

REPORT ON THE ANNUAL VALUATION OF THE
SCHOOL EMPLOYEES RETIREMENT SYSTEM
OF OHIO

PREPARED AS OF JUNE 30, 2002

Ross

BUCK CONSULTANTS®

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November 14, 2002

Board of Trustees
School Employees' Retirement
System of Ohio
300 East Broad St., Suite 100
Columbus, OH 43215-3746

Dear Members of the Board:

Presented in this report are the results of the annual actuarial valuation of the School Employees Retirement System of Ohio. The purpose of the valuation is to measure the System's funding progress and to determine the required actuarial level of contributions for the basic benefits of SERS for the year ending June 30, 2002.

The date of the valuation was June 30, 2002.

The valuation was based upon data, furnished by the Executive Director and the SERS staff, concerning active, inactive and retired members along with pertinent financial information. The complete cooperation of the SERS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the presentation of contribution rates on page 1 and the comments on page 7.

To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems.

The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the system, and on actuarial assumptions that are individually and in the aggregate internally consistent and reasonably based on the actual experience of the system.

Respectfully submitted,



Thomas J. Cavanaugh, F.S.A.
Principal & Consulting Actuary



Philip Bonanno, E.A.
Senior Consultant & Actuary

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**REPORT ON THE ANNUAL VALUATION OF THE
SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO
PREPARED AS OF JUNE 30, 2002**

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2002, presents the results of the annual actuarial valuation of the System which values the basic benefit provisions including post-retirement death benefits and Medicare Part-B reimbursements. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below.

SUMMARY OF PRINCIPAL RESULTS

VALUATION DATE	6/30/02	6/30/01*
Active members included in valuation		
Number	120,254	115,684
Annual compensation	\$ 2,175,734,902	\$ 1,974,097,213
Retirees		
Number	59,349	58,795
Annual allowances	\$ 432,217,056	\$ 404,506,860
Deferred Vesteds		
Number	8,423	7,958
Annual deferred allowances	\$ 22,400,005	\$ 19,880,364
Assets (net of Health Care Assets)		
Market related actuarial value	\$ 8,878,759,793	\$ 8,790,857,859
Market value	\$ 7,223,433,668	\$ 8,013,323,709
Unfunded accrued liability	\$ 1,107,546,362	\$ 465,798,211
Employer contribution rate		
Normal	5.40%	5.27%
Accrued liability	<u>2.77</u>	<u>1.29</u>
Total	8.17%	6.56%
Accrued liability payment period	30 years	30 years

* As restated by the previous actuary.

2. The Board has set a total contribution rate of 23% of payroll. Contributions in excess of those required to support the basic benefits of SERS are allocated to support health care benefits provided SERS retirees.
3. The valuation balance sheet showing the results of the valuation is given in Section III.

4. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains or losses during the valuation year are given in Section V and the rates of contribution payable by employers are given in Section VI.
5. There were no changes in benefit provisions, actuarial assumptions, or methods since the last valuation.
6. Schedule A of this report presents the development of the actuarial value of assets. Schedule B details the actuarial assumptions and methods employed. Schedule C gives a summary of the benefit and contribution provisions of the plan.
7. The table on the following page provides a history of some pertinent figures.
8. All historical information and data shown in this report with a valuation date prior to June 30, 2002 were obtained from the previous actuary's valuation report.
9. Valuations results as of June 30, 2001 were restated by the previous actuary after issuance of the valuation report. This report reflects those restatements.

School Employees Retirement System of Ohio

Comparative Schedule

Valuation Date June 30	Active Members				Retired Lives				Accrued Liability	Valuation Assets \$ Millions	UAAAL
	Number	Payroll \$ Millions	Average Salary		Number		Annual Benefits				
			\$	% Incr.	Retired	Active/ Retired	\$ Millions	% of Payroll			
1999	110,175	\$1,768	\$16,048	3.8%	56,632	1.9	\$350.6	19.8%	\$7,535	\$7,332	\$203
2000	113,811	1,866	16,398	2.2	57,824	2.0	376.7	20.2	7,919	8,100	(181)
2001	115,684	1,974	17,065	4.1	58,795	2.0	404.5	20.5	9,257	8,791	466
2002	120,254	2,176	18,093	6.0	59,349	2.0	432.2	19.9	9,986	8,879	1,107

(54)

SECTION II - MEMBERSHIP DATA

Data regarding the membership of the System for use as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the system as of June 30, 2002 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

Active Members

Number	Payroll	Group Averages		
		Salary	Age	Service
120,254	\$2,175,734,902	\$18,093	45.7	8.5

The total number of active members includes 64,841 vested members and 55,413 non-vested members.

Retired Lives

Type of Benefit Payment	No.	Annual Benefits	Group Averages	
			Benefit	Age
Retirement	50,253	\$361,577,400	\$7,195	74.6
Disability	5,091	50,917,044	10,001	62.8
Survivor	4,005	19,722,612	4,924	70.1
Total in SERS	59,349	\$432,217,056	\$7,283	73.3

This valuation also includes 73,215 inactive members eligible for a contribution refund only (including 27,677 members not reported in the data files who had completed 1 or more years of service before terminating). Their contributions totaled \$79,083,880 as of June 30, 2002. In addition, there are 6,526 re-employed retirants with contributions of \$13,557,006, and 8,423 terminated vested members with annual deferred benefits of \$22,400,005.

