

**THE PUBLIC SCHOOL EMPLOYEES'  
RETIREMENT SYSTEM OF PENNSYLVANIA**

**ACTUARIAL VALUATION  
JUNE 30, 2004**



January 30, 2005

The Retirement Board  
Public School Employees'  
Retirement System of Pennsylvania  
P.O. Box 125  
Harrisburg, Pennsylvania 17108

Ladies and Gentlemen:

This report presents the results of the annual actuarial valuation of the Public School Employees' Retirement System of Pennsylvania as of June 30, 2004.

The valuation takes into account all of the promised benefits to which members are entitled, including pension and survivor benefits and establishes the contribution rate for the 2005/2006 fiscal year in conformance with the Retirement Code.

The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees, including a valuation interest rate of 8½% per annum compounded annually. The actuarial assumptions are unchanged from the prior valuation.

### **Assets and Membership Data**

The Retirement System reported the individual data for members of the System as of the valuation date to the actuary. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Retirement System.

### **Funding Adequacy**

The valuation results determine that the employer contribution rate for fiscal year 2005/2006 is 4.69%. The funded status of the plan determined as of June 30, 2004 based on the accrued liability and the actuarial value of assets is 91.2%.

The Retirement Board  
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### **Financial Results and Membership Data**

Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of PSERS Comprehensive Annual Financial Report. The actuary prepared the trend data schedules included in the Financial Section of PSERS Comprehensive Annual Financial Report.

Qualified actuaries completed the valuations in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,



Kim M. Nicholl, F.S.A.  
Principal, Consulting Actuary



S. Lynn Hill  
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KMN/SLH:pl

# THE PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM OF PENNSYLVANIA

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## **Executive Summary**

This report presents the actuarial valuation as of June 30, 2004 for the Public School Employees' Retirement System of Pennsylvania.

The principal valuation results include:

- The employer contribution rate for fiscal year 2005/2006 which is 4.69%.
- The funded status of the plan determined as of June 30, 2004 based on the accrued liability and the actuarial value of assets as of that date which is 91.2%.
- The determination of the actuarial gain or loss as of June 30, 2004 which is a loss of \$2.9 billion.
- Annual disclosure as of June 30, 2004 as required by Statement No. 25 of the Governmental Accounting Standards Board.

The valuation was completed based upon membership and financial data submitted by the Retirement System. Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are included in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of PSERS Comprehensive Annual Financial Report. The actuary prepared the trend data schedules included in the Financial Section of PSERS Comprehensive Annual Financial Report.

## **Changes Since Last Year**

### **Legislative and Administrative Changes**

There were no legislative or administrative changes since the prior valuation.

The benefit provisions and contribution provisions are summarized in Table 13.

### **Actuarial Assumptions and Methods**

The actuarial assumptions and methods are outlined in Table 12.

### **Contribution Rates**

The results of the valuation as of June 30, 2004 determine the employer contribution rate for fiscal year 2005/2006. The total contribution rate payable by the employer is 4.69% of payroll. This includes 4.00% of payroll for pension benefits plus 0.69% of payroll for the health insurance premium assistance program.

The average contribution rate payable by the members is 7.16%. Effective January 1, 2002, the employee contribution rate for members who elect to have prior school service and intervening military service converted to Class T-D service increased by 1.25%. The average member contribution rate of 7.16% represents an average of the member rates that vary based on date of hire and Class T-D election.

### **Reasons for Change in the Rate**

The employer contribution rate increased from 4.23% for fiscal year 2004/2005 to 4.69% for fiscal year 2005/2006. The increase of 0.46% is due to the following reasons:

• Increase due to change in normal rate	0.13
• Increase due to payroll growth	0.27
• Increase due to actuarial loss on assets	2.67
• Decrease due to actuarial gain on liabilities	(.12)
• Increase due to change in health insurance contribution rate	0.46
• Impact of the 4% floor on employer contribution rate under Act 40	<u>(2.95)</u>
• Total	.46%

## Summary of Principal Results

Summarized below are the principal financial results for the Public School Employees' Retirement System based upon the actuarial valuation as of June 30, 2004. Comparable results from the June 30, 2003 valuation are also shown.

