

**Ohio Police and Fire Pension Fund**

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

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August 15, 2003

Board of Trustees  
Ohio Police and Fire Pension Fund  
140 East Town Street  
Columbus, Ohio 43215

Dear Board Members:

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


The census information on which our calculations were based was prepared by the Fund and the financial information was provided by the Fund. 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 Fund.

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

Sincerely,

THE SEGAL COMPANY

By:   
John J. Garrett, ASA, MAAA  
Vice President

  
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Assistant Actuary

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**SECTION 1**

## SECTION 1: Valuation Summary for the Ohio Police and Fire Pension Fund

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### Purpose

This report has been prepared by The Segal Company to present a valuation of the Ohio Police and Fire Pension Fund as of January 1, 2003. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The funding calculations presented in this report are based on:

- The benefit provisions of the Pension Fund, as administered by the Board and staff;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of January 1, 2003, provided by the Fund staff;
- The assets of the Plan as of December 31, 2002, provided by the Fund;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, mortality, etc.

## SECTION 1: Valuation Summary for the Ohio Police and Fire Pension Fund

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### Significant Issues in Valuation Year

- The funding period increased to infinite as of January 1, 2003 from 28 years as of January 1, 2002. This increase is primarily due to the less than assumed investment performance of the Fund. Thus, as of January 1, 2003 the statutory contributions are not sufficient to amortize the unfunded actuarial accrued liability (UAAL) in 30 years. Therefore, in accordance with Ohio Revised Code Section 742.16, the Board shall adopt and submit to the Ohio Retirement Study Council (ORSC) a plan which satisfies the 30-year required funding period by December 31, 2006.
- The actuarial value of assets exceeds the market value of assets as of December 31, 2002, due to the effect of the asset smoothing method. The actuarial value of assets as a percentage of market value of assets is 120.0% as of December 31, 2002, compared to 110.0% as of the prior year.
- The plan's asset valuation method requires that the actuarial value of assets be no more than 120% or no less than 80% of the market value of assets. Since the preliminary calculation of the actuarial value of assets exceeds 120% of market value of assets, the actuarial value of assets has been set equal to 120% of the market value of assets for this valuation. Typically, when this happens, the actuarial asset smoothing method is less effective at smoothing, and the actuarial cost results may be more volatile.
- This actuarial valuation report as of January 1, 2003 is based on financial information as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the Fund, while increases will decrease the actuarial cost of the Fund. For example, a 10% change in the current year's actuarial value of assets would produce a \$868,270,356 change in the unfunded actuarial accrued liability.
- As indicated on page 5 of this report, the total unrecognized investment loss as of December 31, 2002 is \$2.2 billion. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience. This implies that earning the assumed rate of investment return of 8.25% per year (net of investment fees) on a market value basis will result in investment losses on the actuarial value of assets in the next few years.
- The only change in plan provisions was the implementation of the Deferred Retirement Option Plan (DROP), effective January 1, 2003. As of January 1, 2003 there are no DROP participants in the Fund.
- The only change in actuarial assumptions since the prior actuarial valuation was the additional assumptions due to the DROP.
- The only change in the actuarial methods since the prior valuation was the scheduled change in the corridor used in the determination of the actuarial value of assets.

**SECTION 1: Valuation Summary for the Ohio Police and Fire Pension Fund**

**Summary of Key Valuation Results**

	2003	2002
<b>Funding elements for plan year beginning January 1:</b>		
Normal cost, including administrative expenses	\$331,403,712	\$308,052,266
Market value of assets	7,235,586,300	8,251,335,534
Actuarial value of assets	8,682,703,560	9,076,469,088
Actuarial accrued liability	10,508,366,996	9,785,766,191
Unfunded/(Overfunded) actuarial accrued liability	1,825,663,436	709,297,103
Funding period	Infinite	28 years
<b>GASB 25/27 for plan year beginning January 1:</b>		
Annual statutory contributions	\$223,369,637*	\$205,992,860
Annual Required Contribution (GASB 25)	277,724,840	205,992,860
Actual contributions	--	205,992,860
Percentage contributed	--	100.00%
Funded ratio	82.63%	92.75%
Covered payroll	\$1,606,274,379	\$1,534,336,093
<b>Demographic data for plan year beginning January 1:</b>		
Number of retired participants and beneficiaries	23,923	23,413 ✓
Number of rehired retirees	137	117
Number of vested former participants	158	133 ✓
Number of active participants	28,343	28,223
Valuation total payroll	\$1,606,274,379	\$1,534,336,093

\* Anticipated statutory contribution is the sum of statutory rates for Police and Firefighters, net of the Health Care Stabilization Fund Allocation, applied to the expected valuation payroll for 2003, plus the expected State Subsidy.

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**SECTION 2**



**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**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, including Police and Firefighters summarized separately 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 four valuations can be seen in this chart.*

**CHART 1  
Participant Population: 1999 – 2002**

<b>Year Ended December 31</b>	<b>Active Participants</b>	<b>Rehired Retirees**</b>	<b>Vested Terminated Participants*</b>	<b>Retired Participants and Beneficiaries</b>	<b>Ratio of Non- Actives to Actives</b>
1999	27,556	86	115	22,274	0.81
2000	27,833	103	143	22,870	0.83
2001	28,223	117	133	23,413	0.83
2002	28,343	137	158	23,923	0.85

\* Excludes terminated participants due a refund of employee contributions.

\*\* The counts for rehired retirees are also included in the retired participants and beneficiaries counts.

**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**Active Participants**

Fund costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 28,343 active participants with an average age of 39.1, average years of service of 12.0 years and average valuation payroll of \$56,673. The 28,223 active participants in the prior valuation had an average age of 38.9, average service of 11.8 years and average valuation payroll of \$54,365.

The actuarial calculations were adjusted for the missing information by assuming that it was the same as information provided for other active participants with similar known characteristics.

**Inactive Participants**

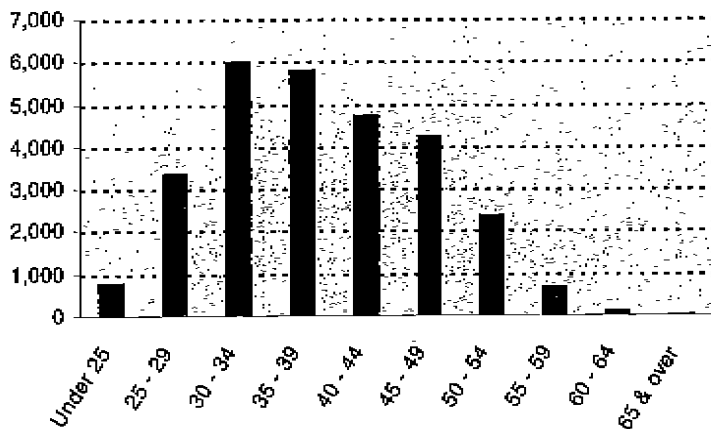
In this year's valuation, there were 158 participants with a vested right to a deferred or immediate vested benefit.

In addition, there were 1,911 participants entitled to a return of their employee contributions.

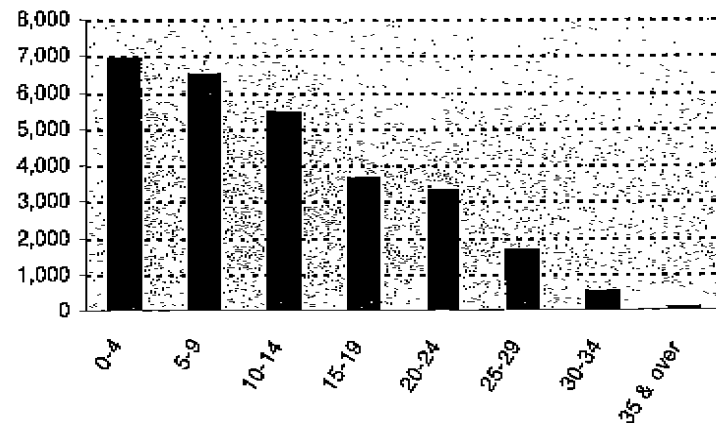
The graphs below show distributions for the total Fund population. The information split between Police and Firefighters is shown in Section 3, Exhibit B.

