

May 2002

Management Report

**Retirement System for Employees
Actuarial Valuation - December 31, 2001**

The City of Cincinnati

MERCER

Human Resource Consulting

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Introduction

This actuarial summary provides management with current year information and historical data relative to the Retirement System. While the annual actuarial valuation report primarily develops information for the year ending December 31, 2001 and the 2003 contribution rate, this summary also tracks trends over the last 25 years regarding:

- 1) contributions as a percent of total payroll, and in dollar amounts, including sources of change from the prior year,
- 2) plan participation, and
- 3) the funding progress (last 5 years).

This summary also discusses current issues and considerations relative to the Retirement System.

Summary of Valuation Results

Retirement System of The City of Cincinnati

	12/31/1999	12/31/2000	12/31/2001	Percentage (Decrease) Increase 2000/2001
Participants				
Active - Full Time	4,221	4,128	3,946	(4.4)%
Inactive	4,300	4,334	4,430	2.2%
Total Payroll	\$ 172,268,484	\$ 171,555,002	\$ 168,338,686	(4.5)%
Developed Employer Normal Cost as a Percent of Payroll	(8.30)% ⁽¹⁾	14.43%	13.44%	N/A
Employer Total Contribution as a Percent of Payroll	(8.30)% ⁽²⁾	(4.81)% ⁽²⁾	3.00% ⁽²⁾	N/A
Actual Contribution				
Employer	\$ 12,768,885	\$ 12,520,902	\$ 13,374,661	6.8%
Members	13,163,743	12,991,882	13,571,803	4.5%
Assets				
Market Value	\$ 2,626,392,512	\$ 2,560,804,597	\$ 2,352,508,062	(8.1)%
Actuarial Value	2,251,554,942	2,363,697,947	2,475,933,148	4.7%
Return (Market Value)	12.10%	0.60%	(4.50)%	
Return (Actuarial Value)	14.30%	8.75%	8.75%	
Present Value of Benefits ⁽³⁾	\$ 2,162,175,783	\$ 2,330,890,618	\$ 2,524,215,831	8.3%
Actuarial Accrued Liability ⁽³⁾	\$ 1,909,684,171	\$ 2,071,566,514	\$ 2,318,801,723	11.9%
Funding Progress ⁽⁴⁾	118%	114%	107%	(6.1)%
Value of Accrued Benefits ⁽³⁾				
Vested	\$ 1,580,417,442	\$ 1,736,364,291	\$ 2,125,485,187	22.4%
Total	1,630,762,160	1,793,830,533	2,185,326,810	21.8%

(1) Determined under the prior actuarial funding method and is not directly comparable to later years.

(2) Contributions are being made at 7.0% for 1999 through 2002.

(3) The Present Value of Benefits is the present value of all future benefits (based on projected pay and service) current participants are expected to receive. The Actuarial Accrued Liability is the portion of those benefits that have already been earned by virtue of past service. The Value of Accrued Benefits is the present value of benefits earned to date based on current pay and current service.

(4) Ratio of Actuarial Value of Assets to Actuarial Accrued Liability. Assumes total Normal Cost rate remains at 20.76% of pay. See page 16.

Summary of Valuation Results

Change in Contribution Rate

While the plan is fully funded, the contribution is determined by taking the normal cost of the plan (the cost of benefits accruing to participants this year) and reducing it for an amortization payment on the surplus (excess of actuarial value of assets over actuarial accrued liability). The contribution amount is then converted to a contribution rate by dividing it by expected payroll.

Thus, the contribution rate depends on three things: the surplus, the normal cost, and the expected payroll.

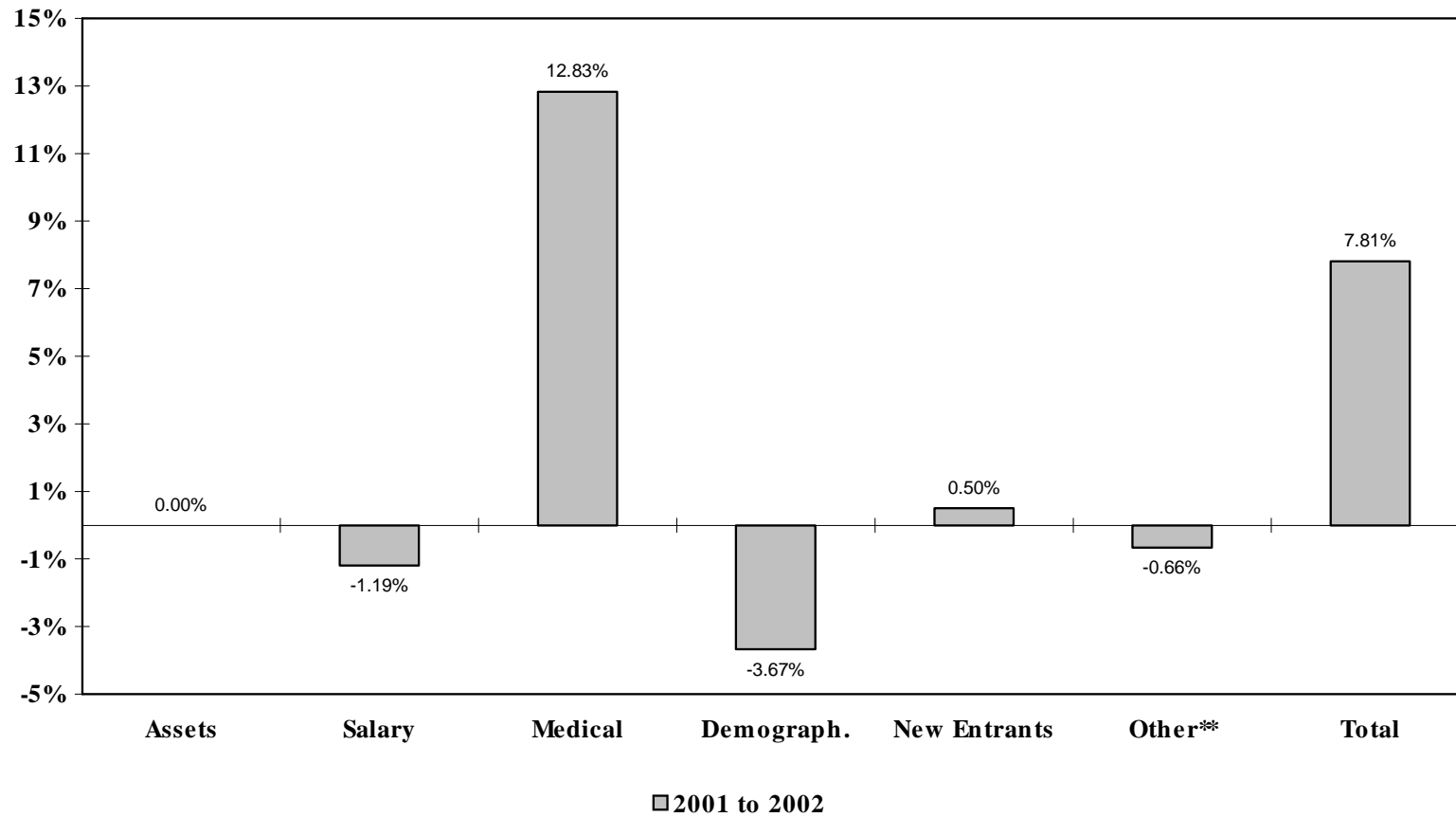
The contribution rate prior to reflecting expected employee contributions increased from 2.51% of payroll in 2001 to 10.32% in 2002. This is due primarily to sharply increased medical costs.

