Firefighters' Pension System of the City of Kansas City, Missouri

Actuarial Valuation and Review as of May 1, 2004

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October 13, 2004

Board of Trustees Firefighters' Pension System of the City of Kansas City, Missouri Kansas City, Missouri

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of May 1, 2004. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2004 and analyzes the preceding year's experience.

The census information on which our calculations were based was prepared by the Pension System. That assistance is gratefully acknowledged. The actuarial calculations were completed under our supervision.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the System.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,	
THE SEGAL COMPANY	
<i>By:</i>	
Leslie L. Thompson, FSA, MAAA, EA	Wally Malles, ASA, MAAA, EA
Senior Vice President and Actuary	Assistant Actuary

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Purpose

This report has been prepared by The Segal Company to present a valuation of the Firefighters' Pension System of the City of Kansas City, Missouri as of May 1, 2004. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- > The benefit provisions of the Pension Plan, as administered by the Board;
- > The characteristics of covered active members, inactive vested members, pensioners and beneficiaries as of May 1, 2004, provided by the Board;
- > The assets of the System as of April 30, 2004, provided by the Pension System;
- > Economic assumptions regarding future salary increases and investment earnings; and
- > Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

- > The expected contribution shortfall (the GASB annual required contribution less the scheduled contribution) is approximately \$1.2 million. Last year the expected contribution shortfall was approximately \$1.3 million.
- ➤ Based on the scheduled contribution, the effective amortization period for the amortization of the unfunded actuarial accrued liability (UAAL) is an infinite number of years as of May 1, 2004. This means that the scheduled contribution is not sufficient to pay the principal and interest payment on the UAAL (it will pay the normal cost and a portion of the principal and interest payment on the UAAL). Last year the effective amortization period was also infinite.
- ➤ The GASB annual required contribution as of May 1, 2004, based on a 30-year amortization of the UAAL is \$9,808,923, which is 22.33% of payroll.
- > The excess of the actuarial accrued liability over the actuarial value of assets decreased from \$65.8 million as of May 1, 2003 to \$65.4 million as of May 1, 2004.
- > The actuarial value of assets is less than market value of assets as of April 30, 2004 by approximately \$35.4 million. The actuarial value of assets as a percentage of market value of assets is 90.0% as of April 30, 2004, compared to 102.2% as of the prior year. This change is primarily due to greater than anticipated investment return on the market value of assets.
- > The Plan's asset valuation method requires that the actuarial valuation of assets be no more than 110% or no less than 90% of the market value of assets. Since the preliminary calculation of the actuarial value is less than 90% of the market value of assets, the actuarial value of assets has been set equal to 90% of the market value of assets for this valuation.
- > The pattern of the usually high occurrence of disability retirements that has occurred in recent years continued as of the April 30, 2004 plan year end. For this year end, 31 of the 41 new retirements were classified as disability retirements, and 29 of the 31 were eligible for retirement.
- > Segal strongly recommends basing the disability mortality assumption on the healthy mortality assumption as of May 1, 2005. The use of a disability mortality assumption for a membership group with an unusually high occurrence of disability retirements results in an understated determination of plan liabilities.
- > There were no changes in plan provisions, actuarial assumptions, or actuarial methods since the prior valuation.

SECTION 1: Valuation Summary for the Firefighters' Pension System of the City of Kansas City, Missouri

	2004	2003
Contributions for plan year beginning May 1:		
Scheduled*	\$8,608,332	\$8,293,818
Actual		8,455,725
Funding elements for plan year beginning May 1:		
Normal cost, including employee contributions**	\$9,506,932	\$9,167,746
Market value of assets	354,268,401	299,603,224
Actuarial value of assets	318,841,561	306,204,360
Actuarial accrued liability	384,247,836	371,993,884
Unfunded/(Overfunded) actuarial accrued liability	65,406,275	65,789,524
Funding period	Infinite	Infinite
GASB 25/27 for plan year beginning May 1:		
Annual required contributions	\$9,808,923	\$9,632,622
Actual contributions		8,455,725
Percentage contributed		87.78%
Funded ratio	82.98%	82.31%
Covered payroll	\$43,920,060	\$42,315,396

Number of pensioners and beneficiaries (including child beneficiaries)

Average anticipated 2004 payroll

Number of refunds due

Number of active members Total anticipated 2004 payroll

Demographic data for plan year beginning May 1:

Summary of Key Valuation Results

850 5

818

51,730

\$42,315,396

880

868

50,599

\$43,920,060

^{*} Scheduled City contributions are 19.6% of the total anticipated 2004 payroll.