SECTION III - VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of June 30, 2002 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2001. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.

**VALUATION BALANCE SHEET
SHOWING THE ASSETS AND LIABILITIES OF THE
SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO**

Restated
1

ASSETS	JUNE 30, 2002	JUNE 30, 2001
Current actuarial value of assets	\$ 8,878,759,793 ^{89%}	\$ 8,790,857,859
Future member contributions	\$ 1,713,878,512 ¹⁴	\$ 1,569,141,306
Prospective employers' contributions		
Normal contributions	\$ 970,284,800	\$ 867,403,624
Unfunded accrued liability contributions	\$ <u>1,107,546,362</u>	\$ <u>465,798,211</u>
Total prospective contributions	\$ <u>2,077,831,162</u>	\$ <u>1,333,201,835</u>
Total assets	\$ <u>12,670,469,467</u>	\$ <u>11,693,201,000</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 4,599,341,845	\$ 4,294,177,000
Present value of benefits payable on account of active members	7,778,340,658	7,124,472,000
Present value of benefits payable on account of inactive and deferred vested members for service rendered before the valuation date	<u>292,786,964</u>	<u>274,552,000</u>
Total liabilities	\$ <u>12,670,469,467</u>	\$ <u>11,693,201,000</u>

SECTION IV - COMMENTS ON VALUATION

The valuation balance sheet gives the following information with respect to the funds of the System as of June 30, 2002.

Total Assets

Current actuarial assets as of the valuation date equaled \$8,878,759,793. Future member contributions were valued to be \$1,713,878,512. Prospective employers' contributions were calculated to be \$2,077,831,162, of which \$970,284,800 is attributable to service rendered after the valuation date (normal contributions) and \$1,107,546,362 is attributable to service rendered before the valuation date (unfunded accrued liability contributions).

Therefore, the balance sheet shows the present value of current and future assets of the System to be \$12,670,469,467 as of June 30, 2002.

Total Liabilities

The present value of benefits payable on account of presently retired members and beneficiaries totaled \$4,599,341,845 as of the valuation date. The present value of future benefit payments on behalf of active members amounted to \$7,778,340,658. In addition, the present value of benefits for inactive members, due to service rendered before the valuation date, was calculated to be \$292,786,964.⁽⁵⁴⁾

Therefore, the balance sheet shows the present value for all prospective benefit payments under the System to be \$12,670,469,467 as of June 30, 2002.

Section 3309.47 of State law requires that active members contribute 8% of annual compensation to the System, but the Board has the authority to raise the rate to 10%. The rate is currently set at 9% of compensation.

Section 3309.49 requires that the employers contribute a certain percentage of the annual compensation of members to cover the normal contributions and a certain percentage to cover the accrued liability contributions of the System. These individual contribution percentages are established in accordance with an actuarial valuation. The sum of these normal and accrued liability contributions shall not exceed 14% of the annual compensation of all members.

The following table provides a breakdown of total and accrued liabilities, and shows the resulting unfunded actuarial accrued liability.

	Total Liability	Accrued Liability
Active Members		
Retirement	\$6,422,238,176	\$4,700,808,277 ⁵⁴
Death	108,697,076	68,472,914 ✓
Disability	670,777,103	320,428,438 ✓
Termination	438,381,360	(87,081,375) ✓
Medicare Part-B	129,856,156	86,782,352
Death After Retirement	<u>8,390,787</u>	<u>4,766,740</u>
Total	\$7,778,340,658	\$5,094,177,346
Benefit Recipients		
Retirement/Survivor/Disability	\$4,378,760,955	\$4,378,760,955 ⁵⁴
Medicare Part-B	200,796,412	200,796,412 ⁵⁴
Death After Retirement	<u>19,784,478</u>	<u>19,784,478</u> ⁵⁴
Total	\$4,599,341,845	\$4,599,341,845
Deferred Vested Members	162,841,903	162,841,903
Inactive Members	<u>129,945,061</u>	<u>129,945,061</u>
Total Actuarial Values	\$12,670,469,467	\$9,986,306,155
Actuarial Value of Assets		<u>8,878,759,793</u>
Unfunded Actuarial Accrued Liability		\$1,107,546,362

SECTION V – DERIVATION OF EXPERIENCE GAINS AND LOSSES

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common.

The sources of gains and losses will be detailed in a separate report. This section shows the overall net actuarial gain or loss for the year ended June 30, 2002. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2002 is shown below.

	<u>\$ millions</u>
(1) UAAL* as of 06/30/01	\$465.8
(2) Normal cost from last valuation	111.3
(3) Actual employer contributions	118.1
(4) Interest accrual: $(1) \times .0825 + [(2) - (3)] \times .0404$	38.1
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	497.1
(6) Change due to plan amendments	0.0
(7) Change due to new actuarial assumptions or methods	0.0
(8) Expected UAAL after changes: $(5) + (6) + (7)$	497.1
(9) Actual UAAL as of 6/30/02	1,107.5
(10) Gain (loss) $(8) - (9)$	\$(610.4)
(11) Gain (loss) as percent of actuarial accrued liabilities at start of year (\$9,256.7)	-6.6%

* Unfunded actuarial accrued liability.