Component	Change in Surplus	Change in Normal Cost Rate	Change in Contribution Rate
Asset experience	\$0	0.00%	0.00%
Salary experience	(17,318,000)	0.12%	(1.19)%
New entrants	1,925,000	(0.11)%	0.50%
Participant demographics	(27,468,000)	(0.10)%	(3.67)%
Medical Experience	166,188,000	1.38%	12.83%
Plan change	0	0.00%	0.00%
Assumption Changes (other than interest rate)	38,876,000	(2.30)%	0.29%
Employer Contributions	(13,897,000)	0.00%	(0.95)%
Total Change	148,306,000	(1.00)%	7.81%

Gains are shown as negative numbers and losses are shown as positive numbers.

The following exhibit illustrates the changes in the contribution rate last year.

CHANGE IN CONTRIBUTION RATE * 2001



* Changes in contribution rate before reflecting expected employee contributions

** Other includes 2001 changes in actuarial assumptions and additional employer contributions.

Summary of Valuation Results

Assumption Changes

Comprehensive changes were made to the demographic assumptions and medical assumptions.

As a result of the experience study performed last year, we were able to update retirement, termination, and salary increase assumptions. The retirement rates at the younger ages have been increased, termination rates have increased a little at most ages, and the salary scale has been changed from a flat 4.5% annual increase after three years of service to one that varies by service. The average annual increase over a career of 30 years is 4.7%. Implementation of these assumption changes resulted in an increase of \$38.9 million in the Actuarial Accrued Liability.

The medical assumptions were updated to provide greater accuracy.

Claims Costs: Previously, claims costs were updated annually to reflect the year over year change in claims paid. Based upon our analysis of recent claims costs, the claims rates used to determine liabilities increased 35%-40% over last year. In addition, we divided participants into two groups and developed separate sets of claims costs for each group. We did this in order to reflect a higher degree of participation in Medicare Part A for future retirees.

Medical Trends: Medical trend rates changed from a flat 7% to a table that grades down gradually from the current double digit medical trend rates to a more sustainable rate of about 5%. We created separate trend assumptions for gross medical costs and Medicare payments.

Aging: A table was added to allow medical costs to increase with age.

Participation: Since cost sharing was implemented for those hired on or after January 1, 1997, we have been reflecting only the city's portion of medical costs for those expected to terminate with less than 90 points of age and service. This year we also took into account likely lower participation rates for these groups.

The net effect of the medical experience and the medical assumption changes was an increase of \$177.1 million in the Actuarial Accrued Liability.

City of Cincinnati
Comparison of Results to Last Year
December 31, 2001 Results

	12/31/2000	12/31/2001
1. Present Value of Projected Benefits:		
(a) Active Participants	1,160,326,080	1,124,883,847
(b) Participants with Deferred Benefits	21,095,541	24,677,288
(c) Participants Receiving Benefits	1,149,468,997	1,374,654,696
(d) Total	2,330,890,618	2,524,215,831
2. Present Value of Future Employee Contributions	113,558,750	95,003,353
3. Present Value of Future Normal Costs	145,765,354	110,410,755
4. Entry Age Accrued Liability (1)(d) - (2) - (3)	2,071,566,514	2,318,801,723
5. Actuarial Value of Assets	2,363,697,947	2,475,933,148
6. Unfunded/(Surplus) (4) - (5)	(292,131,433)	(157,131,425)

	Dollar Amount	Percent of Proj. Pay	Dollar Amount	Percent of Proj. Pay
7. Amortization of Unfunded/(Surplus) Over 15 Years (at the beginning of the year)	(32,835,252)	-18.40%	(17,661,399)	-9.98%
8. Amortization of Unfunded/(Surplus) Over 15 Years (assuming monthly payments)	(34,352,241)	-19.25%	(18,477,356)	-10.44%
9. Total Normal Cost (at the beginning of the year)	28,516,179	15.98%	27,024,808	15.27%
10. Expenses	8,600,000	4.82%	8,100,000	4.58%
11. Total Normal Cost (assuming monthly payments)	38,830,946	21.76%	36,747,574	20.76%
12. Employees Expected Contributions to Normal Cost (assuming monthly payments)	13,069,922	7.32%	12,963,164	7.32%
13. Employer Normal Cost (11) - (12)	25,761,024	14.43%	23,784,410	13.44%
14. Employer Total Cost (8) + (13)	(8,591,217)	-4.81%	5,307,054	3.00%

Actuarial Summary

Employer Contributions

The graph on page 8 shows employer contributions over the 25 years preceding 2001, expressed as a percent of total payroll.