Item	June 30, 2004	June 30, 2003
<b>Demographics</b>		
Active Members		
• Number	247,901	246,700
• Average Annual Pay	\$ 40,463	\$ 39,128
Annuitants		
• Number	151,552	145,693
• Average Annual Benefit Payment	\$ 18,464	\$ 17,469
<b>Contribution Rates (as a Percentage of Payroll)</b>		
	(Fiscal Year 2005/2006)	(Fiscal Year 2004/2005)
Employer Contribution Rate:		
• Total Pension Contribution Rate	4.00%	4.00%
• Health Insurance Contribution Rate	<u>0.69</u>	<u>0.23</u>
• Total	4.69%	4.23%
Member Average Contribution Rate		
• Total Rate	<u>7.16</u> 11.85%	<u>7.12</u> 11.35%
<b>Actuarial Funded Status</b>		
• Accrued Liability	\$ 57,123.0 Mil	\$ 54,443.8 Mil
• Actuarial Value of Assets	<u>52,094.5</u>	<u>52,900.5</u>
• Unfunded Accrued Liability	\$ 5,028.5	\$ 1,543.3
• Funded Ratio	91.2%	97.2%

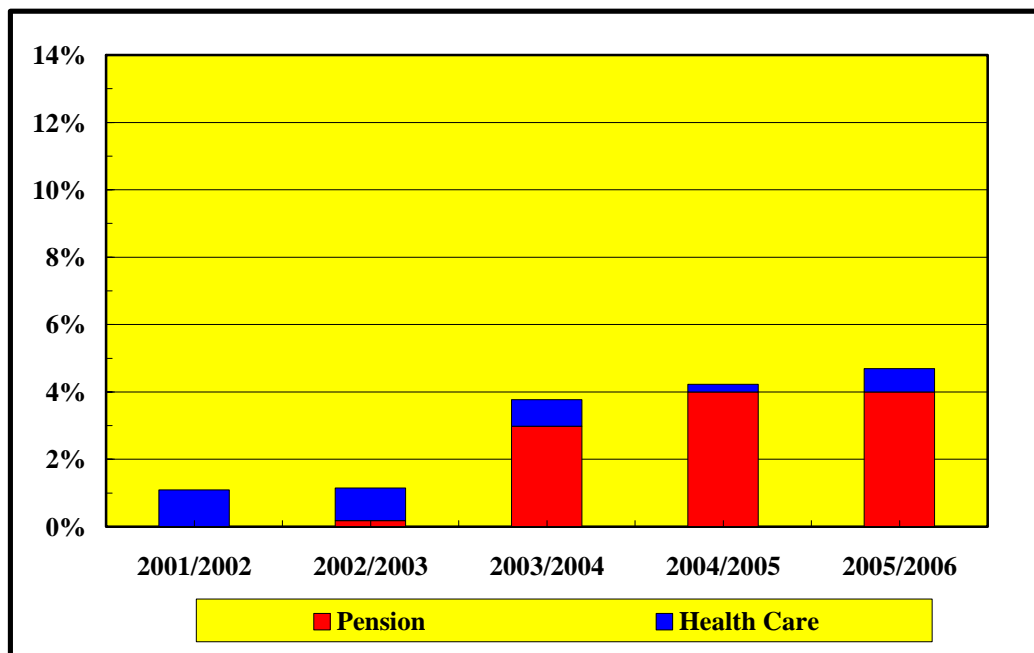
## Five-Year History of Principal Financial Results

### Five-Year History of Contribution Rates (As a % of Payroll)

Fiscal Year	Member Contributions	Employer Contributions			
		Normal Cost	Unfunded Accrued Liability	Health Care	Total
2005/2006	7.16%	7.61%	(4.28)%	.69%	4.69%
2004/2005	7.12	7.48	(7.10)	.23	4.23
2003/2004	7.08	7.25	(4.27)	.79	3.77
2002/2003	7.10	7.20	(10.03)	.97	1.15
2001/2002	6.43	5.63	(6.05)	1.09	1.09

The following chart shows a five-year history of employer contribution rates:

### Five-Year History of Employer Contribution Rates





## **Funded Ratio**

The financing objective of the System is to:

- Fully fund all current costs based on the normal contribution rate determined under the funding method; and
- Liquidate the unfunded accrued liability based on the amortization schedules as required by the retirement code, i.e., a schedule of 10 or 30 years for each change in the unfunded accrued liability according to Act 40.

