

Employees Retirement System of the City of St. Louis

*Actuarial Valuation and Review
as of October 1, 2003*

B

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January 14, 2004

*Board of Trustees
Employees Retirement System of the City of St. Louis
St. Louis, Missouri*

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2003. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the year beginning October 1, 2003 and analyzes the preceding year's experience.


The census information on which our calculations were based was prepared by the Department of Personnel and the financial information was provided in the Report of the Secretary. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Thomas D. Levy, FSA, MAAA, Enrolled Actuary.

This actuarial valuation has been completed using actuarial assumptions selected by the Board of Trustees. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate.


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

Sincerely,

THE SEGAL COMPANY

By: 

*Lall Bachan, ASA, MAAA, EA
Senior Vice President and Actuary*



*Thomas D. Levy, FSA, MAAA, EA
Senior Vice President and Chief Actuary*

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SECTION 1: Valuation Summary for the Employees Retirement System of the City of St. Louis

Purpose

This report has been prepared by The Segal Company to present a valuation of the Employees Retirement System of the City of St. Louis as of October 1, 2003. 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 participants, inactive vested participants, and retired participants and beneficiaries as of October 1, 2003, provided by the Department of Personnel;
- The assets of the Plan as of September 30, 2003, as shown in the Report of the Secretary;
- Economic assumptions regarding future salary increases and investment earnings, as chosen by the Board; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc., as approved by the Board.

Significant Issues in Valuation Year

- The recommended contribution for the year Plan ended September 30, 2003 was \$32.2 million, or 13.98% of compensation. Actual contributions for the year ended September 30, 2003 totaled \$19.1 million. The failure to make the recommended contribution has increased the unfunded actuarial accrued liability and the recommended contribution for future years.
- The recommended contribution for the current Plan year (October 1, 2003 through September 30, 2004) is \$30.9 million, or 13.53% of compensation. We suggest that the level of contributions to the Fund be made at the recommended contribution level, consistent with the Ordinance.
- At its regular meeting on February 3, 2003, the Board of Trustees voted to change the salary increase assumption to 3%. This change decreased the recommended contribution level.
- On a market value basis, the asset return for the year ended September 30, 2003 was 17.54%. However, for valuation purposes the full value of market fluctuations is not recognized in a single year. Due to the gradual recognition of unfavorable investment performance in prior years, the rate of return on an actuarial basis for the year ended September 30, 2003 was 0.36%.

SECTION 1: Valuation Summary for the Employees Retirement System of the City of St. Louis

- On an actuarial basis, there was a loss from investments this year of over \$32 million. This investment loss, combined with the lower than expected contributions in the prior year, offset the decrease in recommended contribution level due to the change in assumption.
- If the current year's actuarial value of assets had been 10% lower, the recommended contribution of \$30.9 million (13.53% of payroll) would have increased by \$4.6 million to a recommended contribution of \$35.5 million (15.54% of payroll). Conversely, if the actuarial value had been 10% higher, the recommended contribution of \$30.9 million would have decreased by \$4.6 million to a recommended contribution of \$26.3 million (11.52% of payroll). Because the actuarial value of assets involves a smoothing method, a 10% change in market value would not be fully reflected immediately in the actuarial value of assets. Rather, that effect would be spread over a period of years. We have shown the full impact immediately so as to indicate the sensitivity of costs to market fluctuations.
- Ordinance 64833 indicates that the unfunded actuarial accrued liability is to be fully amortized over 20 years from December 29, 1999, or 16.25 years from this valuation date. If, instead, the unfunded actuarial accrued liability were amortized over a period of 30 years from the valuation date, the recommended contribution for the year beginning October 1, 2003 would total \$27,530,880, or 12.05% of payroll.
- This was the third year in which active participants could elect to participate in the DROP. As of October 1, 2003, 324 active members are participating in the DROP, compared to 280 active participants in the second year. It was anticipated that the retirement pattern of active participants may change due to the existence of the DROP. The experience over the past three years indicates that a change in the retirement assumption may be appropriate, and that such change would likely result in an increased recommended contribution.

SECTION 1: Valuation Summary for the Employees Retirement System of the City of St. Louis

Summary of Key Valuation Results

	2003	2002
Contributions for plan year beginning October 1:		
Recommended	\$30,926,604	\$32,186,050
Actual	--	19,115,679
Funding elements for plan year beginning October 1:		
Normal cost	\$13,976,546	\$16,543,312
Market value of assets	439,771,027	382,673,108
Actuarial value of assets	424,917,296	432,590,313
Actuarial accrued liability	576,127,904	574,817,702
Unfunded actuarial accrued liability	151,210,608	142,227,389
GASB 25/27 for plan year beginning October 1:		
Annual required contributions	\$30,926,604	\$32,186,050
Actual contributions	--	19,115,679
Percentage contributed	--	59.39%
Funded ratio	73.75%	75.26%
Covered payroll	\$228,550,406	\$230,184,836
Demographic data for plan year beginning October 1:		
Number of retired participants and beneficiaries	3,860	3,796
Number of vested former participants	2,150	2,092
Number of active participants	6,035	6,186
Total compensation	\$228,550,406	\$230,184,836
Average compensation	\$ 37,871	\$ 37,211

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, vested terminated participants, retired participants 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 participant population has changed over the past ten valuations can be seen in this chart.

CHART 1
Participant Population: 1994 – 2003

Year Ended September 30	Active Participants	Vested Terminated Participants*	Retired Participants and Beneficiaries	Ratio of Non-Actives to Actives
1994	5,755	1,540	3,961	0.96
1995	5,844	1,591	3,931	0.94
1996	5,913	1,680	3,942	0.95
1997	5,928	1,728	3,950	0.96
1998	6,033	1,825	3,925	0.95
1999	5,947	1,942	3,861	0.98
2000	5,948	2,025	3,882	0.99
2001	5,980	2,072	3,848	0.99
2002	6,186	2,092	3,796	0.95
2003	6,035	2,150	3,860	1.00

* Beginning in 2001, rehires are included in both the active and vested terminated participant counts.

