

**FIREFIGHTERS'
PENSION SYSTEM
OF THE CITY OF
KANSAS CITY, MISSOURI**

**Actuarial Valuation Report
as of May 1, 2001**

Prepared expressly for the
Board of Trustees by
The Segal Company
October 2001



THE SEGAL COMPANY

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October 23, 2001

**Board of Trustees
Firefighters' Pension System of
The City of Kansas City, Missouri
Kansas City, Missouri**

Dear Trustees:

We are pleased to submit this report that presents the results of the annual actuarial valuation for the Firefighters' Pension System of the City of Kansas City, Missouri as of May 1, 2001.

Periodic actuarial valuations of the Pension System are required to determine if the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

1. The current benefit provisions of the Pension System;
2. The characteristics of covered active employees, inactive vested participants, and retired participants and beneficiaries as of May 1, 2001;
3. The assets of the System as of April 30, 2001, as provided by the Auditor;
4. Economic assumptions regarding future salary increases and investment earnings; and
5. Non-economic actuarial assumptions, including employee terminations, retirement, disability, and death.

This report's actuarial contents were prepared in accordance with generally accepted actuarial principles and practices under my direction.


The report contains the following sections:

- I. Introduction and Summary
 - II. Funding Requirements
 - III. Employee Data
 - IV. Financial Data
 - V. Actuarial Valuation Certificate
- Exhibits

We look forward to discussing this report and to answering any questions you may have.

Sincerely,

THE SEGAL COMPANY

By 
Leslie L. Thompson, A.S.A., M.A.A.A., E.A.
Vice President and Consulting Actuary

LLT:cvm

cc: Wally Malles, A.S.A., M.A.A.A., E.A.

I. INTRODUCTION AND SUMMARY

This report presents the results of the actuarial valuation of the Firefighters' Pension System of the City of Kansas City, Missouri as of May 1, 2001. The purposes of the valuation are to determine the financial condition of the System and to determine the adequacy of the scheduled City contributions.

The experience over the past year may be summarized as follows:

- The number of firefighters who were active decreased from 780 to 752 as of May 1, 2001. The average age of those firefighters increased from 38.3 to 39.1, and the average service increased from 13.5 to 14.1 years.
- Total covered payroll increased by 6.9% over the past year while average annual salaries increased by 10.9%.
- During the past year, 28 new pensions were awarded (8 service pensions, 15 disability pensions, and 5 pensions to widows and children of deceased firefighters). As of April 30, 2001, pensions totaling \$1,358,304 per month were being paid to 808 retired firefighters and beneficiaries.
- City contributions for fiscal 2001 totaled \$7.0 million while benefit payments totaled \$16.9 million. Firefighter contributions totaled \$3.4 million.
- Assets increased by \$4.4 million to \$314.4 million on an actuarial value basis. The actuarial value of assets is 94.4% of the market value of \$333.0 million as of April 30, 2001.
- The Fund achieved an annual rate of return on the actuarial value of assets of 3.49% for fiscal 2001. On a market value basis, the annual rate of return was - 1.47%.

Changes in Plan Provisions

There were no changes in plan provisions since the preceding actuarial valuation.

Changes in Actuarial Assumptions and Methods since the Preceding Actuarial Valuation

Since the preceding valuation, actuarial assumptions for the disability incidence, withdrawal and retirement rates, and the salary scale were changed as follows:

Disability		
Age	This Year	Last Year
20	0.03%	0.03%
25	0.05	0.05
30	0.13	0.13
35	0.30	0.30
40	0.60	0.60
45	1.12	1.12
50	1.90	1.38
55	4.50	1.70
60	7.60	3.48

Withdrawal		
Age	This Year	Last Year
20	2.50%	5.63%
25	2.50	4.65
30	2.25	3.44
35	1.40	1.95
40	1.00	0.53
45	1.00	0.00
50	0.70	0.00
55	0.00	0.00
60	0.00	0.00

Retirement		
Service	This Year	Last Year
25	10%	15%
26	10	5
27	5	5
28	5	5
29	15	5
30	25	25
31	50	10
32	50	100
33	50	-
34	50	-
35	100	-

Salary Scale		
Age	This Year	Last Year
20	8.00%	6.00%
25	7.50	6.00
30	7.00	6.00
35	6.50	6.00
40	5.50	6.00
45	5.00	6.00
50	4.50	6.00
55	4.50	6.00
60	4.00	6.00
65	3.00	6.00

GASB Reporting

The Governmental Accounting Standards Board (GASB) issued Statement No. 25, which establishes financial reporting and disclosure standards for defined benefit pension plans of all state and local governmental entities. To comply with the requirements of GASB No. 25, the employer's annual required contribution is an amount that includes the employer's normal cost and an amortization of the unfunded actuarial accrued liability/surplus. The System's unfunded actuarial accrued liability must be amortized as a level percentage of pay over an open amortization period, not to exceed 30 years. The amortization amount is the amount of the City's scheduled contribution in excess of the City's normal cost. This results in an eleven-year amortization period this year.