This exhibit shows a total employer contribution which was generally stable from 1977 to 1983. However, more volatility occurred between 1984 and 1994, with a big drop in contribution rate occurring when the unfunded liability became completely paid off in 1998.

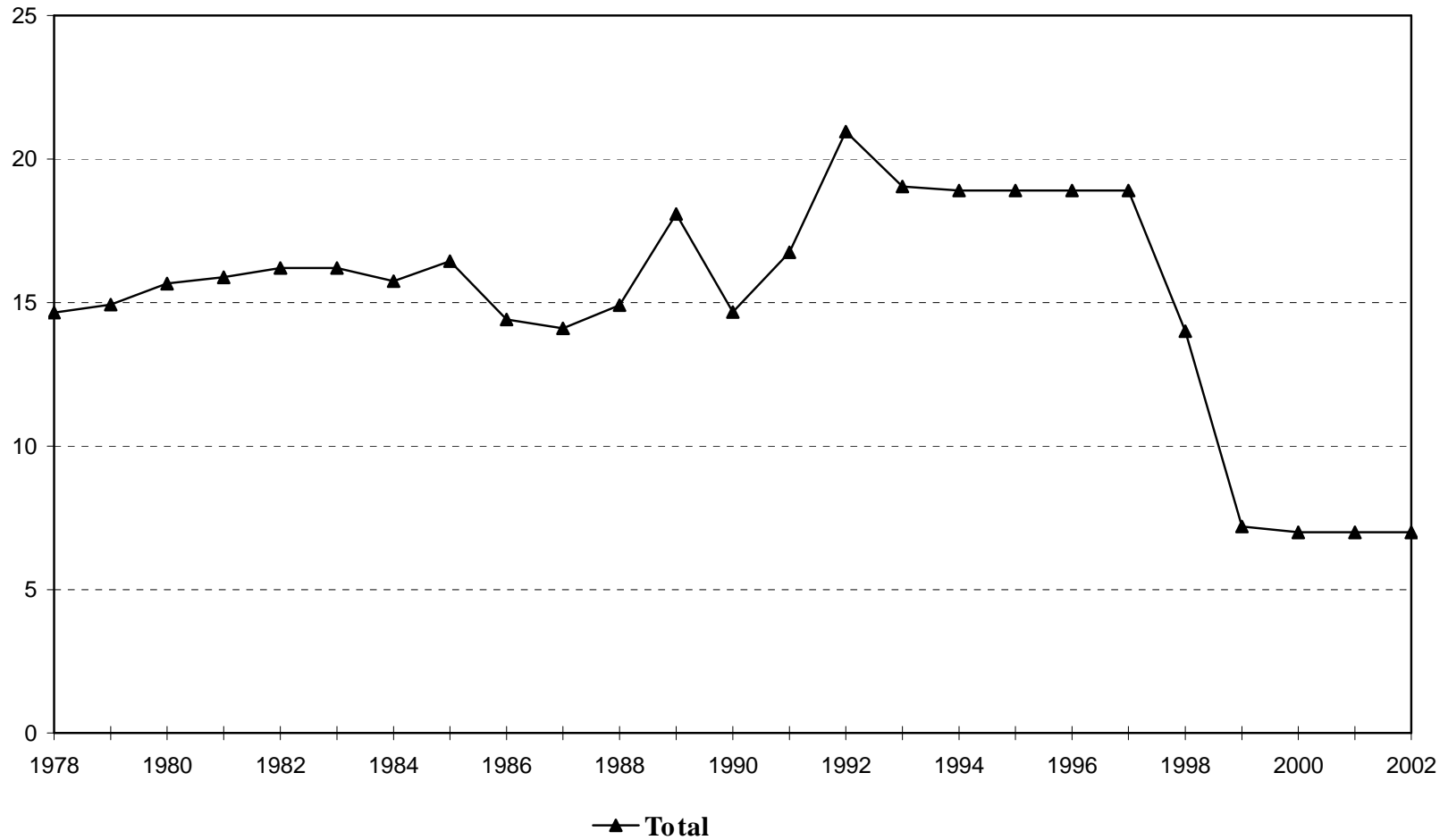
Based on the actuarial method used to value liabilities, the employer contribution is broken into two components as shown on page 9:

- One to reflect the theoretical current cost (normal cost)
- One to handle unfunded past costs or surplus.

Since this is a split based on theoretical formulas, one component absorbs most of the volatility. In the method used prior to 2001, the normal cost absorbs the volatility. As of the end of 1998 the unfunded past costs had been completely amortized, leaving only the normal cost of the plan.

Beginning with the calculation of the contribution requirements for 2002 and later, the normal cost portion of the contribution will be more stable. The volatility associated with gains and losses and the reflection of the funded status will be made in the amortization portion of the costs.