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

Active Participants

Plan costs are affected by the age, years of credited service and compensation of active participants. In this year's valuation, there were 6,035 active participants (including 324 DROP participants) with an average age of 45.4, average years of credited service of 11.2 years and average compensation of \$37,871. The 6,186 active participants in the prior valuation (including 280 DROP participants) had an average age of 45.0, average service of 10.9 years and average compensation of \$37,211.

Inactive Participants

In this year's valuation, there were 2,150 participants with a vested right to a deferred or immediate vested benefit.

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

CHART 2

Distribution of Active Participants by Age as of September 30, 2003

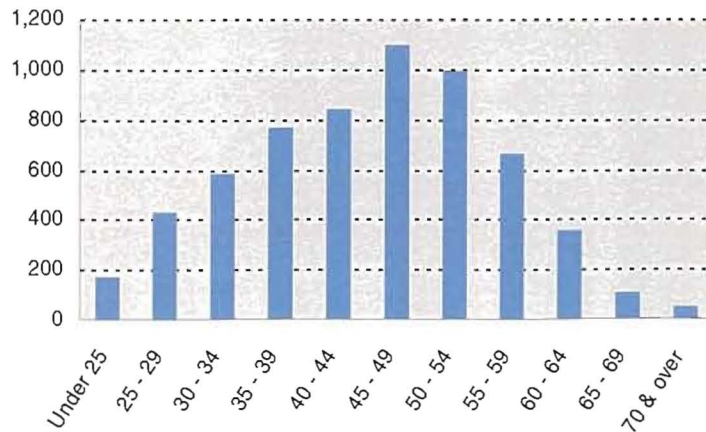
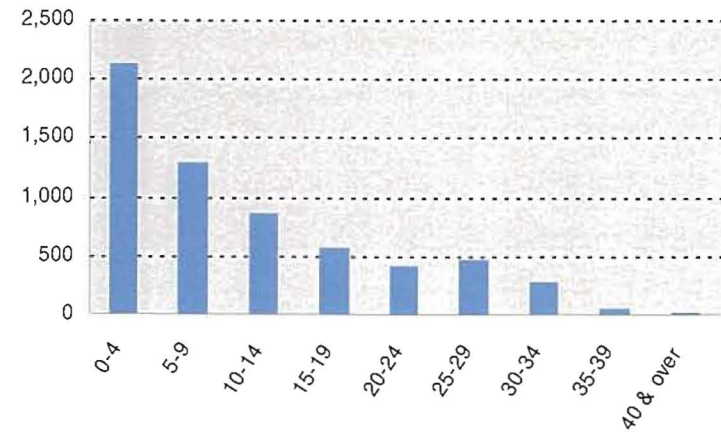


CHART 3

Distribution of Active Participants by Years of Credited Service as of September 30, 2003



SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

Retired Participants and Beneficiaries

As of September 30, 2003, 3,393 retired participants and 467 beneficiaries (not including DROP participants) had total monthly benefits of \$2,407,154. For comparison, in the previous valuation, there were 3,380 retired participants and 416 beneficiaries with monthly benefits of \$2,218,966.

These graphs show a distribution of the current retired participants and beneficiaries based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Participants and Beneficiaries by Type and by Monthly Amount as of September 30, 2003

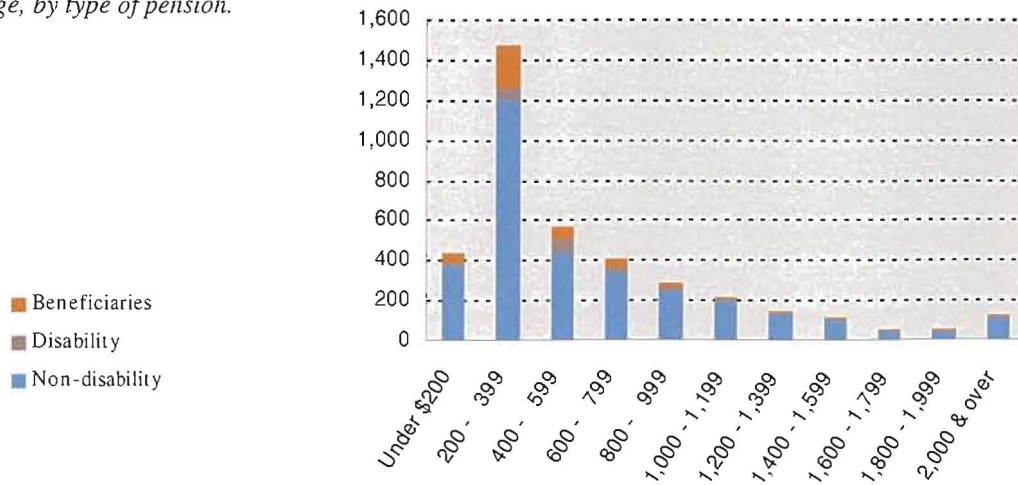
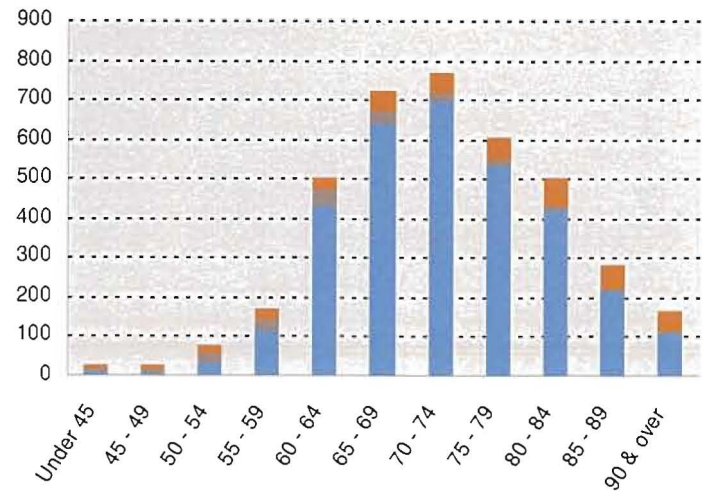


