



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

Prepared as of June 30, 2011





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

November 7, 2011

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, 2011.

The date of the valuation was June 30, 2011.

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. Please note that the actuarial assumptions adopted by the Board in April, 2011 were utilized in developing the results shown in the report as of June 30, 2011.

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.

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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,

A handwritten signature in blue ink, appearing to read 'Thomas J. Cavanaugh'.

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

A handwritten signature in blue ink, appearing to read 'John J. Garrett'.

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Todd B. Green'.

Todd B. Green, ASA, FCA, MAAA
Principal and Consulting Actuary

TJC/JJG:kc

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

PREPARED AS OF JUNE 30, 2011

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of June 30, 2011, 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, 2011	June 30, 2010
Active members included in valuation		
Number	125,337	126,015
Annual Compensation	\$2,852,378,614	\$2,842,660,159
Retirees		
Number	67,221	66,127
Annual allowances	\$777,910,918	\$729,859,717
Deferred Vesteds		
Number	12,410	12,270
Annual deferred allowances	\$42,362,452	\$41,180,785
Assets (net of Health Care Assets)		
Market related actuarial value	\$10,513,116,858	\$10,909,119,440
Market value	\$10,619,175,301	\$9,071,931,012
Unfunded Accrued Liability	\$5,811,887,401	\$4,312,493,739
Funded Ratio (MVA/AAL)		
Pension and Post-retirement Death Benefits	65.22%	72.62%
Medicare Part B	30.27%	33.30%
Employer Contribution Rate		
Normal	1.72%	3.79%
Accrued liability	<u>11.73</u>	<u>8.78</u>
Total	13.45%	12.57%
Accrued liability amortization period (years)	28	29



2. The board has set a total contribution rate of 24% of payroll; 14% from employers and 10% from employees. Employer contributions in excess of those required to support the basic benefits are allocated to retiree health care 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. Since the previous valuation, actuarial assumptions were updated in conjunction with the 5-year experience study performed for the period beginning July 1, 2005 and ending June 30, 2010. The assumptions were adopted by the Board in April of 2011.
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, 2011 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
125,337	\$2,852,378,614	\$22,758	48.4	9.9

The total number of active members includes 78,795 vested members and 46,542 non-vested members. Vested members are those hired prior to May 14, 2008 with at least five years of service and members hired on or after May 14, 2008 with at least ten years of service.

The following table shows a six-year schedule of active member valuation data.

SCHEDULE OF SERS ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
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
6/30/2009	125,465	2,787,390,954	22,216	4.2
6/30/2010	126,015	2,842,660,159	22,558	1.5
6/30/2011	125,337	2,852,378,614	22,758	0.9



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	57,566	\$669,058,702	\$11,622	75.1
Disability	5,278	77,028,734	14,594	64.7
Survivors	4,377	31,823,482	7,271	71.0
Total in SERS	67,221	\$777,910,918	\$11,572	74.0

This valuation also includes 90,484 inactive members eligible for a contribution refund only (including 49,189 members not reported in the data files who had completed one or more years of service before terminating). Their contributions totaled \$129,883,888 as of June 30, 2011. There were also 12,410 terminated vested members with annual deferred pension benefits of \$42,362,452. Included in the "Retiree" numbers in the above table are 7,656 re-employed retirees with account balances of \$59,117,631 (including employer contributions and interest), 312 re-retirees receiving only an annuity from their contributions and their employers' matching contributions, and 347 re-retirees receiving such annuities in addition to their regular pension benefits. The sum of the annuity payments attributable to these re-retirees is \$2,081,136.



SECTION III – ASSETS

- As of June 30, 2011 the total market value of assets amounted to \$10,974,881,045. All figures include the combined Pension Trust Fund, Medicare B Fund, Death Benefit Fund and Health Care Fund but exclude the QEBA Fund.

Asset Summary Based on Market Value			
(1)	Assets at June 30, 2010	\$	9,396,935,181
(2)	Contributions and Misc. Revenue		885,159,778
(3)	Investment Gain (Loss)		1,768,660,447
(4)	Benefit Payments		(1,075,874,361)
(5)	Assets at June 30, 2011 (1) + (2) - (3) + (4)	\$	10,974,881,045
(6)	Annualized Rate of Return*		19.0 %

- The four-year smoothed market related actuarial value of assets used for the current valuation was \$10,513,116,858. Schedule B shows the development of the actuarial value of assets as of June 30, 2011. Again all figures include the combined Pension Trust Fund, Medicare B Fund, Death Benefit Fund and Health Care Fund but exclude the QEBA Fund.

Asset Summary Based on Actuarial Value			
(1)	Assets at June 30, 2010	\$	11,234,123,610
(2)	Contributions and Misc. Revenue		885,159,778
(3)	Investment Gain (Loss)		(174,586,425)
(4)	Benefit Payments		(1,075,874,361)
(5)	Assets at June 30, 2011 Before Application of Corridor (1) + (2) - (3) + (4)	\$	10,868,822,602
(6)	Annualized Rate of Return*		(1.6) %
(7)	Additional Loss Recognized Due to Corridor		0
(8)	Assets at June 30, 2011 After Application of Corridor (5) + (7)	\$	10,868,822,602
(9)	Annualized Rate of Return*		(1.6) %

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

- I = 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, 2011.