EMPLOYER CONTRIBUTION AS A PERCENT OF PAYROLL



25 YEAR HISTORY

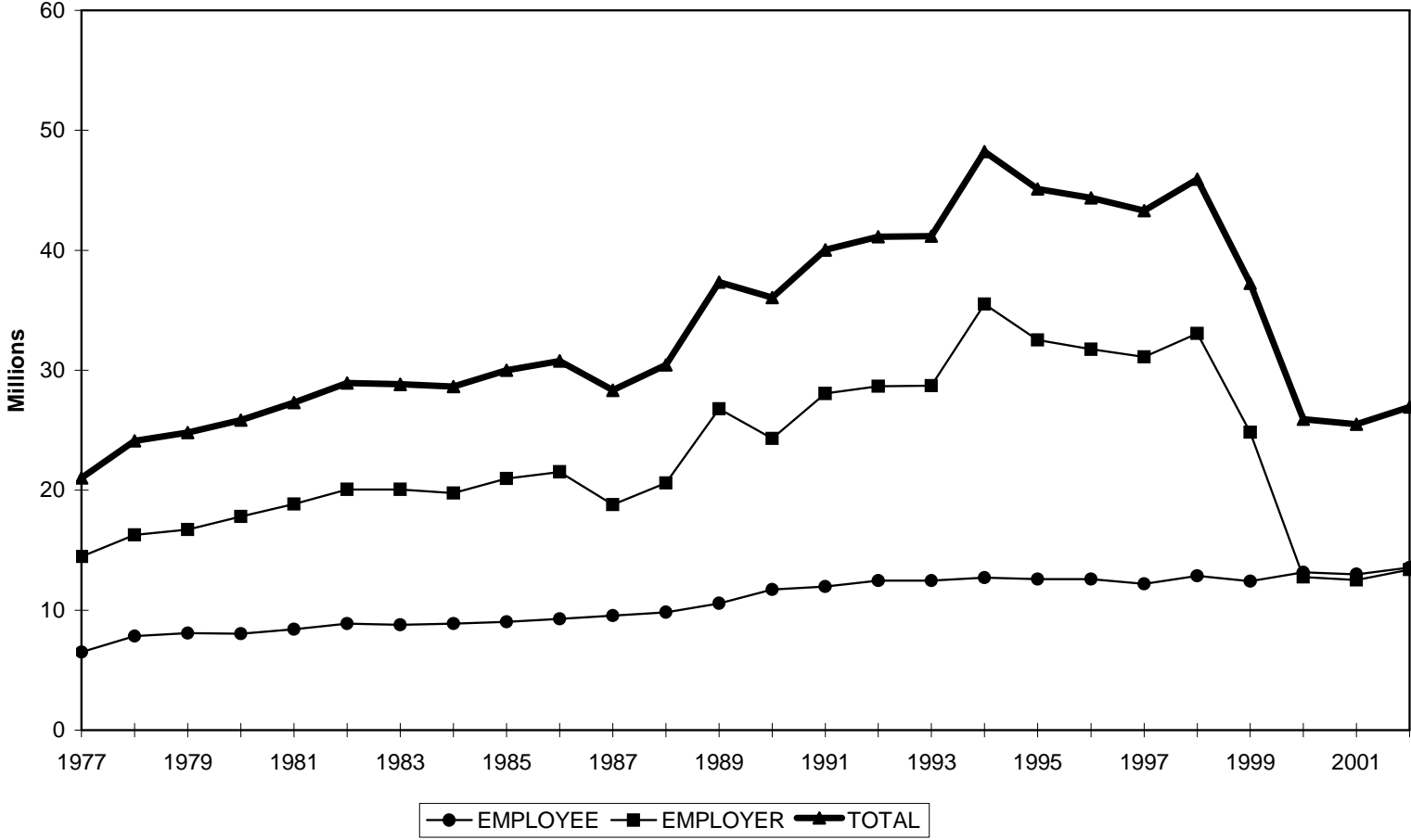
Actuarial Summary (continued)**Employer Contribution as a Percent of Payroll****City of Cincinnati Retirement System**

Year	Normal Cost	Unfunded Liability	Total
1977	9.20%	5.02%	14.22%
1978	9.28%	5.37%	14.65%
1979	9.44%	5.49%	14.93%
1980	9.74%	5.92%	15.66%
1981	9.95%	5.93%	15.88%
1982	10.24%	5.97%	16.21%
1983	10.24%	5.97%	16.21%
1984	9.78%	5.97%	15.75%
1985	10.26%	6.19%	16.45%
1986	6.42%	7.99%	14.41%
1987	4.55%	9.56%	14.11%
1988	5.08%	9.83%	14.91%
1989	8.29%	9.80%	18.09%
1990	4.02%	10.65%	14.67%
1991	6.61%	10.14%	16.75%
1992	10.94%	10.02%	20.96%*
1993	8.12%	10.93%	19.05%*
1994	7.42%	11.48%	18.90%
1995	13.42%	5.48%	18.90%
1996	5.63%	13.27%	18.90%
1997	(2.30)%	21.20%	18.90%
1998	(8.90)%	22.90%	14.00%
1999	(7.10)%	—	(7.10)%**
2000	(8.30)%	—	(8.30)%**
2001	14.43%	(19.25)%	(4.81)%**
2002	13.44%	(10.44)%	3.00%**

* Actual contribution rate was 16.75%

** Actual contribution rate was 7.00%

CONTRIBUTIONS



25 YEAR HISTORY

Actuarial Summary (continued)**Employee and Employer Contributions****City of Cincinnati Retirement System**

Year	Employee Contributions	Employer Contributions	Total
1977	6,521,773	14,494,524	21,016,297
1978	7,845,889	16,274,538	24,120,427
1979	8,075,767	16,731,827	24,807,594
1980	8,041,465	17,805,044	25,846,509
1981	8,424,258	18,873,284	27,297,542
1982	8,886,544	20,069,129	28,955,673
1983	8,778,247	20,064,858	28,843,105
1984	8,894,553	19,749,529	28,644,082
1985	9,035,000	20,962,057	29,997,057
1986	9,263,000	21,524,797	30,787,797
1987	9,539,000	18,792,634	28,331,634
1988	9,839,752	20,615,414	30,455,166
1989	10,568,577	26,784,729	37,353,306
1990	11,729,000	24,330,056	36,059,056
1991	11,968,000	28,060,699	40,028,699
1992	12,469,765	28,670,374	41,140,139
1993	12,471,725	28,717,266	41,188,991
1994	12,718,012	35,516,832	48,234,844
1995	12,591,364	32,532,039	45,123,403
1996	12,604,757	31,761,983	44,366,740
1997	12,869,394	33,072,461	45,941,855
1998	12,881,766	24,815,296	37,697,062
1999	13,163,743	12,768,885	25,932,628
2000	12,991,882	12,520,902	25,512,784
2001	13,571,803	13,374,661	26,946,464
2002	12,400,000	12,400,000	24,800,000

Actuarial Summary (continued)

Total Contributions to Plan

The graph on page 10 illustrates all contributions to the retirement system during the past 25 years. Employer and employee contributions are shown separately.