SECTION VI – REQUIRED CONTRIBUTION RATES

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement System. The following table shows the rates of contribution payable by employers as determined from the present valuation for the 2002/2003 fiscal year.

*2% cap per district
1% cap overall*

BREAKDOWN OF REQUIRED CONTRIBUTIONS

(expressed as percents of payroll)

FY 2003

	Basic Benefits	Post Retirement Death Benefit	Medicare Part-B	Total
Normal Cost				
Service Retirement Benefits	9.29%			
Disability Benefits	1.82			
Survivor Benefits	0.22			
Refunds	<u>2.76</u>			
Total	14.09%	0.02%	0.29%	14.40%
UAAL Payment	2.37	0.00	0.40	2.77
Total Contribution	16.46%	0.02%	0.69%	17.17%
Member Contribution	9.00	0.00	0.00	9.00
Employer Contribution	7.46%	0.02%	0.69%	8.17%

7.459

.021

6.9

*5.83%
HC*

SECTION VII- SUPPLEMENTAL DISCLOSURE INFORMATION

1. Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) set forth certain items of information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF JUNE 30, 2002**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	59,349
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	81,638 = 84,833 + 73,215
Active Participants	<u>120,254</u>
Total	261,241

Retired eligible
↑

2. Another such item is the schedule of funding progress as shown below.

**SCHEDULE OF FUNDING PROGRESS
(\$ Thousands)**

Plan Year Ended	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Percent Funded (1)/(2)	(4) Unfunded AAL (2)-(1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4)/(5)
06/30/93	\$3,672,662	\$5,051,534	72.7%	\$1,378,872	\$1,312,700	105.0%
06/30/94	3,951,856	5,381,465	73.4	1,429,609	1,360,887	105.0
06/30/95@	4,310,487	5,839,027	73.8	1,528,540	1,429,559	106.9
06/30/96#*	4,777,498	6,128,781	78.0	1,351,283	1,475,873	91.6
06/30/97*	5,521,248	6,504,638	84.9	983,390	1,551,609	63.4
06/30/98^	6,412,649	7,037,449	91.1	624,800	1,651,883	37.8
06/30/99+	7,331,692	7,534,903	97.3	203,211	1,768,098	11.5
06/30/00	8,281,286	8,100,427	102.2	(180,859)	1,866,283	(9.7)
06/30/01#^	8,790,858	9,256,656	95.0	465,798	1,974,097	23.6
06/30/02 (30)	8,878,760	9,986,306	88.9	1,107,546	2,175,735	50.9

^ After change in benefit provisions.
After change in actuarial assumptions.
* After change in asset method.

@ Includes Medicare Part-B Supplement for this year and future years.
+ After change in method.

3. The annual required contribution (ARC) of the employer as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below. The accrued liability rate is based on amortization of the unfunded actuarial accrued liability of \$1,107,546,362 over a 30 year period from the valuation date.

**2002/2003 FISCAL YEAR
ANNUAL REQUIRED CONTRIBUTION (ARC)
BASED ON THE VALUATION AS OF JUNE 30, 2002**

ANNUAL REQUIRED CONTRIBUTION (ARC)	RATE
Normal	5.40%
Accrued liability	<u>2.77</u>
Total	8.17%

4. Additional information as of June 30, 2002 follows.

Valuation date	6/30/02
Actuarial cost method	Entry age
Amortization method	Level percent open
Remaining amortization period	30 years
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return*	8.25%
Projected salary increases*	4.75 - 25.00%
*Includes inflation at	3.75%
Cost-of-living adjustments	3.00%

Schedule of Employer Contributions

Fiscal Year 7-1/6-30	Valuation Date 6-30	Annual Required Contribution	Percentage Contributed
1993-94	1993	\$119,849,473	100%
1994-95	1994	128,603,843	100
1995-96	1995	150,103,657	100
1996-97	1996	144,487,949	100
1997-98	1997	139,955,108	100
1998-99	1998	127,195,004	100
1999-00	1999	98,148,589	100
2000-01	2000	78,459,360	100
2001-02	2001	110,795,693	100
2002-03	2002	181,236,112	

Solvency Tests
(\$ in Millions)

June 30	Actuarial Accrued Liabilities for			Net Assets Available for Benefits	Portions of Accrued Liabilities covered by Assets		
	(1) Accumulated Employee and Inactive Contributions	(2) Retirees and Beneficiaries Currently Receiving Benefits	(3) Active and Inactive Members Employer Financed Portion		(1)	(2)	(3)
1993	\$889	\$2,261	\$1,902	\$3,673	100%	100%	27.5%
1994	961	2,426	1,994	3,952	100	100	28.3
1995	1,034	2,700	2,105	4,310	100	100	27.4
1996	1,105	2,790	2,234	4,777	100	100	39.5
1997	1,177	2,996	2,332	5,521	100	100	57.8
1998	1,255	3,269	2,513	6,413	100	100	75.2
1999	1,341	3,469	2,725	7,332	100	100	92.6
2000	1,429	3,734	2,937	8,281	100	100	106.2
2001	1,407	4,294	3,556	8,791	100	100	86.9
2002	1,525	4,599	3,862	8,879	100	100	71.3