1. The total valuation balance sheet on account of retirement benefits shows that the System has total prospective retirement benefit liabilities of \$19,102,820,841, of which \$8,239,749,439 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members, \$555,156,548 is for the prospective benefits payable on account of present inactive members, and \$10,307,914,854 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 \$10,513,116,858 as of June 30, 2011. The difference of \$8,589,703,983 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, \$2,413,223,995 is the present value of future contributions expected to be made by members, and the balance of \$6,176,479,988 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 1.49% of payroll for basic pension benefits, 0.02% of payroll for post-retirement death benefits, and 0.21% 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 \$364,592,587. When this amount is subtracted from \$6,176,479,988, which is the present value of the total future contributions to be made by the employers, there remains \$5,811,887,401 as the amount of future accrued liability contributions.
4. For pension benefits, it is recommended that the accrued liability contribution rate payable by the Employer on account of retirement benefits be set at 11.16% 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 0.03% 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 0.54% of payroll. These rates are sufficient to amortize the unfunded accrued liability of \$5,811,887,401 over 28 years based 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) match 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, 2011 is shown below (\$ millions).

Experience Gain/(Loss)

(1)	UAAL as of 6/30/10	\$	4,312.5
(2)	Normal cost from last valuation		392.0
(3)	Contributions		682.4
(4)	Interest accrual: [(1) + (2) - (3)*.5] x .08		349.1
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	\$	4,371.2
(6)	Change due to plan amendments		0.0
(7)	Change due to new actuarial assumption or methods		436.2
(8)	Expected UAAL after changes: (5) + (6) + (7)	\$	4,807.4
(9)	Actual UAAL as of 6/30/11	\$	5,811.9
(10)	Gain/(loss): (8) - (9)	\$	(1,004.5)
(11)	Accrued liabilities as of 6/30/11	\$	16,325.0
(12)	Gain/(loss) as percent of actuarial accrued liabilities at start of year		(6.2%)



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 6/30/11
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (59.2)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(28.1)
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(0.7)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	15.4
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	198.4
New Members. Additional accrued liability will be reflected as a loss.	(36.4)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(1,082.9)
Death After Retirement. If retired members live longer than assumed, there is a loss. If not as long, a gain.	(1.0)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(10.0)</u>
Gain (or Loss) During Year From Financial Experience	\$ (1,004.5)
Non-Recurring Items. Adjustments for plan amendments, assumption changes and method changes	<u>(436.2)</u>
Composite Gain (or Loss) During Year	\$ (1,440.7)



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.

Required Contribution Rates

Contribution for	Benefits	Retirement Death Benefits	Medicare Part B	Total
A. Normal Cost:				
(1) Service retirement benefits	7.09%			
(2) Disability benefits	0.74			
(3) Survivor benefits	0.14			
(4) Refunds	3.52			
(5) Total	11.49%	0.02%	0.21%	11.72%
B. Member Contributions	10.00%	0.00%	0.00%	10.00%
C. Employer Normal Cost: [A(5) - B]	1.49%	0.02%	0.21%	1.72%
D. Unfunded Actuarial Accrued Liability Contributions	11.16%	0.03%	0.54%	11.73%
E. Total Recommended Employer Contribution Rate:[C+D]	12.65%	0.05%	0.75%	13.45%



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, 2011**

GROUP	Total
Retirees and beneficiaries currently receiving benefits	67,221
Terminated employees entitled to benefits but not yet receiving benefits	12,410
Active Members	<u>125,337</u>
Total	204,968

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)
Pension and Post-retirement Death Benefits						
6/30/2006	\$ 9,423	\$ 12,327	2,974 [^]	76.4%	\$ 2,553	116.5%
6/30/2007	10,513	13,004	2,562 [^]	80.8	2,603	98.4
6/30/2008	11,241	13,704	2,463	82.0	2,873	85.7
6/30/2009	9,723	14,221	4,498	68.4	2,787	161.4
6/30/2010	10,787	14,855	4,068	72.6	2,843	143.1
6/30/2011	10,397	15,943	5,546	65.2	2,852	194.5
Medicare Part B						
6/30/2006	\$ 119	\$ 300	\$ 181 [^]	39.7%	\$ 2,553	7.1%
6/30/2007	127	299	172 [^]	42.5	2,603	6.6
6/30/2008	131	358	227	36.7	2,873	7.9
6/30/2009	113	361	248	31.3	2,787	8.9
6/30/2010	122	367	244	33.3	2,843	8.6
6/30/2011	116	382	266	30.3	2,852	9.3