On the basis of GASB Statement No. 25, the annual required contribution for fiscal 2002 is as follows:

	<u>Amount</u>	<u>Percent of Payroll</u>
1. Total Normal Cost	\$8,108,100	22.5%
2. Less: Expected Employee Contributions	3,442,500	9.6
3. City Normal Cost, [(1) - (2)]	4,665,600	12.9
4. Amortization of Unfunded/(Surplus)	2,399,600	6.7
5. Annual Required Contribution, [(3) + (4)]	\$7,065,200	19.6

The City's scheduled contribution is 19.6% of salary. The annual required contribution is designed to equal the scheduled contribution.

Exhibit 1 shows the development of the contribution requirement.

II. FUNDING REQUIREMENTS

The future City contribution requirements consist of normal cost plus the amount required to amortize the unfunded actuarial accrued liability as a level percentage of payroll.

The unfunded actuarial accrued liability is amortized, as a level percentage of payroll, by City contributions in excess of the normal cost payments. Under this method of amortization, the payments in the initial years will not be sufficient to pay the accruing interest, and so the unfunded actuarial accrued liability will increase. However, as payroll rises, the amortization payments will become larger and will eventually pay off interest as well as principal. If the City continues to contribute 19.6% of salary and firefighters contribute 9.55% of salary, the unfunded actuarial accrued liability will be amortized in 11 years.

The actuarial factors as of the valuation date are as follows:

1. Actuarial accrued liability	\$334,755,400
2. Actuarial value of assets (\$332,969,700 at market value)	314,419,900
3. Unfunded actuarial accrued liability	20,335,500
4. Normal cost (including firefighter contributions)	8,108,100*
5. Total annual payroll	36,047,000
6. Expected firefighters contributions [9.55% of (5)]	3,442,500
7. City normal cost [(4) - (6)]	4,665,600
8. Total scheduled City contributions [19.6% of (5)]	7,065,200
9. Amount available for amortization [(8) - (7)]	2,399,600
10. Effective amortization period	11 years

* Based on monthly contributions.

III. EMPLOYEE DATA

The characteristics of the active, inactive-vested, and retired groups included in this valuation are shown in Table 1 and compared with the characteristics of the groups included in the previous valuation.

Active Firefighters

The number of active members decreased 3.6% from 780 to 752. The average age of the active group increased from 38.3 to 39.1 years, and average service increased from 13.5 to 14.1 years. The total payroll increased by 6.9% while average salaries increased 10.9%, from \$43,221 to \$47,935. Table 2 presents a distribution of the active group by age and service and shows their average annual salaries.

Retired Firefighters and Beneficiaries

During the year ended April 30, 2001, there were 28 new pensions approved as follows: 8 service pensions, 15 disability pensions, and 5 pensions to widows and children. Table 3 presents a distribution of pensions in payment status by age and pension type. Table 4 presents a distribution of pensions in payment status by monthly amount and pension type. Table 5 shows the progress of pension rolls through April 30, 2001.

Table 1

Demographic Characteristics of Participants
This Year and Preceding Year

Category	Valuation as of:		Percent Change
	May 1, 2001	May 1, 2000	
Active Firefighters			
Number	752	780	(3.6)%
Average age	39.1	38.3	2.1
Average service	14.1	13.5	4.4
Covered payroll	\$36,047,000	\$33,712,200	6.9
Average annual salary	\$47,935	\$43,221	10.9
Eligible to retire on:			
Service pension	63	70	(10.0)
Deferred pension	404	396	2.0
Inactive Firefighters with Vested Rights to Deferred Pension			
Number	0	0	-
Average age	N/A	N/A	-
Average monthly benefit	N/A	N/A	-
Due Refunds			
Number	5	3	66.7
Pensioners			
Number	604	593	1.9
Average age	65.1	64.9	0.3
Average monthly benefit*	\$2,008	\$1,918	4.7
Widows			
Number	183	182	0.5
Average age	71.3	70.5	1.1
Average monthly benefit	\$731	\$694	5.3
Children			
Number	21	24	(12.5)
Average age	14.9	14.4	3.5
Average monthly benefit	\$561	\$438	28.1

* The May 1, 2000 amount is adjusted from the prior year's report.