Schedule of Active Member Valuation Data

Valuation Date	Active members			
	Number	Annual Payroll (in millions)	Annual Average Pay	% Increase in Average Pay
1994	99,918	\$1,360.9	\$13,620	-
1995	100,784	1,429.6	14,184	4.1%
1996	101,777	1,475.9	14,501	2.2
1997	103,739	1,551.6	14,957	3.1
1998	109,878	1,651.9	15,456	3.3
1999	110,175	1,768.1	16,048	3.8
2000	113,811	1,866.3	16,398	2.2
2001	115,684	1,974.1	17,065	4.1
2002	120,294	2,175.7	18,063	6.0

(54)

Schedule of Retirants Added to And Removed From Rolls

Item	Fiscal year ended June 30							
	1995	1996	1997	1998	1999	2000	2001	2002
Beginning of Year	51,479	52,413	53,478	54,554	55,563	56,632	57,824	58,795
Added	3,532	4,032	3,993	4,174	4,127	4,647	4,051	3,977 ^A
Removed	(2,598)	(2,967)	(2,917)	(3,165)	(3,058)	(3,455)	(3,080)	(3,423) ^B
End of Year	52,413	53,478	54,554	55,563	56,632	57,824	58,795	59,349

A 4,468
B (3,914)

SCHEDULE A

Development of Actuarial Value of Assets

Valuation Date:	June 30, 2001	June 30, 2002	2003	2004	2005
A. Actuarial Value Beginning of Year	\$8,532,713,140	\$9,106,571,729			
B. Market Value End of Year	8,329,037,579	7,558,666,711			
C. Market Value Beginning of Year	9,094,114,290	8,329,037,579			
D. Cash Flow					
D1. Contributions	526,530,664	551,963,363			
D2. Other revenues	-	-			
D3. Benefit Payments	(638,984,950)	(657,829,862)			
D4. Administrative Expenses	-	-			
D5. Net	(112,454,286)	(105,866,499)			
E. Investment Income					
E1. Market Total: B - C - D5	(652,622,425)	(664,504,369)	<i>Actual Return</i>		
E2. Assumed Rate	8.25%	8.25%			
E3. Amount for Immediate Recognition	699,310,095	746,925,175	<i>Actuarial Return</i>		
E4. Amount for Phased-In Recognition	(1,351,932,520)	(1,411,429,544)			
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.25 * E4	(337,983,130)	(352,857,386)			
F2. First Prior Year	79,212,296	(337,983,130)		(352,857,386)	
F3. Second Prior Year	77,990,651	79,212,296		(337,983,130)	(352,857,386)
F4. Third Prior Year	167,782,963	77,990,651		79,212,296	(337,983,130)
F5. Total Recognized Investment Gain	(12,997,220)	(533,637,569)		(611,628,220)	(690,840,516)
G. Actuarial Value End of Year:					
A + D5 + E3 + F5	\$9,106,571,729	\$9,213,992,836			
H. Difference Between Market & Actuarial Values:					
I. Health Care Valuation Assets	(777,534,150)	(1,655,326,125)		(1,043,697,902)	(352,857,386)
J. PV HB 284 and 204 conts	315,713,869	335,233,043			0
K. Basic Benefits Valuation Assets	\$8,790,857,860	\$8,878,759,793			

The actuarial value of assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 4 year period. During periods when investment performance exceeds the assumed rate, the actuarial value of assets will tend to be less than market value. During periods when investment performance is less than assumed, the actuarial value will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, the actuarial value will become equal to market value.

Asset Summary

June 30, 2002

	<u>Market Value</u>	<u>Actuarial Value</u>
1. Assets at June 30, 2001	\$8,329,037,579	\$9,106,571,729
2. Contributions and Misc. Revenue	551,963,363	551,963,363
3. Investment Increment	(664,504,369)	213,287,606
4. Benefit Payments	(657,829,862)	(657,829,862)
5. Assets at June 30, 2002 (1) + (2) + (3) - (4) - (5)	\$7,558,666,711	\$9,213,992,836
6. Investment Increment/Mean Assets*	-8.0%	2.4%

* Based on the approximation formula: $I / [.5 \times (A + B - I)]$, where

I = Investment increment
 A = Beginning of year asset value
 B = End of year asset value

SCHEDULE B**Statement of Actuarial Assumptions and Methods**

Interest Rate: 8.25% per annum, compounded annually (net after all System expenses).

Salary Increases: Assumed annual rates of salary increases are as follows:

Service	Base (Economy)	Merit & Seniority	Total Increase
0	4.25%	20.75%	25.00%
1	4.25	13.25	17.50
2	4.25	10.75	15.00
3	4.25	8.75	13.00
4	4.25	7.75	12.00
5	4.25	5.75	10.00
6	4.25	4.75	9.00
7	4.25	3.75	8.00
8	4.25	2.75	7.00
9	4.25	1.75	6.00
10 - 14	4.25	0.75	5.00
15 & Over	4.25	0.50	4.75

Total covered payroll of the entire membership is assumed to increase 4.25% per year in the future.