[^] 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, 2011. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2011
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*	7.75%
* Includes price inflation at	3.25%
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
Pension and Post-retirement Death Benefits		
June 30, 2006	\$ 272,358,393	87.0%
June 30, 2007	260,779,627	90.0
June 30, 2008	243,150,199	100.0
June 30, 2009	269,380,809	100.0
June 30, 2010	379,427,457	100.0
June 30, 2011	357,126,300	100.0
Medicare Part B		
June 30, 2006	\$ 21,677,505	95.0%
June 30, 2007	17,729,746	104.0
June 30, 2008	17,519,556	100.0
June 30, 2009	21,688,294	100.0
June 30, 2010	22,619,935	100.0
June 30, 2011	22,172,922	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, 2011 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2010. 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, 2011	June 30, 2010
ASSETS		
Current actuarial value of assets	\$ 10,513,116,858	\$ 10,909,119,440
Prospective contributions		
Member contributions	\$ 2,413,223,995	\$ 2,361,359,370
Employer normal contributions	364,592,587	804,999,565
Unfunded accrued liability contributions	<u>5,811,887,401</u>	<u>4,312,493,739</u>
Total prospective contributions	<u>\$ 8,589,703,983</u>	<u>\$ 7,478,852,673</u>
Total assets	<u>\$ 19,102,820,841</u>	<u>\$ 18,387,972,113</u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 8,239,749,439	\$ 7,603,024,224
Present value of benefits payable on account of active members	10,307,914,854	10,274,401,728
Present value of benefits payable on account of inactive and deferred vested members	<u>555,156,548</u>	<u>510,546,161</u>
Total liabilities	<u>\$ 19,102,820,841</u>	<u>\$ 18,387,972,113</u>

Included in the retiree liability shown above is the liability attributable to re-retiree annual annuity payments. Such liability amounts to \$17,513,720 for 2011 and \$15,285,256 for 2010.



The following tables provide the solvency test for SERS members.

**Solvency Test
Pension and Death After Retirement Benefits¹**

(\$ in Millions)

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2006	\$ 2,064	\$ 6,006	\$ 4,467	\$ 8,893	100.0%	100.0%	18.4%
6/30/2007	2,180	6,413	4,557	9,542	100.0	100.0	20.8
6/30/2008	2,291	7,079	4,334	11,241	100.0	100.0	43.2
6/30/2009	2,470	7,520	4,231	9,723	100.0	96.5	0.0
6/30/2010	2,569	7,875	4,411	10,787	100.0	100.0	7.8
6/30/2011	2,749	8,550	4,643	10,397	100.0	89.4	0.0

¹Solvency Test combined for Pension, Death After Retirement Benefits and Medicare Part B Benefits for valuations performed prior to 6/30/2008

**Solvency Test
Medicare Part-B Benefits**

(\$ in Millions)

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
	(1)	(2)	(3)	Actuarial Value of Assets	(1)	(2)	(3)
	Active Member Contributions	Retired Members & Beneficiaries	Active Members (Employer Financed Portion)				
6/30/2008	0	241	117	131	100.0%	54.5%	0.0%
6/30/2009	0	239	121	113	100.0	47.1	0.0
6/30/2010	0	239	128	122	100.0	51.1	0.0
6/30/2011	0	245	138	116	100.0	47.3	0.0



SCHEDULE B
Development of Actuarial Value of Assets

Valuation date June 30:	2010	2011	2012	2013	2014
A. Actuarial Value Beginning of Year	\$ 11,632,068,234	\$ 11,234,123,610			
B. Market Value End of Year	9,396,935,181	10,974,881,045			
C. Market Value Beginning of Year	8,510,566,546	9,396,935,181			
D. Cash Flow					
D1. Contributions	763,839,049	769,321,763			
D2. Other Revenue	96,449,404	122,232,090			
D3. Benefit Payments	(1,036,086,109)	(1,075,874,361)			
D4. Net Transfers	<u>(5,085,923)</u>	<u>(6,394,075)</u>			
D5. Net	(180,883,579)	(190,714,583)			
E. Investment Income					
E1. Market Total: B.-C.-D5.	1,067,252,214	1,768,660,447			
E2. Assumed Rate (Net of Expenses)	8.00%	8.00%			
E3. Amount for Immediate Recognition	673,609,981	744,126,231			
E4. Amount for Phased-In Recognition	393,642,233	1,024,534,216			
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.25 * E4.	98,410,558	256,133,554	0	0	0
F2. First Prior Year	(859,163,333)	98,410,558	256,133,554	0	0
F3. Second Prior Year	(414,093,435)	(859,163,333)	98,410,558	256,133,553	0
F4. Third Prior Year	284,175,183	(414,093,435)	(859,163,333)	98,410,558	256,133,553
F5. Total Recognized Investment Gain/(Loss)	<u>(890,671,027)</u>	<u>(918,712,656)</u>	<u>(504,619,221)</u>	<u>354,544,111</u>	<u>256,133,553</u>
G. Preliminary Actuarial Value End of Year:					
A.+D5.+E3.+F5.	\$ 11,234,123,610	\$ 10,868,822,602			
H. Corridor					
H1. 80% of Market Value	\$ 7,517,548,145	\$ 8,505,532,810			
H2. 120% of Market Value	\$ 11,276,322,217	\$ 13,169,857,254			
I. Actuarial Value End of Year:					
G. Not Less than H1. or Not Greater than H2	\$ 11,234,123,610	\$ 10,868,822,602			
J. Difference Between Market & Actuarial Values	\$ (1,837,188,429)	\$ 106,058,443	\$ 610,677,664	\$ 256,133,553	\$ -
K. Health Care Valuation Assets	325,004,169	355,705,744			
L. Basic Benefits Valuation Assets	\$ 10,909,119,440	\$ 10,513,116,858			