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

**CHART 2**  
**Distribution of Active Participants by Age as of December 31, 2002**



**CHART 3**  
**Distribution of Active Participants by Years of Service as of December 31, 2002**



**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**Retired Participants and Beneficiaries**

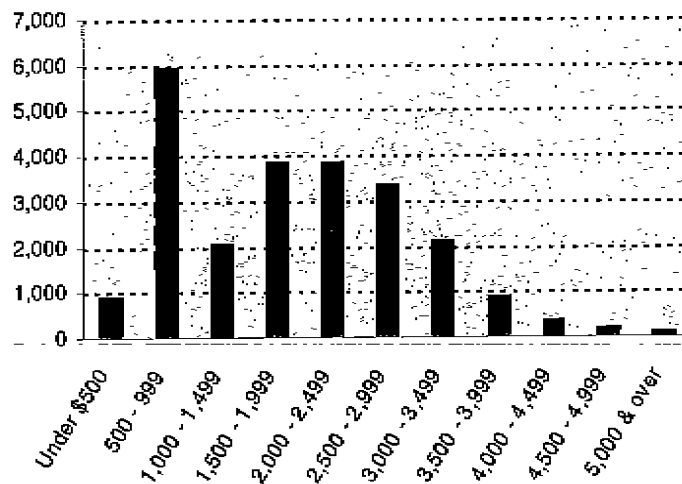
As of December 31, 2002, 17,001 retired participants and 6,922 beneficiaries were receiving total monthly benefits of \$45,249,772. For comparison, in the previous valuation, there were 16,619 retired participants and 6,794 beneficiaries receiving monthly benefits of \$42,506,689.

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

- Beneficiaries
- Disableds
- Retirants

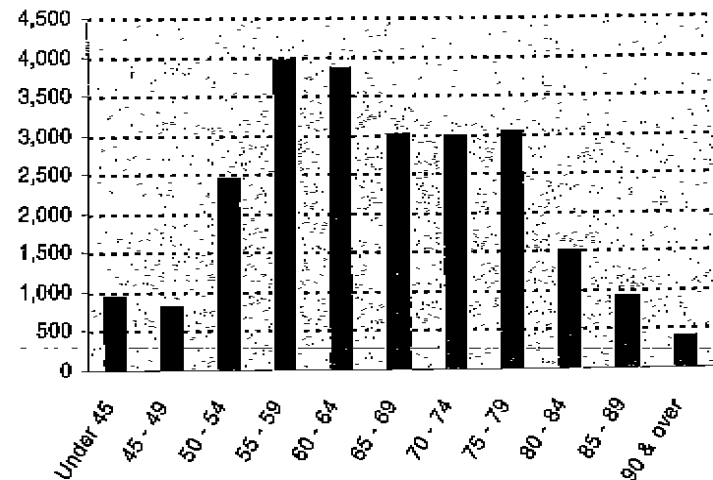
**CHART 4**

**Distribution of Retired Participants, Disabilities and Beneficiaries by Type and by Monthly Amount as of December 31, 2002**



**CHART 5**

**Distribution of Retired Participants, Disabilities and Beneficiaries by Type and by Age as of December 31, 2002**



**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**B. FINANCIAL INFORMATION**

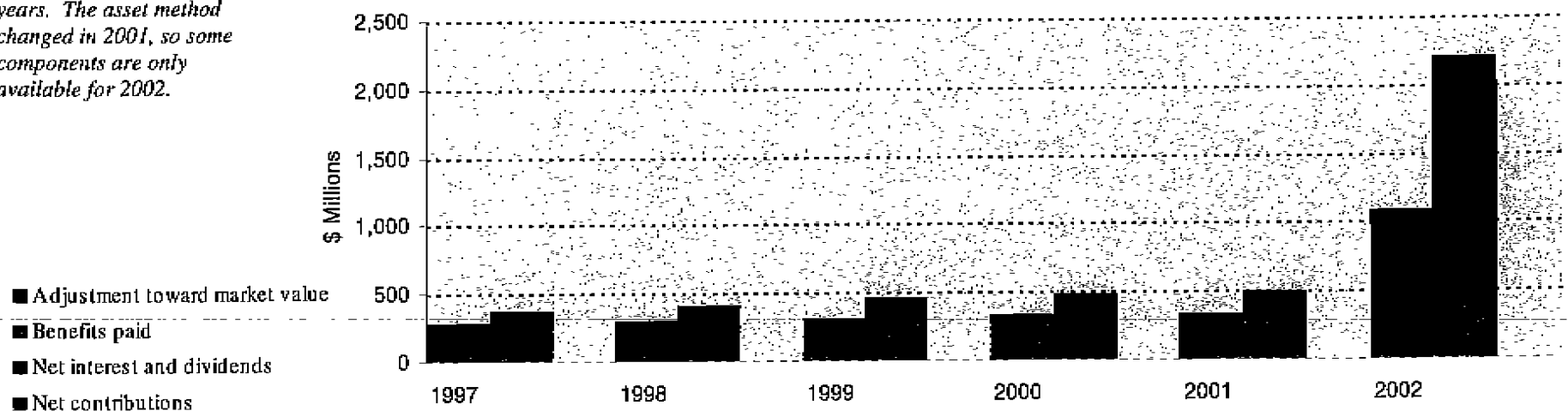
Retirement plan funding anticipates that, over the long term, both net contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

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 negative cash flow for 2001 and 2002 is (\$161,104,372) and (\$181,297,420), respectively. This represents 1.82% and 2.20% of the beginning of year market value of assets for 2001 and 2002, respectively.

*The chart depicts the components of changes in the actuarial value of assets over the last six years. The asset method changed in 2001, so some components are only available for 2002.*

**CHART 6**  
**Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 1997 – 2002**



**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

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 but spread over five years and, as a result, the asset value and the plan costs are more stable.

equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

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

*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 December 31, 2002**

A.1.	Market value of assets		\$7,235,586,300
2.	Calculation of unrecognized return*	Original Amount	
	(a) Year ended December 31, 2002	-\$1,507,708,477	-\$1,206,166,782
	(b) Year ended December 31, 2001	-1,149,304,572	-689,582,743
	(c) Year ended December 31, 2000	-902,599,887	-361,039,955
	(d) Year ended December 31, 1999	418,112,372	83,622,474
	(e) Year ended December 31, 1998	292,950,186	
	(f) Total unrecognized return		-2,173,167,006
3.	Preliminary actuarial value: A(1) – A(2f)		9,408,753,306
4.	Adjustment to be within 20% corridor		-726,049,746
5.	Final actuarial value of assets: A(3) + A(4)		<u>\$8,682,703,560</u>
6.	Actuarial value as a percentage of market value: A(5) ÷ A(1)		120.0%

*\*The original amount is the total return minus expected return on a market value basis. Twenty percent of the original amount is recognized in each year.*

**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**CHART 7 (continued)**

**Actuarial Value of Assets for Year Ended December 31, 2002**

**B. Income and Expense**

1.	Contributions	
	Employee	\$167,137,216
	Employer	203,212,482
	State Subsidy	2,780,378
2.	Interest, Dividends, and other income	751,654,934
3.	Appreciation/(Depreciation)	-1,567,167,396
4.	Investment Expenses	-18,939,352
5.	Administrative Expenses	-13,655,368
6.	Benefit Payments	<u>-540,772,128</u>
7.	Net Income and Expense (Market Value)	-\$1,015,749,234

**C. Calculation of Current Year Gain/(Loss) to be Spread**

1.	Market Value of Assets at the beginning of the year	\$8,251,335,534
2.	Market Value of Assets at the end of the year: B(7) + C(1)	7,235,586,300
3.	Net New Money: B(1) + B(5) + B(6)	-181,297,420
4.	Expected return (Market basis): [C(3) x 0.5 + C(1)] x 8.25%	673,256,663
5.	2002 Gain/(Loss) to be spread: B(2) + B(3) + B(4) - C(4)	<u>-1,507,708,477</u>