Service Retirement: Representative values of the assumed annual rates of service retirement are as follows:

Age	Male	Female
50	45.0%	36.0%
55	30.0	27.0
60	11.0	23.0
61	11.0	14.0
62	17.0	14.0
63	14.0	14.0
64	17.0	14.0
65	35.0	30.0
70	25.0	38.0
75	100.0	100.0

Withdrawal Rates: Representative values of the assumed annual rates of withdrawal are as follows:

Service	Rate
0	50.00%
1	24.00
2	14.00
3	9.00
4	8.00
5	7.50
10	4.25
15	2.50
20	1.75

Disability Rates: Representative values of the assumed annual rates of disability are as follows:



Age	Male	Female
30	.150%	.100%
35	.495	.100
40	.540	.210
45	.675	.250
50	1.100	.525
55	1.100	.810

Mortality Rates: Mortality Rates for retirees and survivors are based on the 1994 Group Annuity Mortality table with male ages set back three years and female ages set back one year. Mortality for active members is 70% of the retiree table for males and 55% for females. Mortality for disabled members is developed from experience.

Representative values of the assumed annual rates of retiree mortality are as follows:

Service Retired Members, Beneficiaries and Survivors
(1994 Group Annuity Mortality Table (-3, -1))

Age	Male	Female
20	.0430%	.0280%
30	.0727	.0331
40	.0891	.0652
50	.1899	.1310
60	.5581	.3863
70	1.8034	1.2709
80	4.5171	3.5362

Disability Retired Members

Age	Male	Female
40	2.2571%	.7450%
50	2.8975	1.1535
60	4.2042	2.1839
70	6.2583	3.7635
80	10.9372	7.2312

Marriage Assumption: 80% married with the husband three years older than his wife.

Valuation Method: Entry Age Normal cost method. Entry age is established on an individual basis.

Asset Valuation Method: Actuarial value, as developed in Schedule A. Actuarial value of assets is based on a four-year average of adjusted market value returns. The difference between the actual returns at market value for the year and expected returns is determined. Twenty-five percent (25%) of that difference is added to the expected value along with corresponding amounts from each of the prior three years.

SCHEDULE C

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO
Summary of Benefit and Contribution Provisions
as of June 30, 2002

Contributions for Basic Benefits	Members contribute 9% of pay and employers contribute 14% of pay. Employer contributions not required to finance basic benefits are allocated to the health care program.
Final Average Salary	Average annual salary over the member's three highest years of service.
Normal Retirement	
Condition for Retirement	Attainment of age 65 with at least five years of creditable service, or completion of 30 years of creditable service, regardless of age.
Amount of Allowance	The annual retirement allowance payable is the greater of:
	<ol style="list-style-type: none"> 1. Money Purchase - the greater of : The sum of: <ol style="list-style-type: none"> a. An annuity based on the value of the member's accumulated contributions at retirement b. A pension equal to the annuity c. \$40 multiplied by the member's years of service prior to 9/1/1937. or: <ol style="list-style-type: none"> d. For members who have 10 or more years of service credit prior to 10/1/1956, an annual benefit of \$180. 2. Defined Benefit - the greater of: The sum of: <ol style="list-style-type: none"> a. 2.2% of final average salary multiplied by the member's years of service up to 30, b. 2.5% of final average salary multiplied by the member's years of service in excess of 30, or: <ol style="list-style-type: none"> c. \$86 multiplied by the years of service.

Early Retirement

Condition for Retirement

Not eligible for unreduced service retirement but has attained age 55 with at least 25 years of service, or age 60 with five years of service.

Amount of Allowance

Normal retirement allowance accrued to the date of early retirement. The Defined Benefit amount determined above is adjusted by the following percentages based on attained age and/or years of service:

<u>Attained Age</u>	<u>Years of Ohio Service Credit</u>	<u>Percentage</u>
58	25	75%
59	26	80
60	27	85
61		88
	28	90
62		91
63		94
	29	95
64		97

Disability Retirement

Condition for Retirement

An allowance is paid upon becoming permanently disabled after completion of at least 5 years of total service credit.

Amount of Allowance

1. For those who were active members prior to July 29, 1992 and did not elect the benefit structure outlined below, an allowance based on service to date of disablement, plus, if the age at disablement is less than 60, continuous service to age 60. The allowance is computed in the same manner as the defined benefit service retirement allowance, subject to a minimum of 30% of FAS and a maximum of 75% of FAS. It is payable for life, unless terminated.
2. For those who became active members after July 28, 1992, and for those who were active members prior to July 29, 1992 who so elected, an allowance equal to the greater of (i) 45% of FAS, or (ii) the lesser of 60% of FAS, or the allowance computed in the same manner as the defined benefit service retirement allowance. The allowance will continue until:
 - a. The date the member is granted a service retirement benefit, or
 - b. The date the allowance is terminated, or
 - c. The later of the date the member attains age 65 or the date the disability allowance has been paid for the minimum duration in accordance with the following schedule:

<u>Age at Disability</u>	<u>Minimum Duration In Months</u>
60 and earlier	60
61	60
62	48
63	48
64	36
65	36
66	24
67	24
68	24
69 and older	12

Death Benefits Prior to Retirement

Death While Eligible to Retire

If a member dies in service after becoming eligible to retire with a service allowance and leaves a surviving spouse or other sole dependent beneficiary, the survivor may elect to receive the same amount that would have been paid had the member retired the last day of the month of death and elected the 100% joint and survivor form of payment.