The total contribution rate of 4.69% of payroll payable by employers, when taken together with the contributions payable by the members and asset returns, is sufficient to achieve the financing objective.

The System's funded status on the funding basis is measured by comparing the actuarial value of assets (based on a 5-year moving average market value) with the accrued liability. The accrued liability is the present value of benefits accumulated to date under the System's funding method and reflects future pay increases for active employees.

On this basis, the System's funded ratio is 91.2% as of June 30, 2004. The funded ratio is based on an actuarial value of assets of \$52.1 billion and an accrued liability of \$57.1 billion.

### **Reasons for Change in the Funded Ratio**

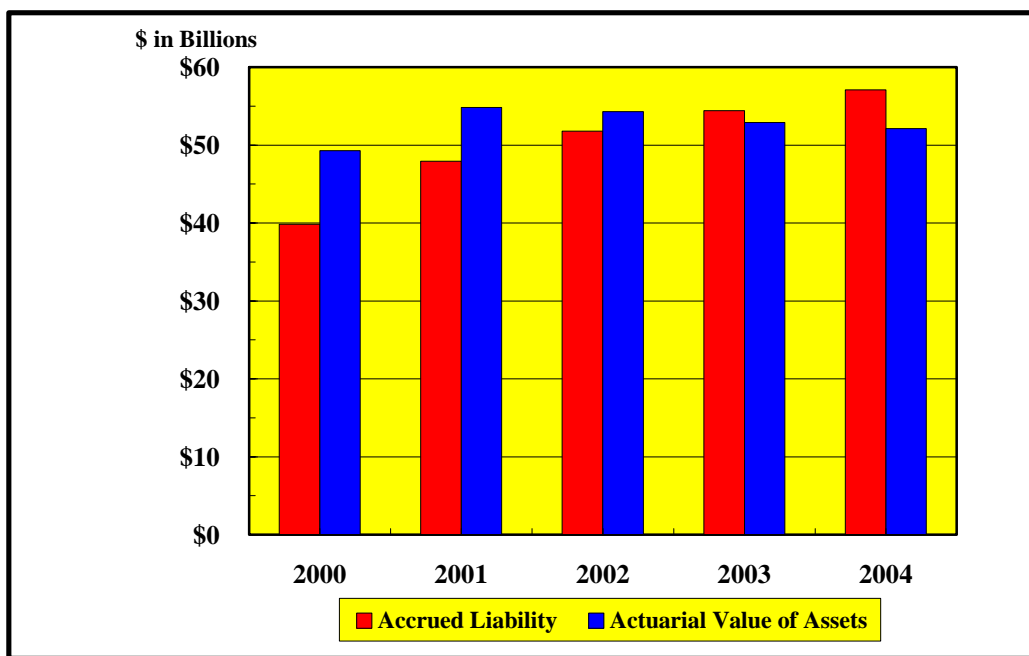
The funded ratio decreased from 97.2% as of June 30, 2003 to 91.2% as of June 30, 2004. The decrease is due to the net effect of the asset loss and liability gain.