Although contributions increased dramatically through 1994, employer contributions had stayed about twice the amount of employee contributions. During the early 1990s, employer contributions increased to an average of 2.4 times the employee contributions. In 1998, the unfunded accrued liability was fully paid off and required contribution levels decreased. For 1998 the employer rate was set at 14.0%, which is 2.0 times the employee rate. For 1999 to 2001, the employer contribution was reduced to the same level as the employee contributions.

Excess Employer Contributions

Accumulated gains on asset returns actually reduced required contributions to \$0 for 1999, 2000 and 2001. However, the employers continued to make contributions. Those contributions added to the plan's surplus. The total employer contributions for these three years was \$38.7 million. Had these not been made, the required contribution rate would be 2.6% of pay larger than the calculated amount of 3.0% of pay.

Expected 2002 Contribution

Shown below is the expected 2002 contribution level.

Expected Contributions at 7% Rate	\$12,400,000
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The minimum required contribution rate (based on the December 31, 2000 valuation) is (4.81%). This means that no contribution is required since the rate is less than zero. Therefore, the required contribution is less than the current employer contribution rate of 7%.

Expected 2003 Contribution Rate

For 2003, required contributions will be based on the normal cost adjusted for the amortization of the current funding surplus. Based on the December 31, 2001 actuarial valuation, the required contribution rate is 3.00%.

Actuarial Summary *(continued)*

Plan Participants

This section illustrates changes in both active and retired participants over a 25-year period.

The number of retirees and deferred participants has grown from 2,322 at the end of 1977 to 4,430 at December 31, 2001, a 9.1% increase.

The number of active full-time participants has *decreased* during the 25-year period, beginning at the peak of 8,386 in 1977, and declining to 3,946 at December 31, 2001.

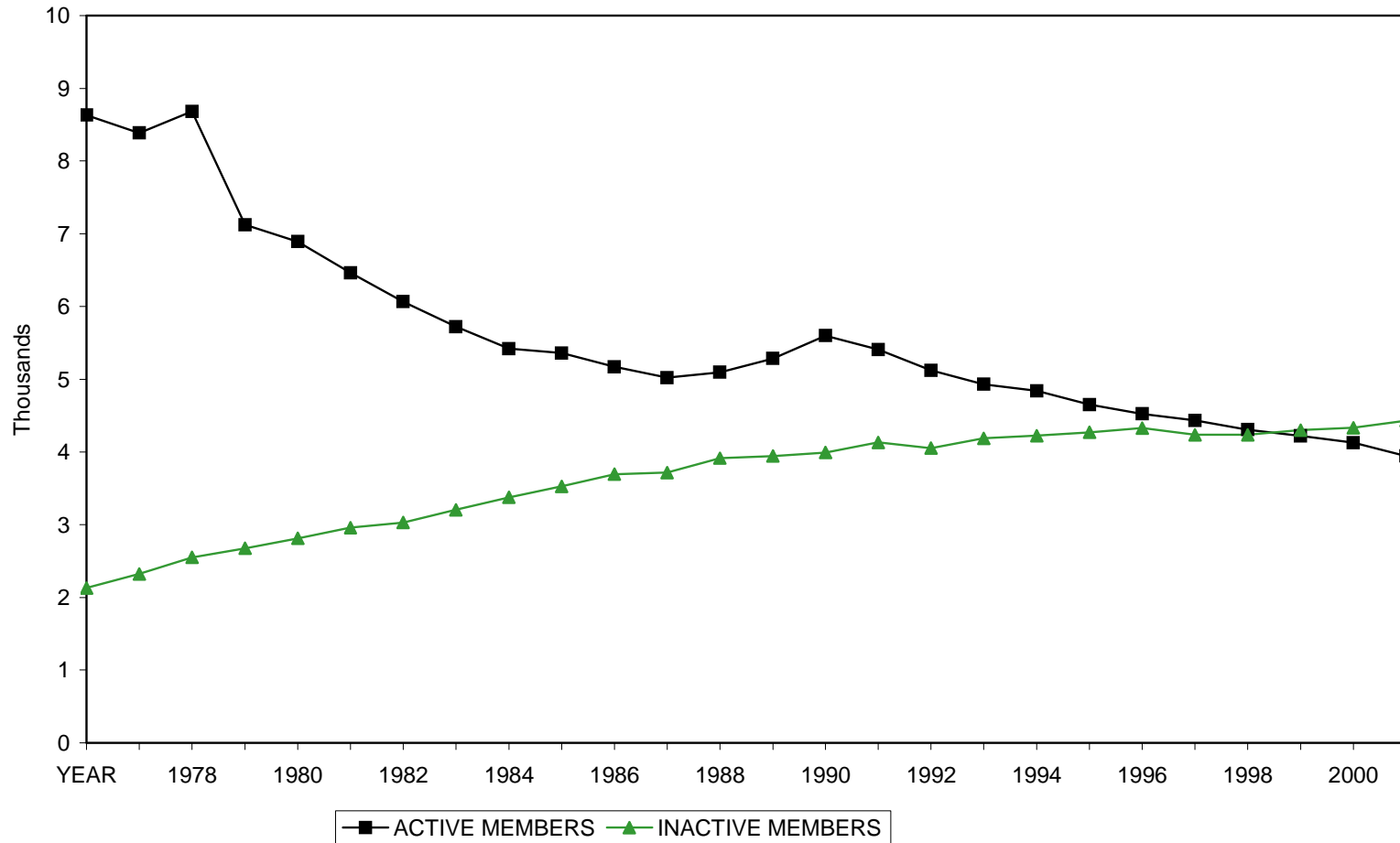
Part of the shift from active to inactive participants this year appears to be the result of better participant data. In the past, it was difficult to discriminate between active participants and recently terminated participants who had elected not to withdraw their contributions. We have worked with the City to improve this process and believe that the data we used for the valuation this year is more accurate than in prior years.