^{**} Excludes adjustment for timing

SECTION 2: Valuation Results for the Firefighters' Pension System of the City of Kansas City, Missouri

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, pensioners and beneficiaries. This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1 Member Population: 1995 – 2004

Year Ended April 30			Pensioners and Beneficiaries	Ratio of Non-Actives to Actives	
1995	771		752	0.98	
1996	772		759	0.98	
1997	774		764	0.99	
1998	761		781	1.03	
1999	786	1	782	1.00	
2000	780		799	1.02	
2001	752		808	1.07	
2002	801		797	1.00	
2003	818		850	1.04	
2004	868		880	1.01	

^{*}Excludes terminated participants due a refund of employee contributions

Active Members

Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there were 868 active members with an average age of 37.3, average years of service of 11.7 years and average payroll of \$50,599. The 818 active members in the prior valuation had an average age of 38.3, average service of 12.8 years and average payroll of \$51,730.

Inactive Participants

In addition, there were four members entitled to a return of their employee contributions, totaling \$70,207. Last year, there were five members who were entitled to receive a return of their employee contributions, totaling \$56,669.

These graphs show a distribution of active members by age and by years of service.

CHART 2
Distribution of Active Members by Age as of April 30, 2004

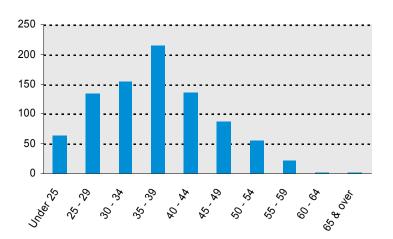
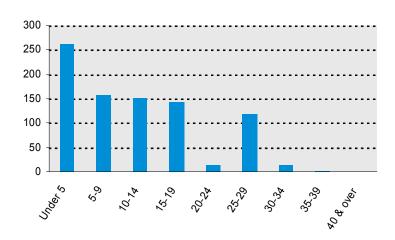


CHART 3

Distribution of Active Members by Years of Service as of April 30, 2004



Pensioners and Beneficiaries

As of April 30, 2004, 665 pensioners and 215 beneficiaries were receiving total monthly benefits of \$1,744,071. For comparison, in the previous valuation, there were 635 pensioners and 215 beneficiaries receiving monthly benefits of \$1,594,084. Beneficiaries include widows and children of former participants as well as Qualified Domestic Relations Orders (QDROs) recipients.

These graphs show a distribution of the current pensioners and beneficiaries (widows, QDROs, and children) based on their monthly amount and age, by type of pension.



CHART 4
Distribution of Pensioners and Beneficiaries by Type and by Monthly Amount as of April 30, 2004

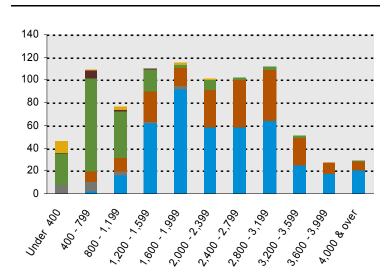
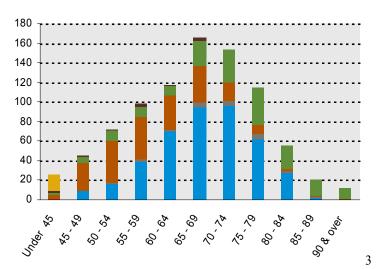


CHART 5 Distribution of Pensioners and Beneficiaries by Type and by Age as of April 30, 2004



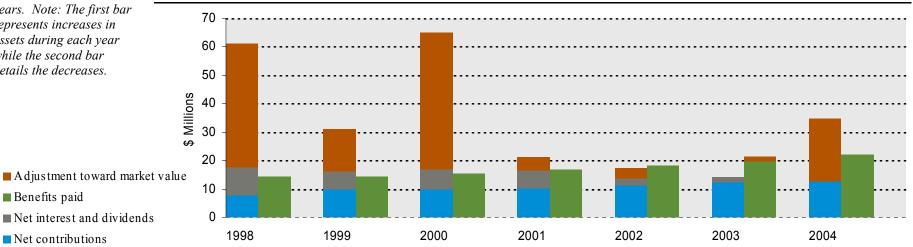
B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D, E and F.

The chart depicts the components of changes in the actuarial value of assets over the last seven years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6 Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended April 30, 1998 - 2004



SECTION 2: Valuation Results for the Firefighters' Pension System of the City of Kansas City, Missouri

It is desirable to have level and predictable System costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the System costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