**Five-Year History of  
Funded Ratio**  
(\$ results reported in millions)

Valuation as of June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio
2004	\$ 57,123.0	\$ 52,094.5	\$ 5,028.5	91.2%
2003	54,443.8	52,900.5	1,543.3	97.2
2002	51,796.5	54,296.4	(2,499.9)	104.8
2001	47,917.3	54,830.3	(6,913.0)	114.4
2000	39,822.8	49,293.0	(9,470.2)	123.8

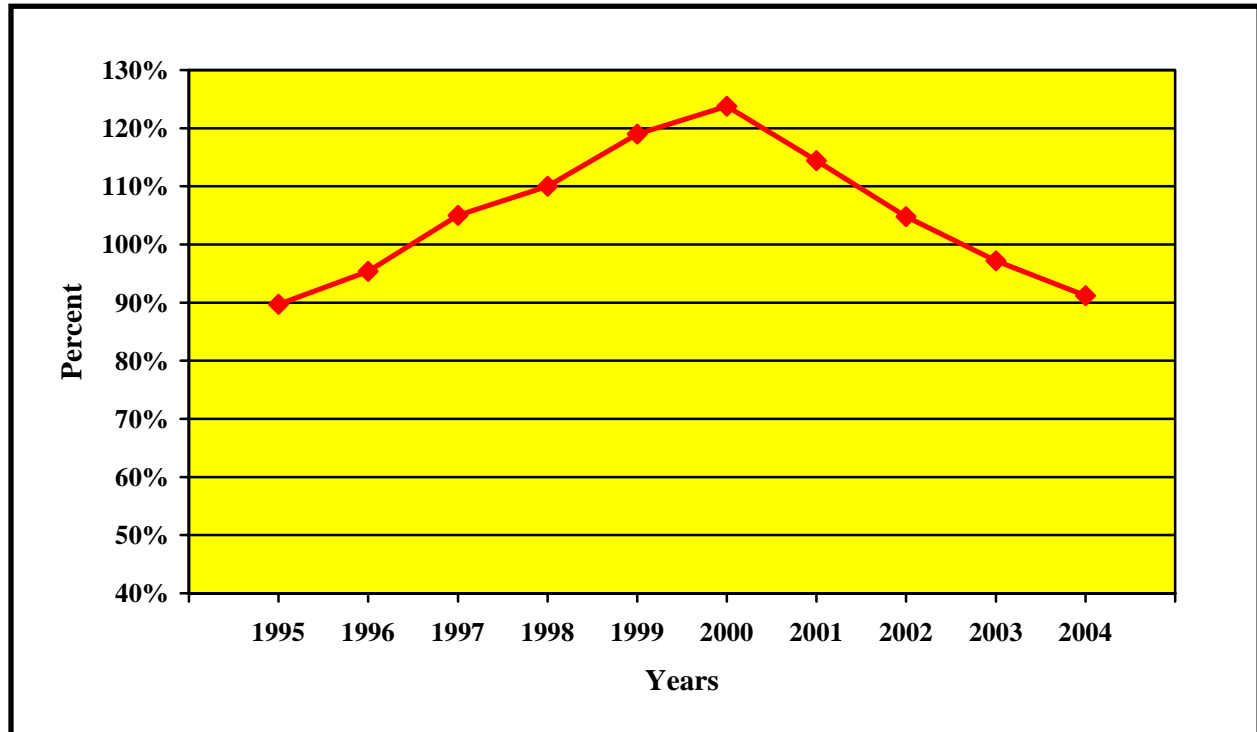
The following chart shows a five-year history of the accrued liability and the actuarial value of assets:

**Five-Year History of Accrued Liability and Actuarial Value of Assets**



The following chart shows a ten-year history of the funded ratio:

**Ten-Year History of Funded Ratio  
(1995 - 2004)**



## **GASB No. 25 Disclosure**

Statement No. 25 of the Governmental Accounting Standards Board established reporting standards for the annual financial reports of defined benefit pension plans. The System complied with Statement No. 25 beginning with the June 30, 1996 valuation. The statement requires disclosure of the "schedule of funding progress" and the "schedule of employer contributions" in the System's financial statements.

The "schedule of funding progress" shows historical trend information about the System's actuarial value of assets, the actuarial accrued liability and the unfunded actuarial accrued liability. The actuarial funded status is measured by comparing the actuarial value of assets (based on a 5-year moving average market value) with the accrued liability. The accrued liability is the present value of benefits accumulated to date under the System's funding method and reflects future pay increases for active employees. On this basis, the System's funded ratio is 91.2% as of June 30, 2004. The funded ratio is based on an actuarial value of assets of \$52.1 billion and an accrued liability of \$57.1 billion.

