



## SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

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JAMES R. WINFREE  
*Executive Director*

LISA J. MORRIS  
*Deputy Executive Director*


November 14, 2008

Mr. Aristotle Hutras, Director  
Ohio Retirement Study Council  
88 East Broad Street, Suite 1175  
Columbus, OH 43215

Dear Mr. Hutras:

As required by section 3309.21(A) of the Ohio Revised Code, enclosed please find a *Report on the Annual Basic Benefits Valuation* of SERS as of June 30, 2008. As always, if you have any questions, please feel free to call me.

Sincerely,

  
James R. Winfree  
Executive Director

JRW:lj

Enclosure

c: The Honorable Kevin Coughlin, Chairman, Senate Health, Human  
Services and Aging Committee  
The Honorable Christopher Widener, Chair, House Financial Institutions,  
Real Estate and Securities Committee

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*Appointed Member*



**Report on the Annual Basic Benefits Valuation  
of the  
School Employees' Retirement System of Ohio**

**Prepared as of June 30, 2008**



## Cavanaugh Macdonald

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November 17, 2008

Board of Trustees  
School Employees Retirement System  
Of Ohio  
300 East Broad Street  
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 basic benefits provided under the School Employees Retirement System of Ohio (SERS). The purpose of the valuation was to measure the System's funding progress and to determine the required employer contribution rates for the fiscal year beginning July 1, 2008.

The date of the valuation was June 30, 2008.

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 summary of results on page 1 and the comments on page 6.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Thomas J. Cavanaugh, FSA, FCA, EA, MAAA  
Chief Executive Officer

Jose I. Fernandez, ASA, FCA, EA, MAAA  
Consulting Actuary

TJC/JIF:kc

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

**PREPARED AS OF JUNE 30, 2008**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of June 30, 2008, presents the results of the annual actuarial valuation of the basic benefits provided under the System, including pension, Medicare Part B reimbursement and post-retirement death benefits. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized in the following table.

**SUMMARY OF PRINCIPAL RESULTS**

	June 30, 2008	June 30, 2007
<b>Active members included in valuation</b>		
Number	124,370	123,013
Annual Compensation	\$2,651,800,981	\$2,603,300,211
<b>Retirees</b>		
Number	64,818	63,529
Annual allowances	\$652,373,565	\$607,386,140
<b>Deferred Vesteds</b>		
Number	11,257	10,681
Annual deferred allowances	\$35,970,026	\$34,524,698
<b>Assets (net of Health Care Assets)</b>		
Market related actuarial value	\$11,372,453,979	\$10,640,423,463
Market value	\$10,793,470,372	\$11,711,235,288
<b>Unfunded Accrued Liability</b>	<b>\$2,689,440,386</b>	<b>\$2,734,441,499</b>
<b>Employer Contribution Rate</b>		
Normal	4.08%	3.98%
Accrued liability	<u>5.76</u>	<u>5.84</u>
Total	9.84%	9.82%
Accrued liability amortization period	28	29



2. The board has set a total contribution rate of 24% of payroll; 14% from employers and 10% from employees. Contributions in excess of those required to support the basic benefits are allocated to retiree health care benefit funding.
3. The valuation balance sheet showing the results of the valuation is given in Schedule A.
4. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains 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 actuarial assumptions or methods since the last valuation. The benefits were changed for those who begin membership on or after May 14, 2008. For those members the normal and early retirement eligibilities were changed and the early retirement benefit was actuarially adjusted for benefits commencing before age 65 or 30 years of service. More details are available in Schedule D.
6. Schedule B of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule D gives a summary of the benefit and contribution provisions of the plan.
7. All information in this report for years prior to the year ended June 30, 2008 were provided by the System's previous actuary and the accuracy of that information is the responsibility of that actuary.



**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, 2008 upon which the valuation was based. Detailed tabulations of the data are given in Schedule E.

**Active Members**

Number	Payroll	Group Averages		
		Salary	Age	Service
124,370	\$2,651,800,981	\$21,322	47.6	9.4

The total number of active members includes 77,270 vested members and 47,100 non-vested members.

The following tables show a six-year history of active member valuation data.

**SCHEDULE SERS ACTIVE MEMBER VALUATION DATA**

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
6/30/2003	122,315	\$2,302,335,245	\$18,823	4.0%
6/30/2004	123,139	2,394,068,438	19,442	3.3
6/30/2005	122,855	2,452,554,365	19,963	2.7
6/30/2006	123,266	2,553,331,924	20,714	3.8
6/30/2007	123,013	2,603,300,211	21,163	2.2
6/30/2008	124,370	2,651,800,981	21,322	0.8



The following table shows the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date as well as certain group averages.

#### Retired Lives

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age
Retirees and Beneficiaries	55,244	\$555,630,812	\$10,058	74.5
Disability	5,315	69,475,118	13,072	64.0
Survivors	4,259	27,267,635	6,402	70.6
Total in SERS	64,818	\$652,373,565	\$10,065	73.4

This valuation also includes 85,611 inactive members eligible for a contribution refund only (including 43,602 members not reported in the data files who had completed one or more years of service before terminating). Their contributions totaled \$114,853,841 as of June 30, 2008. There were also 11,257 terminated vested members with annual deferred pension benefits of \$35,970,026. Included in the "Retiree" numbers in the above table are 8,199 re-employed retirees with account balances of \$44,113,549 (including employer contributions and interest), 212 re-retirees receiving only an annuity from their contributions and their employers' matching contributions, and 241 re-retirees receiving such annuities in addition to their regular pension benefits. The sum of the annuity payments attributable to these re-retirees is \$1,323,792.





### SECTION III – ASSETS

1. As of June 30, 2008 the total market value of assets amounted to \$11,186,151,103.

Asset Summary Based on Market Value		
(1)	Assets at June 30, 2007	\$ 12,097,590,658
(2)	Contributions and Misc. Revenue	811,849,026
(3)	Realized Investment Gain (Loss)	(779,508,436)
(4)	Benefit Payments	(943,780,145)
(5)	Assets at June 30, 2008 (1) + (2) - (3) + (4)	\$ 11,186,151,103
(6)	Investment Rate of Return*	(6.5) %

2. The four-year smoothed market related actuarial value of assets used for the current valuation was \$11,372,453,979. Schedule B shows the development of the actuarial value of assets as of June 30, 2008.