Table 2

**Number and Average Salaries of Firefighters' in Active Service
As of May 1, 2001 by Age and by Years of Service**

Age	Years of Service									
	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 and Over
Total	752	118	167	173	43	188	51	8	1	3
	\$47,935	\$30,981	\$39,685	\$50,152	\$57,119	\$56,949	\$62,093	\$58,670	\$60,600	\$76,100
20 - 24	9	9	-	-	-	-	-	-	-	-
	\$31,312	\$31,312	-	-	-	-	-	-	-	-
25 - 29	81	50	31	-	-	-	-	-	-	-
	\$33,310	\$30,948	\$37,119	-	-	-	-	-	-	-
30 - 34	153	38	85	30	-	-	-	-	-	-
	\$39,499	\$30,765	\$40,216	\$48,530	-	-	-	-	-	-
35 - 39	183	16	46	103	18	-	-	-	-	-
	\$47,118	\$31,356	\$40,787	\$50,393	\$58,573	-	-	-	-	-
40 - 44	115	5	2	40	19	49	-	-	-	-
	\$53,446	\$31,154	\$39,558	\$50,748	\$55,562	\$57,670	-	-	-	-
45 - 49	114	-	2	-	5	100	7	-	-	-
	\$56,722	-	\$35,190	-	\$57,806	\$56,926	\$59,189	-	-	-
50 - 54	84	-	1	-	-	38	42	3	-	-
	\$59,024	-	\$32,688	-	-	\$55,983	\$62,414	\$58,884	-	-
55 - 59	9	-	-	1	1	1	1	5	1	-
	\$58,496	-	-	\$57,108	\$57,108	\$60,600	\$55,452	\$58,541	\$60,600	-
60 - 64	2	-	-	-	-	-	1	-	-	1
	\$83,850	-	-	-	-	-	\$75,576	-	-	\$92,124
65 - 69	2	-	-	-	-	-	-	-	-	2
	\$68,088	-	-	-	-	-	-	-	-	\$68,088

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Table 3

**Pensions in Payment Status on May 1, 2001
by Type and by Age**

Age	Total	Type of Pension				
		Service	Deferred	Disability	Widow	Children
Total	808	421	25	158	183	21
Under 45	34	-	-	5	8	21
45 - 49	20	2	-	12	6	-
50 - 54	58	23	1	27	7	-
55 - 59	98	59	2	27	10	-
60 - 64	158	88	4	45	21	-
65 - 69	168	114	2	24	28	-
70 - 74	140	84	12	12	32	-
75 - 79	61	35	-	4	22	-
80 - 84	44	14	3	2	25	-
85 - 89	15	-	1	-	14	-
90 - 94	9	2	-	-	7	-
95 and Over	3	-	-	-	3	-

Table 4

**Pensions in Payment Status on May 1, 2001
by Type and by Monthly Amount**

Monthly Amount	Total	Type of Pension				
		Service	Deferred	Disability	Widow	Children
Total	808	421	25	158	183	21
Under \$200	25	-	3	-	10	12
\$200 - 399	48	-	7	-	41	-
400 - 599	50	-	6	-	42	2
600 - 799	60	7	5	9	37	2
800 - 999	31	3	2	8	18	-
1,000 - 1,199	45	25	-	8	12	-
1,200 - 1,399	59	28	1	18	9	3
1,400 - 1,599	70	57	-	11	1	1
1,600 - 1,799	79	65	-	12	2	-
1,800 - 1,999	49	35	1	9	4	-
2,000 - 2,199	54	39	-	13	2	-
2,200 - 2,399	47	31	-	16	-	-
2,400 - 2,599	39	26	-	12	1	-
2,600 - 2,799	60	35	-	21	3	1
2,800 - 2,999	32	26	-	6	-	-
3,000 - 3,199	17	9	-	8	-	-
3,200 - 3,399	10	7	-	3	-	-
3,400 - 3,599	10	10	-	-	-	-
3,600 and Over	23	18	-	4	1	-

