01
55	1	227.45
56	1	145.85
Total	**14**	**$ 5,007.32**
Average Monthly Allowance		**$ 357.67**
Average Age		**21.6**

SECTION D

Valuation Procedures

ACTUARIAL COST METHOD

The Actuarial Cost Method. The method used in this valuation is the Frozen Entry Age Actuarial Cost Method. This method determines a normal cost on an aggregate basis expressed as a level percentage of pay. The normal cost rate equals the ratio of (a) the present value of future benefits less the actuarial value of assets less the frozen unfunded actuarial liability, to (b) the present value of future salaries. Under this method, the actuarial gains (losses), as they occur, reduce (increase) future normal costs.

Amortization of Frozen Unfunded Accrued Liabilities. Unfunded actuarial accrued liabilities for changes in assumptions, plan provisions, or methods were amortized on a level basis over 30 years from the creation of the unfunded base. A schedule of the frozen unfunded accrued liability amortization is shown in section A of this report.

The total contribution is equal to the normal cost plus the amortization of the frozen unfunded accrued liabilities.

Actuarial Value of Assets. The calculated value is determined by adjusting the market value of assets, excluding the future benefit fund, to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last three years at a rate of 33 percent per year.

The assumed rate of investment return used was 7.625 percent, net of expenses, annually.

The mortality table used to measure ordinary pre-retirement mortality and post retirement mortality was the 1994 Group Annuity Mortality Table. This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. Illustrative rates are shown below.

Ordinary Mortality
Rate Per 1,000 Employees

Age	Male	Female
25	0.6610	0.2910
35	0.8510	0.4780
45	1.5780	0.9730
55	4.4250	2.2940
65	14.5350	8.6360
75	37.2110	22.6860
85	97.2400	67.7380

The accidental mortality rate for pre-retirement mortality is assumed to be .0015 per year for ages up to and including age 49.

The disability retirement mortality table was the 1994 Group Annuity Mortality Table with a six year set forward. Illustrative rates are shown below.

Post - Disability Mortality
Rate Per 1,000 Employees

Age	Male	Female
45	2.8720	1.5680
55	8.9860	5.0930
65	25.9510	14.9530
75	68.6150	43.9520
85	167.2600	128.7510

Rates of separation from active membership are represented by the following table (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members terminating employment.

	Employee Withdrawal Rate Per 1,000 Employees
Years of Service	**Rate of Withdrawal**
Less than 2	45.0
2 - 9	20.0
10 - 19	10.0
20 or more	10.0

The rates of salary increase used for individual members are 4.5 percent annual increases. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

ACTUARIAL ASSUMPTIONS (CONTINUED)

The rates of disability for active members are broken out between ordinary and accidental disability. Ordinary disability accounts for 15 percent of total disabilities and accidental disability accounts for 85 percent of total disabilities.

Employee Disablement
Rate Per 1,000 Employees

Age	Ordinary	Accidental
25	0.0000	0.0000
30	0.7500	4.2500
35	1.5000	8.5000
40	3.7500	21.2500
45	3.7500	21.2500
50	7.5000	42.5000
55	15.0000	85.0000
60	15.0000	85.0000

Probabilities of retirement for members eligible to retire during the next year were as follows:

Rates of Retirement

Years of Service	Rate of Retirement
20	40.00 %
21 - 25	15.00
26 - 29	10.00
30 or more	100.00

The Retirement System was revised effective January 1, 1960, under Ordinance 49623.

Prior to January 1, 1960, there were two groups of members, one group referred to as "Old Plan" and the other group as "New Plan". There is no longer a need for this separation in the active members because the revised system makes no distinction between the "Old Plan" members and the "New Plan" members. The retirants are divided into Old Plan, 1944 Plan (New Plan) and 1960 Plan (Ordinance 49623).

Service Retirement –

Retirements after June 3, 1978: Voluntary retirement after 20 or more years of service. Compulsory retirement at age 60 with 30 years of service. The monthly retirement allowance consists of 40 percent of the final two-year average monthly compensation at 20 years of service, plus 2.0 percent of such final average compensation for each of the next five years of service (50 percent of final average compensation after 25 years of service), plus 4.0 percent of such final average compensation for each additional year of service over 25 years, but with a maximum of 30 years (70 percent of final average compensation after 30 years of service).

Effective October 3, 1982, any retired firemen may act as a special advisor to the retirement system and thereby be entitled to a minimum pension of $350.00 per month.

Effective October 1, 1989, any unused accrued sick leave will be added to the years of service used to determine the monthly pension allowance. If the total years of service are limited to 30 years as described above, the unused accrued sick leave will be added to 30.

Effective November 28, 1995, the monthly retirement allowance consists of 40 percent of the final two-year average monthly compensation at 20 years of service, plus 2.0 percent of such final average compensation for each of the next five years of service (50 percent of final average compensation after 25 years of service), plus 5.0 percent of such final average compensation for each additional year of service over 25 years, but with a maximum of 30 years (75 percent of final average compensation after 30 years of service).