During the last 10 years the number of active full-time participants has decreased from 5,410 to 3,946. During this period, the closed group (Hamilton County, University Hospital and University of Cincinnati) decreased from 904 to 244. The City participants decreased from 4,506 to 3,702 during this time period.

The relationship of active to retired employees has changed markedly in 25 years, with 3.6 actives per retiree in 1977, but only .89 actives per retiree in 2001. A significant part of this decline is due to the impact of the closed groups. If City participants are reviewed separately, the ratio of active to retired employees is 1.32. The ratio for the plan as a whole is likely to remain low for the next 10 years or more, and could decrease as Hospital and University participation is gradually eliminated and the number of City participants remains unchanged. If all active participants in the closed groups were to immediately retire, the ratio would drop to .79 active participants per retiree.

While the plan is well funded, a ratio below 1.00 is not a concern, except in one aspect: increased volatility of “required” contributions as a percent of covered payroll. When asset returns exceed expectations or medical experience is better than assumed, the leveraging effect of the retirees produces greater decreases in plan costs. However, this same leveraging will have a negative impact on contribution rates if experience is not as good as assumed.

ACTIVE AND INACTIVE MEMBERS



25 YEAR HISTORY

Actuarial Summary (continued)**Active Members and Retirees****City of Cincinnati Retirement System**

Year	Full-Time Active Members	Retired and Deferred	Ratio of Active to Retired
1977	8,386	2,322	3.61
1978	8,683	2,551	3.40
1979	7,123	2,674	2.66
1980	6,892	2,813	2.45
1981	6,463	2,960	2.18
1982	6,065	3,031	2.00
1983	5,721	3,206	1.78
1984	5,420	3,378	1.60
1985	5,360	3,527	1.52
1986	5,170	3,694	1.40
1987	5,022	3,715	1.35
1988	5,095	3,913	1.30
1989	5,287	3,944	1.34
1990	5,601	3,992	1.40
1991	5,410	4,131	1.31
1992	5,122	4,053	1.26
1993	4,930	4,189	1.18
1994	4,841	4,226	1.15
1995	4,650	4,270	1.09
1996	4,524	4,329	1.05
1997	4,433	4,236	1.05
1998	4,306	4,236	1.02
1999	4,221	4,300	0.98
2000	4,128	4,334	0.95
2001	3,946	4,430	0.89

Actuarial Summary (continued)

Funding Progress

The funded progress of the plan is determined by comparing the entry age normal accrued liability with the actuarial value of assets. This ratio reflects the funding status relative to the level anticipated by the funding method as required to pay for benefits attributable to the past. This method assumes that the normal cost rate remains constant at the current 20.76% of pay. This method is based on the assumption of an ongoing plan with future employee contributions of 7% of pay and employer contributions (or use of surplus) to meet the balance of the required contributions.

To the extent the funding progress is less than 100%, contributions greater than normal cost are required in order to catch up to the anticipated level of funding. If the funding progress exceeds 100%, as is currently the case, it indicates contributions less than normal cost are required since there is a cushion.

	Pension	Medical	Total
December 31, 1997	N/A	N/A	117% *
December 31, 1998	114%	124%	117%
December 31, 1999	113%	131%	118%
December 31, 2000	113%	116%	114%
December 31, 2001	115%	92%	107%

* Estimate

At December 31, 2001, the ratio of actuarial value of assets to the entry age accrued liability is 107%. This is a decrease from the previous year when the ratio was 114%. The decrease is due primarily to the new actuarial assumptions and a higher than expected increase in the medical costs of the plan.

Current Issues

1. Actuarial Experience/Actuarial Assumptions/Plan Changes

As of December 31, 2001, the actuarial value of assets exceeded the market value of assets by \$119 million, or 5%. This is a change from prior years when the market value was larger. This is a result of the method to determine the actuarial value that only reflects asset gains and losses once the difference between the smoothed value and the market value exceeds 10%. Therefore, the asset losses experienced in 2001 had no impact upon this year's valuation results.

There are no plan changes included in this year's valuation.

Data was submitted from the City's pension administration system. This change identified a number of changes in plan participants: people previously identified as actives who actually had terminated (either with or without taking a refund of contributions) and people who previously had terminated but not withdrawn their contributions. We have worked with the City in analyzing these changes and believe that the data used for the valuation is reasonable. We would anticipate that most data corrections will be cleared up with next year's valuation.

Actuarial assumptions were changed as discussed earlier.

2. Medical Liability

This year's valuation showed an actuarial *loss* from this component following last year's loss. Actual costs increased 26.2% for 2001 over 2000 compared to the 7% assumed. As noted earlier, we have reset our medical claims costs and valuation procedures based upon the experience study

Medical costs are expected to continue to increase significantly. It would be appropriate to review the trends in the claims experience and identify the key cost increase factors. Decisions can then be made regarding plan provisions and implementation of any appropriate cost control measures. Also, improved monitoring of coordination with Medicare would be appropriate.

Medical benefits make up 36% of the plan's accrued liabilities. Assets allocated to the 401(h) account (the account which pays medical benefits) represent 31% of the total trust. The funding progress ratio for medical alone is only 91.8%. IRS regulations allow only 25% of the total contribution to be added to this account. Therefore, the account will eventually become insufficient to pay benefits. The Board should consider whether or not other funding vehicles (such as a VEBA) that have more flexibility for funding are appropriate.

Current Issues (continued)

3. Participating Groups (Full-Time Participants)

	Number	Total Salary	Average Age	Average Service	Average Salary	Number Eligible to Retire	
						Unreduced Benefits	Reduced Benefits
City of Cincinnati	3,702	159,265,783	44.9	14.9	43,045	295	66
University Hospital*	73	3,493,828	54.4	28.7	47,861	25	11
University of Cincinnati*	155	6,219,380	52.6	28.7	40,386	38	18
Hamilton County*	16	778,742	54.6	28.7	48,671	3	3
Total	3,946	169,757,733	45.4	15.8	43,053	361	98

* Closed groups.