Table 5
Progress of Pension Rolls Through April 30, 2001

Year Ended April 30	Awards	Deaths	In Force at End of Year	
			Number	Monthly Amount
Cumulative through:				
1991			657	\$ 591,200
1992	36	20	673	637,900
1993	41	33	681	664,300
1994	60	17	724	779,600
1995	44	16	752	849,200
1996	47	40	759	938,400
1997	36	31	764	999,800
1998	38	21	781	1,090,300
1999	32	31	782	1,122,400
2000	53	36	799	1,273,900
2001	28	19	808	1,358,300

IV. FINANCIAL DATA

Table 6 summarizes the income and disbursements of the System for the year ended April 30, 2001. Table 7 shows net assets at market value as of April 30, 2001, and Table 8 shows the development of the actuarial asset value.

Table 6
Statement of Changes in Plan Net Assets*

	April 30, 2001	April 30, 2000
1. Additions		
(a) Contributions		
(i) City Contributions	\$ 6,990,611	\$ 6,798,148
(ii) Employee Contributions	3,405,594	3,193,758
(iii) Total Contributions	<u>\$ 10,396,205</u>	<u>\$ 9,991,906</u>
(b) Investment Income		
(i) Dividends	\$ 1,791,003	\$ 1,774,395
(ii) Interest	6,284,990	7,073,446
(iii) Net Appreciation in Fair Value	(11,258,631)	23,027,472
(iv) Total Investment Income	<u>\$ (3,182,638)</u>	<u>\$ 31,875,313</u>
(v) Less Investment Expenses	(1,839,884)	(1,963,596)
(vi) Net Investment Income **	<u>\$ (5,022,522)</u>	<u>\$ 29,911,717</u>
(c) Total Additions	<u>\$ 5,373,683</u>	<u>\$ 39,903,623</u>
2. Deductions		
(a) Benefit Payments ***	\$ (15,746,376)	\$ (13,713,784)
(b) Funeral Benefits	(32,000)	(30,000)
(c) Refund of Contributions	(1,044,721)	(1,756,959)
(d) Administrative Expenses	(38,942)	(28,683)
(e) Total Deductions	<u>\$ (16,862,039)</u>	<u>\$ (15,529,426)</u>
3. Net Increase (1. + 2.)	\$ (11,488,356)	\$ 24,374,197
4. Net Assets Held in Trust for Pension Benefits ****		
(a) Beginning of Year	\$ 344,458,028	\$ 320,083,831
(b) End of Year	\$ 332,969,672	\$ 344,458,028
5. Annual Investment Rate of Return	-1.47%	9.34%

* Based on an unaudited segregation of pension plan assets and health subsidy assets.

** Net of investment income of -\$37,927 from the health subsidy assets as of April 30, 2001.

*** Includes refunds due to terminations of \$912,625 for 2001 and \$76,550 for 2000.

**** Excludes health subsidy assets, contributions, and benefit payments.

Table 7
Statement of Plan Net Assets*

	April 30, 2001	April 30, 2000
1. Assets		
(a) Cash and Cash Equivalents	\$ 10,654,322	\$ 8,511,502
(b) Receivables		
(i) Contributions	\$ 713,900	\$ 755,372
(ii) Investment Income	17,726	59,969
(iii) Sale of Investments	2,252,113	1,884,688
(iv) Total Receivables	<u>\$ 2,983,739</u>	<u>\$ 2,700,029</u>
(c) Investments, At Fair Value		
(i) Common Stock	\$ 213,139,608	\$ 247,180,931
(ii) Corporate Bonds	107,237,609	86,271,143
(iii) U.S. Government Securities	0	0
(iv) Foreign Securities	1,910,455	1,989,364
(v) Other fixed Income	0	0
(vi) Total Investments	<u>\$ 322,287,672</u>	<u>\$ 335,441,438</u>
(d) Total Assets	<u>\$ 335,925,733</u>	<u>\$ 346,652,969</u>
2. Liabilities		
(a) Purchase of Investments	\$ (2,365,971)	\$ (1,701,301)
(b) Administrative Expenses Payable	<u>(590,090)</u>	<u>(493,640)</u>
(c) Total Liabilities	\$ (2,956,061)	\$ (2,194,941)
3. Net Assets for Pension Benefits (1. + 2.)	<u>\$ 332,969,672</u>	<u>\$ 344,458,028</u>

* Based on an unaudited segregation of pension plan assets and health subsidy assets.