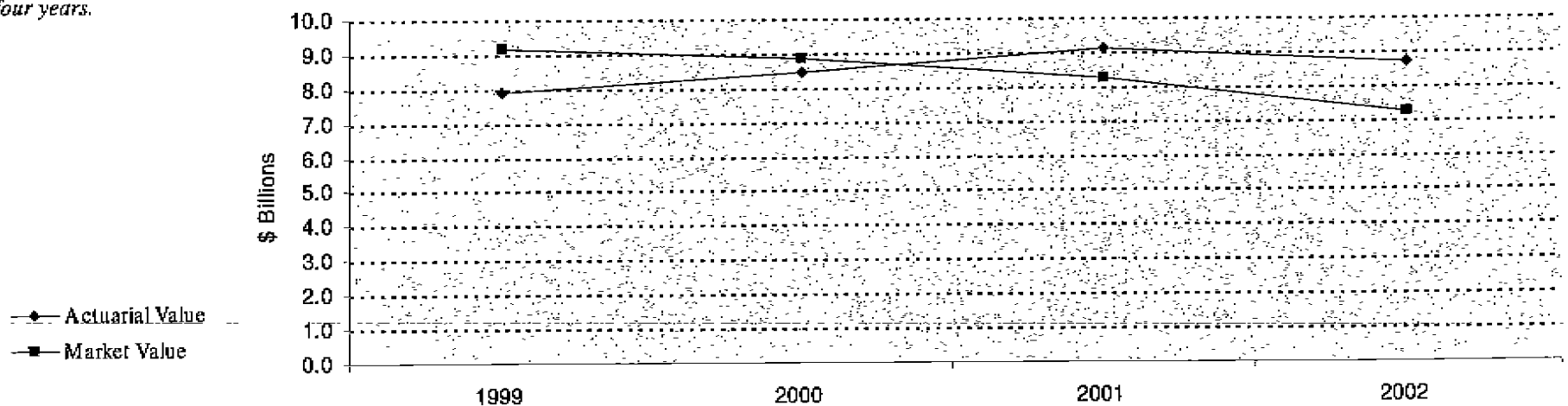
**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

Both the actuarial value and market value of assets are representations of the Fund'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 Fund's liabilities are compared to these assets to determine what portion, if any, remains unfunded. The period required to amortize the unfunded liability is the funding period.

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

**CHART B**

**Actuarial Value of Assets vs. Market Value of Assets as of December 31, 1999 – 2002**



**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**C. ACTUARIAL EXPERIENCE**

To calculate the funding period, 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 funding period will decrease more than expected. On the other hand, the funding period may 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 the funding period to remain stable, assumptions should approximate experience.

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

The total gain/(loss) is (\$1,694,548,935), of which (\$1,677,356,919) is from investments and (\$17,192,016) is from demographic sources. The net experience variation from demographic sources was 0.2% 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 December 31, 2002**

1. Net gain/(loss) from investments*	-\$1,677,356,919
2. Net gain/(loss) from demographics**	-17,192,016
3. Net experience gain/(loss): (1) + (2)	-\$1,694,548,935

\* Details in Chart 10

\*\*Details in Chart 13



**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**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 Fund's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 8.25%, net of investment fees. The actual rate of return on an actuarial value basis for the 2002 plan year was (10.42%). This return is determined prior to applying the corridor method change.

Since the actual return for the year was less than the assumed return, the Fund experienced an actuarial loss during the year ended December 31, 2002 with regard to its investments.

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

**CHART 10**

**Actuarial Value Investment Experience for Year Ended December 31, 2002**

1. Actual return	-\$936,026,737
2. Average value of assets	8,985,820,378
3. Actual rate of return: (1) ÷ (2)	-10.42%
4. Assumed rate of return	8.25%
5. Assumed return: (2) x (4)	741,330,182
6. Actuarial gain/(loss): (1) - (5)	<u>-\$1,677,356,919</u>

**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

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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 four years. These returns are calculated net of investment fees. The actuarial value investment return shown on this page is calculated after applying the corridor method change.

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**CHART 11**

**Investment Return – Actuarial Value vs. Market Value: 1999 - 2002**

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<b>Year Ended December 31</b>	<b>Actuarial Value Investment Return</b>	<b>Market Value Investment Return</b>
	<b>Percent</b>	<b>Percent</b>
1999	11.15	13.31
2000	7.48	-1.96
2001	1.97	-4.87
2002	-2.36	-10.23

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

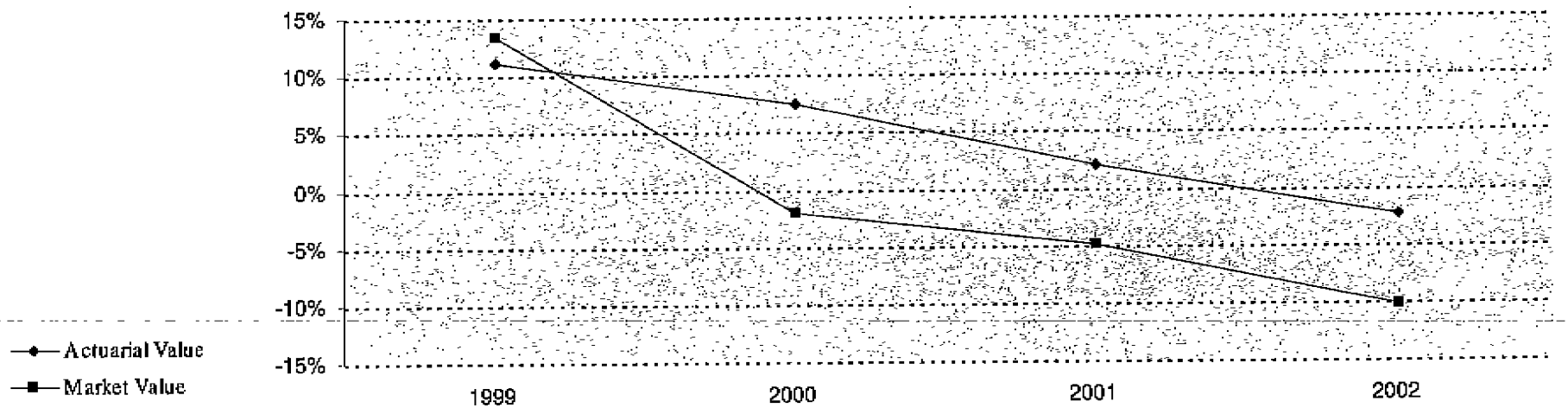
**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

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 1999 - 2002.*

**CHART 12**

**Market and Actuarial Rates of Return for Years Ended December 31, 1999 - 2002**



**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**Demographic Experience**

There are demographic 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 loss from demographic experience for the year ended December 31, 2002 amounted to (\$17,192,016) which is 0.2% of the actuarial accrued liability.

A brief summary of the demographic gain/(loss) experience of the Fund for the year ended December 31, 2002 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 December 31, 2002**

1. Turnover	\$1,753,772
2. Retirement	39,195,981
3. Deaths among retired members and beneficiaries	-74,518,956
4. Disability retirements	24,742,510
5. Salary increase/decrease	3,332,436
6. Return to work	-7,145,354
7. New entrants	-4,759,520
8. Deaths among actives	98,967
9. Miscellaneous	<u>108,148</u>
10. Total	-\$17,192,016

**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

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**D. CALCULATION OF FUNDING PERIOD**

The statutory contribution rates for Police and Fire participants are reduced first by the percent of pay allocated to the Health Care Stabilization Fund, and then by the applicable employer normal cost rate (net of pension administrative expenses). The remaining percentage of payroll is the amount available to amortize the unfunded actuarial accrued liability (UAAL). The resulting number of years required to amortize the UAAL with the level percent of payroll available is the funding period. Ohio Revised Code Section 742.16 requires the Board to establish a funding period that does not exceed 30 years. Since this valuation results in a funding period greater than 30 years, the Board shall adopt and submit to the Ohio Retirement Study Council (ORSC) a plan which satisfies the 30-year required funding period by December 31, 2006.

Currently under the Governmental Accounting Standards Board (GASB), the maximum acceptable funding period is 40 years. GASB Statement Number 27 reduces this period to 30 years effective for the January 1, 2007 valuation and later.

Chart 14 summarizes the calculation of the funding period on the next page.