The Actuarial Valuation of Assets recognizes assumed investment income (line E5) 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: 7.75% 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	45.00%
1	31.00
2	23.00
3	17.00
4	13.00
5	9.00
10	4.00
15	2.00
20	2.00
25	1.50

Age	Annual Rates of			
	Death		Disability	
	Male	Female	Male	Female
20	.013%	.007%	.020%	.020%
25	.017	.007	.038	.020
30	.020	.009	.068	.026
35	.021	.012	.122	.054
40	.027	.018	.210	.100
45	.040	.024	.310	.168
50	.065	.036	.410	.260
55	.111	.057	.510	.360
60	.199	.111	.550	.400
65	.363	.216	.550	.400
70	.593	.343	.550	.400
74	.851	.510	.550	.400



Annual Rates of Service Retirements		
Age	Male	Female
50	28.0%	25.0%
55	20.0	21.0
60	18.0	17.0
62	20.0	20.0
65	25.0	25.0
70	14.0	14.0
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	18.00%	4.00%	22.00%
1	8.00	4.00	12.00
2	5.50	4.00	9.50
3	4.00	4.00	8.00
4	3.00	4.00	7.00
5	2.00	4.00	6.00
6	1.25	4.00	5.25
7	1.00	4.00	5.00
8	0.50	4.00	4.50
9	0.25	4.00	4.25
10-14	0.00	4.00	4.00
15 & over	0.00	4.00	4.00

PAYROLL GROWTH: 4.00% per annum, compounded annually.

PRICE INFLATION: 3.25% 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. There is sufficient margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted.



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 market 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 market 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**

Contributions for Basic Benefits	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.
Final Average Salary	Average annual salary over the member's three highest years of service.
Normal Retirement	
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		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	2006*	2007*	2008	2009	2010	2011
Beginning of Year	61,433	62,521	63,529	64,818	65,757	66,127
Added	3,750	3,596	3,448	3,103	2,694	3,472
Removed	2,662	2,588	2,159	2,164	2,324	2,378
End of Year	62,521	63,529	64,818	65,757	66,127	67,221
Annual Retirement Allowances						
Beginning of Year	\$ 527,931,968	\$ 566,770,892	\$ 607,386,140	\$ 652,373,571	\$ 693,838,994	\$ 729,859,717
Added	40,115,408	44,864,781	46,243,749	41,970,065	37,351,889	49,577,810
Removed	1,276,484	4,249,533	1,256,318	504,642	1,331,166	1,526,603
End of Year	\$ 566,770,892	\$ 607,386,140	\$ 652,373,571	\$ 693,838,994	\$ 729,859,717	\$ 777,910,924
% Increase in Allowances	7.36%	7.17%	7.41%	6.36%	5.19%	6.58%
Average Annual Allowance	\$ 9,065	\$ 9,561	\$ 10,065	\$ 10,552	\$ 11,037	\$ 11,572

*Reported by prior actuarial firm.



**Annuity and Pension Reserve Fund
Retired Information June 30, 2011
Retired Members By Type of Benefit**

Amount of Monthly Benefit		Total	Service	Disability	Survivor
\$ 1 - \$ 250		12,457	11,198	145	1,114
251 - 500		12,197	10,223	689	1,285
501 - 750		10,414	8,688	887	839
751 - 1,000		7,949	6,639	816	494
1,001 - 1,500		10,538	8,927	1,245	366
1,501 - 2,000		5,719	4,852	720	147
Over 2,000		<u>7,639</u>	<u>6,731</u>	<u>776</u>	<u>132</u>
		66,913	57,258	5,278	4,377