Asset Summary Based on Actuarial Value		
(1)	Assets at June 30, 2007	\$ 11,026,781,833
(2)	Contributions and Misc. Revenue	811,849,026
(3)	Realized Investment Gain (Loss)	870,283,996
(4)	Benefit Payments	(943,780,145)
(5)	Assets at June 30, 2008 (1) + (2) - (3) + (4)	\$ 11,765,134,710
(6)	Investment Rate of Return*	7.9 %

\*Based on the approximation formula:  $I/[0.5 \times (A + B - I)]$ , where

- I = Realized Investment Gain (Loss)
- A = Beginning of year asset value
- B = End of year asset value



#### SECTION IV - COMMENTS ON VALUATION

Schedule A of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of June 30, 2008.

1. The total valuation balance sheet on account of retirement benefits shows that the System has total prospective retirement benefit liabilities of \$17,183,583,465, of which \$6,872,966,716 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$447,197,070 is for the prospective benefits payable on account of present inactive members, and \$9,863,419,679 is for the prospective benefits payable on account of present active members. Against these retirement benefit liabilities the System has a total present actuarial value of assets of \$11,372,453,979 as of June 30, 2008. The difference of \$5,811,129,486 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of retirement benefits. Of this amount, \$2,444,355,484 is the present value of future contributions expected to be made by members, and the balance of \$3,366,774,002 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the System on account of retirement benefits consist of normal contributions, accrued liability contributions and contributions for administrative expenses. The valuation indicates that employer normal contributions at the rate of 3.80% of payroll for basic pension benefits, 0.02% of payroll for post-retirement death benefits, and 0.26% of payroll for Medicare Part B benefits are required to provide the benefits of the System for the average member of SERS.
3. Prospective employer normal contributions on account of retirement benefits at the above rates have a present value of \$677,333,616. When this amount is subtracted from \$3,366,774,002, which is the present value of the total future contributions to be made by the employers, there remains \$2,689,440,386 as the amount of future accrued liability contributions.
4. For pension benefits, it is recommended that the accrued liability contribution rate payable by the State on account of retirement benefits be set at 5.26% of payroll. For post-retirement death benefits, it is recommended that the accrued liability contribution rate payable by the employers on account of retirement benefits be set at 0.01% of payroll. Finally for Medicare Part B benefits, it is recommended that the accrued liability contribution rate payable by the employers on account of retirement benefits be set at 0.49% of payroll. These rates are sufficient to liquidate the unfunded accrued liability of \$2,689,440,386 over 28 years on the assumption that the aggregate payroll for SERS members will increase by 4.00% each year.



## 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. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2008 is shown below (\$ millions).

### Experience Gain/(Loss)

(1)	UAAL* as of 6/30/07	\$ 2,734.4
(2)	Normal cost from last valuation	103.6
(3)	Expected employer contributions	255.8
(4)	Interest accrual: [(1) + (2) - (3)] x .08	206.6
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$ 2,788.8
(6)	Change due to plan amendments	0.0
(7)	Change due to new actuarial assumption or methods	0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$ 2,788.8
(9)	Actual UAAL as of 6/30/08	\$ 2,689.4
(10)	Gain/(loss): (8) - (9)	\$ 99.4
(11)	Accrued liabilities as of 6/30/07	\$ 13,303.2
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year	0.7%



**ANALYSIS OF FINANCIAL EXPERIENCE**

**Gains & Losses in Accrued Liabilities  
Resulting from Difference Between  
Assumed Experience & Actual Experience  
(\$ Millions)**

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/08
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (96.1)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(3.5)
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.6)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	8.1
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	95.8
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(51.3)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(6.6)
<b>Death After Retirement.</b> If retired members live longer than assumed, there is a loss. If not as long, a gain.	72.4
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>81.2</u>
<b>Gain (or Loss) During Year From Financial Experience</b>	\$ 99.4
<b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes and method changes	<u>0.0</u>
<b>Composite Gain (or Loss) During Year</b>	\$ 99.4



## 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 tables show the rates of contribution payable by employers as determined from the present valuation for the 2008/2009 fiscal year.

### Required Contribution Rates

Contribution for	Benefits	Retirement Death Benefits	Medicare Part B	Total
A. Normal Cost:				
(1) Service retirement benefits	8.67%			
(2) Disability benefits	1.40			
(3) Survivor benefits	0.13			
(4) Refunds	3.60			
(4) Total	13.80%	0.02%	0.26%	14.08%
B. Member Contributions	10.00%	0.00%	0.00%	10.00%
C. Employer Normal Cost: [A(4) - B]	3.80%	0.02%	0.26%	4.08%
D. Unfunded Actuarial Accrued Liability Contributions	5.26%	0.01%	0.49%	5.76%
E. Total Recommended Employer Contribution Rate:[C+D]	9.06%	0.03%	0.75%	9.84%



**SECTION VII - ACCOUNTING INFORMATION**

Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary 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 MEMBERS  
AS OF JUNE 30, 2008**

GROUP	Total
Retirees and beneficiaries currently receiving benefits	64,818
Terminated employees entitled to benefits but not yet receiving benefits	11,257
Active Members	<u>124,370</u>
Total	200,445

Another such item is the Schedule of Funding Progress for pension, post-retirement death and Medicare Part B benefits separately as shown in the following table.



**SCHEDULE OF FUNDING PROGRESS**  
(In Millions)

Actuarial Valuation Date	Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b - a) / (c)
<b>Pension and Post-retirement Death Benefits</b>						
6/30/2003	\$ 8,646	\$ 10,336	\$ 1,690	83.6%	\$ 2,302	73.4%
6/30/2004	8,550	10,953	2,403	78.1	2,394	100.4
6/30/2005	8,780	11,659	2,948 <sup>^</sup>	75.3	2,453	120.2
6/30/2006	9,423	12,327	2,974 <sup>^</sup>	76.4	2,553	116.5
6/30/2007	10,513	13,004	2,562 <sup>^</sup>	80.8	2,603	98.4
6/30/2008	11,241	13,704	2,463	82.0	2,873	85.7
<b>Medicare Part B</b>						
6/30/2003	\$ 126	\$ 298	\$ 172	42.3%	\$ 2,302	7.5%
6/30/2004	117	298	181	39.3	2,394	7.6
6/30/2005	113	302	189 <sup>^</sup>	37.4	2,453	7.7
6/30/2006	119	300	181 <sup>^</sup>	39.7	2,553	7.1
6/30/2007	127	299	172 <sup>^</sup>	42.5	2,603	6.6
6/30/2008	131	358	227	36.7	2,873	7.9

<sup>^</sup> After change in calculation methods of health care assets, resulting in a \$70 million future liability due to Pension plans by the Health Care Fund



The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2008. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2008
Actuarial cost method	Entry Age
Amortization	Level Percent Closed
Remaining amortization period	28 years
Asset valuation method	4 Year Smoothed Market
Actuarial assumptions	
Investment rate of return*	8.00%
* Includes price inflation at	3.50%
Projected salary increases^	4.50% - 24.75%
^ Includes wage inflation at	4.00%
Cost-of-living adjustment	3.00%





### Schedule of Employer Contributions

Year Ended	Annual Required Contribution	Percentage Contributed
<b>Pension and Post-retirement Death Benefits</b>		
June 30, 2003	\$ 165,929,757	100.0%
June 30, 2004	195,852,937	100.0
June 30, 2005	239,089,392	100.0
June 30, 2006	272,358,393	87.0
June 30, 2007	260,779,627	90.0
June 30, 2008	243,150,199	100.0
<b>Medicare Part B</b>		
June 30, 2003	\$ 15,306,355	100.0%
June 30, 2004	16,340,531	100.0
June 30, 2005	16,956,695	100.0
June 30, 2006	21,677,505	95.0
June 30, 2007	17,729,746	104.0
June 30, 2008	17,519,556	100.0



## SCHEDULE A

### Valuation Balance Sheet and Solvency Test

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of June 30, 2008 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2007. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date.