**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**CHART 14**  
**Calculation of the Funding Period**

	<b>Police</b>	<b>Firefighters</b>	<b>Total</b>
<b>A. Normal Cost</b>			
1. Normal Cost	\$172,039,000	\$139,865,000	\$311,904,000
2. Assumed Administrative Expenses	10,756,000	8,744,000	19,500,000
3. Estimated Annualized Payroll	896,665,000	709,609,000	1,606,274,000
4. Normal Cost Rate	21.21%	21.79%	21.47%
5. Member Rate	10.00%	10.00%	10.00%
6. Employer Normal Cost Rate	11.21%	11.79%	11.47%
<b>B. Actuarial Accrued Liability</b>			
1. Active Members	\$2,619,915,000	\$2,161,481,000	\$4,781,396,000
2. Vested Former Members	22,509,000	11,789,000	34,298,000
3. Rehired Retirees	3,542,000	1,407,000	4,949,000
4. Retirees & Disableds	3,031,274,000	2,203,339,000	5,234,613,000
5. Beneficiaries & Survivors	268,715,000	197,682,000	466,397,000
6. Contributions Refund Due	8,613,000	2,512,000	11,125,000
7. Employer Accrued Liability	<u>-13,973,000</u>	<u>-10,438,000</u>	<u>-24,411,000</u>
8. Total	\$5,940,595,000	\$4,567,772,000	\$10,508,367,000
<b>C. Present Value of Future Benefits</b>			
1. Active Members	\$4,447,145,000	\$3,685,108,000	\$8,132,253,000
2. Vested Former Members	22,509,000	11,789,000	34,298,000
3. Rehired Retirees	3,542,000	1,407,000	4,949,000
4. Retirees & Disableds	3,031,274,000	2,203,339,000	5,234,613,000
5. Beneficiaries & Survivors	268,715,000	197,682,000	466,397,000
6. Contributions Refund Due	<u>8,613,000</u>	<u>2,512,000</u>	<u>11,125,000</u>
7. Total	\$7,781,798,000	\$6,101,837,000	\$13,883,635,000
<b>D. Statutory Employer Contribution Rate</b>	19.50%	24.00%	21.49%

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**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**CHART 14 (continued)  
Calculation of the Funding Period**

	January 1, 2003	January 1, 2002
E. Actuarial Accrued Liability	\$10,508,367,000	\$9,785,766,000
F. Actuarial Value of Assets	\$8,682,704,000	\$9,076,469,000
G. Unfunded Actuarial Accrued Liability (UAAL)	\$1,825,663,000	\$709,297,000
H. Amortization of Unfunded Actuarial Accrued Liability		
1. Statutory Employer Contribution Rate	21.49%	21.48%
2. Health Care Stabilization Fund Allocation	7.75%	7.75%
3. Employer Normal Cost Rate	11.47%	10.89%
4. Percentage of payroll available to amortize the UAAL (1 - 2 - 3)	2.27%	2.84%
I. Funding Period	Infinite	28 years

*Note: The funding period is the number of years required to amortize the UAAL (Item G) with the available level percentage of payroll (Item H4).*

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**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

**E. INFORMATION REQUIRED BY THE GASB**

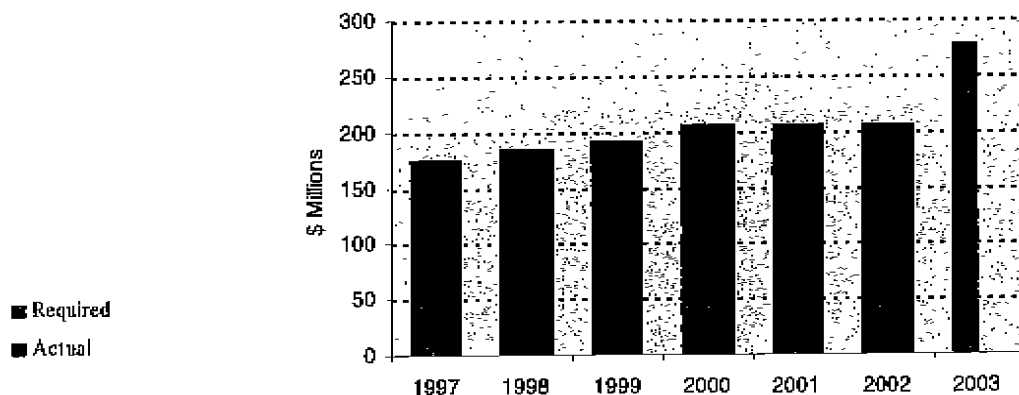
Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal 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 15 below presents a graphical representation of this information for the Fund.

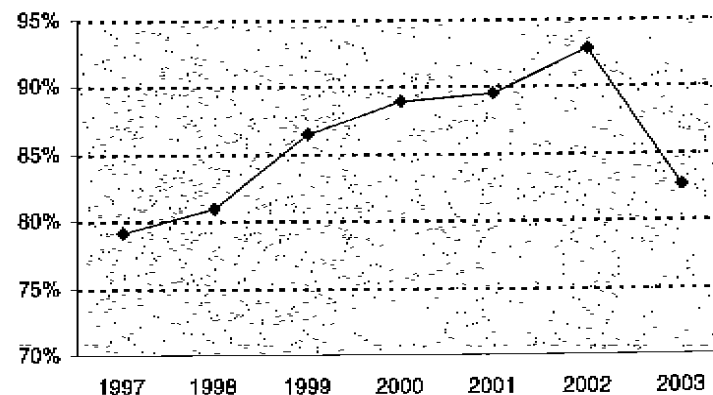
The other critical piece of information regarding the Fund's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Fund as calculated under GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. 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.

*These graphs show key GASB factors.*

**CHART 15**  
**Required Versus Actual Contributions**



**CHART 16**  
**Funded Ratio**





**SECTION 2: Valuation Results for the Ohio Police and Fire Pension Fund**

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The details regarding the calculations of these values and other GASB numbers may be found below in Chart 17 and in Section 4, Exhibits II, III, and IV.

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**CHART 17**  
**Calculation of GASB Statement No. 25 Annual Required Contribution**

1. Unfunded Actuarial Accrued Liability (UAAL)	\$1,825,663,436
2. 40-year Amortization of the UAAL (% of payroll)	5.82%
3. Employer Normal Cost (% of payroll)	11.47%
4. Annual Required Contribution (% of payroll) (2 + 3)	17.29%
5. Annual Required Contribution	\$ 277,724,840

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**SECTION 3**

**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT A-1 (Police)  
Table of Fund Coverage**

<b>Category</b>	<b>Year Ended December 31</b>		<b>Change From Prior Year</b>
	<b>2002</b>	<b>2001</b>	
<b>Active participants in valuation</b>			
Number	15,825	15,802	0.1%
Average age	38.8	38.6	N/A
Average service	11.9	11.7	N/A
Valuation total payroll	\$896,665,559	\$858,607,894	4.4%
Valuation average payroll	56,661	54,335	4.3%
Total active vested participants	5,102	5,017	1.7%
<b>Vested terminated participants</b>	106	93	14.0%
<b>Rehired retirees</b>	99	87	13.8%
<b>Retired participants</b>			
Number in pay status	6,418	6,321	1.5%
Average age	64.6	64.4	N/A
Average monthly benefit	\$2,533	\$2,433	4.1%
<b>Disabled participants</b>			
Number in pay status	3,193	3,055	4.5%
Average age	58.0	57.9	N/A
Average monthly benefit	\$2,177	\$2,078	4.8%
<b>Beneficiaries in pay status</b>	3,916	3,798	3.1%

**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT A-2 (Firefighters)**

**Table of Fund Coverage**

<b>Category</b>	<b>Year Ended December 31</b>		<b>Change From Prior Year</b>
	<b>2002</b>	<b>2001</b>	
<b>Active participants in valuation</b>			
Number	12,518	12,421	0.8%
Average age	39.4	39.2	N/A
Average service	12.1	12.0	N/A
Valuation total payroll	\$709,608,821	\$675,728,199	5.0%
Valuation average payroll	56,687	54,402	4.2%
Total active vested participants	4,257	4,189	1.6%
<b>Vested terminated participants</b>	52	40	30.0%
<b>Rehired retirees</b>	38	30	26.7%
<b>Retired participants</b>			
Number in pay status	5,188	5,155	0.6%
Average age	66.8	66.6	N/A
Average monthly benefit	\$2,442	\$2,354	3.7%
<b>Disabled participants</b>			
Number in pay status	2,202	2,088	5.5%
Average age	60.5	60.4	N/A
Average monthly benefit	\$2,272	\$2,154	5.5%
<b>Beneficiaries in pay status</b>	3,006	2,996	0.3%