Survivor (Death-in-Service) Allowances

Condition for Benefit

Upon the death of a member with at least 1½ years of Ohio service credit and with at least ¼ year of Ohio contributing service credit within 2½ years prior to the date of death, the survivor allowances are payable as follows:

1. **Qualified Spouse:** A monthly allowance commencing at age 62, except that the benefit is payable immediately if: (1) the qualified deceased member had 10 or more years of Ohio service credit; or (2) is caring for a surviving child, or (3) is incompetent.
2. **Qualified Child:** An allowance is payable to the qualified child of a deceased member who is under age 18, under age 22 and in school, or incompetent.
3. **Qualified Parent's Allowance:** A monthly allowance is payable to a dependent parent age 65 or more.

Amount of Allowances

Upon the death of a member prior to retirement, the accumulated contributions of the member without interest is payable. Alternatively, the beneficiary may elect the following amounts, payable monthly while eligible:

SCHEDULE D**DETAILED TABULATIONS OF THE DATA****Annuity and Pension Reserve Fund****Retirants and Beneficiaries**

June 30, 2002

Type of Benefit, Annual Amount, and Basic Benefit Actuarial Liabilities

Group	Number	% of Current Total Benefit			Current Total Benefit	Actuarial Liabilities
		Base Allowances	H.B. 204 and 284	Post Retirement Increases		
Superannuation Retirement						
Straight Life Allowance - Benefit Terminating at Death						
Males	4,009	76.5%	0.0%	23.4%	\$36,874,464	\$328,330,203
Females	<u>24,801</u>	78.5%	0.0%	21.5%	<u>152,551,644</u>	<u>1,455,078,862</u>
Total	28,810				\$189,426,108	\$1,783,409,065
Option II Allowance - Joint and Survivor Benefits						
Males	6,695	81.0%	0.0%	19.0%	\$74,319,311	\$877,486,529
Females	<u>8,859</u>	86.4%	0.0%	13.5%	<u>67,175,801</u>	<u>795,982,918</u>
Total	15,554				\$141,495,112	\$1,673,469,447
Option III Allowance - Life Benefits With Guaranteed Benefits						
Males	439	73.7%	0.1%	26.2%	\$3,218,559	\$28,026,013
Females	<u>930</u>	76.2%	0.1%	23.8%	<u>4,905,464</u>	<u>47,176,717</u>
Total	1,369				\$8,124,023	\$75,202,730
Allowance to Survivor Beneficiary of Deceased Superannuation Retirant						
Who Elected Option II - Life Benefit						
Males	810	70.4%	0.2%	29.4%	\$2,504,909	\$20,393,145
Females	<u>3,636</u>	65.2%	0.2%	34.6%	<u>19,625,266</u>	<u>163,217,203</u>
Total	4,446				\$22,130,175	\$183,610,348

Note that the actuarial liabilities include annual pension allowances and lump sum death benefits, but exclude Medicare Part-B supplement.

**Annuity and Pension Reserve Fund
Retirants and Beneficiaries
June 30, 2002**

**Type of Benefit, Annual Amount, and Basic Benefit Actuarial Liabilities
(continued)**

Group	Number	% of Current Total Benefit			Current Total Benefit	Actuarial Liabilities
		Base Allowances	H.B. 204 and 284	Post Retirement Increases		
Allowance to Survivor Beneficiary of Deceased Superannuation Retirant						
Who Elected Option III - Guaranteed Period Only						
Males	22	81.1%	0.0%	18.9%	\$106,512	\$678,362
Females	<u>52</u>	77.1%	0.0%	22.9%	<u>295,470</u>	<u>1,622,951</u>
Total	74				\$401,982	\$2,301,313
Total for Superannuation Allowances Being Paid						
Males	11,975	79.1%	0.0%	20.8%	\$117,023,755	\$1,254,914,252
Females	<u>38,278</u>	79.5%	0.0%	20.4%	<u>244,553,645</u>	<u>2,463,078,651</u>
Total	50,253				\$361,577,400	\$3,717,992,903
Disability Retirement						
Straight Life Allowance - Benefit Terminating at Death						
Males	1,634	81.7%	0.0%	18.3%	\$23,216,751	\$200,334,339
Females	<u>3,457</u>	81.8%	0.0%	18.2%	<u>27,700,293</u>	<u>278,807,350</u>
Total	5,091				\$50,917,044	\$479,141,689
Total Benefits Being Paid From Annuity and Pension Reserve Fund						
Males	13,609	79.6%	0.0%	20.4%	\$140,240,506	\$1,455,248,591
Females	<u>41,735</u>	79.8%	0.0%	20.2%	<u>272,253,938</u>	<u>2,741,886,001</u>
Total	55,344				\$412,494,444	\$4,197,134,592

Annuity and Pension Reserve Fund
Retirants June 30, 2002
Current Annual Total Benefits by Attained Age