Average Monthly Benefit
Average Age

\$ 973	\$ 1,216	\$ 606
74.7	64.7	71.0



**Annuity and Pension Reserve Fund
Retired Information June 30, 2011
Tabulated by Attained Ages**

Attained Age	Retirement		Disability Retirement		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	0	\$ -	90	\$ 1,369,208	90	\$ 1,369,208
45-49	51	\$ 1,649,531	233	\$ 4,226,301	284	\$ 5,875,832
50-54	516	\$ 16,773,360	535	\$ 10,216,724	1,051	\$ 26,990,084
55-59	1,516	\$ 43,663,467	920	\$ 16,841,005	2,436	\$ 60,504,472
60-64	6,060	\$ 94,739,940	1207	\$ 19,571,988	7,267	\$ 114,311,928
65-69	9,406	\$ 124,602,075	759	\$ 10,461,945	10,165	\$ 135,064,020
70-74	10,445	\$ 128,973,346	609	\$ 7,102,748	11,054	\$ 136,076,094
75-79	9,132	\$ 99,336,096	440	\$ 3,968,825	9,572	\$ 103,304,921
80-84	7,591	\$ 69,791,093	291	\$ 2,179,854	7,882	\$ 71,970,947
85-89	4,964	\$ 37,482,189	153	\$ 919,271	5,117	\$ 38,401,460
90 & Over	2,807	\$ 15,790,293	41	\$ 170,865	2,848	\$ 15,961,158
Totals	52,488	\$ 632,801,390	5,278	\$ 77,028,734	57,766	\$ 709,830,124



**Annuity and Pension Reserve Fund
Survivors of Annuitants Information June 30, 2011
Tabulated by Attained Ages**

Attained Age	Life Annuities		Periods Certain		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	41	\$ 198,226	9	\$ 73,026	50	\$ 271,252
45-49	19	\$ 97,944	4	\$ 43,542	23	\$ 141,485
50-54	60	\$ 441,961	7	\$ 105,436	67	\$ 547,396
55-59	84	\$ 809,789	4	\$ 51,314	88	\$ 861,103
60-64	168	\$ 1,606,135	4	\$ 11,324	172	\$ 1,617,459
65-69	320	\$ 2,998,569	8	\$ 69,237	328	\$ 3,067,806
70-74	560	\$ 4,377,339	8	\$ 83,644	568	\$ 4,460,983
75-79	902	\$ 7,330,590	5	\$ 21,123	907	\$ 7,351,713
80-84	1,146	\$ 8,252,513	1	\$ 1,677	1,147	\$ 8,254,189
85-89	1,073	\$ 6,549,837	0	\$ -	1,073	\$ 6,549,837
90 & Over	655	\$ 3,134,088	0	\$ -	655	\$ 3,134,088
Totals	5,028	\$ 35,796,988	50	\$ 460,324	5,078	\$ 36,257,312



**All Benefit Recipients
Male and Female Demographic Breakdown
June 30, 2011**

Attained Age	Number of		Total Number
	Males	Females	
Under 20	33	24	57
20-24	10	23	33
25-29	2	7	9
30-34	8	5	13
35-39	16	22	38
40-44	49	78	127
45-49	183	224	407
50-54	614	702	1,316
55-59	1,170	1,631	2,801
60-64	2,135	5,774	7,909
65-69	2,800	8,327	11,127
70-74	3,130	9,160	12,290
75-79	2,804	8,360	11,164
80-84	2,377	7,256	9,633
85-89	1,431	5,161	6,592
90-94	545	2,435	2,980
95-99	80	573	653
100	1	30	31
101	0	17	17
102	1	11	12
103	0	9	9
104	0	2	2
105 & Over		1	1
Total	17,389	49,832	67,221



**Survivor Benefit Fund
Survivors of Deceased Active Member Information June 30, 2011
Tabulated by Attained Ages**

Attained Age	No.	Annual Benefits
Under 45	137	\$ 1,368,238
45-49	101	\$ 1,122,349
50-54	198	\$ 2,077,855
55-59	278	\$ 3,077,595
60-64	470	\$ 4,221,543
65-69	634	\$ 4,711,914
70-74	668	\$ 4,794,873
75-79	685	\$ 4,353,615
80-84	604	\$ 3,336,399
85-89	400	\$ 1,918,884
90 & Over	202	\$ 840,216
Totals	4,377	\$ 31,823,482



**Total Active Members as of June 30, 2011
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	743							
Avg Pay	\$5,274							\$3,918,912
20-24	5,126	98						
Avg Pay	\$8,130	\$21,574						\$43,786,813
25-29	5,216	822	64					
Avg Pay	\$13,317	\$27,323	\$33,650					\$94,074,024
30-34	4,457	1,595	636	37				
Avg Pay	\$14,457	\$28,050	\$33,800	\$39,169				\$132,119,644
35-39	5,415	2,322	1,357	347	31			
Avg Pay	\$13,904	\$24,828	\$33,973	\$39,385	\$41,613			\$193,997,101
40-44	6,969	3,858	2,778	871	354	48		
Avg Pay	\$13,018	\$22,581	\$29,537	\$39,266	\$44,494	\$47,476		\$312,126,275
44-49	6,373	5,085	5,065	1,933	994	634	102	
Avg Pay	\$13,437	\$21,961	\$27,038	\$32,966	\$40,710	\$46,330	\$48,900	\$472,798,069
50-54	5,165	4,592	5,996	3,753	2,103	1,145	610	
Avg Pay	\$14,221	\$22,501	\$26,320	\$29,368	\$34,976	\$43,364	\$46,746	\$596,534,185
55-59	3,478	2,874	4,067	3,406	3,078	1,560	720	
Avg Pay	\$14,378	\$23,497	\$27,245	\$28,897	\$31,770	\$37,338	\$43,815	\$514,352,304
60-64	2,173	1,857	1,977	1,732	2,228	1,716	872	
Avg Pay	\$13,737	\$23,132	\$27,433	\$30,081	\$31,170	\$33,530	\$36,420	\$337,885,726
65-69	887	729	681	465	557	578	552	
Avg Pay	\$9,970	\$18,465	\$25,265	\$28,379	\$29,925	\$31,478	\$30,827	\$104,584,912
70 & over	537	473	341	219	196	208	482	
Avg Pay	\$8,055	\$14,090	\$18,806	\$23,737	\$23,306	\$27,177	\$27,755	\$46,200,648
Totals	46,539	24,305	22,962	12,763	9,541	5,889	3,338	125,337
Avg Pay	\$12,841	\$23,028	\$27,664	\$30,728	\$33,490	\$37,517	\$38,107	\$22,758