As of December 31, 2001, there are 244 active participants in the closed groups. They represent 6.2% of the total active population. In the last five years, the closed groups have declined 52% from 509 participants who represented 11.25% of the active population. The closed groups will continue to exert a smaller effect on the plan as their numbers dwindle.

For the City of Cincinnati, 361 participants are currently eligible for retirement—295 of them on an unreduced basis and 66 on a reduced basis. Over the next five years, 626 additional participants will become eligible for retirement—525 on an unreduced basis. (Plus the 66 now eligible to retire on a reduced basis will also be able to retire with an unreduced benefit in five years.) Thus about 26% of the current City participants will be eligible to retire with unreduced benefits prior to January 1, 2007.

4. Contribution Stability

Employer “required” contributions have fluctuated in recent years. The most recent year has seen the following factors influence the contribution rate:

Positive Factors

- Demographics of Plan Participants
- Smoothed Asset Values

Negative Factors

- Investment Climate
- Growing Maturity of Plan
- Assumption Changes
- Health Care Costs

Current Issues *(continued)*

The City has stabilized actual contribution rates for some periods by choosing fixed contribution rates other than those actuarially determined. As long as contributions are actuarially balanced over the long term, this is an acceptable process.

Due to the asset experience of the past two years, the increase in health care costs and the assumption changes, the “cost” of the plan changed from being negative to positive. The City has elected to contribute 7% during 1999 and for the next four years. These contributions have provided an additional cushion as asset values have fallen. Contributing 7% during 2001 decreased the required contribution rate by approximately 1.0% for 2002.

However, the contribution rate has now increased to 3.00% for the City for 2003. The 7% City rate continues to exceed the calculated rate.

5. Actuarial Value of Assets

Historically, the plan used book value as the actuarial value of assets. With the December 31, 1995 valuation, this method was changed to the current method for these main reasons:

- Book value and therefore actuarial value can change depending on what particular securities are sold independent of market value;
- Over the long term, book value tends to lag market value; and
- Because of the volatility in employer contribution costs, the employers wanted to control the asset gain or loss on a year-to-year basis while continuing to reflect in some manner current market values.

The current method has worked well in smoothing out investment gains and losses, but subsequently, the Board has chosen to consider multiple-year funding targets rather than year-to-year changes. In addition, a lag between the valuation date and year of contribution requirement has been added. As a result, year-to-year minimum contribution rate volatility loses importance and a method of determining the actuarial value of assets that provides better long-term smoothing and forecasting might be preferable.

The following pages demonstrate a method we suggest for your consideration. This method is one that is automatically approved by the IRS for use by ERISA plans. This method reflects actuarial gains or losses over a 5-year period at a rate of 20% per year.

We have illustrated the effect on this year’s calculations if the method had been in place for the last 5 years. It is also possible to start the method as a fresh start. For the first year, market value is used and then subsequent gains and losses are reflected over the following 5 years.

Note that this method will have the actuarial value and the market value equal to each other after 5 years of expected returns. The current method would have the actuarial value stay above the market value by the same percentage.

Current Issues *(continued)*

6. Investment Return Assumption

The current assumption of 8.75% was first used for the December 31, 1995 valuation. In the fall of 1998, an asset/liability modeling study was undertaken. In January 1999, the current asset allocation basis was established.

U.S. Equities	50%	(41.5% Large-Cap/8.5% Small Cap)
International Equities	13.5%	
Fixed Income	33.5%	
Alternative Assets	3.0%	

Based on this allocation and the expected asset class returns used in that study (see appendix), the expected return was 8.95%. The 8.75% assumption in place at that time fell in the 45th-50th percentile range using a 30-year time horizon. That is, better than 50% of the stochastic trials would exceed the assumed rate.

Based upon expected asset class returns as of December 31, 2000 (see appendix), this allocation produces almost identical results. However, based upon expected asset class returns as of December 31, 2001 (see appendix), this allocation produces an expected return of 8.25%. The 8.75% assumption falls in the 55th-60th percentile range. That is, only 40% of the stochastic trials would exceed the assumed rate. Without an asset allocation study, the overall risk level of the portfolio cannot be determined. The reduction in the standard deviations for certain asset classes might suggest a lower level of risk today even though the policy allocation percentages are the same as in 1999.

To continue to use the 8.75% assumption would be to move from a position where this assumption was neither conservative nor aggressive to a somewhat aggressive assumption. The impact of not attaining this return over the long term is to trade off lower contributions today for higher contributions later.

It would be appropriate for the Board to revisit the asset/liability study to assess the impact on contributions and the funded status of maintaining the current assumption or of changing the assumption to an 8.25% rate (gross rate). If the 8.25% rate were adopted for this valuation, the actuarial accrued liability would increase from \$2.32 billion to \$2.45 billion (5.7% increase), the surplus would drop from \$157 million to \$25 million, and the net employer contribution rate would increase from 3.0% of pay to 13.7% of pay assuming employee contributions stay at 7% of pay and that benefits remain unchanged. The long-term cost rate of the plan would increase from 20.76% to 22.62%.

Appendix pages 3 and 4 show the summary of results and contribution calculations on this basis.