Attained Age	Superannuation		Disability		Totals	
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits
Under 20						
20-24						
25-29						
30-34			3	\$48,322	3	\$48,322
35-39			53	802,794	53	802,794
40-44			168	2,646,507	168	2,646,507
45-49	42	\$1,132,372	378	5,905,428	420	7,037,800
50-54	296	7,640,005	570	7,917,190	866	15,557,195
55-59	1027	17,636,301	871	9,958,953	1898	27,595,254
60-64	5,164	50,128,526	1,057	10,553,359	6221	60,681,885
65-69	8,658	75,788,350	741	6,054,771	9399	81,843,121
70-74	9,511	72,714,940	540	3,550,563	10051	76,265,503
75-79	9,057	57,736,348	401	2,223,154	9458	59,959,502
80-84	6,980	36,412,197	233	1,012,586	7213	37,424,783
85-89	3,563	14,713,810	63	206,509	3626	14,920,319
90-94	1,217	4,290,959	12	34,763	1229	4,325,722
95-99	193	746,011	1	2,145	194	748,156
100	11	32,099			11	32,099
101	5	38,831			5	38,831
102	4	9,739			4	9,739
103	2	4,950			2	4,950
104	1	2,446			1	2,446
105 & Over	2	17,360			2	17,360
Total	45,733	\$339,045,243	5,091	\$50,917,044	50,824	\$389,962,287

**Annuity and Pension Reserve Fund
Survivors of Retirants June 30, 2002
Current Annual Total Benefits by Attained Age**

Attained Age	Life Annuities		Periods Certain		Totals	
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits
Under 20	2	\$2,984	1	\$6,201	3	\$ 9,185
20-24	5	25,662			5	25,662
25-29	1	975			1	975
30-34	6	40,219	1	3,102	7	43,321
35-39	1	1,510	2	7,090	3	8,600
40-44	12	60,721	5	24,374	17	85,095
45-49	35	114,758	3	4,940	38	119,698
50-54	54	261,033	7	35,510	61	296,543
55-59	80	535,317	3	4,259	83	539,576
60-64	150	904,075	5	13,648	155	917,723
65-69	340	2,410,676	14	56,940	354	2,467,616
70-74	698	4,481,482	16	112,492	714	4,593,974
75-79	1,037	5,500,236	10	78,980	1,047	5,579,216
80-84	1,004	4,226,739	6	46,399	1,010	4,273,138
85-89	693	2,507,091			693	2,507,091
90-94	278	919,862			278	919,862
95-99	47	129,516	1	8,046	48	137,562
100	3	7,318			3	7,318
101						
102						
103						
104						
105 & Over						
Total	4,446	\$22,130,175	74	\$401,982	4,520	\$22,532,157

**Survivor Benefit Fund
Beneficiaries June 30, 2002
Annual Amount, and Basic Benefit Actuarial Liabilities**

Group	Number	% of Current Annual Benefit			Current Annual Benefits	Actuarial Liabilities
		Base Allowances	HB 204 and 284	Post - Retirement Increases		
Benefits Being Paid From Survivor Benefit Fund						
Males	1,539	84.7%	0.0%	15.2%	\$6,122,603	\$90,153,079
Females	<u>2,466</u>	75.1%	0.1%	24.8%	13,600,010	111,257,762
Total	4,005				\$19,722,612	\$201,410,841

Note that actuarial liabilities are calculated for pension allowances for all survivors, including contingent (multiple) beneficiaries and beneficiaries in blackout; excluded are liabilities for the Medicare Part-B supplement. The total benefit amounts include those amounts for all contingent (multiple) beneficiaries although they are excluded from the total number of survivors reported.

Survivor Benefit Fund
Survivors of Deceased Active Members June 30, 2002
Current Annual Total Benefits by Attained Age

Attained Age	Totals	
	Number	Annual Benefits
Under 20	49	\$ 313,928
20-24	16	96,580
25-29	4	22,218
30-34	8	81,535
35-39	20	174,646
40-44	57	502,242
45-49	110	990,206
50-54	164	1,234,317
55-59	240	1,524,700
60-64	441	2,465,374
65-69	676	3,367,801
70-74	730	3,371,564
75-79	662	2,666,631
80-84	461	1,657,764
85-89	266	924,213
90-94	84	270,199
95-99	15	51,398
100		
101	1	4,972
102	1	2,319
103		
104		
105 & Over		
Total	4,005	\$19,722,607

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

Total Active Member Data as of June 30, 2002

Tabulated by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 plus	No.	Valuation Payroll
Under 20	916							916	\$ 5,201,059
20 - 24	4,817	95						4,912	43,097,715
25 - 29	4,739	682	32					5,453	74,544,319
30 - 34	6,636	1,572	471	41				8,720	136,135,669
35 - 39	9,164	3,280	1,221	669	132			14,466	231,670,934
40 - 44	10,425	5,836	2,617	1,456	1,021	154		21,509	375,426,784
45 - 49	7,493	5,598	3,947	2,499	1,289	743	91	21,660	425,411,205
50 - 54	4,423	3,282	3,526	3,342	1,977	859	284	17,693	379,358,392
55 - 59	2,764	1,803	1,913	2,532	2,454	1,270	301	13,037	278,111,964
60	384	248	265	326	399	261	73	1,956	41,247,145
61	332	214	217	280	320	245	98	1,706	36,337,636
62	268	173	161	253	263	225	88	1,431	29,885,680
63	219	147	159	205	217	193	87	1,227	24,626,816
64	218	129	151	170	193	180	94	1,135	22,023,531
65	171	100	93	109	137	121	96	827	15,467,315
66	174	77	76	98	85	102	89	701	12,633,823
67	139	79	59	72	79	88	81	597	10,772,238
68	127	67	40	56	69	64	57	480	7,672,168
69	100	62	45	33	50	32	49	371	5,752,021
70 & Over	352	249	168	160	163	147	218	1,457	20,358,488
Totals	53,861	23,693	15,161	12,301	8,848	4,684	1,706	120,254	\$ 2,175,734,902