Averages:
Age: 48.4
Service: 9.9
Annual Pay: \$22,758



**Male Active Members as of June 30, 2011
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	438							
Avg Pay	\$5,471							\$2,396,201
20-24	2,502	64						
Avg Pay	\$8,378	\$23,640						\$22,475,794
25-29	2,460	428	39					
Avg Pay	\$13,180	\$31,543	\$37,955					\$47,402,261
30-34	1,813	603	287	20				
Avg Pay	\$14,986	\$34,273	\$41,076	\$46,232				\$60,549,803
35-39	1,798	628	437	156	16			
Avg Pay	\$15,568	\$33,232	\$44,134	\$45,940	\$39,548			\$75,947,656
40-44	2,068	733	578	322	165	18		
Avg Pay	\$14,008	\$32,500	\$43,123	\$50,575	\$49,331	\$53,459		\$103,103,376
44-49	2,071	945	761	385	370	341	52	
Avg Pay	\$14,407	\$31,197	\$41,684	\$47,460	\$49,877	\$50,837	\$50,370	\$147,720,280
50-54	1,923	1,014	868	501	455	496	331	
Avg Pay	\$15,046	\$30,434	\$39,324	\$44,283	\$46,949	\$51,556	\$50,896	\$179,892,684
55-59	1,546	965	782	536	477	406	321	
Avg Pay	\$15,854	\$29,817	\$38,250	\$41,607	\$45,943	\$48,605	\$49,787	\$163,125,856
60-64	1,125	819	559	373	347	293	190	
Avg Pay	\$15,178	\$27,075	\$35,878	\$41,523	\$44,525	\$46,769	\$47,155	\$112,906,291
65-69	476	403	298	153	116	103	57	
Avg Pay	\$11,725	\$20,159	\$29,529	\$35,842	\$41,378	\$43,789	\$44,228	\$39,819,844
70 & over	288	259	175	91	46	49	35	
Avg Pay	\$9,845	\$17,284	\$23,151	\$30,655	\$29,522	\$37,185	\$39,826	\$18,727,170
Totals	18,508	6,861	4,784	2,537	1,992	1,706	986	37,374
Avg Pay	\$13,436	\$29,771	\$38,912	\$43,712	\$46,241	\$49,026	\$49,008	\$26,063

Averages:
Age: 46.6
Service: 8.2
Annual Pay: \$26,063

**Female Active Members as of June 30, 2011
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	305							
Avg Pay	\$4,992							\$1,522,711
20-24	2,624	34						
Avg Pay	\$7,892	\$17,686						\$21,311,018
25-29	2,756	394	25					
Avg Pay	\$13,439	\$22,739	\$26,934					\$46,671,763
30-34	2,644	992	349	17				
Avg Pay	\$14,094	\$24,268	\$27,816	\$30,860				\$71,569,841
35-39	3,617	1,694	920	191	15			
Avg Pay	\$13,076	\$21,713	\$29,147	\$34,030	\$43,815			\$118,049,445
40-44	4,901	3,125	2,200	549	189	30		
Avg Pay	\$12,601	\$20,255	\$25,967	\$32,633	\$40,271	\$43,887		\$209,022,899
44-49	4,302	4,140	4,304	1,548	624	293	50	
Avg Pay	\$12,970	\$19,853	\$24,448	\$29,361	\$35,274	\$41,084	\$47,372	\$325,077,789
50-54	3,242	3,578	5,128	3,252	1,648	649	279	
Avg Pay	\$13,732	\$20,253	\$24,119	\$27,071	\$31,670	\$37,103	\$41,823	\$416,641,501
55-59	1,932	1,909	3,285	2,870	2,601	1,154	399	
Avg Pay	\$13,198	\$20,302	\$24,626	\$26,524	\$29,171	\$33,374	\$39,011	\$351,226,448
60-64	1,048	1,038	1,418	1,359	1,881	1,423	682	
Avg Pay	\$12,191	\$20,022	\$24,103	\$26,940	\$28,707	\$30,805	\$33,429	\$224,979,435
65-69	411	326	383	312	441	475	495	
Avg Pay	\$7,936	\$16,372	\$21,947	\$24,720	\$26,913	\$28,808	\$29,284	\$64,765,068
70 & over	249	214	166	128	150	159	447	
Avg Pay	\$5,985	\$10,225	\$14,226	\$18,819	\$21,399	\$24,093	\$26,810	\$27,473,478
Totals	28,031	17,444	18,178	10,226	7,549	4,183	2,352	87,963
Avg Pay	\$12,448	\$20,376	\$24,704	\$27,506	\$30,126	\$32,823	\$33,538	\$21,353