Appendix

City of Cincinnati
Determination of Proposed Actuarial Value of Assets Method

Market Value \$ 2,352,508,062

Year		Gain/(Loss)	Factor		
2001	\$	(337,778,568)	0.8	\$	(270,222,854)
2000	\$	(210,529,208)	0.6	\$	(126,317,524)
1999	\$	79,773,176	0.4	\$	31,909,270
1998	\$	114,015,961	0.2	\$	22,803,192
1997	\$	198,554,346	0	\$	-

Total Adjustment \$ (341,827,917)

Actuarial Value of Assets \$ 2,694,335,979

Known Adjustments for Following Years

Adjustment to 12/31/2002 Market Value of Assets

2002		?	0.8		?
2001	\$	(337,778,568)	0.6	\$	(202,667,141)
2000	\$	(210,529,208)	0.4	\$	(84,211,682)
1999	\$	79,773,176	0.2	\$	15,954,635
1998	\$	114,015,961	0	\$	-
1997	\$	198,554,346	0	\$	-

Total Adjustment \$ (270,924,191)
plus 2002 adjustment

Adjustment to 12/31/2003 Market Value of Assets

2003		?	0.8		?
2002		?	0.6		?
2001	\$	(337,778,568)	0.4	\$	(135,111,427)
2000	\$	(210,529,208)	0.2	\$	(42,105,841)
1999	\$	79,773,176	0	\$	-
1998	\$	114,015,961	0	\$	-

Total Adjustment \$ (177,217,268)
plus 2002 & 2003 adjustments

**City of Cincinnati
Expected Returns by Asset Class**

	January 1989		December 2000		December 2001	
Asset Class	Expected Return	Standard Deviation	Expected Return	Standard Deviation	Expected Return	Standard Deviation
U.S. – Large Cap Equity	9.6%	18.0%	9.3%	18.0%	8.9%	18.6%
U.S. – Small Cap Equity	10.5%	25.0%	10.0%	24.0%	9.2%	24.0%
International Equity	9.9%	23.0%	9.3%	23.0%	9.1%	21.5%
Fixed Income	6.0%	10.5%	6.5%	7.3%	5.5%	6.7%
Alternative Investments	13.2%	35.0%	10.6%	33.5%	10.0%	33.5%

Retirement System of The City of Cincinnati

	12/31/1999	12/31/2000	8.25% 12/31/2001	Percentage (Decrease) Increase 2000/2001
Participants				
Active - Full Time	4,221	4,128	3,946	(4.4)%
Inactive	4,300	4,334	4,430	2.2%
Total Payroll	\$ 172,268,484	\$ 171,555,002	\$ 168,338,686	(4.5)%
Developed Employer Normal Cost as a Percent of Payroll	(8.30)% ⁽¹⁾	14.43%	15.30%	N/A
Employer Total Contribution as a Percent of Payroll	(8.30)% ⁽²⁾	(4.81)% ⁽²⁾	13.70% ⁽²⁾	N/A
Actual Contribution				
Employer	\$ 12,768,885	\$ 12,520,902	\$ 13,374,661	6.8%
Members	13,163,743	12,991,882	13,571,803	4.5%
Assets				
Market Value	\$ 2,626,392,512	\$ 2,560,804,597	\$ 2,352,508,062	(8.6)%
Actuarial Value	2,251,554,942	2,363,697,947	2,475,933,148	4.7%
Return (Market Value)	12.10%	0.60%	(4.50)%	
Return (Actuarial Value)	14.30%	8.75%	8.75%	
Present Value of Benefits ⁽³⁾	\$ 2,162,175,783	\$ 2,330,890,618	\$ 2,687,617,266	15.3%
Actuarial Accrued Liability ⁽³⁾	\$ 1,909,684,171	\$ 2,071,566,514	\$ 2,451,232,322	18.3%
Funding Progress ⁽⁴⁾	118%	114%	101%	(11.4)%
Value of Accrued Benefits ⁽³⁾				
Vested	\$ 1,580,417,442	\$ 1,736,364,291	\$ 2,245,950,723	29.3%
Total	1,630,762,160	1,793,830,533	2,312,695,123	28.9%

⁽¹⁾ Determined under the prior actuarial funding method and is not directly comparable to later years.

⁽²⁾ Contributions are being made at 7.0% for 1999 through 2002.

⁽³⁾ The Present Value of Benefits is the present value of all future benefits (based on projected pay and service) current participants are expected to receive. The Actuarial Accrued Liability is the portion of those benefits that have already been earned by virtue of past service. The Value of Accrued Benefits is the present value of benefits earned to date based on current pay and current service.

⁽⁴⁾ Ratio of Actuarial Value of Assets to Actuarial Accrued Liability. Assumes total Normal Cost rate remains at 22.60% of pay.

City of Cincinnati
Comparison of Results to Last Year
December 31, 2001 Preliminary Results
Assuming Change to 8.25% Rate

	12/31/2000		12/31/2001
1. Present Value of Projected Benefits:			
(a) Active Participants	1,160,326,080		1,222,649,059
(b) Participants with Deferred Benefits	21,095,541		26,931,741
(c) Participants Receiving Benefits	1,149,468,997		1,438,036,466
(d) Total	2,330,890,618		2,687,617,266
2. Present Value of Future Employee Contributions	113,558,750		97,573,660
3. Present Value of Future Normal Costs	145,765,354		138,811,284
4. Entry Age Accrued Liability (1)(d) - (2) - (3)	2,071,566,514		2,451,232,322
5. Actuarial Value of Assets	2,363,697,947		2,475,933,148
6. Unfunded/(Surplus) (4) - (5)	(292,131,433)		(24,700,826)

	Dollar Amount	Percent of Proj. Pay	Dollar Amount	Percent of Proj. Pay
7. Amortization of Unfunded/(Surplus) Over 15 Years (at the beginning of the year)	(32,835,252)	-18.40%	(2,706,686)	-1.53%
8. Amortization of Unfunded/(Surplus) Over 15 Years (assuming monthly payments)	(34,352,241)	-19.25%	(2,824,698)	-1.60%
9. Total Normal Cost (at the beginning of the year)	28,516,179	15.98%	30,236,114	17.08%
10. Expenses	8,600,000	4.82%	8,100,000	4.58%
11. Total Normal Cost (assuming monthly payments)	38,830,946	21.76%	40,007,569	22.60%
12. Employees Expected Contributions to Normal Cost (assuming monthly payments)	13,069,922	7.32%	12,930,949	7.31%
13. Employer Normal Cost (11) - (12)	25,761,024	14.43%	27,076,620	15.30%
14. Employer Total Cost (8) + (13)	(8,591,217)	-4.81%	24,251,922	13.70%

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