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 45.7 years

Service: 8.6 years

Annual Pay: \$18,093

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

Male Active Member Data as of June 30, 2002

Tabulated by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 plus	No.	Valuation Payroll
Under 20	484							484	\$ 2,882,913
20 - 24	2,156	43						2,199	19,970,820
25 - 29	1,854	295	11					2,160	30,595,375
30 - 34	1,900	552	212	15				2,679	52,693,277
35 - 39	1,949	707	447	335	78			3,516	81,641,430
40 - 44	2,244	868	552	611	577	95		4,947	125,262,804
45 - 49	2,015	903	657	656	575	455	43	5,304	142,357,743
50 - 54	1,536	749	590	573	449	321	151	4,369	121,805,710
55 - 59	1,170	628	423	471	353	188	98	3,331	88,295,967
60	210	112	92	74	55	30	18	591	14,670,598
61	188	101	71	73	45	34	14	526	13,133,006
62	137	81	58	82	35	19	11	423	10,523,469
63	111	67	61	67	36	21	10	373	8,769,717
64	113	62	60	53	36	21	9	354	8,066,245
65	86	51	38	26	29	10	16	256	5,356,580
66	89	45	33	27	13	8	16	231	4,425,372
67	82	53	24	28	14	8	8	217	4,000,747
68	51	35	22	10	14	6	6	144	2,509,214
69	39	30	25	8	7	4	4	117	2,148,624
70 & Over	161	126	103	68	30	12	19	519	7,789,855
Totals	16,575	5,508	3,479	3,177	2,346	1,232	423	32,740	\$ 746,899,466

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 44.7 years

Service: 7.9 years

Annual Pay: \$22,813

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

Female Active Member Data as of June 30, 2002

Tabulated by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 plus	No.	Valuation Payroll
Under 20	432							432	\$ 2,318,146
20 - 24	2,661	52						2,713	23,126,895
25 - 29	2,885	387	21					3,293	43,948,944
30 - 34	4,736	1,020	259	26				6,041	83,442,392
35 - 39	7,215	2,573	774	334	54			10,950	150,029,504
40 - 44	8,181	4,968	2,065	845	444	59		16,562	250,163,980
45 - 49	5,478	4,695	3,290	1,843	714	288	48	16,356	283,053,462
50 - 54	2,887	2,533	2,936	2,769	1,528	538	133	13,324	257,552,682
55 - 59	1,594	1,175	1,490	2,061	2,101	1,082	203	9,706	189,815,997
60	174	136	173	252	344	231	55	1,365	26,576,547
61	144	113	146	207	275	211	84	1,180	23,204,630
62	131	92	103	171	228	206	77	1,008	19,362,211
63	108	80	98	138	181	172	77	854	15,857,099
64	105	67	91	117	157	159	85	781	13,957,286
65	85	49	55	83	108	111	80	571	10,110,735
66	85	32	43	71	72	94	73	470	8,208,451
67	57	26	35	44	65	80	73	380	6,771,491
68	76	32	18	46	55	58	51	336	5,162,954
69	61	32	20	25	43	28	45	254	3,603,397
70 & Over	191	123	65	92	133	135	199	938	12,568,633
Totals	37,286	18,185	11,682	9,124	6,502	3,452	1,283	87,514	\$ 1,428,835,436

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 46.1 years

Service: 8.8 years

Annual Pay: \$16,327

SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

Active Member as of June 30, 2002

By Annual Pay

Annual Pay	Number of Active Members			Portion of Total Number	
	Men	Women	Totals	Group	Cumulative
	Less than \$1,000	281	497	778	0.6%
\$1,000 - 1,999	1,242	1,661	2,903	2.4%	3.0%
2,000 - 2,999	2,032	2,625	4,657	3.9%	6.9%
3,000 - 3,999	1,526	3,101	4,627	3.8%	10.7%
4,000 - 4,999	1,149	3,128	4,277	3.6%	14.3%
5,000 - 5,999	883	2,895	3,778	3.1%	17.4%
6,000 - 6,999	782	3,205	3,987	3.3%	20.7%
7,000 - 7,999	720	3,010	3,730	3.1%	23.8%
8,000 - 8,999	681	3,155	3,836	3.2%	27.0%
9,000 - 9,999	669	3,300	3,969	3.3%	30.3%
<i>Subtotal level</i> 10,000 - 12,399	1,622	9,022	10,644	8.9%	39.2%
12,400 - 13,999	1,045	6,912	7,957	6.6%	45.8%
14,000 - 15,999	1,273	7,625	8,898	7.4%	53.2%
16,000 - 17,999	961	6,494	7,455	6.2%	59.4%
18,000 - 19,999	952	5,551	6,503	5.4%	64.8%
20,000 - 24,999	2,586	9,327	11,913	9.9%	74.7%
25,000 - 29,999	3,614	6,658	10,272	8.5%	83.2%
30,000 and over	10,722	9,348	20,070	16.7%	100.0%
Totals	32,740	87,514	120,254		

SCHEDULE E**GLOSSARY**

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability".

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

Actuarial Equivalent. A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost". Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

(concluded on next page)

GLOSSARY
(concluded)

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability".

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.