Averages:

Age: 49.1
 Service: 10.7
 Annual Pay: \$21,353

Active Members as of June 30, 2011



By Annual Pay

Annual Pay	Number of Active Members			Portion of Total Number	
	Men	Women	Totals	Group	Cumulative
Less than \$1,000	238	275	513	0.4%	0.4%
\$1,000 - 1,999	1,136	1,294	2,430	1.9%	2.3%
2,000 - 2,999	2,188	2,100	4,288	3.4%	5.8%
3,000 - 3,999	2,248	2,353	4,601	3.7%	9.4%
4,000 - 4,999	1,692	2,298	3,990	3.2%	12.6%
5,000 - 5,999	1,295	2,243	3,538	2.8%	15.4%
6,000 - 6,999	987	2,068	3,055	2.4%	17.9%
7,000 - 7,999	834	2,217	3,051	2.4%	20.3%
8,000 - 8,999	715	2,136	2,851	2.3%	22.6%
9,000 - 9,999	655	2,242	2,897	2.3%	24.9%
10,000 - 11,999	1,243	4,490	5,733	4.6%	29.5%
12,000 - 13,999	1,215	4,624	5,839	4.7%	34.1%
14,000 - 15,999	1,174	5,749	6,923	5.5%	39.7%
16,000 - 17,999	1,255	6,973	8,228	6.6%	46.2%
18,000 - 19,999	1,070	6,373	7,443	5.9%	52.2%
20,000 - 24,999	2,367	12,929	15,296	12.2%	64.4%
25,000 - 29,999	2,158	8,378	10,536	8.4%	72.8%
30,000 - 35,999	3,346	7,256	10,602	8.5%	81.2%
36,000 and over	11,558	11,965	23,523	18.8%	100.0%
Totals	37,374	87,963	125,337		



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 2006. Next year's gain/loss analysis will be based on the actuarial assumptions adopted by the Board in April 2011.

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	Economic				Gain (Loss) by Risk Area							Retired Lives	Other [†]	\$	% of AAL
	Pay Increases	Investment	Age & Service Retirement	Disability	Death In Service	Withdrawal	New Members	Non-Economic							
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				
2009	107.5	(2,265.2)	(50.8)	(28.7)	(0.6)	(11.9)	(50.4)	51.8	200.1	(2,048.2)	(14.0)				
2010	182.5	390.5	(40.6)	(23.4)	(0.5)	11.0	(38.1)	46.5	(29.6)	498.3	3.4				
2011	198.4	(1,082.9)	(59.2)	(28.1)	(0.7)	15.4	(36.4)	(1.0)	(10.0)	(1,004.5)	(6.2)				

* 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, 2011 was \$10,513,116,858. The value for the previous year was \$10,909,119,440.

**School Employees Retirement System of Ohio
Development of Gain (Loss) for Basic Benefits
From Investment Return
For the Year Ended June 30, 2011
(\$ millions)**

	<u>\$ Millions</u>
1. Actuarial value of assets as of June 30, 2010	\$ 10,909.1
2. Actuarial value of assets as of June 30, 2011	
a. Actual	10,513.1
b. If 8.00% assumed investment return was achieved for all phased-in years recognized in the asset method	11,596.0
3. Gain (Loss): 2a minus 2b	<u>\$ (1,082.9)</u>



**Pay Increases During the 2010- 2011 Valuation Year
To Members Active at Beginning and End of Year**

Central Age Group Beginning of Year	Number	Pay Increases	
		Actual	Expected
Under 25	2,100	1.20%	15.86%
25	3,959	4.58	15.38
30	5,052	4.68	12.25
35	7,178	4.16	10.70
40	12,374	4.59	9.46
45	17,876	3.54	7.95
50	21,658	3.09	6.90
55	18,725	2.57	6.30
60	12,651	1.91	6.18
65 & Over	7,507	1.7	6.19
Total	109,080	3.12	7.79



**Members Who Became Age & Service Retirees During the 2010- 2011 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							38	38
50							21	21
51							23	23
52							31	31
53							25	25
54							41	41
55						59	26	85
56						25	27	52
57						33	24	57
58						34	25	59
59						57	27	84
60		15	32	34	58	40	44	223
61		28	31	22	49	42	23	195
62		19	40	17	36	53	37	202
63		31	27	18	35	40	29	180
64		23	23	23	33	37	38	177
65		25	27	25	31	48	48	204
66		22	24	25	31	32	40	174
67		22	21	11	21	17	30	122
68		11	14	12	15	16	24	92
69		15	13	11	10	11	26	86
70 & Over		62	65	35	45	50	108	365
Totals	0	273	317	233	364	594	755	2,536