The "schedule of employer contributions" shows historical trend information about the annual required contributions (ARC) of the employer and the percentage of the ARC contributed to the System. The ARC is equal to the normal cost plus amortization of the unfunded actuarial accrued liability. The maximum period of amortizing the unfunded actuarial accrued liability permitted by GASB No. 25 is 40 years. The maximum amortization period decreases to 30 years in 2006. The employer contributions to the System are equal to the normal cost plus a payment towards each change in the unfunded accrued liability, which are amortized over 10 or 30-year periods. The employer contributions to the System for the six fiscal years ending June 30, 2004 are equal to 100% of the ARC.

## Rate of Return

The investment return of the trust fund (i.e. total return including both realized and unrealized gains and losses) for fiscal years 1999/2000 through 2003/2004 is shown in the table below. The return based on the actuarial value of assets used for determining annual contribution rates is also shown.

The rate of return on market value reflects the investment earnings on the market value of assets from the beginning of the fiscal year to the end of the fiscal year. The actuarial assets are the assets recognized for valuation purposes. Actuarial assets are based on a smoothed market value that spreads the difference between the actual and expected return (beginning with the 2000/2001 fiscal year) over a period of five years. The rate of return on the actuarial value of assets is a measure of the increase in the actuarial value of assets from the beginning of the fiscal year to the end of the fiscal year.

Fiscal Year	Rate of Return Based on	
	Market Value	Actuarial Value
2003/2004*	19.7%	2.6%
2002/2003*	2.7	1.4
2001/2002*	(5.3)	2.7
2000/2001	(7.4)	14.3
1999/2000	11.9	13.6

\* Rate of return provided by Wilshire Associates Incorporated, the PSERS investment consultant.

**TABLE 1**

**SUMMARY OF RESULTS OF ACTUARIAL VALUATION  
AS OF JUNE 30, 2004  
(\$ amounts in Thousands)**

Item	Amount
<b>Member Data</b>	
1. Number of Members	
a) Active Members	247,901
b) Inactive Members and Vestees	72,014
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>151,552</u>
d) Total	471,467
2. Annualized Salaries	\$ 10,030,705
3. Annual Annuities	\$ 2,798,211
<b>Valuation Results</b>	
4. Present Value of Future Pension Benefits	
a) Active Members	\$ 46,297,600
b) Inactive Members and Vestees	689,171
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>24,337,377</u>
d) Total	\$ 71,324,148
5. Present Value of Future Pension Normal Cost	
a) Active Members	\$ 6,954,461
b) Employer	<u>7,391,544</u>
c) Total	\$ 14,346,005
6. Pension Accrued Liability	
a) Active Members (4a) - (5c)	\$ 31,951,595
b) Inactive Members and Vestees	689,171
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>24,337,377</u>
d) Total	\$ 56,978,143
7. Health Care Payments	\$ 144,857
8. Total Accrued Liability (6) + (7)	\$ 57,123,000
9. Actuarial Value of Assets	\$ 52,094,479
10. Unfunded Accrued Liability (8) - (9)	\$ 5,028,521
11. Total Normal Cost Rate	14.77 %
12. Member Contribution Rate	7.16 %
13. Employer Normal Cost Rate (11) - (12)	7.61 %
<b>Employer Annual Funding Requirement for Fiscal 2005/2006</b>	
14. Employer Contribution Rate	
a) Normal	7.61 %
b) Unfunded Accrued Liability	<u>(4.28)</u>
c) Preliminary Pension Rate	3.33 %
d) Preliminary Pension Rate with 4% Floor	4.00
e) Health Insurance	<u>0.69</u>
f) Total Rate	4.69 %