Effective July 1, 2002, a Member has three options for use of unused sick leave and service retirement:

- Receive 100 percent of the value (sick leave multiplied by rate of pay) as a lump sum deposit into the DROP account,
- Receive 100 percent of the sick leave as service added to the credited service used in the calculation of the retirement benefit, or
- Receive 50 percent of the value as a lump sum deposit into the DROP account, and receive 25 percent as service added to the credited service used in the calculation of the retirement benefit, and receive 25 percent of the value as additional pay solely for purposes of determining the final average earnings used in the calculation of the retirement benefit.

Ordinary Disability Retirement –

Provides a service retirement allowance if 20 or more years of service. Provides for a monthly retirement allowance after five years of service (but less than 20 years) which is the largest of (a) 90 percent of the monthly service retirement allowance based on the actual service or (b) one-fourth of the final two-year average monthly compensation. In addition, a monthly benefit of 10 percent of the final two-year average monthly compensation, for each unmarried dependent child under age eighteen, but not in excess of three children, is provided.

Accidental Disability Retirement -

Provides for retirement if the member is totally and permanently incapacitated for duty as the result of an accident or exposure occurring while in the actual performance of duty. The monthly retirement allowance is 75 percent of the highest monthly salary in effect for the highest step in the range of salary, for his rank held at retirement.

If the accident immediately, totally and permanently incapacitates the member from performing any type of work and confines him to his home, the Board may provide an increased retirement allowance not to exceed 100 percent of the member's actual rate of compensation as of the date his disability allowance began.

DROP Benefit -

A member eligible for service retirement may defer receipt of the service retirement benefit for up to five years while continuing active employment. Contributions by the member while in the DROP are one percent of annual compensation. The amount the member would have received as a service retirement benefit is deposited into the DROP account. A member terminating the DROP plan may retire or continue active service. Service while in the DROP will not count as creditable service. Upon termination of employment, the member may choose to receive the DROP account with the interest earned by the account.

Ordinary Death Benefit –

Provides for the following benefits after death which occurs:

(1) While in service, a monthly retirement allowance to the widow during widowhood of the greater of (1) 50 percent [a] of the final two year average monthly compensation or (2) $200. In addition, 10 percent of each unmarried dependent child under age eighteen in her care, but not in excess of three children.

(2) After service retirement, accidental disability retirement or ordinary disability retirement, a monthly allowance to the widow during widowhood of the greater of (1) 50 percent [a] of the final two year average monthly compensation, or (2) $200. In addition, 10 percent of such compensation for each unmarried dependent child under eighteen in her care but not in excess of three children.

[a] Assumes the widow has applied for and been appointed to the status of special consultant; if not the amount is 25 percent.

Accidental Death Benefit –

Provides, if death is the result of an accident or exposure while in the actual performance of duty, a monthly allowance to the widow during her widowhood of the greater of (1) 50 percent of the final two-year average monthly compensation or (2) $200. In addition, 10 percent for each unmarried dependent child under 18 in her care but not in excess of three children.

$2,000 Lump Sum Death Benefit -

Provides a $2,000 lump sum amount upon the death of an active or retired member.

Cost-of-Living Adjustments -

(Ordinance 56444) Retirement allowances to members who retired after March 16, 1973, and prior to December 28, 1983, shall be increased 3.0 percent whenever the Consumer Price Index released by the U.S. Department of Labor shows an increase of at least 3.0 percent for three consecutive months in the preceding twelve-month period. Prior to August 31, 1980, each increase was applied to the base retirement benefit at time of retirement. Commencing August 31, 1980, the cost-of-living adjustment is made to the current retirement benefit.

Ordinance 59018 changed the cost-of-living provision for anyone retiring after December 28, 1983. For those members who retired subsequent to December 28, 1983, the cost-of-living increases for service or ordinary disability retirement are based upon the number of years of service at retirement, and are subject to a maximum of the actual increase in the Consumer Price Index over the most recent 12 months.

For a member with less than 25 years of service at retirement, the cost-of-living is 1.5 percent per year up to age 60 and 5.0 percent per year after age 60 with a 25 percent maximum applied past age 60. For a member with at least 25 years of service but less than 30 years at retirement, the cost-of-living increase is 2.25 percent per year up to age 60 and 5.0 percent per year after age 60 with a 25 percent maximum applied past age 60. For a member with 30 or more years of service at retirement, the cost-of-living increase is 3.0 percent per year up to age 60 and 5.0 percent per year after age 60 with a 25 percent maximum applied past age 60. For a member who retires at age 60 or later, the cost-of-living increase is 5.0 percent per year with a 25 percent maximum applied.

For a member who retires with an accidental disability retirement, the cost-of-living increase is 3.0 percent per year up to age 60 and 5.0 percent per year after age 60 with a 25 percent maximum applied past age 60.

Return of Contributions -

Upon service retirement, ordinary disability, accidental disability, or death of an active member, contributions without interest are refunded. Upon withdrawal from service of a member prior to eligibility for a service retirement allowance, the entire amount of the member's contributions with interest accumulated is returned to the member in lieu of any other benefits.