CHART 5

Distribution of Retired Participants and Beneficiaries by Type and by Age as of September 30, 2003



SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

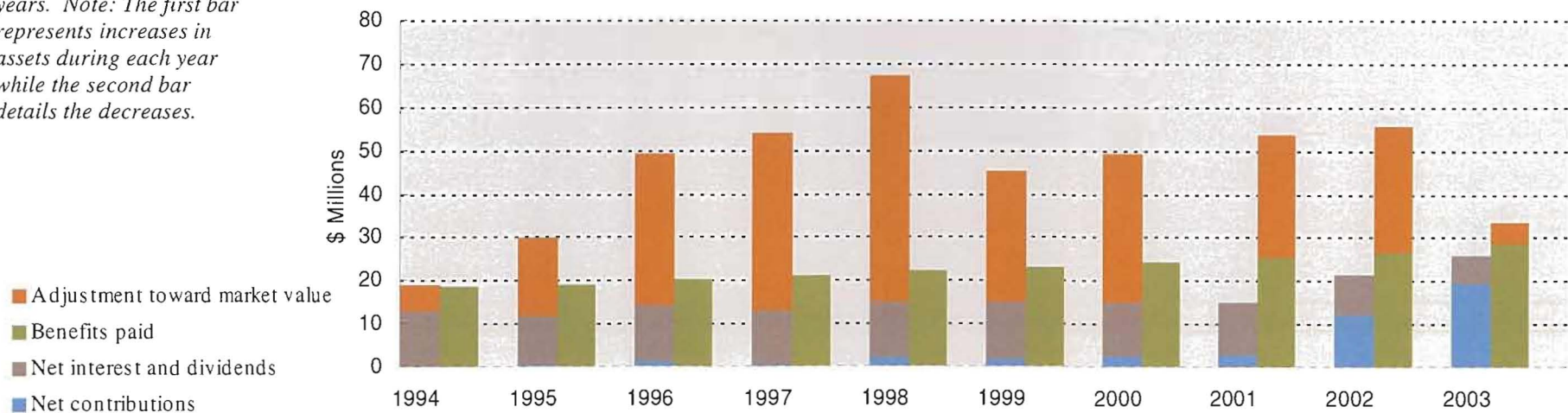
B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both net 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 C and D.

The chart depicts the components of changes in the actuarial value of assets over the last ten 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 September 30, 1994 – 2003



SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

It is desirable to have level and predictable plan 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 plan costs are more stable.

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

CHART 7

Determination of Actuarial Value of Assets for Year Ended September 30, 2003

1. September 30, 2000			
A. Market value	\$506,214,509		
B. Book value	<u>449,505,221</u>		
C. Excess of market value over book value			\$56,709,288
2. September 30, 2001			
A. Market value	\$423,434,641		
B. Book value	<u>432,567,605</u>		
C. Excess of market value over book value			-\$9,132,964
3. September 30, 2002			
A. Market value	\$382,673,108		
B. Book value	<u>416,508,921</u>		
C. Excess of market value over book value			-\$33,835,813
4. September 30, 2003			
A. Market value	\$439,771,027		
B. Book value	<u>419,183,653</u>		
C. Excess of market value over book value			\$20,587,374
5. Average unrealized gain / (loss) at the four most recent valuation dates			\$8,581,971
6. Members' savings			\$2,848,328
7. Actuarial value of assets: 4(B) + 5 - 6			<u>\$424,917,296</u>
8. As a percentage of market value			96.6%

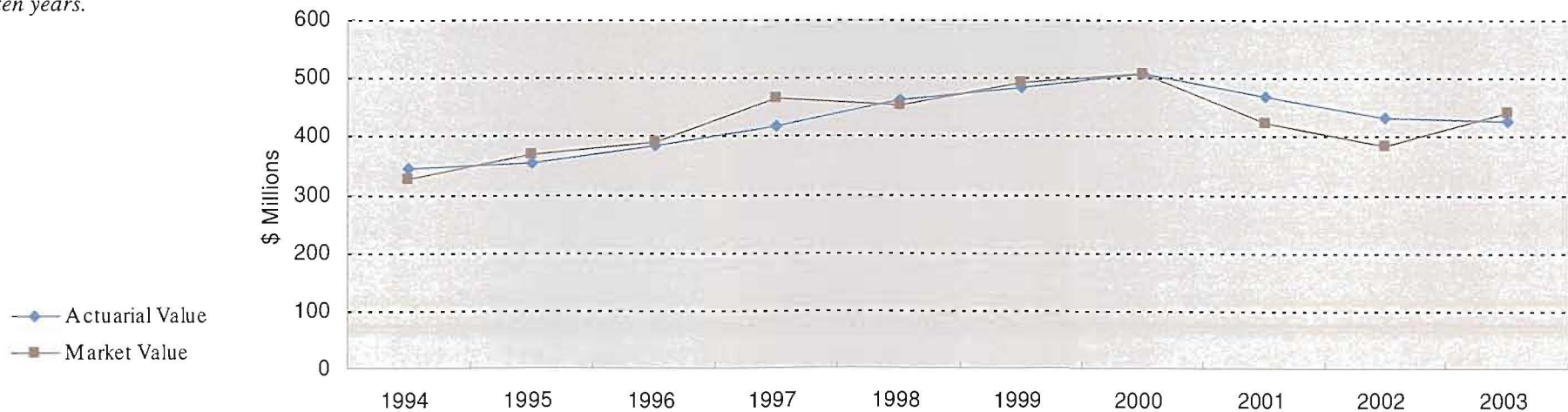
SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