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**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT B-1 (Police)**

**Participants in Active Service as of December 31, 2002  
By Age, Years of Service, and Average Payroll**

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	412	412	--	--	--	--	--	--	--	--
	\$39,934	\$39,934	--	--	--	--	--	--	--	--
25 - 29	1,992	1,598	393	1	--	--	--	--	--	--
	47,898	46,304	\$54,327	\$67,812	--	--	--	--	--	--
30 - 34	3,656	1,276	1,968	409	3	--	--	--	--	--
	53,646	47,322	56,489	59,678	\$55,623	--	--	--	--	--
35 - 39	3,284	437	993	1,493	357	3	--	1	--	--
	57,133	46,631	56,013	59,782	62,021	\$60,547	--	\$48,256	--	--
40 - 44	2,335	129	273	662	919	348	4	--	--	--
	59,117	44,944	52,693	58,262	61,654	64,262	\$65,691	--	--	--
45 - 49	2,279	55	113	264	463	995	381	8	--	--
	63,110	43,351	52,978	56,262	60,350	65,156	71,145	90,555	--	--
50 - 54	1,296	26	44	102	157	323	470	173	1	--
	64,231	49,823	50,378	55,720	56,321	62,876	68,453	73,246	\$52,638	--
55 - 59	442	14	16	25	48	52	104	158	25	--
	63,418	40,280	45,073	48,590	56,583	59,590	65,530	69,892	74,335	--
60 - 64	105	3	5	8	17	8	5	23	34	2
	60,325	47,366	36,121	47,848	46,429	54,628	65,708	65,967	70,871	\$73,447
65 - 69	18	--	1	1	1	--	1	1	4	9
	65,239	--	31,708	41,302	46,609	--	41,934	37,302	53,262	84,712
70 & over	6	1	1	--	--	--	--	--	--	4
	66,529	47,300	62,461	--	--	--	--	--	--	72,353
Total	15,825	3,951	3,807	2,965	1,965	1,729	965	364	64	15
	\$56,661	\$45,922	\$55,615	\$58,845	\$60,715	\$64,326	\$69,148	\$71,543	\$70,839	\$79,914

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**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT B-2 (Firefighters)**

**Participants in Active Service as of December 31, 2002  
By Age, Years of Service, and Average Payroll**

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	377	374	3	--	--	--	--	--	--	--
	\$43,037	\$42,989	\$48,988	--	--	--	--	--	--	--
25 - 29	1,390	1,113	273	4	--	--	--	--	--	--
	47,786	46,281	53,745	\$59,813	--	--	--	--	--	--
30 - 34	2,379	944	1,090	344	1	--	--	--	--	--
	52,308	47,116	54,963	58,096	\$68,465	--	--	--	--	--
35 - 39	2,539	378	825	1,029	305	1	--	--	1	--
	56,098	46,909	55,616	57,715	63,396	\$40,149	--	--	\$53,064	--
40 - 44	2,387	161	359	734	743	387	3	--	--	--
	59,640	49,257	55,645	57,906	62,567	65,137	\$84,925	--	--	--
45 - 49	1,992	44	122	280	464	812	267	3	--	--
	62,651	47,667	55,770	58,211	60,687	64,658	70,203	\$65,366	--	--
50 - 54	1,110	13	39	82	142	367	377	90	--	--
	63,625	48,537	54,290	56,807	58,520	62,082	67,752	73,126	--	--
55 - 59	276	6	16	16	25	27	85	92	9	--
	64,712	51,209	65,935	57,957	57,358	57,279	65,728	69,439	68,362	--
60 - 64	57	--	3	5	2	8	5	14	17	3
	66,261	--	73,012	60,012	57,207	66,417	64,716	66,589	67,337	\$70,497
65 - 69	10	--	1	2	2	1	--	1	2	1
	61,075	--	41,580	64,226	55,875	59,699	--	65,469	72,004	59,794
70 & over	1	1	--	--	--	--	--	--	--	--
	53,905	53,905	--	--	--	--	--	--	--	--
Total	12,518	3,034	2,731	2,496	1,684	1,603	737	200	29	4
	\$56,687	\$46,413	\$55,227	\$57,864	\$61,769	\$64,050	\$68,456	\$70,818	\$67,484	\$67,822

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**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT C-1 (Police)**

**Reconciliation of Participant Data**

	<b>Active Participants</b>	<b>Vested Former Participants</b>	<b>Rehired Retirees</b>	<b>Disableds</b>	<b>Retirees</b>	<b>Beneficiaries</b>	<b>Total</b>
Number as of January 1, 2002	15,802	93	87	3,055	6,321	3,798	29,156
New participants	903	N/A	0	0	N/A	N/A	903
Terminations – with vested rights	-42	42	0	0	0	0	0
Terminations – without vested rights	-389	N/A	0	0	N/A	N/A	-389
Retirements	-251	-15	0	0	269	N/A	3
New disabilities	-185	-5	0	203	0	N/A	13
Return to work	4	-4	0	0	0	N/A	0
Died with beneficiary	-10	0	0	-52	-113	286	111
Died without beneficiary	-3	0	0	-12	-59	-168	-242
Lump sum payoffs	0	-6	0	0	0	0	-6
Rehired retirees	0	0	12	0	0	N/A	12
Data adjustments	<u>-4</u>	<u>1</u>	<u>0</u>	<u>-1</u>	<u>0</u>	<u>0</u>	<u>-4</u>
Number as of January 1, 2003	15,825	106	99	3,193	6,418	3,916	29,557

X

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**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT C-2 (Firefighters)**

**Reconciliation of Participant Data**

	<b>Active Participants</b>	<b>Vested Former Participants</b>	<b>Rehired Retirees</b>	<b>Disableds</b>	<b>Retirees</b>	<b>Beneficiaries</b>	<b>Total</b>
Number as of January 1, 2002	12,421	40	30	2,088	5,155	2,996	22,730
New participants	523	N/A	0	0	N/A	N/A	523
Terminations – with vested rights	-21	22	0	0	0	0	1
Terminations – without vested rights	-100	N/A	0	0	N/A	N/A	-100
Retirements	-160	-3	0	0	164	N/A	1
New disabilities	-151	-2	0	156	0	N/A	3
Return to work	4	-4	0	0	0	N/A	0
Died with beneficiary	-4	0	0	-28	-85	179	62
Died without beneficiary	0	0	0	-14	-46	-169	-229
Lump sum payoffs	0	-1	0	0	0	0	-1
Rehired retirees	0	0	8	0	0	N/A	8
Data adjustments	6	0	0	0	0	0	6
Number as of January 1, 2003	12,518	52	38	2,202	5,188	3,006	23,004



**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT D**

**Summary Statement of Income and Expenses on an Actuarial Basis**

	Year Ended December 31, 2002	Year Ended December 31, 2001
<b>Contribution income:</b>		
Employer contributions	\$203,212,482	\$203,048,580
Employee contributions	167,137,216	150,531,967
State Subsidy	2,780,378	2,931,250
Less administrative expenses	<u>-13,655,368</u>	<u>-11,058,139</u>
Net contribution income	\$359,474,708	\$345,453,658
<b>Investment income:</b>		
Interest, dividends and other income	\$751,654,934	\$243,688,852
Recognition of capital appreciation	-1,668,742,319	-61,294,570
Less investment fees	<u>-18,939,352</u>	<u>-17,509,910</u>
Net investment income	-\$936,026,737	\$164,884,372
<b>Total income available for benefits</b>	<b>-\$576,552,029</b>	<b>\$510,338,030</b>
<b>Benefit payments:</b>		
Contribution refunds	-\$16,838,054	-\$10,438,362
Benefit payments	<u>-523,934,074</u>	<u>-496,119,668</u>
Net benefit payments	-\$540,772,128	-\$506,558,030
<b>Change in actuarial value of assets*</b>	<b>\$723,558,630</b>	<b>\$584,433,088</b>
<b>Change in reserve for future benefits</b>	<b>-\$393,765,527</b>	<b>\$588,213,088</b>

\* The method was changed effective January 1, 2002 and there was a scheduled change to the corridor limit effective January 1, 2003.