#### VALUATION BALANCE SHEETS SHOWING THE ASSETS AND LIABILITIES OF THE SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

	June 30, 2008	June 30, 2007
<b>ASSETS</b>		
Current actuarial value of assets	\$ 11,372,453,979	\$ 10,640,423,463
Prospective contributions		
Member contributions	\$ 2,444,355,484	\$ 2,143,707,359
Employer normal contributions	677,333,616	788,955,593
Unfunded accrued liability contributions	<u>2,689,440,386</u>	<u>2,662,796,582</u>
Total prospective contributions	<u>\$ 5,811,129,486</u>	<u>\$ 5,595,459,534</u>
Total assets	<u>\$ 17,183,583,465</u>	<u>\$ 16,235,882,997</u>
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 6,872,966,716	\$ 6,413,163,605
Present value of benefits payable on account of active members	9,863,419,679	9,357,284,234
Present value of benefits payable on account of inactive and deferred vested members	<u>447,197,070</u>	<u>465,438,158</u>
Total liabilities	<u>\$ 17,183,583,465</u>	<u>\$ 16,235,885,997</u>

Included in the retiree liability shown above is the liability attributable to re-retiree annual annuity payments. Such liability amounts to \$10,683,429 for 2008 and \$10,426,214 for 2007.



The following tables provide the solvency test for SERS members.

### Solvency Test

Valuation Date	Aggregate Accrued Liabilities For			Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Asset		
	(1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Financed Portion)		(1)	(2)	(3)
6/30/2003*	\$ 1,643	\$ 4,881	\$ 4,110	\$ 8,772	100.0%	100.0%	54.7%
6/30/2004*	1,785	5,173	4,293	8,667	100.0	100.0	39.8
6/30/2005*	1,943	5,551	4,467	8,893	100.0	100.0	31.3
6/30/2006*	2,064	6,006	4,557	9,542	100.0	100.0	32.3
6/30/2007*	2,180	6,413	4,710	10,640	100.0	100.0	43.5
6/30/2008	2,291	6,873	4,898	11,372	100.0	100.0	45.1

\*Reported by prior actuarial firm.



SCHEDULE B

Development of Actuarial Value of Assets

Valuation date June 30:	2007	2008	2009	2010	2011
A. Actuarial Value Beginning of Year	\$ 9,837,349,153	\$ 11,026,781,833			
B. Market Value End of Year	12,097,590,658	11,186,151,103			
C. Market Value Beginning of Year	10,275,765,294	12,097,590,658			
D. Cash Flow					
D1. Contributions	700,075,227	721,911,623			
D2. Other Revenue	91,823,048	94,660,706			
D3. Benefit Payments	(886,970,001)	(943,780,145)			
D4. Net Transfers	(2,873,755)	(4,723,303)			
D5. Net	(97,945,481)	(131,931,119)			
E. Investment Income					
E1. Market Total: B.-C.-D5.	1,919,770,845	(779,508,436)			
E2. Assumed Rate	8.00%	8.00%			
E3. Amount for Immediate Recognition	783,070,113	876,865,302			
E4. Amount for Phased-In Recognition	1,136,700,732	(1,656,373,738)			
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.25 * E4.	284,175,183	(414,093,435)	0	0	0
F2. First Prior Year	94,946,334	284,175,183	(414,093,435)	0	0
F3. Second Prior Year	28,390,611	94,946,334	284,175,183	(414,093,435)	0
F4. Third Prior Year	96,795,920	28,390,611	94,946,334	284,175,183	(414,093,435)
F5. Total Recognized Investment Gain	504,308,048	(6,581,307)	(34,971,918)	(129,918,252)	(414,093,435)
G. Actuarial Value End of Year:					
A.+D5.+E3.+F5.	\$ 11,026,781,833	\$ 11,765,134,710			
H. Difference Between Market & Actuarial Values	\$ 1,070,808,825	\$ (578,983,607)	\$ (544,011,686)	\$ (414,093,435)	\$ -
I. Health Care Valuation Assets	386,355,370	382,680,731			
J. Basic Benefits Valuation Assets	\$ 10,640,426,463	\$ 11,372,453,979			

The Actuarial Valuation 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, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



**SCHEDULE C**

**STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

INTEREST RATE: 8.00% per annum, compounded annually (net after all System expenses).

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

Service	Annual Rates of Withdrawal
0	55.00%
1	20.00
2	15.00
3	10.00
4	7.50
5	6.50
10	5.00
15	3.75
20	3.50
25	3.00

Age	Annual Rates of			
	Death		Disability	
	Male	Female	Male	Female
20	.026%	.014%	.015%	.023%
25	.033	.015	.015	.023
30	.044	.017	.112	.075
35	.050	.022	.371	.075
40	.053	.033	.405	.157
45	.075	.046	.506	.187
50	.114	.065	.825	.394
55	.193	.104	.825	.608
60	.335	.193	.825	.608
65	.609	.381	.825	.608
70	1.082	.635	.825	.608
74	1.557	.917	.825	.608



Annual Rates of Service Retirements		
Age	Male	Female
50	40.0%	33.0%
55	25.0	25.0
60	10.0	20.0
62	15.0	15.0
65	25.0	25.0
70	20.0	20.0
75	100.0	100.0

SALARY INCREASES: Representative values of the assumed annual rates of salary increases are as follows:

Service	Annual Rates of		
	Merit & Seniority	Base (Economy)	Increase Next Year
0	20.75%	4.00%	24.75%
1	13.25	4.00	17.25
2	10.75	4.00	14.75
3	8.75	4.00	12.75
4	7.75	4.00	11.75
5	5.75	4.00	9.75
6	4.75	4.00	8.75
7	3.75	4.00	7.75
8	2.75	4.00	6.75
9	1.75	4.00	5.75
10-14	0.75	4.00	4.75
15 & over	0.50	4.00	4.50

PAYROLL GROWTH: 4.00% per annum, compounded annually.