Both the actuarial value and market value of assets are representations of the Plan's financial status. The actuarial asset value is significant because the Plan'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 ten years.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of September 30, 1994 – 2003



SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

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 total loss is \$32,229,841, \$32,713,553 from investments and a gain of \$483,712 from all other sources. The net experience variation from individual sources other than investments was less than 0.1% 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 September 30, 2003

1. Net loss from investments*	-\$32,713,553
2. Net gain from other experience**	<u>483,712</u>
3. Net experience loss: (1) + (2)	-\$32,229,841

* Details in Chart 10

** Details in Chart 13

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

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 Plan's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 8.00%. The actual rate of return on an actuarial basis for the 2003 plan year was 0.36%.

Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss during the year ended September 30, 2003 with regard to its investments.

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

CHART 10
Actuarial Value Investment Experience for Year Ended September 30, 2003

1. Actual return	\$1,525,722
2. Average value of assets	427,990,944
3. Actual rate of return: (1) ÷ (2)	0.36%
4. Assumed rate of return	8.00%
5. Expected return: (2) x (4)	\$34,239,275
6. Actuarial gain/(loss): (1) – (5)	<u>-\$32,713,553</u>

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

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 ten years, including five-year and ten-year averages.

CHART 11

Investment Return – Actuarial Value vs. Market Value: 1994 - 2003

Year Ended September 30	Net Interest and Dividend Income		Recognition of Capital Appreciation		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1994	\$12,711,940	3.83%	\$5,996,373	1.80%	\$18,708,313	5.63%	-\$8,667,755	2.53%
1995	11,376,672	3.42%	17,834,433	5.36%	29,211,105	8.78%	60,953,810	19.33%
1996	12,612,414	3.68%	35,129,695	10.24%	47,742,109	13.92%	40,584,533	11.35%
1997	12,535,107	3.38%	41,030,387	11.05%	53,565,494	14.43%	94,185,458	24.88%
1998	13,156,159	3.25%	52,256,042	12.93%	65,412,201	16.18%	8,336,866	1.85%
1999	13,121,400	2.92%	30,043,185	6.69%	43,164,585	9.61%	61,556,347	13.99%
2000	12,386,611	2.63%	33,982,499	7.21%	46,369,110	9.84%	35,686,796	7.43%
2001	12,001,812	2.42%	-27,909,181	-5.63%	-15,907,369	-3.21%	-57,662,700	-11.68%
2002	9,146,847	1.99%	-28,958,738	-6.30%	-19,811,891	-4.31%	-26,532,945	-6.37%
2003	<u>6,567,932</u>	1.53%	<u>-5,042,210</u>	-1.17%	<u>1,525,722</u>	0.36%	<u>66,296,658</u>	17.54%
Total	\$115,616,894		\$154,362,485		\$269,979,379		\$274,737,068	
					Five-year average return	2.40%		3.59%
					Ten-year average return	6.61%		8.16%

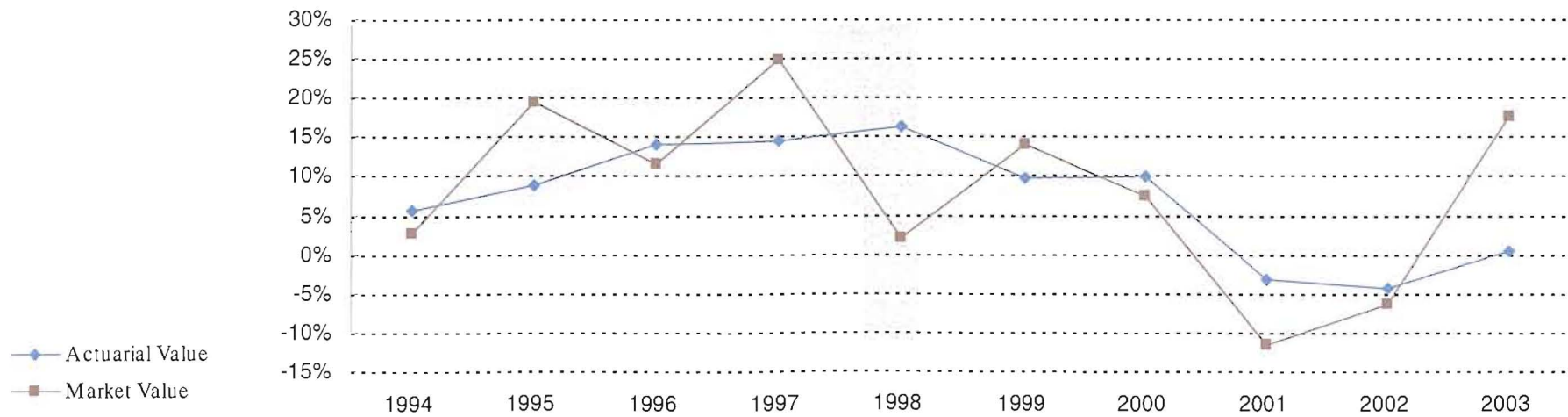
Note: Each year's yield is weighted by the average asset value in that year.

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

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 1994 - 2003 .

CHART 12
Market and Actuarial Rates of Return for Years Ended September 30, 1994 - 2003



SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

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 disability retirements, and
- salary increases different than assumed.

The net gain from this other experience for the year ended September 30, 2003 amounted to \$483,712, which is less than 0.1% of the actuarial accrued liability.

A brief summary of the demographic gain experience of the Plan for the year ended September 30, 2003 is shown in the chart below.