Table 8
Determination of the Actuarial Value of Assets*

	May 1, 2001	May 1, 2000
1. Actuarial Value of Assets at Beginning of Year	\$ 310,012,225	\$ 260,479,078
2. Increases during the year		
(a) City Contributions	\$ 6,990,611	\$ 6,798,148
(b) Employee Contributions	3,405,594	3,193,758
(c) Total	<u>\$ 10,396,205</u>	<u>\$ 9,991,906</u>
3. Decreases during the year		
(a) Benefit payments	\$ (15,778,376)	\$ (13,743,784)
(b) Refunds	(1,044,721)	(1,756,959)
(c) Total Expenses	(1,878,826)	(1,992,279)
(d) Total	<u>\$ (18,701,923)</u>	<u>\$ (17,493,022)</u>
4. Actual Return		
(a) Dividends	\$ 1,791,003	\$ 1,774,395
(b) Interest	6,284,990	7,073,446
(c) Total	<u>\$ 8,075,993</u>	<u>\$ 8,847,841</u>
5. Preliminary Actuarial Value at End of Year (1) + (2c) + (3d) + (4c)	\$ 309,782,500	\$ 261,825,803
6. Market Value of Assets at End of Year	332,969,672	344,458,028
7. Gain/Loss Recognized 20% of [(6) - (5)]	4,637,434	16,526,445
8. Adjustment to 90% - 110% Corridor	N/A	31,659,977
9. Actuarial Value of Assets at End of Year (5) + (7) + (8)	314,419,934	310,012,225
10. Actuarial Value as a Percent of Market Value	94.43%	90.00%
11. Annual Investment Rate of Return on Actuarial Value of Assets	3.49%	21.13%

* Based on an unaudited segregation of pension plan assets and health subsidy assets.

October 23, 2001

**FIREFIGHTERS' PENSION SYSTEM
OF THE
CITY OF KANSAS CITY, MISSOURI**

Actuarial Valuation Certificate

This letter is to certify that we have prepared an Actuarial Valuation of the above-referenced System as of May 1, 2001, in accordance with generally accepted actuarial principles and practices.

The Certificate contains the following attached exhibits:

- I. Actuarial Cost for Year Beginning May 1, 2001
- II. GASB No. 25 Schedules
- III. Summary of Plan Provisions
- IV. Actuarial Assumptions and Funding Method
- V. Reconciliation of Unfunded Actuarial Accrued Liability

The valuation was based on information supplied by the System with respect to participant census data and the Auditor with respect to financial data.

To the best of my knowledge, the information supplied in this actuarial valuation report is complete and accurate and, in my opinion, the individual assumptions used are reasonably related to the experience of the System and to reasonable expectations.



Leslie L. Thompson, A.S.A., M.A.A.A., E.A.
Vice President and Consulting Actuary

LLT:cvm

EXHIBIT I

ACTUARIAL COST FOR YEAR BEGINNING MAY 1, 2001

The valuation was made with respect to the following data for 1,565 participants:

- a. 604 Pensioners and 204 Beneficiaries
- b. 0 Inactive Vested Members
- c. 5 Member Due Refunds
- d. 467 Active Vested Employees
- e. 285 Active Non-Vested Employees

The cost components as of the valuation date are:

1. Actuarial Accrued Liability on May 1, 2001:

a. Pensioners and Beneficiaries.....	\$ 182,445,200
b. Inactive Vested Members.....	80,700*
c. Active Employees.....	152,229,500
d. Total Actuarial Accrued Liability	\$ 334,755,400

2. Actuarial Value of Assets (\$332,969,700 at Market Value)..... 314,419,900

3. Unfunded Actuarial Accrued Liability/(Surplus) – equals (1) - (2) 20,335,500

4. Total Normal Cost..... \$ 8,108,100

5. Amortization of Unfunded Actuarial Accrued Liability/(Surplus)

a. Amount of Unfunded Actuarial Accrued Liability – equals (3)	\$ 20,335,500
b. Amortization Period	11 Years
c. Amortization Amount.....	\$ 2,399,600

6. Annual Required Contribution as of May 1, 2001 – Equals (4) + (5c), Minimum \$0 \$ 10,507,700

7. Expected Firefighters Contribution..... \$ 3,442,500

8. Expected City Contribution – equals (6) - (7)..... \$ 7,065,200

9. Annual Expected City Contribution as a Percent of Payroll..... 19.6%

10. Total Annual Payroll \$ 36,047,000

* Includes due and unpaid refunds of contributions of \$80,700.