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**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT E**

**Table of Financial Information**

	Year Ended December 31, 2002	Year Ended December 31, 2001
Cash equivalents	\$394,014,091	\$309,416,673
Accounts receivable	\$162,217,615	\$175,791,805
<b>Investments:</b>		
Bonds	\$1,035,130,100	\$1,201,503,557
Mortgage and Asset Backed Securities	778,750,771	782,103,508
Stocks	3,141,082,280	3,837,667,827
Real Estate	595,142,720	563,152,428
Commercial Mortgage Funds	117,338,544	123,995,545
Private Equity	91,737,796	73,515,448
International Securities	1,248,064,009	1,400,657,196
Fixed Assets and prepaid expenses	<u>24,398,752</u>	<u>22,244,445</u>
Net investments	<u>\$7,031,644,972</u>	<u>\$8,004,839,954</u>
<b>Total assets</b>	<b>\$7,587,876,678</b>	<b>\$8,490,048,432</b>
<b>Less accounts payable</b>	<b>-\$352,290,378</b>	<b>-\$238,712,898</b>
<b>Net assets at market value</b>	<b><u>\$7,235,586,300</u></b>	<b><u>\$8,251,335,534</u></b>
<b>Net assets at actuarial value</b>	<b><u>\$8,682,703,560</u></b>	<b><u>\$9,076,469,088</u></b>
<b>Actuarial value as a % of market value</b>	<b>120.0%</b>	<b>110.0%</b>

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**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT F**

**Development of the Fund Through December 31, 2002**

<b>Year Ended December 31</b>	<b>Employer Contributions</b>	<b>Employee Contributions</b>	<b>State Subsidy</b>	<b>Net Investment Return*</b>	<b>Administration Fees</b>	<b>Benefit Payments</b>	<b>Actuarial Value of Assets at End of Year</b>
1999	\$188,364,861	\$135,814,320	\$3,281,554	--	\$9,618,945	\$465,991,200	\$7,905,186,329
2000	203,684,242	144,967,340	3,112,366	\$712,818,601	10,745,526	495,357,568	8,463,665,784
2001	203,048,580	150,531,967	2,931,250	773,907,676	11,058,139	506,558,030	9,076,469,088
2002	203,212,482	167,137,216	2,780,378	-212,468,108	13,655,368	540,772,128	8,682,703,560

\* Net of investment fees

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**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT G**

**Development of Unfunded Actuarial Accrued Liability for Year Ended December 31, 2002**

1. Unfunded actuarial accrued liability at beginning of year		\$709,297,103
2. Normal cost at beginning of year		308,052,266
3. Total contributions		-370,349,698
4. Interest		
(a) For whole year on (1) + (2)	\$83,931,323	
(b) For half year on (3)	-15,276,925	
(c) Total interest		<u>68,654,398</u>
5. Expected unfunded actuarial accrued liability		\$715,654,069
6. Changes due to:		
(a) (Gain)/Loss	\$1,694,548,935	
(b) Assumptions, method and plan provisions	-584,539,568	
(c) Total changes		<u>1,110,009,367</u>
7. Unfunded actuarial accrued liability at end of year		<u>\$1,825,663,436</u>

**SECTION 3: Supplemental Information for the Ohio Police and Fire Pension Fund**

**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 Fund is calculated including:

- (a) Investment return — the rate of investment yield that the Fund 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.

**Actuarial Accrued Liability:**

Sum of actuarial accrued liability for actives and pensioners.

**Unfunded Actuarial Accrued Liability:**

The extent to which the actuarial accrued liability of the Fund exceeds the assets of the Fund. 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 Ohio Police and Fire Pension Fund**

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**Amortization of the Unfunded**

**Actuarial Accrued Liability:** Payments made over a period of years equal in value to the Fund's unfunded actuarial accrued liability.

**Investment Return:**

The rate of earnings of the Fund 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.

**Funded Status:**

The ratio of the actuarial accrued liability to the actuarial value of assets.

**Funding Period:**

The number of years required to amortize the unfunded actuarial accrued liability.

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT I**

**Summary of Actuarial Valuation Results**

The valuation was made with respect to the following data supplied to us:

1. Pensioners as of the valuation date (including 6,922 beneficiaries in pay status)		23,923
2. Participants inactive during year ended December 31, 2002 with vested rights		158
3. Participants active during the year ended December 31, 2002		28,343
Fully vested	9,359	
Not vested	18,984	
4. Inactive non-vested participants as of December 31, 2002		1,849
5. Rehired retirees during the year ended December 31, 2002		137

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

1. Normal cost, including administrative expenses		\$331,403,712
2. Present value of future benefits		13,883,634,188
3. Present value of future normal costs		3,375,267,192
4. Actuarial accrued liability		10,508,366,996
Pensioners and beneficiaries	\$5,701,009,651	
Inactive participants with vested rights	14,835,725	
Active participants	4,781,396,121	
Refund due	11,125,499	
5. Actuarial value of assets (\$7,235,586,300 at market value)		8,682,703,560
6. Unfunded actuarial accrued liability		\$1,825,663,436

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT II**

**Supplementary Information Required by the GASB – Schedule of Employer Contributions**

<b>Plan Year Ended December 31</b>	<b>Annual Required Contributions</b>	<b>Actual Contributions</b>	<b>Percentage Contributed</b>
1996	\$168,505,254	\$168,505,254	100.0%
1997	176,567,663	176,567,663	100.0%
1998	185,548,447	185,548,447	100.0%
1999	191,646,415	191,646,415	100.0%
2000	206,796,608	206,796,608	100.0%
2001	205,979,830	205,979,830	100.0%
2002	205,992,860	205,992,860	100.0%
2003	277,724,840	--	--

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

**EXHIBIT III**

**Supplementary Information Required by the GASB – Schedule of Funding Progress**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)</b>	<b>Funded Ratio (a) / (b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll [(b) - (a) / (c)]</b>
01/01/1997	\$5,554,114,000	\$7,024,555,000	\$1,470,441,000	79.07%	\$1,119,922,000	131.30%
01/01/1998	6,231,419,000	7,697,677,000	1,466,258,000	80.95%	1,190,878,000	123.10%
01/01/1999	7,306,814,000	8,452,622,000	1,145,808,000	86.44%	1,249,114,000	91.73%
01/01/2000	7,988,578,000	8,995,564,000	1,006,986,000	88.81%	1,338,514,000	75.23%
01/01/2001	8,498,069,000	9,506,283,000	1,008,214,000	89.39%	1,407,542,000	71.63%
01/01/2002	9,076,469,000	9,785,766,000	790,297,000	92.75%	1,534,336,000	46.23%
01/01/2003	8,682,704,000	10,508,367,000	1,825,663,000	82.63%	1,606,274,000	113.66%

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**EXHIBIT IV**

**Supplementary Information Required by the GASB**

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Valuation Date	January 1, 2003
Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Level percent of payroll, open
Remaining Amortization Period	Infinite
Asset Valuation Method	5-year Adjusted Market Value with a corridor of 20% of the market value
Actuarial Assumptions:	
Investment Rate of Return*	8.25% per annum, net of investment fees
Projected Salary Increases	5.00% - 11.00%
Cost of Living Adjustments	3.00% <sup>1</sup>
Membership of the Plan	
Retirees and Beneficiaries receiving benefits	23,923
Terminated plan members entitled to, but not yet receiving benefits	158
Active plan members	28,343
Rehired Retirees	<u>137</u>
Total	52,561

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\* Includes inflation plus productivity at 4.00% per annum.

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**EXHIBIT V**

**Actuarial Assumptions and Actuarial Cost Method**

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**Mortality Rates:**

*Healthy Pre-Retirement*

1994 Group Annuity Mortality Table (sex distinct)

Police: Set back five years for males and set forward three years for females.

Firefighters: Set back seven years for males and set forward three years for females.