Average Age: 63.4
Average Service: 22.7

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 2010- 2011 Valuation Year
With a Death-in-Service Allowance Payable**

Central Age Group Beginning of Year	Number
Under 25	
25	0
30	1
35	0
40	2
45	8
50	13
55	24
60	24
65	17
70 & Over	9
Total	98

Average Age: 57.2
Average Service: 18.4



**Members Who Died in 2010- 2011 Valuation Year
and Received a Refund of Contributions**

Central Age Group Beginning of Year	Number
Under 25	0
25	0
30	0
35	1
40	0
45	3
50	3
55	1
60	2
65	1
70 & Over	0
Total	11

Average Age: 50.6
Average Service: 2.8



**Members Who Became Disability Retirees
During the 2010- 2011 Valuation Year**

Central Age Group Beginning of Year	Number
Under 25	
25	
30	
35	1
40	6
45	23
50	37
55	74
60	65
65	23
70 & Over	8
Total	237

Average Age: 55.7
Average Service: 15.4



**Members Receiving a Refund of Contributions
or Becoming Inactive Without a Refund in
the 2010- 2011 Valuation Year
(Non-vested Terminations)**

Central Age Group Beginning of Year	Number
Under 25	1,298
25	2,156
30	1,400
35	1,175
40	1,582
45	1,589
50	1,394
55	1,129
60	783
65	348
70 & Over	301
Total	13,155

Average Age: 39.6
Average Service: 2.7



**Members Who Became Inactive
in the 2010- 2011 Valuation Year
with a Deferred Allowance
(Vested Terminations)**

Central Age Group Beginning of Year	Number
Under 25	0
25	11
30	50
35	53
40	83
45	113
50	156
55	162
60	88
65	23
70 & Over	14
Total	753

Average Age: 48.5
Average Service: 10.0



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, 2011**

Present Value of:	Basic Benefits	Medicare Part B	Death Benefit	Total
Future benefits to present retirees and survivors	\$ 7,981,722,012	\$ 233,994,271	\$ 24,033,156	\$ 8,239,749,439
Benefits and refunds to present inactive members	542,823,443	10,619,189	1,713,916	555,156,548
Allowances to present active members				
Service	7,185,626,964	124,596,202	7,396,976	7,317,620,142
Disability	268,939,000	4,382,205	401,569	273,722,774
Survivor benefits	86,884,685	1,532,718	-	88,417,403
Withdrawal	(156,670,174)	7,071,692	(63,565)	(149,662,047)
Total Active AAL	7,384,780,475	137,582,817	7,734,980	7,530,098,272
Total AAL	<u>\$ 15,909,325,930</u>	<u>\$ 382,196,277</u>	<u>\$ 33,482,052</u>	<u>\$ 16,325,004,259</u>



APPENDIX B

**BREAKDOWN OF TOTAL AND ACCRUED LIABILITIES
AS OF JUNE 30, 2011**

	Total Liability	Accrued Liability
Active Members		
Retirement	\$8,859,241,601	\$7,185,626,964
Death	118,628,699	86,884,685
Disability	445,243,016	268,939,000
Termination	691,245,031	(156,670,174)
Medicare Part B	181,969,510	137,582,817
Death after Retirement	<u>11,586,997</u>	<u>7,734,980</u>
Total	\$10,307,914,854	\$7,530,098,272
Retirees		
Retirement/Survivor/Disability	\$7,981,722,012	\$7,981,722,012
Medicare Part B	233,994,271	233,994,271
Death after Retirement	<u>24,033,156</u>	<u>24,033,156</u>
Total	\$8,239,749,439	\$8,239,749,439
Deferred Vested Members	365,742,005	365,742,005
Inactive Members	<u>189,414,543</u>	<u>189,414,543</u>
Total Actuarial Values	\$19,102,820,841	\$16,325,004,259
Actuarial Value of Assets		<u>10,513,116,858</u>
Unfunded Actuarial Accrued Liability		\$5,811,887,401



APPENDIX C

**COMPARATIVE SCHEDULE
AS OF JUNE 30, 2011**

Valuation Date June 30	Active Members				Retired Lives				Accrued Liability	Valuation Assets \$ Millions	UAAL
	Payroll		Average Salary		Number		Annual Benefits				
	Number	\$ Millions	\$	% Increase	Retired	Active / Retired	\$ Millions	% of Payroll			
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
2009	125,465	2,787	22,216	4.2	65,757	1.9	693.8	24.9	14,582	9,836	4,746
2010	126,015	2,843	22,558	1.5	66,127	1.9	729.9	25.7	15,222	10,909	4,312
2011	125,337	2,852	22,758	0.9	67,221	1.9	777.9	27.3	16,325	10,513	5,812

*After the adjustment to reflect health care asset restatement

* after the adjustment to reflect health care asset restatement