EXHIBIT II

GASB No. 25 Schedules

Schedules required by Governmental Accounting Standards Board Statement No. 25 are:

1. Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value Of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL)/(Surplus) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b - a) / c
5/1/1995	\$154,033,200	\$233,130,600	\$79,097,400	66.1%	\$29,927,400	264.3%
5/1/1996	\$180,567,200	\$245,149,400	\$64,582,200	73.7%	\$30,948,200	208.7%
5/1/1997	\$197,169,200	\$255,316,500	\$58,147,300	77.2%	\$31,597,200	184.0%
5/1/1998	\$243,759,000	\$261,215,900	\$17,456,900	93.3%	\$31,535,100	55.4%
5/1/1999	\$260,479,100	\$269,962,700	\$ 9,483,600	96.5%	\$33,092,300	28.7%
5/1/2000	\$310,012,200	\$326,277,600	\$16,265,400	95.0%	\$33,712,200	48.2%
5/1/2001	\$314,419,900	\$334,755,400	\$20,335,500	93.9%	\$36,047,000	56.4%

2. Schedule of Employer Contributions

Year Ended	Annual Required Contribution	Percentage Contributed
1995	\$ 6,027,900	100%
1996	\$ 6,104,100	100%
1997	\$ 6,319,700	100%
1998	\$ 6,261,900	100%
1999	\$ 6,732,900	100%
2000	\$ 6,817,000	100%
2001	\$ 6,607,600	100%
2002	\$ 7,065,200	N/A

EXHIBIT III
SUMMARY OF PRINCIPAL PLAN PROVISIONS

The following is a summary of the principal provisions of the Firefighters' Pension System of Kansas City, Missouri, as of May 1, 2001. It is not intended to be, nor should it be, interpreted as a complete description of all plan provisions.

Membership

All Firefighters shall become members as a condition of employment. Membership begins on the first day of employment.

Creditable Service

Total creditable service is defined as the sum of the service as a Firefighter after becoming a member after July 1, 1953, plus any service earned prior to July 1, 1953, if continuous.

Voluntary Retirement Pension

Requirements:

The minimum number of years of service to retire is 25. Members are required to retire after reaching age 65 regardless of service.

Base Amount:

The base pension is 2.5% of average final compensation per year of service to a maximum of 80%. Average final compensation is defined as the average of the two highest years of base compensation in the last ten years. The minimum retirement benefit is \$600 per month.

Non-duty Disability Pension

Requirements:

Members must have at least ten years of service and be under age 65.

Amount:

The pension is 25% of the average final compensation per month plus 2.5% per year of average final compensation per month for the number of years and months of creditable service in excess of 10 years, not to exceed 80% of the member's average final compensation.

EXHIBIT III (continued)

Duty Disability Pension

Requirements:

There are no age or service requirements to receive a duty disability pension.

Amount:

The pension is 62.5% of average final compensation at disability with a minimum 62.5% of the current maximum salary payable to the rank of a firefighter. The current maximum monthly salary as of May 1, 2001 is \$4,229. The minimum disability benefit is \$600 per month.

Deferred Pension

Requirements:

Members must have at least ten years of service.

Amount:

2.5% of average final compensation per year of service to a maximum of 62.5%, payable at age 50.

If employee dies in a deferred status, before age 50, his beneficiary receives a lump sum equal to his contributions with interest. If such death occurs after age 50, his widow and children receive the same benefits as the pre-retirement non-duty, but reduced by the ratio of the member's service to 25.

Termination Benefit

If an employee terminates before becoming eligible for a deferred pension, he receives a return of his contributions with interest. This benefit is reduced by a service charge of 10%, 8%, 6%, 4% or 2% if employee withdraws with less than 1 year, 2 years, 3 years, 4 years or 5 years of service respectively.

EXHIBIT III (continued)

Pre-retirement Non-duty Death Benefit

Funeral benefit:

A lump-sum payment of \$2,000 is paid to help cover funeral costs.

Surviving spouse's benefit:

50% of the accrued pension is paid, with a minimum of 25% of average final compensation payable until death. The surviving spouse's benefit for spouses of active firefighters eligible for a service pension is 100% of the regular pension reduced for the election of optional 100% joint and survivor coverage. The minimum benefit is \$275 per month.