*Healthy Post-Retirement*

1994 Group Annuity Mortality Table (male only), set forward one year for all pensioners.

*Beneficiaries*

1994 Group Annuity Mortality Table (female only), set forward two years for all beneficiaries.

*Disabled*

1994 Group Annuity Mortality Table (male only)

Police: Set forward six years

Firefighters: Set forward five years

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**Sample Rates before Retirement (Police):**

Age	Rate (%)		Disability
	Mortality		
	Male	Female	
20	0.035	0.029	0.002
25	0.051	0.031	0.020
30	0.066	0.042	0.124
35	0.080	0.060	0.344
40	0.085	0.088	0.708
45	0.107	0.121	1.304
50	0.158	0.191	2.533
55	0.258	0.336	4.270
60	0.443	0.668	6.546

**Sample Rates before Retirement (Firefighters):**

Age	Rate (%)		Disability
	Mortality		
	Male	Female	
20	0.026	0.029	0.004
25	0.046	0.031	0.015
30	0.059	0.042	0.068
35	0.075	0.060	0.143
40	0.085	0.088	0.380
45	0.094	0.121	1.166
50	0.135	0.191	2.939
55	0.210	0.336	5.270
60	0.358	0.668	7.610

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

**Withdrawal Rates (Police):**

The following sample withdrawal rates are based on age (for causes other than death, disability, or retirement).

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	0.02440	0.02440	0.02475	0.02031	0.01745	0.01511	0.01420	0.01384	0.01218	0.01311	0.01311
30	0.02056	0.02056	0.02113	0.02012	0.01824	0.01608	0.01452	0.01355	0.01211	0.01168	0.01168
35	0.02309	0.02309	0.02400	0.02376	0.02158	0.01863	0.01601	0.01405	0.01230	0.01059	0.00959
40	0.03017	0.03017	0.03130	0.03043	0.02715	0.02279	0.01866	0.01532	0.01271	0.00969	0.00590
45	0.04104	0.04104	0.04204	0.03944	0.03458	0.02846	0.02247	0.01742	0.01337	0.00919	0.00311
50	0.05501	0.05501	0.05546	0.05012	0.04339	0.03543	0.02737	0.02041	0.01449	0.00957	0.00299
55	0.07155	0.07155	0.07112	0.06199	0.05322	0.04350	0.03327	0.02436	0.01621	0.01124	0.00737
60	0.09038	0.09038	0.08881	0.07480	0.06390	0.05259	0.04013	0.02931	0.01860	0.01438	0.01438

**Withdrawal Rates (Firefighters):**

The following sample withdrawal rates are based on age (for causes other than death, disability, or retirement).

Age	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
25	0.00530	0.00749	0.00864	0.00903	0.00858	0.00749	0.00607	0.00510	0.00453	0.00434	0.00434
30	0.00912	0.00882	0.00824	0.00749	0.00684	0.00632	0.00588	0.00549	0.00515	0.00483	0.00483
35	0.01145	0.00989	0.00866	0.00767	0.00714	0.00699	0.00699	0.00679	0.00631	0.00547	0.00417
40	0.01277	0.01082	0.00978	0.00931	0.00916	0.00923	0.00925	0.00893	0.00799	0.00628	0.00359
45	0.01308	0.01159	0.01161	0.01242	0.01293	0.01307	0.01269	0.01193	0.01022	0.00729	0.00312
50	0.01242	0.01218	0.01412	0.01700	0.01846	0.01851	0.01731	0.01581	0.01302	0.00850	0.00282
55	0.01082	0.01257	0.01728	0.02306	0.02575	0.02557	0.02310	0.02057	0.01640	0.00993	0.00272
60	0.00831	0.01275	0.02109	0.03060	0.03480	0.03423	0.03008	0.02623	0.02038	0.01159	0.00285

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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<b>Occurrence of Disability:</b>	On duty permanent and total	35%
	On duty partial	61%
	Off duty ordinary	4%

<b>Retirement Rates*:</b>	<b>Age</b>	<b>Police</b>	<b>Firefighters</b>
	48	30%	30%
	49	20%	20%
	50	20%	20%
	51	20%	20%
	52	20%	20%
	53	20%	25%
	54	20%	25%
	55	20%	25%
	56	20%	25%
	57	20%	25%
	58	20%	25%
	59	25%	30%
	60	25%	30%
	61	25%	30%
	62	25%	35%
	63	25%	35%
	64	25%	35%
	65	100%	100%

*\*See DROP Retirement Rates for modifications.*

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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<b>Retirement Age for Inactive Vested Participants:</b>	Commencement at age 48 and 25 years of service from full-time hire date, whichever is later.
<b>Deferred Retirement Option Plan (DROP) Elections:</b>	All members who do not retire when first eligible are assumed to elect DROP.
<b>DROP Retirement Rates:</b>	DROP participants are assumed to retire at the same retirement rates as assumed, with the following exceptions: Second and third years of DROP: 0% Eighth year of DROP: 100%
<b>Unknown Data for Members:</b>	Same as those exhibited by members with similar known characteristics.
<b>Percent Married:</b>	85%
<b>Age of Spouse:</b>	Females three years younger than males.
<b>Dependent Parents:</b>	Costs based upon allowance for mortality (same rates as for beneficiaries), but no specific allowance for change in dependency status.
<b>Dependent Children:</b>	Each member is assumed to have two children, born when the member was age 26. Dependency is assumed to cease when the child is 22.
<b>COLA Annuities:</b>	Where an election is possible, all members are assumed to elect the COLA annuity. The assumed Consumer Price Index increase is a rate equal to or greater than 3% per year.

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**Net Investment Return:** 8.25%, net of investment fees.

**Salary Increases:** Inflation rate of 3.00% plus productivity increase rate of 1.00% and service-graded promotional increases. Annual total salary increase shown below:

<b>Years of Service</b>	<b>Annual Total Salary Increase</b>
1 or less	11.0%
2	9.5
3	8.5
4	6.5
5 or more	5.0

---

**Administrative Expenses:** The Normal Cost is increased by all pension administrative expenses budgeted, net of the State Subsidy received from the State of Ohio.

---

**Actuarial Value of Assets:** The difference between actual market value and expected market value is recognized over five years (20% per year). The actuarial value is the market value adjusted by the total unrecognized gains or losses incurred during the five year period, further adjusted if necessary to be within 10% of the market value for the January 1, 2002 actuarial valuation and 20% for the market value for actuarial valuations beginning on and after January 1, 2003.

---

**Actuarial Cost Method:** Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced participation. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary, with Normal Cost determined as if the current benefit accrual rate had always been in effect. The Actuarial Accrued Liability is net of the Present Value of Employer Accrued Liability.

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**Present Value of Employer  
Accrued Liability:**

Future payments on the employer accrued liability (local funds receivable) are discounted at the valuation rate to determine the present value as of the valuation date.

---

**Changes in Assumptions and  
Actuarial Cost Method:**

The only change in actuarial assumptions since the prior valuation was the additional assumptions due to DROP.

The only change in the actuarial methods since the prior valuation was the scheduled change in the corridor limit used in the determination of the actuarial value of assets.

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**EXHIBIT VI**

**Summary of Fund's Plan Provisions**

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

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**Plan Year:** January 1 through December 31

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**Normal Retirement:**

*Age Requirement*

48

*Service Requirement*

25 years of service

*Amount*

2.5% for each of the first 20 years of service, 2% for each of the next five years of service, and 1.5% for service in excess of 25 years of the Average Annual Salary, to a maximum of 72% of the Average Annual Salary. Average Annual Salary means one-third of the total salary during any three years for which the total earnings were greatest.

---

**Normal Retirement  
for Late Hires:**

*Age Requirement*

62

*Service Requirement*

15 years of service

*Amount*

The same as the Normal Retirement Benefit

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**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**Deferred Retirement Option Plan (DROP):**

*Age/Service Requirement*

Normal Retirement and Normal Retirement for Late Hires

*Amount*

The Normal Retirement Benefit is determined at the date of DROP entry, and receives annual cost-of-living adjustments (COLA) until retirement. DROP annual accrual is the sum of the Normal Retirement Benefit at DROP entry, with applicable COLA at the end of the year, member contributions credited to DROP and interest credited at a fixed rate of 5% compounded annually.