PRICE INFLATION: 3.50% per annum, compounded annually.

DEATH AFTER RETIREMENT: The mortality table, for post-retirement mortality, used in evaluating allowances to be paid is the 1994 Group Annuity Mortality Table, set back one year for both men and women. Special tables are used for the period after disability retirement. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

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. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return. The amount recognized each year is 25% of the difference between market value and expected actuarial value. The actuarial value of assets cannot be less than 80% or more than 120% of market value.



## SCHEDULE D

### SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO Summary of Benefit and Contribution Provisions as of June 30, 2008

<b>Contributions for Basic Benefits</b>	Members contribute 10% of pay and employers contribute 14% of pay. Employer contributions not required to finance basic benefits are allocated to the health care program.
<b>Final Average Salary</b>	Average annual salary over the member's three highest years of service.
<b>Normal Retirement</b>	
Condition for Retirement	
<i>Members prior to May 14, 2008</i>	Attainment of age 65 with at least five years of creditable service, or completion of 30 years of creditable service, regardless of age.
<i>Members after May 13, 2008</i>	Attainment of age 65 with at least ten years of creditable service, or attainment of age 55 with at least 30 years of creditable service.
Amount of Allowance	The annual retirement allowance payable shall not be greater than 100% of final average salary, and is the greater of:  1. Money Purchase - the greater of: The sum of: a. An annuity based on the value of the member's accumulated contributions at retirement b. A pension equal to the annuity c. for members prior to May 14, 2008, \$40 multiplied by the member's years of service prior to 9/1/1937.  or:  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: 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:  c. \$86 multiplied by the years of service.





## Early Retirement

Condition for Retirement  
*Members prior to May 14, 2008* 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.

*Members after May 13, 2008* Attainment of age 62 with at least ten years of creditable service, or attainment of age 60 with at least 25 years of creditable service.

Amount of Allowance  
*Members prior to May 14, 2008* 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 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	28	88
	28	90
62		91
63		94
	29	95
64		97

*Members after May 13, 2008* Actuarial equivalent of the normal retirement allowance accrued to the date of early retirement. The Defined Benefit amount determined above is actuarially adjusted for the years before age 65 or 30 years of service, whichever is shorter, but in no event is the adjusted benefit less than the following percentages of the Defined Benefit amount based on years of service:

<u>Years of Ohio Service Credit</u>	<u>Percentage</u>
25	75%
26	80
27	85
28	90
29	95

## 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

- 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

Except when survived by a qualified child(ren), 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:

<u>Number of Qualified Survivors</u>	<u>Annual Benefit as Percent of Member's FAS</u>	<u>Minimum Monthly Allowance</u>
1	25%	\$96
2	40	186
3	50	236
4	55	236
5 or more	60	236

If the deceased member had attained at least 20 years of service, the total benefits payable to all qualified survivors are not less than:

<u>Years of Service</u>	<u>Annual Benefit as Percent of Member's FAS</u>
20	29%
21	33
22	37
23	41
24	45
25	48
26	51
27	54
28	57
29 or more	60

**Termination Benefits**

Refund of Members' Accumulated Contributions

In the event a member leaves service before any monthly benefits are payable on his behalf, his accumulated contributions, without interest, may be refunded.

Deferred Benefits  
*Members prior to May 14, 2008*

If a member with at least 5 years of contributing service credit leaves service before being eligible for an immediate monthly allowance and does not withdraw any part of his accumulated contributions, he will be entitled to a deferred allowance at age 60. The amount of the allowance is based on his credited service and final average salary at termination of employment.

*Members after May 14, 2008*

If a member with at least 10 years of contributing service credit leaves service before being eligible for an immediate monthly allowance and does not withdraw any part of his accumulated contributions, he will be entitled to a deferred allowance at age 62. The amount of the allowance is based on his credited service and final average salary at termination of employment.

**Normal Form of Benefit**

Single Life Annuity



**Optional Forms of Benefit**

A member upon retirement may elect to receive his allowance in one of the following forms that are computed to be actuarially equivalent to the applicable retirement allowance:

Upon the death of a retiree, 50%, 100%, or some other percentage of his reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

A reduced retirement allowance shall be continued throughout the life of the pensioner, but with the further guarantee of payment to the pensioner, his beneficiary or his estate for a specified number of years certain.

A member can select a partial lump-sum option at retirement. Under this option, the partial lump- sum shall not be less than 6 times and not more than 36 times the unreduced monthly benefit, and the monthly benefit will be actuarially reduced. In addition, the monthly benefit payable cannot be less than 50% of the unreduced amount.

**Post-Retirement Death Benefit**

Regardless of the form of benefit selected, a lump sum benefit of \$1,000 is paid at the death of the retiree.

**Post-Retirement Increases**

On each anniversary of the initial date of retirement, the allowances of all retirees and survivors are increased by 3% of the base benefit.

**Medicare Part B**

Each recipient of a service retirement benefit, a disability benefit or a survivor benefit who was credited with at least 10 years of service and is covered under Medicare Part B is reimbursed \$45.50 per month for premiums for that coverage.

**Re-Employed Retirants**

Eligibility Effective

July 1, 1991, service retirees of SERS, or service or disability retirees of one of the other four Ohio retirement systems who are employed in a SERS covered position are required to contribute to a money purchase annuity, a type of defined contribution plan.

Amount of Allowance

Upon termination of employment, a re-employed retirant who has attained age 65 is eligible to receive an annuity based on the amount of his/her accumulated contributions, and an equal amount of employer contributions, plus interest to the effective date of retirement. Effective July 1, 2006 the amount of employer contributions will be determined by the Board. Interest is granted on the reemployed retirant's prior fiscal year account balance, calculated using a rate determined by the SERS Board, compounded annually. The benefit is payable as a lump sum or as an annuity if the amount of such annuity is at least \$25. Upon termination of employment, a re-employed retirant who has not attained age 65 may request a lump sum refund of his/her own contributions; there is no payment of employer contributions or interest.

Benefits Payable Upon Death

If a re-employed retirant dies while employed, a lump sum payment of the monthly annuity, discounted to the present



value using the current actuarial assumption rate of interest, will be paid to his beneficiary.

If a re-employed retirant dies while receiving a monthly annuity, a lump sum payment will be made to a beneficiary in an amount equal to the excess, if any, of the lump sum payment the re-employed retirant would have received at the effective date of retirement over the sum of the annuity payments received by the re-employed retirant to the date of death.

Member Contributions                      Each re-employed retirant is required to contribute 10% of his pay by payroll deductions.