*SEGAL

CHART 7 Determination of Actuarial Value of Assets for Year Ended April 30, 2004

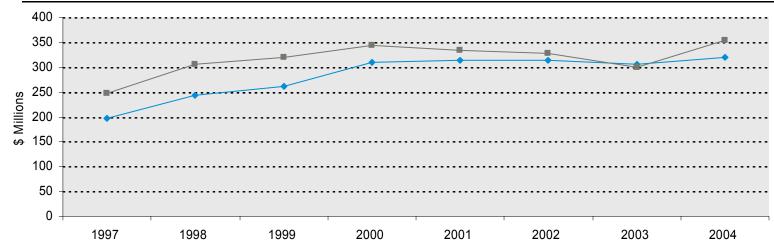
1.	Actuarial value of assets at beginning of year	\$306,204,360
2.	Contributions, interest and dividends, less benefit payments and all expenses	-9,711,401
3.	Preliminary actuarial value of assets: $(1) + (2)$	296,492,959
4.	Market value of assets	354,268,401
5.	Adjustment toward market value: 20% of [(4) - (3)]	11,555,088
6.	Adjustment to be within 10% corridor	10,793,514
7.	Final actuarial value of assets: $(3) + (5) + (6)$	<u>\$318,841,561</u>
8.	Actuarial value as a percentage of market value: $(7) \div (4)$	90.0%

Both the actuarial value and market value of assets are representations of the Pension System's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Pension System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past eight years.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of April 30, 1997 – 2004



SECTION 2: Valuation Results for the Firefighters' Pension System of the City of Kansas City, Missouri

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term

development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The experience gain/(loss) is \$2,480,873, (\$1,739,556) from investments and \$4,220,429 from all other sources. The net experience variation from individual sources other than investments was 1.1% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 9 Actuarial Experience for Year Ended April 30, 2004

1.	Net gain/(loss) from investments*	-\$1,739,556
2.	Net gain/(loss) from other experience**	4,220,429
3.	Net experience gain/(loss): $(1) + (2)$	\$2,480,873

^{*} Details in Chart 10

^{**} Details in Chart 13

SECTION 2: Valuation Results for the Firefighters' Pension System of the City of Kansas City, Missouri

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Pension System's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 8.00% per annum, net of investment fees and administrative expenses. The actual rate of return on an actuarial basis for the 2004 plan year was 7.42%.

Since the actual return for the year was less than the assumed return, the Pension System experienced an actuarial loss during the year ended April 30, 2004 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10 Actuarial Value Investment Experience for Year Ended April 30, 2004

1.	Actual return	\$22,367,578
2.	Average value of assets	301,339,172
3.	Actual rate of return: $(1) \div (2)$	7.42%
4.	Assumed rate of return	8.00%
5.	Expected return: (2) x (4)	\$24,107,134
6.	Actuarial gain/(loss): $(1) - (5)$	<u>-\$1,739,556</u>

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last seven years, including the five-year average. Based upon this experience and future expectations, we have maintained the assumed rate of investment return.

CHART 11
Investment Return – Actuarial Value vs. Market Value: 1998 - 2004

	Net Interest and Dividend Income		Adjustment Toward Market		Actuarial Value Investment Return		Market Value Investment Return	
Year Ended April 30	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1998	\$7,920,944	4.09	\$43,630,769	22.51	\$51,551,713	27.45	\$64,857,213	23.82
1999	6,299,831	2.61	14,901,188	6.17	21,201,019	8.79	19,902,793	6.42
2000	6,855,562	2.66	48,186,422	18.70	55,041,984	21.37	29,911,717	9.08
2001	6,197,167	2.02	4,637,434	1.51	10,834,601	3.54	-5,022,522	-1.50
2002	2,166,977	0.70	3,709,662	1.19	5,876,639	1.90	2,202,729	0.67
2003	1,812,554	0.59	-1,650,284	-0.53	162,270	0.05	-21,277,516	-6.55
2004	18,976	0.01	22,348,602	7.42	22,367,578	7.42	64,395,554	21.85
Total	\$31,272,011		\$135,763,793		\$167,035,804		\$154,969,968	
					Five-year average return	6.36%		4.35%

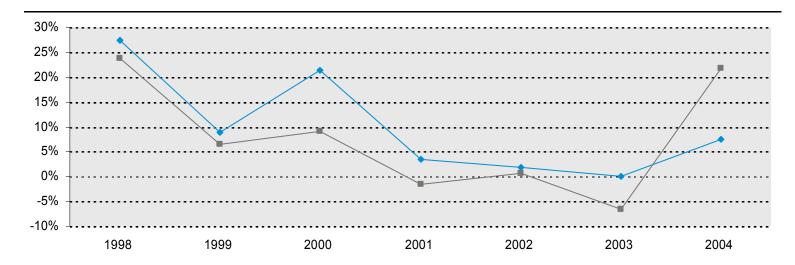
Note: Each year's yield is weighted by the average asset value in that year.

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 1998 - 2004.

CHART 12

Market and Actuarial Rates of Return for Years Ended April 30, 1998 - 2004



SECTION 2: Valuation Results for the Firefighters' Pension System of the City of Kansas City, Missouri

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- > the extent of turnover among the participants,
- > retirement experience (earlier or later than expected),
- > mortality (more or fewer deaths than expected),
- > the number of new members,
- > the number of disability retirements, and
- > salary increases different than assumed.

The net gain from this other experience for the year ended April 30, 2004 amounted to \$4,220,429 which is 1.1% of the actuarial accrued liability.