Member contributions are credited based on the number of years of DROP service under the following schedule:

Years 1 and 2: 50% of member's contributions (5.0% of pay)

Year 3: 75% of member's contributions (7.5% of pay)

Years 4 – 8: 100% of member's contributions (10.0% of pay)

The minimum participation in DROP, without penalty, is three years and the maximum is eight years. If a member terminates within the first three years of joining DROP, then the member forfeits all of their DROP interest. If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Retirement Benefit upon retirement, with service during the DROP period included.

At retirement, the member receives their Normal Retirement Benefit determined at date of DROP entry, with the COLA adjustment to date of retirement, and the DROP account balance as a lump sum or monthly annuity.

If the member dies while participating in DROP, the spouse or designated beneficiary will receive the entire DROP account balance determined at death. Also, they will receive the Normal Retirement Benefit with COLA adjustments to the date of death, as if the member had elected a 50% joint and survivor option at death. All other death benefits will apply.

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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If the member becomes disabled while in DROP, the member can choose either to receive a disability benefit or stay in DROP. If the member stays in DROP, the disability benefit is forfeited. If the member chooses the disability benefit, the DROP is forfeited, and the disability benefit is calculated using service and salary during their DROP participation.

---

**Permanent and Total Disability  
(On Duty):**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	None
<i>Amount</i>	An annual pension equal to 72% of the Average Annual Salary.

---

**Partial Disability  
(On Duty):**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	None
<i>Amount</i>	An annual pension to be fixed by the Board of Trustees, but not to exceed 60% of the Average Annual Salary; provided that if the member has 25 or more years of service the annual disability pension is equal to the accrued Normal Retirement Benefit.

---

**Presumptive Disability:**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	None
<i>Amount</i>	An annual pension in an amount determined in accordance with the benefit provisions of Permanent and Total Disability or Partial Disability, as the case may be.

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**Ordinary Disability  
(Off Duty):**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	Five years of service
<i>Amount</i>	An annual pension to be fixed by the Board, but not to exceed 60% of the Average Annual Salary.

---

**Termination Prior to Retirement:**

**Non-vested (Service less than 15 years):**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	None
<i>Amount</i>	A lump sum amount equal to the contributions made by the member to the Fund.

**Vesting (Service on or after 15 years):**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	15 years of service
<i>Amount</i>	Commencing at age 48 or 25 years from full-time hire date, whichever is later; an annual pension equal to 1.5% of the Average Annual Salary multiplied by the number of full years of service.

**Vesting (Service on or after 25 years):**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	25 years of service
<i>Amount</i>	Commencing at age 48, the accrued Normal Retirement Benefit.

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**Pre-Retirement Death Benefit:**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	Upon death before retirement but after having satisfied the requirements for normal service or age service retirement.
<i>Amount</i>	The surviving spouse or contingent dependent beneficiary will receive 50% of the benefit that the deceased member would have been entitled upon retirement on the day of death under the 50% Joint & Survivor annuity form.

---

**Flat Death Benefits:**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	Upon death to any member of the Fund, active or retired.
<i>Amount</i>	<p>Surviving Spouse's Benefit – An annual amount equal to \$6,600, payable for the spouse's lifetime.</p> <p>The benefit will be subject to an increase each July 1, beginning July 1, 2000. The increase will be a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of 3%.</p> <p>Surviving Children – An annual amount equal to \$1,800, payable until such child attains age 18 or marries, whichever occurs first. (Similar payments made, regardless of age, to disabled children.) An annual amount equal to \$1,800 will continue beyond age 18 up to age 22 while child is a full-time student.</p> <p>Dependent Parents – An annual amount of \$2,400 to one dependent parent or \$1,200 each to two dependent parents, during their lifetime or until dependency ceases or until remarriage, provided that the deceased member leaves no surviving spouse or surviving children.</p>

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**Lump-Sum Payment at Death of Retiree or Disability:**

<i>Age Requirement</i>	None
<i>Service Requirement</i>	Upon death of any retired or disabled member of the Fund.
<i>Amount</i>	A lump-sum payment of \$1,000.

**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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**Member Contributions:**

*Lump-sum Benefit*

10% of salary.

The total pension payments to a member and the member's survivors/beneficiaries may not be less than the member's contributions.

---

**Pension Increases for Certain Retirees:**

Commencing January 1, 1974, the pensions of persons who retired between July 1, 1968 and June 30, 1971 were increased by \$2 per month times the number of years on retirement as of June 30, 1973.

Effective January 1, 1977, annual pensions (except those arising from volunteer or part-time service, or early vested service) were increased as follows:

If the annual pension was less than \$2,700, then the pension was increased to \$3,000. If the annual pension was \$2,700 or more, the increase was \$300 per year. These increases do not apply to benefits being paid under pre-1947 plans with an automatic escalating provision.

Effective July 1, 1979, retirees (excluding those with escalating benefits) who retired prior to January 1, 1974, received pension increases of 5% of the first \$5,000 of annual pension.

Effective January 1, 1982, retirees (excluding those with escalating benefits) who retired prior to February 28, 1980, received pension increases of \$46 per month.

Effective August 1, 1988, members who retired prior to February 28, 1984, and who were receiving an annual benefit of less than \$13,000 have pension increases of \$50 per month, or if larger, the amount needed to increase the current annual pension to \$4,200.

Effective July 1, 1999, the minimum annual pension for current retirees with 25 or more years of service is \$6,600, excluding those with escalating benefits.

Retirees prior to July 24, 1986, whose annual straight life pension is less than \$18,000 will receive an increase in their annual pension of \$360, actuarially adjusted to reflect optional annuity forms of benefits. The increase is paid only if the annual increase in the Consumer Price Index, plus unused prior increases, equals or exceeds 3%. The first increase is paid July 1, 1988. Beginning in 1989, the \$18,000 limit is increased



**SECTION 4: Reporting Information for the Ohio Police and Fire Pension Fund**

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by \$500 each year. Effective July 1, 1996, a prorated portion of the \$360 will be granted if there is an increase in the CPI, including unused prior increases, of less than 3%. Effective July 1, 2000 the \$18,000 (indexed) limit is removed.

---

**Group Health Insurance and Medicare:**

Commencing January 1, 1974, the Board may contract for group health insurance on the basis of part or all of the cost of the premium for the coverage to be paid by the Fund.

Effective January 1, 1977, the Fund will pay the premium for supplemental Medicare (Part B).

Effective July 1, 1992, pensioners and survivors make monthly medical benefit contributions, which are credited to the Health Care Stabilization Fund. Monthly contributions range from \$0 to \$50 depending on the type and amount of the participant's pension. Effective January 1, 2002 these contributions were revised, with total contributions designed to equal 7.75% of payroll.

---

**COLA or Terminal Pay:**

Members retiring after July 24, 1986, and who have 15 or more years of service as of January 1, 1989, are allowed to select between (1) a pension calculated on the basis of average salary which is increased to reflect terminal pay adjustments, or (2) a pension based on average salary excluding the terminal pay adjustment, but increasing by 3% of the initial pension each retirement anniversary after July 1, 1989. The 3% addition is paid only if the annual increase in the Consumer Price Index, plus unused prior increases, equals or exceeds 3%. This additive 3% COLA annuity without terminal pay adjustment is the automatic form for active members with less than 15 years of service as of January 1, 1989.

Effective July 1, 1996, the COLA percentage equals the actual increase in the CPI, plus unused prior increases, to a maximum of 3%.

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**Optional Forms of Payment:**

Effective February 28, 1980, retiring members may elect to have actuarially reduced benefits payable under certain and continuous and joint and survivor annuity forms. The maximum certain period is 20 years, and the continuation percentage under the joint and survivor form is limited to 100%.

Effective September 26, 1984, members who retired before February 28, 1980, may make a one-time election to have their benefits reduced and paid under the joint and survivor annuity form with the surviving spouse as survivor annuitant.

Effective September 9, 1989, elected options may be canceled within one year after benefits commence.

Effective September 16, 1998 the standard form of benefit is the 50% joint and survivor annuity, unless the member's spouse provides written consent for a lower survivor benefit.

**Changes in Plan Provisions:**

The only change in plan provisions since the last valuation is the implementation of DROP, effective January 1, 2003.