Employer Contributions                      Employer contributions are expressed as percents of member covered payroll. Employers are required to contribute 14% of payroll.

Other Benefits                                      Re-employed retirants of SERS are not eligible to receive any of the other benefits provided to SERS members.

**Member Contributions**                      10% of salary.



**SCHEDULE E**

**DETAILED TABULATIONS OF THE DATA**

**Schedule of Retired Members Added to and Removed From Rolls  
Last Six Fiscal Years**

Year Ending June 30	2003*	2004*	2005*	2006*	2007*	2008
Beginning of Year	59,349	59,999	60,569	61,433	62,521	63,529
Added	3,414	3,013	3,683	3,750	3,596	3,448
Removed	2,764	2,443	2,819	2,662	2,588	2,159
End of Year	59,999	60,569	61,433	62,521	63,529	64,818
<u>Annual Retirement Allowances</u>						
Beginning of Year	\$ 432,217,056	\$ 461,212,013	\$ 491,618,849	\$ 527,931,968	\$ 566,770,892	\$ 607,386,140
Added	31,177,197	32,500,992	38,670,969	40,115,408	44,864,781	46,243,749
Removed	2,182,240	2,094,156	2,357,850	1,276,484	4,249,533	1,256,318
End of Year	\$ 461,212,013	\$ 491,618,849	\$ 527,931,968	\$ 566,770,892	\$ 607,386,140	\$ 652,373,571
% Increase in Allowances	6.71%	6.59%	7.39%	7.36%	7.17%	7.41%
Average Annual Allowance	\$ 7,687	\$ 8,117	\$ 8,594	\$ 9,065	\$ 9,561	\$ 10,065

\*Reported by prior actuarial firm.



Annuity and Pension Reserve Fund  
Retired Information June 30, 2008  
Tabulated by Attained Ages

Attained Age	Retirement		Disability Retirement		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	0	\$ -	113	\$ 1,811,857	113	\$ 1,811,857
45-49	54	\$ 1,584,973	299	\$ 5,658,970	353	\$ 7,243,943
50-54	474	\$ 14,534,882	609	\$ 10,695,376	1,083	\$ 25,230,258
55-59	1,426	\$ 36,277,776	970	\$ 15,744,329	2,396	\$ 52,022,105
60-64	5,383	\$ 73,644,207	1073	\$ 14,740,075	6,456	\$ 88,384,282
65-69	9,423	\$ 111,668,640	781	\$ 9,299,181	10,204	\$ 120,967,821
70-74	10,041	\$ 107,563,842	591	\$ 5,668,481	10,632	\$ 113,232,323
75-79	8,868	\$ 81,606,502	438	\$ 3,370,337	9,306	\$ 84,976,839
80-84	7,375	\$ 55,907,206	275	\$ 1,703,377	7,650	\$ 57,610,583
85-89	4,857	\$ 30,324,436	135	\$ 681,636	4,992	\$ 31,006,072
90 & Over	2,376	\$ 10,962,669	31	\$ 101,497	2,407	\$ 11,064,166
Totals	50,277	\$ 524,075,132	5,315	\$ 69,475,118	55,592	\$ 593,550,249

**Annuity and Pension Reserve Fund  
Survivor Information June 30, 2008  
Tabulated by Attained Ages**



Attained Age	Life Annuities		Periods Certain		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	32	\$ 151,496	4	\$ 12,028	36	\$ 163,523
45-49	28	\$ 124,640	3	\$ 43,125	31	\$ 167,765
50-54	63	\$ 462,090	4	\$ 30,601	67	\$ 492,691
55-59	82	\$ 584,847	1	\$ 4,268	83	\$ 589,115
60-64	152	\$ 1,341,060	6	\$ 24,043	158	\$ 1,365,103
65-69	315	\$ 2,425,928	12	\$ 96,666	327	\$ 2,522,594
70-74	603	\$ 4,555,967	13	\$ 74,653	616	\$ 4,630,620
75-79	925	\$ 6,713,388	5	\$ 19,444	930	\$ 6,732,833
80-84	1,194	\$ 7,583,846	2	\$ 32,568	1,196	\$ 7,616,414
85-89	968	\$ 4,799,067	1	\$ 3,422	969	\$ 4,802,489
90 & Over	554	\$ 2,472,534	0	\$ -	554	\$ 2,472,534
Totals	4,916	\$ 31,214,862	51	\$ 340,818	4,967	\$ 31,555,680





**All Benefit Recipients  
Male and Female Demographic Breakdown  
June 30, 2008**

Attained Age	Number of		Total Number
	Males	Females	
Under 20	36	31	67
20-24	6	10	16
25-29	2	7	9
30-34	7	11	18
35-39	20	26	46
40-44	59	85	144
45-49	222	291	513
50-54	614	718	1,332
55-59	1,055	1,684	2,739
60-64	1,768	5,305	7,073
65-69	2,740	8,431	11,171
70-74	3,066	8,906	11,972
75-79	2,800	8,104	10,904
80-84	2,217	7,192	9,409
85-89	1,341	4,941	6,282
90-94	457	2,067	2,524
95-99	75	467	542
100	3	28	31
101	2	12	14
102		5	5
103		1	1
104	1	0	1
105 & Over		3	3
<b>Total</b>	<b>16,491</b>	<b>48,325</b>	<b>64,816</b>

**Survivor Benefit Fund  
Survivors of Deceased Active Member Information June 30, 2008  
Tabulated by Attained Ages**



Attained Age	No.	Annual Benefits
Under 45	151	\$ 1,407,530
45-49	129	\$ 1,190,016
50-54	182	\$ 1,757,954
55-59	260	\$ 2,553,652
60-64	459	\$ 3,402,259
65-69	642	\$ 4,224,649
70-74	725	\$ 4,466,389
75-79	668	\$ 3,735,284
80-84	563	\$ 2,556,350
85-89	321	\$ 1,346,126
90 & Over	159	\$ 627,426
Totals	4,259	\$ 27,267,635