A brief summary of the demographic gain/(loss) experience of the Pension System for the year ended April 30, 2004 is shown in the chart below.

The experience gain/(loss) analysis shown below is based on the disability mortality assumption that no longer reflects actual plan experience. The amounts determined for disability (item 2), retirement (item 4), and deaths among pensioners and beneficiaries (item 5) are all dependent on the disability retirement experience of the Pension System.

The chart shows elements of the experience gain/(loss) for the most recent year.

CHART 13
Experience Due to Changes in Demographics for Year Ended April 30, 2004

Pre-retirement mortality	\$41,824
2. Disability	2,893,413
3. Turnover	-573,266
4. Retirement	1,593,607
5. Deaths among pensioners and beneficiaries	-2,965,669
6. New members and return to work	-1,271,810
7. Salary increases for continuing actives	4,855,072
8. Miscellaneous	<u>-352,742</u>
9. Total	\$4,220,429

D. SCHEDULED CONTRIBUTION

The scheduled City contribution is established as 19.60% of payroll. As of May 1, 2004, the calculated normal cost is 13.01% of payroll and the amount available for amortization is 6.59% of payroll. The scheduled contribution is not sufficient to pay the principal and interest payment on the unfunded/(overfunded) actuarial accrued liability.

The contribution rates as of May 1, 2004 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the System's plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

The chart compares this valuation's scheduled contribution with the prior valuation.

CHART 14 Scheduled Contribution

		Year Beginning May 1			
	•	20	004	20	003
	•	Amount	% of Payroll	Amount	% of Payroll
1.	Total normal cost, adjusted for timing*	\$9,909,198	22.56%	\$9,555,661	22.58%
2.	Expected employee contributions, adjusted for timing*	<u>-4,194,366</u>	<u>-9.55%</u>	<u>-4,041,120</u>	<u>-9.55%</u>
3.	City normal cost: $(1) + (2)$	\$5,714,832	13.01%	\$5,514,541	13.03%
4.	Actuarial accrued liability	384,247,836		371,993,884	
5.	Actuarial value of assets	318,841,561		306,204,360	
6.	Unfunded/(overfunded) actuarial accrued liability: (4) – (5)	\$65,406,275		\$65,789,524	
7.	Amount available for amortization	2,893,500	<u>6.59%</u>	2,779,277	6.57%
8.	Scheduled City contribution: (3) + (7), adjusted for timing*	8,608,332	<u>19.60%</u>	<u>8,293,818</u>	<u>19.60%</u>
9.	Total anticipated payroll	\$43,920,060		\$42,315,396	
10.	Effective amortization period	Infinite		Infinite	

^{*}Contributions are assumed to be paid at the end of every month.

SECTION 2: Valuation Results for the Firefighters' Pension System of the City of Kansas City, Missouri

Reconciliation of Scheduled Contribution

The chart below details the changes in the scheduled contribution from the prior valuation to the current year's valuation.

The chart reconciles the contribution from the prior valuation to the amount determined in this valuation.

CHART 15 Reconciliation of Scheduled Contribution from May 1, 2003 to May 1, 2004

Scheduled Contribution as of May 1, 2003	\$8,293,818
Effect of change in amortization period	83,379
Effect of contributions (more)/less than scheduled contribution	-13,790
Effect of investment (gain)/loss	83,943
Effect of other gains and losses on accrued liability	-203,658
Effect of net other changes	<u>364,640</u>
Total change	<u>\$314,514</u>
Scheduled Contribution as of May 1, 2004	\$8,608,332

E. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with the GASB funding requirements. Chart 16 below presents a graphical representation of this information for the System.

The other critical piece of information regarding the System's financial status is the funded ratio.

This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the plan as calculated under GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes.

Although GASB requires that the actuarial value of assets be used to determine the funded ratio, Chart 17 shows the funded ratio calculated using both the actuarial value of assets and the market value of assets.

The details regarding the calculations of these values and other GASB numbers may be found in Section 4.

These graphs show key GASB factors.

CHART 16
Required Versus Actual Contributions

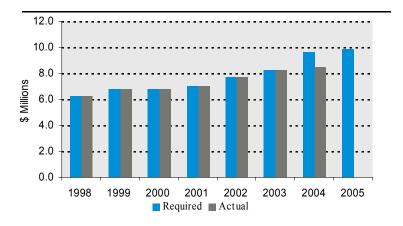
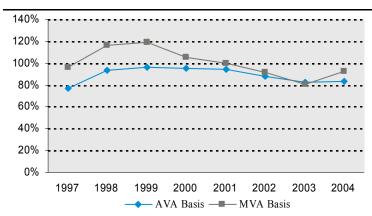