**TABLE 2**

**SUMMARY OF SOURCES OF EMPLOYER CONTRIBUTION RATE  
AS OF JUNE 30, 2004  
(\$ Amounts in Thousands)**

	Funding Period	Funding Period Beginning July 1	Initial Amount of Liability	Outstanding Balance as of 7/1/2004	Annual Payment Amount	Annual Payment Percent *
1. Amortization of:						
a) July 1, 2001 Fresh Start Unfunded Base	10 Years	2002	(9,137,130)	\$ (8,520,452)	\$ (1,510,937)	(13.13)%
b) Asset Method Change at July 1, 2001 due to Act 38	10 Years	2002	(4,638,306)	(4,325,260)	(767,001)	(6.67)%
c) 2001 Changes	30 Years	2002	7,570,507	7,059,563	668,111	5.81 %
d) 2002 Changes	30 Years	2003	3,014,171	3,049,927	286,101	2.48 %
e) 2002 COLA	10 Years	2003	463,795	469,297	76,694	0.67 %
f) 2003 COLA	10 Years	2004	754,524	888,245	135,375	1.18 %
g) 2003 Changes	30 Years	2004	3,229,593	3,504,108	326,059	2.83 %
h) 2004 Changes	30 Years	2005	2,903,093	<u>2,903,093</u>	<u>293,096</u>	<u>2.55 %</u>
Total Amortization Payments				5,028,521	(492,502)	(4.28)%
2. Employer Normal Cost Rate						<u>7.61 %</u>
3. Preliminary Pension Rate (1) + (2)						3.33 %
4. Preliminary Pension Rate with 4% Floor -- Maximum of (3) and 4%						4.00 %
5. Health Insurance Rate						<u>0.69 %</u>
6. Final Total Employer Contribution Rate (4) + (5)						<u><u>4.69 %</u></u>

\* Based on Estimated Employer Payroll for Fiscal Year Ending 2006 of \$ 11,505,093

**TABLE 3**

**DETERMINATION OF HEALTH INSURANCE CONTRIBUTION RATE  
FOR FISCAL YEAR 2005/2006**  
(\$ Amounts in Thousands)

Item	Amount
1. Estimated Number of Eligible Annuitants in Fiscal 2006/2007	106,800
2. Estimated Number of Eligible Annuitants Who Elect Coverage	69,420
3. Estimated Annual Health Insurance Payments During Fiscal 2006/2007 (2) x \$100 x 12	\$ 83,304
4. Estimated Health Insurance Administrative Expenses During Fiscal 2006/2007	<u>1,927</u>
5. Total Estimated Health Insurance Account Disbursements During Fiscal 2006/2007 (3) + (4)	\$ 85,231
6. Estimated Balance in Health Insurance Account for Prior Fiscal Year	6,043
7. Estimated Shortfall in Health Insurance Account (5) - (6)	<u>\$ 79,188</u>
8. Required Health Insurance Contribution Rate	
(a) Estimated 2005/2006 Payroll	\$ 11,505,093
(b) Required Health Insurance Contribution Rate (7) / (8a) (rounded up)	0.69%



**TABLE 4**

**SUMMARY OF MARKET VALUE OF PLAN ASSETS  
AS OF JUNE 30, 2004**  
(\$ Amounts in Thousands)

<b>Market Value</b>	
1. Market Value of Assets as of June 30, 2003	\$ 42,446,826
2. Contributions During Fiscal 2003/2004	1,190,413
3. Disbursements During Fiscal 2003/2004	3,354,604
4. Investment Return During Fiscal 2003/2004	
a) Net Investment Return	\$ 8,243,599
b) Administrative Expenses	<u>41,728</u>
c) Investment Return After Expenses (a) - (b)	\$ 8,201,871
5. Market Value of Assets as of June 30, 2004 (1) + (2) - (3) + (4c)	\$ 48,484,506
6. Rate of Return (per Wilshire)	19.67 %
<b>Asset Allocation by Account</b>	
1. Members' Savings Account	\$ 8,755,109
2. Annuity Reserve Account	24,337,377
3. State Accumulation Account	15,247,163
4. Health Care Account	<u>144,857</u>
5. Total (1) + (2) + (3) + (4)	\$ 48,484,506