**Total Active Members as of June 30, 2008  
Tabulated by Attained Ages 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+	
Under 20	747	1						
Avg Pay	\$3,355	\$26,438						\$2,532,856
20-24	4,706	91						
Avg Pay	\$7,008	\$22,813						\$35,057,036
25-29	4,908	953	70					
Avg Pay	\$12,297	\$26,491	\$28,802					\$87,615,913
30-34	4,486	1,708	453	33				
Avg Pay	\$12,678	\$27,349	\$32,834	\$37,438				\$119,694,410
35-39	6,416	3,257	1,146	331	37			
Avg Pay	\$11,922	\$24,441	\$33,156	\$38,119	\$42,284			\$208,277,580
40-44	7,480	5,330	2,477	907	504	107		
Avg Pay	\$11,782	\$21,660	\$28,237	\$36,714	\$40,028	\$45,194		\$331,831,860
44-49	6,879	6,662	4,802	2,087	1,226	828	83	
Avg Pay	\$12,431	\$21,807	\$25,057	\$31,643	\$39,585	\$43,696	\$44,106	\$505,522,063
50-54	4,933	5,230	4,889	3,429	2,230	1,175	484	
Avg Pay	\$13,408	\$22,796	\$25,269	\$28,441	\$33,984	\$40,908	\$44,962	\$552,044,730
55-59	3,214	3,134	2,883	2,997	2,975	1,321	541	
Avg Pay	\$13,831	\$22,582	\$26,392	\$27,992	\$30,737	\$35,751	\$40,936	\$436,023,624
60-64	1,860	1,808	1,252	1,449	1,727	1,242	625	
Avg Pay	\$11,921	\$22,292	\$26,411	\$28,943	\$29,589	\$31,506	\$33,053	\$248,370,632
65-69	930	739	484	403	535	496	496	
Avg Pay	\$8,495	\$18,955	\$23,827	\$26,093	\$28,033	\$27,992	\$29,238	\$87,339,749
70 & over	541	432	258	172	202	187	382	
Avg Pay	\$7,286	\$13,702	\$17,903	\$22,214	\$22,168	\$25,431	\$26,063	\$37,490,528
<b>Totals</b>	<b>47,100</b>	<b>29,345</b>	<b>18,714</b>	<b>11,808</b>	<b>9,436</b>	<b>5,356</b>	<b>2,611</b>	<b>124,370</b>
<b>Avg Pay</b>	<b>\$11,623</b>	<b>\$22,648</b>	<b>\$26,397</b>	<b>\$29,716</b>	<b>\$32,649</b>	<b>\$36,236</b>	<b>\$35,498</b>	<b>\$21,322</b>

Averages:  
 Age: 47.7  
 Service: 9.4  
 Annual Pay: \$21,322



**Male Active Members as of June 30, 2008  
Tabulated by Attained Ages 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+	
Under 20	417	1						
Avg Pay	\$3,696	\$26,438						\$1,567,625
20-24	2,284	57						
Avg Pay	\$7,239	\$26,395						\$18,039,503
25-29	2,199	440	30					
Avg Pay	\$12,475	\$31,127	\$33,682					\$42,139,232
30-34	1,585	578	208	16				
Avg Pay	\$13,532	\$34,904	\$38,567	\$40,931				\$50,300,168
35-39	1,754	743	400	152	15			
Avg Pay	\$13,332	\$34,710	\$43,307	\$42,620	\$46,997			\$73,680,710
40-44	1,975	879	531	339	241	57		
Avg Pay	\$12,940	\$31,804	\$41,572	\$46,224	\$45,501	\$49,237		\$105,028,613
44-49	2,049	1,090	662	466	502	467	44	
Avg Pay	\$13,810	\$32,465	\$39,428	\$44,333	\$47,396	\$46,820	\$49,124	\$158,262,836
50-54	1,779	1,172	707	521	560	526	269	
Avg Pay	\$14,970	\$31,512	\$38,380	\$41,597	\$45,450	\$47,689	\$47,165	\$175,594,625
55-59	1,393	944	602	487	502	339	216	
Avg Pay	\$15,487	\$28,492	\$36,939	\$40,709	\$44,105	\$46,523	\$49,608	\$139,159,786
60-64	970	780	392	337	287	199	107	
Avg Pay	\$13,641	\$26,770	\$34,769	\$39,626	\$41,913	\$43,832	\$43,527	\$86,505,260
65-69	474	431	222	121	125	63	54	
Avg Pay	\$10,317	\$21,199	\$29,301	\$35,388	\$38,605	\$39,820	\$41,254	\$34,376,186
70 & over	266	213	130	72	51	36	26	
Avg Pay	\$8,867	\$17,357	\$22,056	\$26,876	\$29,179	\$39,890	\$35,715	\$14,710,585
<b>Totals</b>	<b>17,145</b>	<b>7,328</b>	<b>3,884</b>	<b>2,511</b>	<b>2,283</b>	<b>1,687</b>	<b>716</b>	<b>35,554</b>
<b>Avg Pay</b>	<b>\$12,417</b>	<b>\$30,305</b>	<b>\$37,823</b>	<b>\$41,629</b>	<b>\$44,415</b>	<b>\$46,351</b>	<b>\$46,617</b>	<b>\$25,296</b>

Averages:  
 Age: 46.4  
 Service: 8.2  
 Annual Pay: \$25,296

**Female Active Members as of June 30, 2008  
Tabulated by Attained Ages 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+	
Under 20 Avg Pay	330 \$2,925							\$965,231
20-24 Avg Pay	2,422 \$6,790	34 \$16,809						\$17,017,533
25-29 Avg Pay	2,709 \$12,153	513 \$22,514	40 \$25,143					\$45,476,681
30-34 Avg Pay	2,901 \$12,211	1,130 \$23,485	245 \$27,966	17 \$34,151				\$69,394,242
35-39 Avg Pay	4,662 \$11,392	2,514 \$21,406	746 \$27,713	179 \$34,297	22 \$39,072			\$134,596,870
40-44 Avg Pay	5,505 \$11,367	4,451 \$19,657	1,946 \$24,598	568 \$31,038	263 \$35,013	50 \$40,584		\$226,803,247
44-49 Avg Pay	4,830 \$11,845	5,572 \$19,722	4,140 \$22,759	1,621 \$27,995	724 \$34,169	361 \$39,653	39 \$38,445	\$347,259,228
50-54 Avg Pay	3,154 \$12,527	4,058 \$20,279	4,182 \$23,052	2,908 \$26,084	1,670 \$30,138	649 \$35,412	215 \$42,206	\$376,450,105
55-59 Avg Pay	1,821 \$12,565	2,190 \$20,035	2,281 \$23,609	2,510 \$25,525	2,473 \$28,024	982 \$32,032	325 \$35,173	\$296,863,839
60-64 Avg Pay	890 \$10,045	1,028 \$18,894	860 \$22,601	1,112 \$25,706	1,440 \$27,133	1,043 \$29,154	518 \$30,890	\$161,865,372
65-69 Avg Pay	456 \$6,600	308 \$15,815	262 \$19,189	282 \$22,106	410 \$24,810	433 \$26,271	442 \$27,770	\$52,963,562
70 & over Avg Pay	275 \$5,758	219 \$10,147	128 \$13,685	100 \$18,857	151 \$19,800	151 \$21,984	356 \$25,358	\$22,779,943
Totals Avg Pay	29,955 \$11,169	22,017 \$20,100	14,830 \$23,405	9,297 \$26,498	7,153 \$28,893	3,669 \$31,585	1,895 \$31,297	88,816 \$19,731