CHART 17 Funded Ratio



SECTION 3: Supplemental Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT A

Table of System Coverage

	Year End	ed April 30	
Category	2004	2003	Change From Prior Year
Active members in valuation:			
Number	868	818	6.1%
Average age	37.3	38.3	N/A
Average service	11.7	12.8	N/A
Total anticipated payroll	\$43,920,060	\$42,315,396	3.8%
Average anticipated payroll	50,599	51,730	-2.2%
Account balances	42,287,255	41,971,750	0.8%
Eligible to retire on:			
Normal pension	137	141	-2.8%
Deferred pension	310	325	-4.6%
Total active vested members	447	466	-4.1%
Vested terminated members	0	0	N/A
Pensioners:			
Number in pay status	665	635	4.7%
Average age	65.1	65.3	N/A
Average monthly benefit	\$2,342	\$2,229	5.1%
Beneficiaries in pay status*	215	215	0.0%
Members due refunds	4	5	-20.0%
New Disabilities	31	25	24.0%
Eligible to retire on normal pension	29	19	52.6%

^{*} Widows, QDROs, and children

EXHIBIT B
Members in Active Service as of April 30, 2004
By Age, Years of Service, and Average Payroll

	Years of Service									
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & ove
Under 25	64	64								
	\$32,709	\$32,709								
25 - 29	134	109	25							
	35,994	33,362	\$47,471							
30 - 34	154	55	61	38						
	46,388	36,319	48,732	\$57,201						
35 - 39	215	28	54	78	55					
	53,904	35,406	48,631	57,873	\$62,868					
40 - 44	136	5	15	35	73	5	3			
	58,088	39,077	48,406	57,735	61,049	\$59,729	\$67,496			
45 - 49	87	1		1	14	6	65			
	61,432	40,920		53,580	65,684	60,438	61,045			
50 - 54	55		2		1	4	42	6		
	64,676		51,690		63,984	58,467	64,787	\$72,480		
55 - 59	21	1	1				9	7	3	
	62,941	118,980	50,856				58,704	62,810	\$61,304	
60 - 64	1							1		
	82,944							82,944		
65 & over	1									1
	63,984									\$63,984
Total	868	263	158	152	143	15	119	14	3	1
	\$50,599	\$34,502	\$48,518	\$57,645	\$62,223	\$59,676	\$62,351	\$68,392	\$61,304	\$63,984

SECTION 3: Supplemental Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT C
Reconciliation of Member Data

	Active Members	Child Beneficiaries	Pensioners	Widows, Beneficiaries and QDROs	Total
Number as of May 1, 2003	818	24	635	191	1,668
New members	94	0	N/A	N/A	94
Terminations – with vested rights	0	0	0	0	0
Terminations – without vested rights	-4	0	N/A	N/A	-4
New retirements	-10	0	10	N/A	0
New disabilities	-31	0	31	N/A	0
Died with beneficiary	-1	0	-9	10	0
Died without beneficiary	0	0	-3	-6	-9
Rehired	2	0	0	N/A	2
Certain period expired	N/A	-8	0	0	-8
Child beneficiary	0	1	0	0	1
Data adjustments	_0	_0	<u>_1</u>	<u>3</u>	_4
Number as of May 1, 2004	868	17	665	198	1,748

SECTION 3: Supplemental Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT D
Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended A	pril 30, 2004	Year Ended April 30, 2003	
Contribution income:				
City contributions	\$8,455,725		\$8,215,224	
Employee contributions	<u>4,117,717</u>		4,003,110	
Total contribution income		\$12,573,442		\$12,218,334
Investment income:				
Interest, dividends and other income	\$1,865,797		\$3,453,090	
Adjustment toward market value	22,348,602		-1,650,284	
Investment fees	-1,801,389		-1,606,589	
Administrative expenses	-45,432		-33,947	
Net investment income		22,367,578		162,270
Total income available for benefits		\$34,941,020		\$12,380,604
Less benefit payments:				
Benefit Payments	-\$19,772,624		-\$17,927,448	
Funeral Benefits	-26,000		-30,000	
Refund of Contributions	<u>-2,505,195</u>		<u>-1,838,523</u>	
Total benefit payments		-\$22,303,819		-\$19,795,971
Change in reserve for future benefits		\$12,637,201		-\$7,415,367

SECTION 3: Supplemental Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT E

Table of Financial Information

	Year Ended A	pril 30, 2004	Year Ended April 30, 2003	
Cash equivalents		\$12,750,102		\$7,927,442
Accounts receivable:				
Contributions	\$500,307		\$416,493	
Investment income	67,270		63,340	
Sale of investments	<u>2,092,203</u>		671,764	
Total accounts receivable		2,659,780		1,151,597
Investments:				
Common stock	\$185,498,408		\$191,748,787	
Corporate bonds	111,730,836		98,801,620	
Foreign securities	44,326,738		<u>1,226,106</u>	
Total investments at market value		<u>341,555,982</u>		291,776,513
Total assets		\$356,965,864		\$300,855,552
Less accounts payable:				
Purchase of investments	-\$1,935,175		-\$732,581	
Administrative expenses payable	<u>-762,288</u>		<u>-519,747</u>	
Total accounts payable		-\$2,697,463		-\$1,252,328
Net assets at market value		<u>\$354,268,401</u>		\$299,603,224
Net assets at actuarial value		<u>\$318,841,561</u>		\$306,204,360