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 September 30, 2003

1. Turnover	-\$2,886,401
2. Retirement (including DROP experience)	-2,810,644
3. Deaths among retired members and beneficiaries	2,123,757
4. Salary increase for continuing actives	5,736,197
5. Miscellaneous	<u>-2,646,621</u>
6. Total	\$483,712

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution required to fund the Plan is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected compensation for active members to determine the funding rate. The funding rate is 13.53% of compensation as of October 1, 2003 compared to 13.98% as of October 1, 2002.

Section 12.3 of Ordinance #64833 requires the complete amortization of the unfunded actuarial accrued liability over 20 years from the passage of the Ordinance (December 29, 1999, or 16.25 years from October 1, 2003).

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

CHART 14
Recommended Contribution

	Year Beginning October 1			
	2003		2002	
	Amount	% of Compensation	Amount	% of Compensation
1. Total normal cost	\$13,976,546	6.12%	\$16,543,312	7.19%
2. Actuarial accrued liability	576,127,904		574,817,702	
3. Actuarial value of assets	<u>424,917,296</u>		<u>432,590,313</u>	
4. Unfunded actuarial accrued liability: (2) – (3)	\$151,210,608		142,227,389	
5. Payment on unfunded actuarial accrued liability, beginning of year	15,694,587	6.87%	14,336,140	6.23%
6. Total recommended contribution: (1) + (5), adjusted for timing*	<u>\$30,926,604</u>	<u>13.53%</u>	<u>\$32,186,050</u>	<u>13.98%</u>
7. Projected compensation	\$228,550,406		\$230,184,836	

**Recommended contributions are assumed to be paid at the end of every month.*

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

The contribution rates as of October 1, 2003 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the 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.

This valuation includes a change in interest credited to DROP accounts for those entering the DROP on or after January 21, 2003, from the valuation interest assumption to the yield on the ten-year Treasury Bond as of the date of the Retirement System's most recent plan year end. This

change had no effect on the recommended contribution this year.

The Board of Trustees adopted a change in the salary increase assumption from rates that vary by age to a flat 3% increase per year. This change decreased the recommended contribution.

Reconciliation of Recommended Contribution

The chart below details the changes in the recommended 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 Recommended Contribution from October 1, 2002 to October 1, 2003

Recommended Contribution as of October 1, 2002	\$32,186,050
Effect of change in actuarial assumptions	-6,366,319
Effect of contributions less than recommended contribution	1,452,475
Effect of investment loss	3,539,105
Effect of other gains and losses on accrued liability	-52,330
Effect of net other changes	<u>167,623</u>
Total change	<u>-\$1,259,446</u>
Recommended Contribution as of October 1, 2003	\$30,926,604

SECTION 2: Valuation Results for the Employees Retirement System of the City of St. Louis

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 Plan.

The other critical piece of information regarding the Plan'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.

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB factors.

CHART 16
Required Versus Actual Contributions, Years Ended September 30

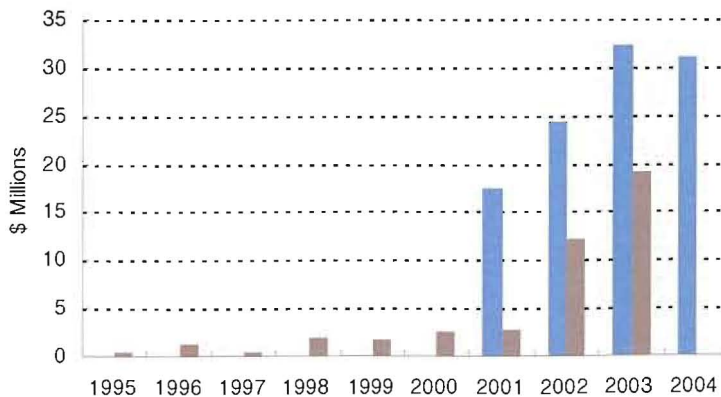
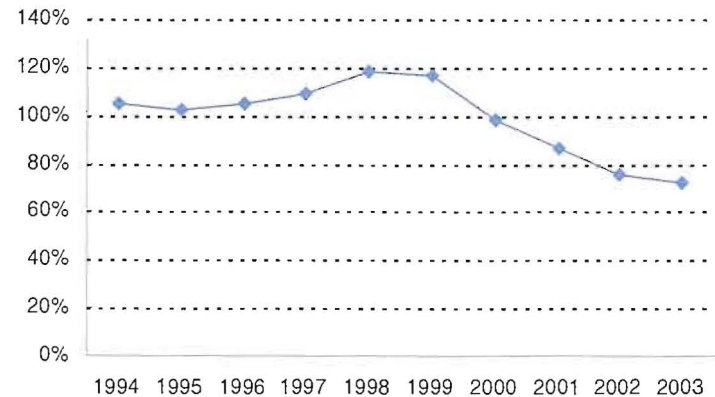


CHART 17
Funded Ratio, Years Ended September 30



SECTION 3: Supplemental Information for the Employees Retirement System of the City of St. Louis

EXHIBIT A

Table of Plan Coverage

Category	Year Ended September 30		Change From Prior Year
	2003	2002	
Active participants in valuation:			
Number	6,035	6,186	-2.4%
Average age	45.4	45.0	N/A
Average service	11.2	10.9	N/A
Total compensation	\$228,550,406	\$230,184,836	-0.7%
Average compensation	\$ 37,871	\$ 37,211	1.8%
Total active vested participants	3,908	3,880	0.7%
Vested terminated participants	2,150	2,092	2.8%
Retired participants:			
Number in pay status	3,393	3,380	0.6%
Average age	72.7	72.8	N/A
Average monthly benefit	\$639	\$599	7.0%
Beneficiaries	467	416	12.3%
DROP participants*			
Number in pay status	324	280	15.7%
Average age	60.1	60.1	N/A
Average monthly benefit deposited to account	\$1,468	\$1,465	0.2%
Average account balance	\$29,299	\$19,235	52.3%