Averages:  
Age: 48.1  
Service: 9.9  
Annual Pay: \$19,731

Active Members as of June 30, 2008

By Annual Pay



Annual Pay	Number of Active Members			Portion of Total Number	
	Men	Women	Totals	Group	Cumulative
Less than \$1,000	309	527	836	0.7%	0.7%
\$1,000 - 1,999	1,760	2,226	3,986	3.2%	3.9%
2,000 - 2,999	2,680	2,895	5,575	4.5%	8.4%
3,000 - 3,999	2,363	2,758	5,121	4.1%	12.5%
4,000 - 4,999	1,442	2,544	3,986	3.2%	15.7%
5,000 - 5,999	991	2,318	3,309	2.7%	18.3%
6,000 - 6,999	733	2,255	2,988	2.4%	20.7%
7,000 - 7,999	570	2,268	2,838	2.3%	23.0%
8,000 - 8,999	481	2,181	2,662	2.1%	25.2%
9,000 - 9,999	458	2,236	2,694	2.2%	27.3%
10,000 - 11,999	939	4,585	5,524	4.4%	31.8%
12,000 - 13,999	1,043	5,481	6,524	5.2%	37.0%
14,000 - 15,999	1,045	6,690	7,735	6.2%	43.2%
16,000 - 17,999	1,067	6,967	8,034	6.5%	49.7%
18,000 - 19,999	986	6,262	7,248	5.8%	55.5%
20,000 - 24,999	2,069	11,912	13,981	11.2%	66.8%
25,000 - 29,999	2,415	7,919	10,334	8.3%	75.1%
30,000 - 35,999	3,754	6,984	10,738	8.6%	83.7%
36,000 and over	10,449	9,808	20,257	16.3%	100.0%
<b>Totals</b>	<b>35,554</b>	<b>88,816</b>	<b>124,370</b>		



## SCHEDULE F

### GAIN/LOSS ANALYSIS DETAILS

#### COMMENTS

Regular actuarial valuations measure the Retirement System's present financial position and contributions adequacy by calculating and financing the liabilities created by the present benefit program. This process involves discounting to present values the future benefit payments on behalf of present active and retired members and their survivors. However, valuations do not produce information regarding the amount of increases or decreases in unfunded actuarial accrued liabilities (UAAL) -- gain/loss analyses do.

The overall gain/loss to the Retirement System is the difference between the actual UAAL and the expected UAAL. A gain/loss analysis shows the breakdown of the overall system gain/loss by economic and non-economic risk areas. The economic risk areas are investment return and pay increases. The non-economic risk areas are service retirement, disability retirement, death in active service, termination (vested and non-vested), retiree mortality, and new members. Gains and losses resulting from data adjustments, timing of financial transactions, etc. are included separately as a miscellaneous item.

It is expected that actual experience will not coincide 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. Changes in actuarial assumptions should be made for risk areas when the differences between actual and expected experience are consistently sizable over a period of years. Differences over a relatively short period of time may or may not be indicative of long-term trends, which are the basis of actuarial assumptions.

The actuarial assumptions used in this analysis were adopted by the Board in May 2006.

Any historical information and data shown in the report with a valuation date prior to June 30, 2008 were obtained from the previous actuary's report.



**School Employees Retirement System of Ohio**  
**Experience Gains & Losses By Risk Area**  
**Comparative Schedule**  
**(\$ Millions)**

Year Ending June 30	Gain (Loss) by Risk Area										Retired Lives	Other <sup>+</sup>	\$	% of AAL	
	Economic					Non-Economic									
	Pay Increases	Investment	Age & Service Retirement	Disability	Death In Service	Withdrawal	New Members								
1999*	47.3	487.7	24.4	2.7	(0.7)	(18.0)	^				1.0	(84.6)	459.8	6.5	
2000*	(22.8)	465.6	27.4	0.5	(0.4)	(5.7)	^				14.4	(136.2)	342.8	4.6	
2001*	51.3	(13.0)	32.4	7.3	(0.9)	68.0	^				(3.3)	(76.6)	65.2	0.7	
2002*	(151.3)	(533.6)	41.5	0.2	1.6	(9.8)	(38.6)				44.1	35.5	(610.4)	(6.6)	
2003*	28.0	(781.4)	(29.7)	(0.3)	(0.3)	38.8	(37.1)				30.0	(24.7)	(776.7)	(7.8)	
2004*	83.6	(763.8)	(45.2)	0.0	0.5	56.6	(48.6)				23.3	(0.4)	(694.0)	(6.5)	
2005*	101.6	(397.4)	(82.6)	2.1	(0.7)	52.7	(42.7)				12.4	(81.7)	(436.3)	(3.9)	
2006*	76.4	44.7	37.9	1.2	0.2	(52.9)	(36.7)				15.8	(145.4)	(58.8)	(0.5)	
2007*	121.0	504.3	13.4	0.9	(0.3)	(73.2)	(37.2)				(10.2)	(1.1)	517.6	4.1	
2008	95.8	(6.6)	(96.1)	(3.5)	(0.6)	8.1	(51.3)				72.4	81.2	99.4	6.1	

\* Reported by a prior actuary

+ Includes effect of changes in data, timing of financial transactions, etc.

^ Included in "Other" risk area





The market related 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.

The actuarial value of assets for the basic benefits as of June 30, 2008 was \$11,372,453,979. The value for the previous year was \$10,640,423,463.

**School Employees Retirement System of Ohio**  
**Development of Gain (Loss) for Basic Benefits**  
**From Investment Return**  
**For the Year Ended June 30, 2008**  
**(\$ millions)**

	<u>\$ Millions</u>
1. Actuarial value of assets as of June 30, 2007	\$ 10,640.4
2. Actuarial value of assets as of June 30, 2008	
a. Actual	11,372.5
b. If 8.00% assumed investment return was achieved for all phased-in years recognized in the asset method	11,379.1
3. Gain (Loss): 2a minus 2b	<u>\$ (6.6)</u>



**Pay Increases During the 2007- 2008 Valuation Year  
To Members Active at Beginning and End of Year**

Central Age Group Beginning of Year	Number	Pay Increases	
		Actual	Expected
Under 25	1,827	1.24%	16.21%
25	3,639	9.52	15.25
30	4,704	6.41	12.35
35	8,281	7.17	10.78
40	13,279	6.94	9.39
45	19,879	6.11	7.99
50	20,929	5.17	7.01
55	16,474	4.35	6.51
60	10,158	3.83	6.34
65 & Over	6,415	3.29	6.39
Total	105,585	4.47	7.74