SECTION 3: Supplemental Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT F

Development of the Fund Through April 30, 2004

Year Ended April 30	City Contributions	Employee Contributions	Net Investment Return*	Benefit Payments	Actuarial Value of Assets at End of Year
1998	\$6,261,872	\$3,264,100	\$51,551,713	\$14,487,887	\$243,758,960
1999	6,732,893	3,122,134	21,201,019	14,335,928	260,479,078
2000	6,798,148	3,193,758	55,041,984	15,500,743	310,012,225
2001	6,990,611	3,405,594	10,834,601	16,823,097	314,419,934
2002	7,709,082	3,753,099	5,876,639	18,139,027	313,619,727
2003	8,215,224	4,003,110	162,270	19,795,971	306,204,360
2004	8,455,725	4,117,717	22,367,578	22,303,819	318,841,561

^{*} Net of investment fees and administrative expenses

SECTION 3: Supplemental Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT G

Development of Unfunded Actuarial Accrued Liability for Year Ended April 30, 2004

Unfunded Actuarial Accrued Liability at Beginning of Year		\$65,789,524
2. Plus: Expected Changes Due to:		\$\$\$,7\$\$,6 2 .
Normal cost	\$9,167,746	
Interest on unfunded and normal cost	5,996,582	
Subtotal	\$15,164,328	
3. Less: Expected Changes Due to:		
Scheduled City and expected employee contributions	-\$12,334,938	
Interest on expected contributions	<u>-483,170</u>	
Subtotal	-\$12,818,108	
Scheduled change		\$2,346,220
4. Plus: Deficient (Surplus) Contributions:		
Scheduled City and expected employee contributions	\$12,334,938	
Actual City and employee contributions	<u>-12,573,442</u>	
Deficient (surplus) contributions	-\$238,504	
Interest on deficient (surplus contributions)	<u>-10,092</u>	
Deficient (surplus) contributions with interest		-\$248,596
5. Plus: Actuarial (Gains)/Losses*		
Total		<u>-\$2,480,873</u>
6. Unfunded Actuarial Accrued Liability at End of Year		<u>\$65,406,275</u>

^{*} Detailed (Gains)/Losses by source is shown in Chart 13 on page 11

EXHIBIT H

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions:

The estimates on which the cost of the System is calculated including:

- (a) <u>Investment return</u> the rate of investment yield that the System will earn over the long-term future;
- (b) <u>Mortality rates</u> the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) <u>Retirement rates</u> the rate or probability of retirement at a given age;
- (d) <u>Turnover rates</u> the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost:

The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability:

The extent to which the actuarial accrued liability of the System exceeds the assets of the System. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded

Actuarial Accrued Liability: Payments made over a period of years equal in value to the System's unfunded

actuarial accrued liability.

Investment Return: The rate of earnings of the System from its investments, including interest, dividends

and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from

one year to the next.

SECTION 4: Reporting Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT I		
Summary of Actuarial Valuation Results		
The valuation was made with respect to the following data supplied to	us:	
1. Retired participants as of the valuation date (including 215 beneficiaries in pay st	atus)	880
2. Members active during the year ended April 30, 2004		868
Fully vested	447	
Not vested	421	
3. Members due refunds as of April 30, 2004		4

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

1	detail of the scheduled contribution as of the valuation date is as follows: Actuarial accrued liability:		\$384,247,836
1.	Pensioners and beneficiaries	¢227.250.500	\$304,247,030
		\$227,358,588	
	Active participants	156,819,041	
	Due refund	70,207	
2.	Actuarial value of assets (\$354,268,401 at market value)		318,841,561
3.	Unfunded actuarial accrued liability: (1) – (2)		65,406,275
1.	Portion of unfunded/(overfunded) actuarial accrued liability that can be amortized		2,893,500
5.	Normal cost, payable monthly:		
	Amount		9,909,198
	As a percent of payroll		22.56%
5.	Total scheduled contribution: (4) + (5)		
	Amount		12,802,698
	As a percent of payroll		29.15%
7.	Expected employee contribution (9.55% of payroll)		4,194,366
8.	Scheduled City contribution: (6) – (7)		
	Amount		8,608,332
	As a percent of payroll		19.60%
).	Expected City contribution (19.60% of payroll)		8,608,332
10.	Total anticipated 2004 payroll		\$43,920,060
11.	Effective amortization period		Infinite