* *DROP participants also included in active participant statistics*

SECTION 3: Supplemental Information for the Employees Retirement System of the City of St. Louis

EXHIBIT B

**Participants in Active Service as of September 30, 2003
By Age, Years of Credited Service, and Average Compensation**

Age	Years of Credited Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 20	6	6	--	--	--	--	--	--	--	--
	24,076	24,076	--	--	--	--	--	--	--	--
20 - 24	167	166	1	--	--	--	--	--	--	--
	25,580	25,561	28,886	--	--	--	--	--	--	--
25 - 29	430	371	57	2	--	--	--	--	--	--
	29,170	29,102	29,822	23,088	--	--	--	--	--	--
30 - 34	576	346	199	29	2	--	--	--	--	--
	32,244	30,601	35,074	32,968	24,206	--	--	--	--	--
35 - 39	766	332	227	154	51	2	--	--	--	--
	34,988	32,010	35,230	38,922	41,392	35,490	--	--	--	--
40 - 44	836	280	196	180	123	40	17	--	--	--
	37,458	33,336	36,478	40,820	40,612	43,550	43,914	--	--	--
45 - 49	1,095	249	246	185	144	148	108	15	--	--
	40,383	34,858	35,074	41,106	45,214	47,970	46,488	45,032	--	--
50 - 54	993	187	177	138	104	105	169	110	3	--
	42,199	33,930	37,830	40,872	43,888	49,114	49,062	46,384	35,776	--
55 - 59	662	125	90	82	69	44	113	109	29	1
	43,121	33,770	37,128	39,468	42,926	47,346	51,896	49,842	47,268	34,034
60 - 64	356	48	64	58	51	42	39	31	17	6
	40,575	34,408	35,412	39,260	45,786	44,382	47,970	42,822	36,946	37,336
65 - 69	103	15	15	23	12	17	8	4	4	5
	39,283	35,377	38,662	39,494	38,584	42,198	45,942	34,346	41,886	34,866
70 & over	45	2	9	9	7	6	3	2	5	2
	38,427	34,372	38,636	28,106	31,148	65,728	27,144	52,364	36,088	40,404
Total	6,035	2,127	1,281	860	563	404	457	271	58	14
	\$37,871	\$31,608	\$35,698	\$39,832	\$43,004	\$47,346	\$48,672	\$47,164	\$42,328	\$36,660

SECTION 3: Supplemental Information for the Employees Retirement System of the City of St. Louis

EXHIBIT C

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended September 30, 2003	Year Ended September 30, 2002
Contribution income:		
Employer contributions	\$19,115,679	\$12,106,532
Member purchase of additional service	<u>41,935</u>	<u>0</u>
Net contribution income	\$19,157,614	\$12,106,532
Investment income:		
Interest, dividends and other income	\$9,009,924	\$11,697,325
Adjustment toward market value	-5,042,210	-28,958,738
Less investment and administrative fees	<u>-2,441,992</u>	<u>-2,550,478</u>
Net investment income	<u>1,525,722</u>	<u>-19,811,891</u>
Total income available for benefits	\$20,683,336	-\$7,705,359
Less benefit payments:		
Retirement payments	\$27,304,474	\$26,075,121
DROP distributions	917,111	267,577
Contribution refunds	81,489	0
Pension service transfer payments	62,191	3,640
Member contributions	<u>-8,912</u>	<u>-11,218</u>
Net benefit payments	\$28,356,353	\$26,335,120
Change in reserve for future benefits	-\$7,673,017	-\$34,040,479

SECTION 3: Supplemental Information for the Employees Retirement System of the City of St. Louis

EXHIBIT D

Table of Financial Information

	Year Ended September 30, 2003	Year Ended September 30, 2002
Cash equivalents	\$649,272	\$400,846
Accounts receivable:		
Accrued interest and dividends	\$1,270,546	\$2,365,593
Contributions	<u>57,254</u>	<u>803,048</u>
Total accounts receivable	1,327,800	3,168,641
Investments:		
Debt securities	\$162,247,203	\$174,362,420
Managed funds	55,473,819	65,393,176
Common stock and other	<u>220,490,069</u>	<u>139,782,551</u>
Total investments at market value	<u>438,211,091</u>	<u>379,538,147</u>
Total assets	<u>\$440,188,163</u>	<u>\$383,107,634</u>
Less accounts payable	-\$417,136	-\$434,526
Net assets at market value *	<u>\$439,771,027</u>	<u>\$382,673,108</u>
Net assets at actuarial value *	<u>\$424,917,296</u>	<u>\$432,590,313</u>

* Includes \$10,399,709 DROP account balances in 2003 and \$5,662,024 in 2002.

SECTION 3: Supplemental Information for the Employees Retirement System of the City of St. Louis

EXHIBIT E

Development of Unfunded Actuarial Accrued Liability for Year Ended September 30, 2003

1. Unfunded actuarial accrued liability at beginning of year		\$142,227,389
2. Normal cost at beginning of year		16,543,312
3. Total contributions		-19,157,614
4. Interest		
(a) For whole year on (1) + (2)	\$12,701,656	
(b) For half year on (3)	<u>-766,305</u>	
(c) Total interest		<u>11,935,351</u>
5. Expected unfunded actuarial accrued liability		\$151,548,438
6. Changes due to:		
(a) (Gain)/loss	\$32,229,841	
(b) Assumptions	-32,567,671	
(c) Funding method	0	
(d) Plan provisions	<u>0</u>	
(e) Total changes		<u>-337,830</u>
7. Unfunded actuarial accrued liability at end of year		<u>\$151,210,608</u>

EXHIBIT F

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 Plan is calculated including:

- (a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age;
- (d) Turnover rates — 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 Plan exceeds the assets of the Plan. 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.