Child's benefit:

If no surviving spouse or the spouse dies, the spouse's benefit is divided equally to the children and paid until age 18 (or 21 if student). If a surviving spouse exists, \$100 per month until age 18 (or 21 if student).

Return of contributions:

A return of accumulated contributions is guaranteed. If there is no surviving spouse or dependent children or if the surviving spouse dies or is no longer eligible to receive payments because of remarriage, the accumulated contributions or the unpaid balance thereof shall be paid to the estate or to a named beneficiary.

Pre-retirement Duty Death Benefit

Funeral benefit:

A lump-sum payment of \$2,000 is paid to help cover funeral costs.

Surviving spouse's benefit:

100% of the accrued pension is paid with a minimum of 62.5% of the average final compensation. The surviving spouse's benefit for spouses of active firefighters eligible for a service pension is 100% of the regular pension reduced for the election of optional 100% joint and survivor coverage. The minimum benefit is \$275 per month.

EXHIBIT III (continued)

Child's benefit:

If there is no surviving spouse or the spouse dies or remarries, the spouse's benefit is divided equally to the children and paid until age 18 (or age 21 if a student). If a surviving spouse exists, \$100 per month until age 18 (or age 21 if a student).

Return of contributions:

A return of accumulated contributions is guaranteed. If there is no surviving spouse or dependent children or if the surviving spouse dies, the accumulated contributions or the unpaid balance thereof shall be paid to the estate or to a named beneficiary.

Post-retirement Death Benefit

If married, pension benefits are paid in the form of a Joint and 50% Survivor annuity or in any other available optional form elected by the member and spouse in an actuarially equivalent amount. The minimum benefit is \$275. If not married, benefits are payable for the life of the employee. Payments equal to the amount of the member's accumulated contributions are guaranteed. In addition, a lump-sum payment of \$2,000 is paid to help cover funeral costs.

Cost-of-living Adjustment

A maximum increase of 3% of the original pension will be made annually. This does not apply to funeral benefits. Members must retire on or before January 1st in order to receive a COLA in the next year.

Contributions

Pension System:

Members contribute 9.55% of base salary. Contributions accumulate at 3% interest. The City currently contributes 19.6% of payroll.

Health Insurance Subsidy:

Effective January 1, 2000, the City contribution is 2% of base salary and the member contribution is 1% of base salary.

EXHIBIT III (continued)

Contributions and benefits for the Health Insurance Subsidy are separately accounted for under the plan. The assets, liabilities, contributions, and benefits of the Health Insurance Subsidy are excluded from this valuation.

Changes in Plan Provisions since the Preceding Actuarial Valuation

There were no changes in plan provisions since the preceding actuarial valuation.

EXHIBIT IV

ACTUARIAL ASSUMPTIONS AND FUNDING METHOD

1. Investment Return:

8.0% per annum, net of expenses.

2. Mortality Tables:

Healthy: 1971 Group Annuity Mortality Table with 5% of deaths assumed to be Duty related (sample rates shown below).

Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table.

3. Disability incidence:

Sample rates shown below.

4. Withdrawal Rates:

Sample rates shown below.

<u>Age</u>	<u>Healthy Mortality</u>		<u>Disability Incidence</u>	<u>Withdrawal</u>
	<u>Male</u>	<u>Female</u>		
20	0.05%	0.03%	0.03%	2.50%
25	0.06	0.03	0.05	2.50
30	0.08	0.05	0.13	2.25
35	0.11	0.07	0.30	1.40
40	0.16	0.09	0.60	1.00
45	0.29	0.14	1.12	1.00
50	0.53	0.22	1.90	0.70
55	0.85	0.33	4.50	--
60	1.31	0.55	7.60	--

EXHIBIT IV (continued)

5. Percentage of Disability Retirements that are Duty Related:

<u>Age</u>	<u>Annual Rate (%)</u>
20 - 24	75.0
25 - 29	66.7
30 - 34	70.6
35 - 39	78.9
40 - 44	81.1
45 - 49	81.9
50 - 54	80.3
55 - 59	78.2
60 and up	75.4

6. Retirement Rates for Active Employees:

<u>Service</u>	<u>Rate (%)</u>
25 years	10
26 years	10
27 years	5
28 years	5
29 years	15
30 years	25
31 years	50
32 years	50
33 years	50
34 years	50
35 years, or age 65 if earlier	100

EXHIBIT IV (continued)

7. Salary Scale:

<u>Age</u>	<u>Annual Rate (%)</u>
Less than 25	8.0
25 – 29	7.5
30 – 34	7.0
35 – 39	6.5
40 – 44	5.5
45 – 49	5.0
50 – 54	4.5
55 – 59	4.5
60 – 64	4.0
65 and up	3.0

8. Deferral Age for Commencement of Benefits for Inactive Vested Members:

Age 50.