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

1.	Actuarial accrued liability:		\$384,247,836
	Pensioners and beneficiaries	\$227,358,588	
	Active participants	156,819,041	
	Due refund	70,207	
2.	Actuarial value of assets (\$354,268,401 at market value)		318,841,561
3.	Unfunded actuarial accrued liability: (1) – (2)		65,406,275
4.	Amortization of unfunded/(overfunded) actuarial accrued liability over 30 years		4,094,091
5.	Normal cost, payable monthly:		
	Amount		9,909,198
	As a percent of payroll		22.56%
6.	Total required contribution: $(4) + (5)$		
	Amount		14,003,289
	As a percent of payroll		31.88%
7.	Expected employee contribution (9.55% of payroll)		4,194,366
3.	Annual required contribution (ARC): (6) – (7)		
	Amount		9,808,923
	As a percent of payroll		22.33%
€.	Expected City contribution (19.60% of payroll)		8,608,332
10.	Difference in contributions: $(9) - (8)$		
	Amount		-1,200,591
	As a percent of payroll		-2.73%
11.	Total anticipated 2004 payroll		\$43,920,060

EXHIBIT II

Supplementary Information Required by the GASB – Schedule of City Contributions

Plan Year Ended April 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2000	\$6,798,148	\$6,798,148	100.0%
2001	6,990,611	6,990,611	100.0%
2002	7,709,082	7,709,082	100.0%
2003	8,215,224	8,215,224	100.0%
2004	9,632,622	8,455,725	87.8%
2005	9,808,923		

^{*} Actual contributions are shown for the plan years ended April 30, 2000 through April 30, 2003 since the effective amortization period is allowable by GASB. The annual required contribution for the plan years ended April 30, 2004 and April 30, 2005 is based on a 30-year amortization period, which is allowable by GASB.

EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a) / (c)]
05/01/1999	\$260,479,078	\$269,962,700	\$9,483,622	96.49%	\$33,092,300	28.66%
05/01/2000	310,012,225	326,277,600	16,265,375	95.01%	33,712,200	48.25%
05/01/2001	314,419,934	334,755,400	20,335,466	93.93%	36,046,956	56.41%
05/01/2002	313,619,727	358,688,291	45,068,564	87.44%	41,698,908	108.08%
05/01/2003	306,204,360	371,993,884	65,789,524	82.31%	42,315,396	155.47%
05/01/2004	318,841,561	384,247,836	65,406,275	82.98%	43,920,060	148.92%

EXHIBIT IV

Supplementary Information Required by the GASB

Valuation Date	May 1, 2004
Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Open 30-year amortization period; level dollar amount for remaining unfunded/(overfunded) actuarial accrued liability.
Remaining Amortization Period	30 years
Asset Valuation Method	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. 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.
Actuarial Assumptions:	
Investment rate of return*	8.00% per annum, net of investment fees and administrative expenses.
Projected salary increases	3.00% to 8.00% per annum, depending on age
Annual cost of living adjustments	3.00% of original benefit
Membership of the System:	
Pensioners and beneficiaries receiving benefits	880
Active plan members	868
Members due refunds	<u>4</u>
Total	1,752

^{*} Includes inflation at 3.00%

EXHIBIT V
Progress of Pension Rolls Through April 30, 2004

			In Force at End of Year		
Year Ended April 30	Awards	Deaths*	Number	Monthly Amount	
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	
2002	29	18	819	1,466,605	
2003	44	13	850	1,594,084	
2004	56	26	880	1,744,071	

^{*} Includes certain period expired benefits.

EXHIBIT VI
Pensions in Payment Status on May 1, 2004 by Type and Monthly Amount

	_			Type of Pension		
Monthly Amount	Total	Normal	Disability	Vested	Widows & QDROs	Children
Total	880	415	226	24	198	17
Under \$200	21			3	7	11
\$200 - 399	26			5	21	
400 – 599	48			4	44	
600 - 799	61	2	8	5	45	1
800 - 999	41	3	6	3	28	1
1,000 - 1,199	36	13	7		14	2
1,200 - 1,399	40	18	11		11	
1,400 - 1,599	70	44	16	1	9	
1,600 - 1,799	62	50	10		1	1
1,800 – 1,999	53	42	6	3	2	
2,000 - 2,199	47	26	15		6	
2,200 - 2,399	54	32	19		2	1
2,400 - 2,599	45	28	16		1	
2,600 - 2,799	57	30	26		1	
2,800 - 2,999	73	37	33		3	
3,000 - 3,199	39	27	12			
3,200 - 3,399	36	19	15		2	
3,400 - 3,599	15	6	9			
3,600 - 2,799	13	8	5			
3,800 - 3,999	14	10	4			
4,000 – 4,199	14	11	3			
4,200 – 4,399	4	3			1	
4,400 – 4,599	2	1	1			
4,600 – 4,799	3	2	1			
4,800 – 4,999						
5,000 and Over	6	3	3			

^{*} During the year ended April 30, 2004, there were 56 new pensions awarded (11 Normal, 31 Disabled, and 14 Widows, QDROs, and Children).