SECTION 3: Supplemental Information for the Employees Retirement System of the City of St. Louis

Amortization of the Unfunded Actuarial Accrued Liability:

Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.

Investment Return:

The rate of earnings of the Plan 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 Employees Retirement System of the City of St. Louis

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 467 beneficiaries)	3,860
2. Participants inactive during year ended September 30, 2003 with vested rights	2,150
3. Participants active during the year ended September 30, 2003 (including 324 DROP participants)	6,035
Fully vested	3,908
Not vested	2,127

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

1. Normal cost	\$13,976,546
2. Actuarial accrued liability	576,127,904
Retired participants and beneficiaries	\$260,115,798
Inactive participants with vested rights	34,900,641
Active participants	281,111,465
3. Actuarial value of assets (\$439,771,027 at market value)	424,917,296
4. Unfunded actuarial accrued liability	\$151,210,608

2002
574,917,702
432,590,313
75.26%

73.75%

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended contribution is as follows:

1. Employer normal cost	\$13,976,546
2. Payment on unfunded actuarial accrued liability	15,694,587
3. Total recommended contribution: (1) + (2), adjusted for timing	<u>\$30,926,604</u>
4. Projected compensation	\$228,550,406
5. Total recommended contribution as a percentage of projected compensation: (3) ÷ (4)	13.53%

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

EXHIBIT II

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Plan Year Ended September 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
1998	\$ 0	\$ 1,816,739	N/A
1999	0	1,651,025 *	N/A
2000	0	2,535,798 **	N/A
2001	17,492,110	2,768,207	15.8%
2002	24,269,937	12,106,532	49.9%
2003	32,186,050	19,115,679	59.4%
2004	30,926,604	--	--

* Does not include \$264,544 adjustment made the following year.

** Does not include -\$2,515,432 adjustment made the following year.

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

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)]
10/01/1998	\$460,683,063	\$390,780,537	-\$69,902,526	117.89%	\$188,141,151	0.00%
10/01/1999	482,750,053	415,594,927	-67,155,126	116.16%	193,273,578	0.00%
10/01/2000	507,655,329	515,673,757	8,018,428	98.45%	204,696,581	3.92%
10/01/2001	466,630,792	542,547,374	75,916,582	86.01%	216,527,124	35.06%
10/01/2002	432,590,313	574,817,702	142,227,389	75.26%	230,184,836	61.79%
10/01/2003	424,917,296	576,127,904	151,210,608	73.75%	228,550,406	66.16%

* *Not less than zero*

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

EXHIBIT IV

Supplementary Information Required by the GASB

Valuation date	October 1, 2003
Actuarial cost method	Projected Unit Credit Cost Method
Amortization method	Level dollar amount for unfunded liability
Remaining amortization period	16.25 years as of October 1, 2003
Asset valuation method	One-quarter of the difference between the book value of assets and the market value of assets for each of the previous four years is added to the current book value reduced by the amount of members' savings
Actuarial assumptions:	
Investment rate of return	8.00% per year, net of expenses
Projected salary increases	3.00% per year
Cost of living adjustments	5.00% per year; maximum cumulative increase of 25%
Plan membership:	
Retired participants and beneficiaries	3,860
Terminated participants entitled to, but not yet receiving benefits	2,150
Active participants	<u>6,035</u>
Total	12,045

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

EXHIBIT V

Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

Healthy: 1994 Group Annuity Mortality Table

Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table

Mortality and Disability Rates before Retirement:

Age	Mortality Rate (%)		Disability Rate (%)	
	Male	Female	Male	Female
20	0.05	0.03	0.00	0.00
25	0.07	0.03	0.00	0.00
30	0.08	0.04	0.00	0.00
35	0.09	0.05	0.00	0.00
40	0.11	0.07	0.20	0.10
45	0.16	0.10	0.30	0.20
50	0.26	0.14	0.90	0.50
55	0.44	0.23	1.10	0.70
60	0.80	0.44	0.70	0.50

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

Withdrawal Rates before Retirement:

Withdrawal Rate (%)					
With Less Than Four Years of Creditable Service			With Four or More Years of Creditable Service		
Creditable Service	Male	Female	Age	Male	Female
0	20.0	18.0	20	25.00	13.90
1	13.0	12.2	25	17.80	12.34
2	11.5	11.5	30	10.24	9.14
3	10.5	10.5	35	7.38	6.74
			40	5.74	5.56
			45	4.44	4.78
			50	3.64	3.84
			55	3.16	3.16

Retirement Rates:

Age	Retirement Rate (%)	Age	Retirement Rate (%)
55	6.0	63	15.0
56	3.5	64	20.0
57 – 59	5.0	65	40.0
60	10.0	66	25.0
61	15.0	67 – 69	20.0
62	25.0	70	100.0

In addition, the first year that a participant satisfies the requirements under the “Rule of 85,” retirement is assumed to occur at the greater of 10% or the age-related rate in the table above.

Retirement Age for Inactive Vested Participants:

For members who terminate employment with 30 or more years of credited service or are eligible for a Rule of 85 pension, immediate commencement of benefits is assumed. All others are assumed to retire at age 62.