9. Beneficiary Information:

Percent Married:

94% of active participants.

Age Difference:

Males are assumed to be four years older than females.

Remarriage Rate:

0%.

Eligible Children:

None.

10. Annual Cost-of-Living Adjustment:

3% of original benefit, before minimum benefits and optional payment forms. Not applicable to funeral benefits.

EXHIBIT IV (continued)

11. Workers Compensation:

No payments assumed.

12. Administrative Expense Allowance:

None.

13. Actuarial Value of Assets:

Asset values are gradually adjusted toward market value by adding to the "preliminary asset value" 20% of the difference between the market value and the preliminary asset value. The preliminary asset value is the actuarial asset value at the beginning of the year plus net new money. Net new money is the sum of contributions, dividends, and interest, less the sum of refunds, expenses and benefit payments. If the actuarial value of assets is less than 90% or more than 110% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor.

14. Actuarial Cost Method:

Individual Entry Age Normal Cost Method. Entry age is defined as the age at hire.

15. Amortization of Unfunded Actuarial Accrued Liability/(Surplus):

Open amortization period; level percentage of payroll, recognizing monthly payments.

Payroll is expected to increase 3.0% per year.

EXHIBIT IV (continued)

16. Changes in Actuarial Assumptions and Methods Since the Preceding Actuarial Valuation:

Since the preceding valuation, actuarial assumptions for the disability incidence, withdrawal and retirement rates, and the salary scale were changed as follows:

Disability		
Age	This Year	Last Year
20	0.03%	0.03%
25	0.05	0.05
30	0.13	0.13
35	0.30	0.30
40	0.60	0.60
45	1.12	1.12
50	1.90	1.38
55	4.50	1.70
60	7.60	3.48

Withdrawal		
Age	This Year	Last Year
20	2.50%	5.63%
25	2.50	4.65
30	2.25	3.44
35	1.40	1.95
40	1.00	0.53
45	1.00	0.00
50	0.70	0.00
55	0.00	0.00
60	0.00	0.00

Retirement		
Service	This Year	Last Year
25	10%	15%
26	10	5
27	5	5
28	5	5
29	15	5
30	25	25
31	50	10
32	50	100
33	50	-
34	50	-
35	100	-

Salary Scale		
Age	This Year	Last Year
20	8.00%	6.00%
25	7.50	6.00
30	7.00	6.00
35	6.50	6.00
40	5.50	6.00
45	5.00	6.00
50	4.50	6.00
55	4.50	6.00
60	4.00	6.00
65	3.00	6.00

Exhibit V

**Reconciliation of Unfunded Actuarial Accrued Liability
May 1, 2000 to May 1, 2001**

Balance, May 1, 2000		\$ 16,265,400
Plus: Expected Changes Due to:		
Normal Cost	\$ 7,841,900	
Interest on Balance and Normal Cost	1,584,800	
Subtotal	<u>9,426,700</u>	
Less: Required City and expected Employee Contributions	9,827,100	
Interest on Expected Contributions	355,300	
Subtotal	<u>10,182,400</u>	
Scheduled Change		\$ (755,700)
Plus: Deficient (Surplus) Contributions:		
Required City and expected Employee Contributions	\$ 9,827,100	
Actual City and Employee Contributions	<u>(10,396,200)</u>	
Deficient (Surplus) Contributions	(569,100)	
Interest on Deficient (Surplus Contributions)	<u>(20,600)</u>	
Deficient (Surplus) Contributions w/ interest		\$ (589,700)
Plus: Actuarial (Gains) Losses:		
Investment Earnings	\$ 14,703,300	
Salary Increases	4,682,800	
Disability	1,152,600	
Turnover	236,300	
Retirement	5,500	
New Members	-	
Pre-Retirement Mortality	(290,300)	
Post-Retirement Mortality	(1,454,400)	
Miscellaneous	<u>(22,400)</u>	
Total Actuarial (Gains) Losses		\$ 19,013,400
Effect of Assumption Change		\$ (13,597,900)
Effect of Plan Changes		0
Balance, May 1, 2001		\$ 20,335,500