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SECTION 4: Reporting Information for the Firefighters' Pension System of the City of Kansas City, Missouri

EXHIBIT VII

Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

Healthy: 1971 Group Annuity Mortality Table with 5% of deaths assumed to be Duty related

Rate (%)

4.50

7.60

Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table

Rates before Retirement:

55

60

0.85

1.31

Sample rates shown below:

0.33

0.55

	Mortality		Disability	Withdrawal
Age	Male	Female		
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

Percentage of Disability Retirements that are Duty Related:

Age	Annual Rate (%)
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

Retirement Rates for Active Employees:

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

Retirement Age for Inactive

Vested Members: 50

Unknown Data for Members: Same as those exhibited by members with similar known characteristics.

Percent Married: 94% of active participants

Age of Spouse: Females four years younger than males

Eligible Children: None

Net Investment Return: 8.00%, net of investment fees and administrative expenses, including

inflation at 3.00%.

Salary Increases:	Age	Rate (%)
	Less than 25	8.00
	25 - 29	7.50
	30 - 34	7.00
	35 - 39	6.50
	40 - 44	5.50
	45 - 49	5.00
	50 - 54	4.50
	55 - 59	4.50
	60 - 64	4.00
	65 and up	3.00

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.

SECTION 4: Reporting Information for the Firefighters' Pension System of the City of Kansas City, Missouri

Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by service, with Normal Cost determined as if the current benefit accrual rate had always been in effect.
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.
Changes in Assumptions:	There have been no changes in actuarial assumptions or methods since the last valuation.

EXHIBIT VIII

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Pension System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	May 1 through April 30
Membership:	All Firefighters 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.
Normal Retirement:	
Age Requirement	None, however, members are required to retire after reaching age 65 regardless of service.
Service Requirement	25 years of service.
Amount	The base pension is 2.5% of average final compensation per year of creditable 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.
Duty Disability:	
Age Requirement	None
Service Requirement	None
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, 2004 is \$4,465.

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SECTION 4: Reporting Information for the Firefighters' Pension System of the City of Kansas City, Missouri

Non-duty Disability:

Age Requirement Less than 65

Service Requirement 10 years of service.

Amount The pension is 25% of the average final compensation plus 2.5% of average final

compensation per year of creditable service in excess of 10 years, not to exceed 80%

of average final compensation.

Vesting:

Age Requirement None

Service Requirement 10 years of service.

Amount 2.5% of average final compensation per year of creditable service, not to exceed

62.5% of average final compensation, payable at age 50.

If the employee dies in a deferred status, before age 50, their beneficiary receives a lump sum equal to member contributions with interest. If such death occurs after age 50, the widow and children receive the same benefits as for pre-retirement non-duty

disability, but reduced by the ratio of the member's service to 25 years.

Withdrawal (Refund) Benefit:

Age Requirement None

Service Requirement Less than 10 years of creditable service.

Amount If an employee terminates before becoming eligible for a deferred pension, they

receive a return of member contributions with interest. This benefit is reduced by a service charge of 10%, 8%, 6%, 4% or 2% if employee withdraws with less than one year, two years, three years, four years, or five years of employment respectively.

SECTION 4: Reporting Information for the Firefighters' Pension System of the City of Kansas City, Missouri

Pre-Retirement Duty Death Benefit:

Age RequirementNoneService RequirementNone

Funeral Benefit A lump-sum payment of \$2,000.

Surviving Spouse 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.

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 is paid 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 spouse remarries, the accumulated contributions or the

unpaid balance thereof shall be paid to the estate or to a named beneficiary.

Pre-Retirement Non-duty Death Benefit:

Age RequirementNoneService RequirementNone

Funeral Benefit A lump-sum payment of \$2,000.

Surviving Spouse Benefit 50% of the accrued pension is paid, with a minimum of 25% of average final

compensation payable for the life of the surviving spouse. The surviving spouse's benefit for 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 is paid 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 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.

Post-Retirement Death Benefit(s):

Age RequirementNoneService RequirementNone

Amount 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. Payments equal to the amount of the member's accumulated contributions are guaranteed. In addition, a

lump-sum funeral benefit of \$2,000 is paid.

SECTION 4: Reporting Information for the Firefighters' Pension System of the City of Kansas City, Missouri

Cost of Living Adjustment (COLA):	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 1 st in order to receive a COLA in the next year.
Contributions:	
Pension System	Employees contribute 9.55% of base salary. The City currently contributes 19.6% of payroll.
Interest on Employee	
Contributions	3.0% per year.
Health Insurance Subsidy	Effective January 1, 2000, the City contribution is 2% of base salary and the employee contribution is 1% of base salary.
	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:	There have been no changes in the plan provisions since the preceding actuarial valuation.