**Members Who Became Age & Service Retirees During the 2007- 2008 Valuation Year  
(Retirement With Allowance Beginning Immediately)**

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30 plus	
Under 50							14	14
50							8	8
51							21	21
52							16	16
53							16	16
54							20	20
55						38	16	54
56						25	14	39
57						29	18	47
58						42	16	58
59						58	22	80
60		35	38	61	83	58	24	299
61		27	15	44	55	56	33	230
62		33	23	35	49	35	30	205
63		20	18	29	37	44	21	169
64		33	21	23	39	42	27	185
65		35	22	26	64	51	27	225
66		14	17	22	34	27	29	143
67		15	10	18	28	28	16	115
68		12	9	17	17	22	19	96
69		11	8	6	14	18	20	77
70 & Over		76	44	46	54	48	78	346
<b>Totals</b>	<b>0</b>	<b>311</b>	<b>225</b>	<b>327</b>	<b>474</b>	<b>621</b>	<b>505</b>	<b>2,463</b>

Average Age: 62.9  
Average Service: 22.3

Note that this table excludes active members who worked less than one-quarter of the fiscal year for the last two years. These members are deemed inactive members by the System.



**Members Who Died in 2007- 2008 Valuation Year  
With a Death-in-Service Allowance Payable**

<b>Central Age Group Beginning of Year</b>	<b>Number</b>
Under 25	
25	1
30	
35	4
40	3
45	13
50	18
55	24
60	32
65	15
70 & Over	15
<b>Total</b>	<b>125</b>

Average Age: 56.8  
Average Service: 15.0



**Members Who Died in 2007- 2008 Valuation Year  
and Received a Refund of Contributions**

Central Age Group Beginning of Year	Number
Under 25	
25	1
30	1
35	1
40	1
45	0
50	5
55	5
60	4
65	1
70 & Over	1
<b>Total</b>	<b>20</b>

Average Age: 52.0  
Average Service: 2.0



**Members Who Became Disability Retirees  
During the 2007- 2008 Valuation Year**

Central Age Group Beginning of Year	Number
Under 25	
25	
30	
35	4
40	20
45	42
50	49
55	100
60	54
65	9
70 & Over	3
<b>Total</b>	<b>281</b>

Average Age: 52.9  
Average Service: 15.2



**Members Receiving a Refund of Contributions  
or Becoming Inactive Without a Refund in  
the 2007- 2008 Valuation Year  
(Non-vested Terminations)**

<b>Central Age Group Beginning of Year</b>	<b>Number</b>
Under 25	1,277
25	2,082
30	1,346
35	1,443
40	1,634
45	1,778
50	1,443
55	994
60	641
65	311
70 & Over	292
<b>Total</b>	<b>13,241</b>

Average Age: 39.3  
Average Service: 3.6



**Members Who Became Inactive  
in the 2007- 2008 Valuation Year  
with a Deferred Allowance  
(Vested Terminations)**

Central Age Group Beginning of Year	Number
Under 25	
25	19
30	55
35	66
40	106
45	199
50	202
55	135
60	68
65	7
70 & Over	13
<b>Total</b>	<b>870</b>

Average Age: 46.8  
Average Service: 9.3





## SCHEDULE G

### 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.

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.



**APPENDIX A**

**ACTUARIAL ACCRUED LIABILITIES  
AS OF JUNE 30, 2008**

<b>Present Value of:</b>	<b>Basic Benefits</b>	<b>Medicare Part B</b>	<b>Death Benefit</b>	<b>Total</b>
Future benefits to present retirees and survivors	\$ 6,618,387,805	\$ 232,055,152	\$ 22,523,759	\$ 6,872,966,716
Benefits and refunds to present inactive members	436,722,863	9,026,618	1,447,589	447,197,070
Allowances to present active members				
Service	6,142,956,649	100,560,016	5,897,552	6,249,414,217
Disability	320,336,610	4,649,173	415,961	325,401,744
Survivor benefits	105,766,993	1,734,957	-	107,501,950
Withdrawal	49,357,050	9,917,507	138,111	59,412,668
Total Active AAL	6,618,417,302	116,861,653	6,451,624	6,741,730,579
Total AAL	<u>\$ 13,673,527,970</u>	<u>\$ 357,943,423</u>	<u>\$ 30,422,972</u>	<u>\$ 14,061,894,365</u>



**APPENDIX B**

**BREAKDOWN OF TOTAL AND ACCRUED LIABILITIES  
AS OF JUNE 30, 2008**

	Total Liability	Accrued Liability
Active Members		
Retirement	\$8,040,520,952	\$6,142,956,649
Death	160,498,189	105,766,993
Disability	640,981,541	320,336,610
Termination	842,562,515	49,357,050
Medicare Part B	167,785,738	116,861,653
Death after Retirement	<u>11,070,744</u>	<u>6,451,624</u>
Total	\$9,863,419,679	\$6,741,730,579
Retirees		
Retirement/Survivor/Disability	\$6,618,387,805	\$6,618,387,805
Medicare Part B	232,055,152	232,055,152
Death after Retirement	<u>22,523,759</u>	<u>22,523,759</u>
Total	\$6,872,966,716	\$6,872,966,716
Deferred Vested Members	288,229,679	288,229,679
Inactive Members	<u>158,967,391</u>	<u>158,967,391</u>
Total Actuarial Values	\$17,183,583,465	\$14,061,894,365
Actuarial Value of Assets		<u>11,372,453,979</u>
Unfunded Actuarial Accrued Liability		\$2,689,440,386

**APPENDIX C**

**COMPARATIVE SCHEDULE  
AS OF JUNE 30, 2008**

Valuation Date June 30	Active Members			Retired Lives				Valuation Assets \$ Millions	Accrued Liability	UAAAL	
	Number	Payroll \$ Millions	Average Salary \$	% Increase	Number		Annual Benefits \$ Millions				% of Payroll
					Retired	Active / Retired					
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
2003	122,315	2,302	18,823	4.0	59,999	2.0	461.2	20.0	10,635	8,772	1,863
2004	123,139	2,394	19,442	3.3	60,569	2.0	491.6	20.5	11,251	8,667	2,584
2005	122,855	2,453	19,963	2.7	61,433	2.0	527.9	21.5	11,961	8,893	3,137 *
2006	123,266	2,553	20,714	3.8	62,521	2.0	566.8	22.2	12,627	9,542	3,155 *
2007	123,013	2,603	21,163	2.2	63,529	1.9	607.4	23.3	13,303	10,640	2,734 *
2008	124,370	2,652	21,322	0.8	64,818	1.9	652.4	24.6	14,062	11,372	2,689

\* after the adjustment to reflect health care asset restatement