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

DROP Participants:	Participants in the DROP are assumed to remain in the DROP for 5 years. The standard retirement rates are assumed. Interest for future years is assumed to be credited at 6% for those participants who enter the DROP after January 21, 2003.
Unknown Data for Participants:	Same as those exhibited by Participants with similar known characteristics. For inactive vested participants with unknown benefit amounts, \$250 per month is assumed.
Rehires:	A 0.4% load on active accrued liability and normal cost has been added to reflect the cost of rehires.
Sick Leave:	Sick leave may be used to increase either Final Average Compensation, Credited Service, or both. The valuation assumes: <ul style="list-style-type: none">• 100 hours accrued each year• 50% of accrued hours are “banked”• 25% of banked hours are used first to increase Final Average Compensation• The remainder of available banked hours is used to increase Credited Service
Percent Married:	1960 U.S. census, varies by sex and age
Age of Spouse:	Females (or males) are three years younger (or older) than their spouses
Net Investment Return:	8.00% per year, net of expenses
Salary Increases:	3.0%
Increase in Social Security Taxable Wage Base:	4.5% per year
Cost-of-Living Adjustment:	5% per year for 5 years

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

Actuarial Value of Assets: The sum of:

- (a) The book value of assets at the beginning of the year, plus
- (b) 25% of the difference between market value and book value for each of the last four years, less
- (c) The Members' Savings Fund

Actuarial Cost Method: Projected Unit Credit Actuarial Cost Method.

Changes in Assumptions: The following actuarial assumptions were changed:

- Salary Scale, previously varied by age. Change adopted by Board of Trustees on February 3, 2003.
- Interest credited to DROP participants who enter the DROP after January 21, 2003, previously 8.0%. Changed due to change in plan provisions by Ordinance effective January 21, 2003.

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

EXHIBIT VI

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan 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: October 1 through September 30

Final Average Compensation: One-half the sum of:

- (a) The total compensation earned during the last two highest consecutive years of Creditable Service prior to termination; and
- (b) The balance of sick leave pay as of the date of retirement less sick leave hours paid upon termination and less sick leave hours considered as Creditable Service. Said balance cannot exceed 25% of a member's total sick leave pay as of the date of retirement.

Benefit Compensation Base: Amount of annual compensation with respect to which old age and survivor's insurance benefits would be provided under the Social Security Act as revised on December 1, 1973 to become effective in 1974 (old law) calculated when the member terminates employment.

Normal Retirement:

<i>Age Requirement</i>	65
<i>Service Requirement</i>	Five years of service
<i>Amount</i>	1.30% of Final Average Compensation up to the Benefit Compensation Base plus 2.05% of Final Average Compensation in excess of the Benefit Compensation Base times Credited Service (minimum \$200 per month for retirees with 12 or more years of service)

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

Rule of 85 Retirement:

<i>Age and Service Requirement</i>	Sum of age and creditable service at date of termination equals or exceeds 85
<i>Amount</i>	1.3% of Final Average Compensation plus 0.75% of Final Average Compensation in excess of the Benefit Compensation Base times Creditable Service

Early Service Retirement:

<i>Age and Service Requirement</i>	Age 60 with five years of service; or age 55 with 20 years of Creditable Service; or any age with 30 years of Creditable Service
<i>Amount</i>	Normal retirement amount reduced by 1/3% for each month benefit begins before age 65.

Disability:

<i>Age Requirement</i>	None
<i>Service Requirement</i>	Five years of Creditable Service and a member at disablement
<i>Amount</i>	Normal service retirement amount based on Credited Service and Final Average Compensation at disability, payable immediately

DROP (Deferred Retirement Option Plan):

Members who have achieved eligibility for retirement can continue active employment and defer receipt of their retirement allowance for a period not to exceed five years. During the DROP period, the member's retirement allowance will be paid directly into a separate account.

Service during the DROP period shall not be counted as Creditable Service, nor shall it count toward determination of retirement allowance. A member's DROP account shall not be adjusted for any cost-of-living increases during participation in the DROP. No member returning to non-DROP status shall make any withdrawal from his/her DROP account until after termination of employment.

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

The account balance is credited with interest annually. In no event does the total account balance exceed the accumulated value of five-years-payments with interest.

The annuity awarded upon full termination and subsequent benefit receipt reflects the unused sick-leave conversion to Credited Service and/or Final Average Compensation. During participation in the DROP, the annual deposit to the account does NOT reflect any conversion of unused sick leave as each participant continues to accrue sick leave hours.

Vesting:

<i>Age Requirement</i>	None
<i>Service Requirement</i>	Five years of service
<i>Amount</i>	Normal or early service retirement amount

Spouse's Pre-Retirement Death Benefit:

<i>Age Requirement</i>	None
<i>Service Requirement</i>	Five years of Creditable Service and active
<i>Amount</i>	100% of the benefit employee would have received had the employee survived to the earliest retirement age, retired on the date of death, and elected the Joint and Survivor option. The pension is payable on the day the participant would have been eligible for an early service retirement benefit.

Note: Other death benefits may be payable to members who have terminated employment

Post-Retirement Death Benefits:

If married, the employee and spouse may elect to have pension benefits paid in the form of a 100% joint and survivor annuity. A member may also elect a ten year certain and life equivalent form of benefit. If elected, the benefit amount otherwise payable is reduced to reflect the coverage. If not elected, benefits are payable for the life of the employee without reduction.

SECTION 4: Reporting Information for the Employees Retirement System of the City of St. Louis

Cost-of-Living Adjustment: Based on the change in the Consumer Price Index for the fiscal year, subject to a maximum increase per year of 5.0% (3.0% for retirements between March 21, 1972 and March 26, 1974; none for retirements prior to March 21, 1972), with a cumulative percentage increase (equal to the sum of the annual percentage increases) limited to 25.0%. If the change is less than 1.0%, no adjustment is made. If the change is a decrease, the cost-of-living adjustment shall be zero unless the decrease is 5.0% or more. Adjustments begin on the second January 1 after payments begin.

Creditable Service: Years of Creditable Service are the number of years and months during which the participant receives compensation.

Membership: Immediate upon employment

Changes in Plan Provisions: The following plan provision was changed and is reflected in this valuation:

- Participants who enter the DROP on or after January 1, 2003 will have interest credited to their DROP account at a rate equal to the yield on the ten-year Treasury Bond as of the date of the Retirement System's most recent plan year end. Changed by Ordinance effective January 21, 2003.

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