**TABLE 5**

**DERIVATION OF ACTUARIAL VALUE OF ASSETS  
AS OF JUNE 30, 2004**  
(\$ Amounts in Thousands)

1. Market Value of Assets as of June 30, 2004						\$ 48,484,506
2. Determination of Deferred Gain (Loss)						
	<u>Return on Assets</u>					
<u>Fiscal Year</u>	<u>Actual</u>	<u>Expected</u>	<u>Difference</u>	<u>% Deferred</u>	<u>Deferred Amount</u>	
2003/2004	\$ 8,201,871	\$ 4,404,561	\$ 3,797,310	80%	\$ 3,037,848	
2002/2003	985,646	4,525,288	(3,539,642)	60%	(2,123,785)	
2001/2002	(2,555,630)	4,575,102	(7,130,732)	40%	(2,852,293)	
2000/2001	(3,877,769)	4,480,947	(8,358,716)	20%	<u>(1,671,743)</u>	
					\$ (3,609,973)	
3. Actuarial Value of Assets (1) - (2)						\$ 52,094,479
4. Actuarial Rate of Return *						2.62%

\* The actuarial rate of return is the investment return on the increase in the actuarial value of assets from the June 30, 2003 to the June 30, 2004 valuation.

**TABLE 6**

**ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY  
AS OF JUNE 30, 2004**  
(\$ Amounts in Thousands)

Item	Amount
1. Unfunded Accrued Liability at June 30, 2003	\$ 1,543,310
2. Interest Credit at 8.50% to June 30, 2004	131,181
3. Contributions Toward Unfunded Accrued Liability	(450,937)
4. Change due to Amendments to the Pension Code	-
5. Change due to Actuarial Method Changes	-
6. Expected Unfunded Accrued Liability at June 30, 2004 (1) + (2) - (3) + (4) + (5)	\$ 2,125,428
7. Actual Unfunded Accrued Liability at June 30, 2004	<u>\$ 5,028,521</u>
8. Increase (Decrease) from Expected (6) - (7)	\$ 2,903,093
9. Reasons for Increase (Decrease)	
(a) Experience (Gains) Losses	
(i) Loss from Investment Return on Actuarial Value of Assets	\$ 3,046,356
(ii) Gain from Salary Increases Less than Expected	(140,675)
(iii) Gain from Retirement and Other Separation Experience	(131,003)
(iv) Loss from Annuitants' Mortality Experience	<u>128,415</u>
Subtotal	\$ 2,903,093
(b) Change in Assumptions	\$ -
(c) Grand Total	\$ 2,903,093

**TABLE 7**

**SCHEDULE OF FUNDING PROGRESS**  
**GASB STATEMENT NO. 25 DISCLOSURE**  
(\$ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2004	\$ 52,094,479	\$ 57,123,100	\$ 5,028,521	91.2 %	\$ 10,030,705	50.1 %
2003	52,900,465	54,443,775	1,543,310	97.2	9,652,881	16.0
2002	54,296,368	51,796,511	(2,499,857)	104.8	9,378,944	(26.7)
2001	54,830,300	47,917,294	(6,913,006)	114.4	9,414,884	(73.4)
2000	49,293,047	39,822,832	(9,470,215)	123.8	8,939,598	(105.9)
1999	44,606,526	37,499,115	(7,107,411)	119.0	8,247,602	(86.2)

**TABLE 8**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
**GASB STATEMENT NO. 25 DISCLOSURE**  
(\$ Amounts in Thousands)

Fiscal Year Ended June 30	Annual Required Contribution	Percentage Contributed
2004	\$ 321,091	100 %
2003	20,831	100
2002	539	100
2001	158,193	100
2000	390,504	100
1999	513,940	100

The information presented above was determined as part of the actuarial valuation as of two years prior to the dates indicated (i.e., the contribution determined by the valuation completed as of June 30, 2002 was contributed in the fiscal year ending June 30, 2004).

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2004
Actuarial Cost Method:	Entry Age
Amortization Method:	Level percent closed
Remaining Amortization Period:	7-30 Years
Asset Valuation Method:	5-year smoothed market

Actuarial Assumptions:	
- Investment Rate of Return *	8.50%
- Projected Salaried Increases *	6.25%

* Includes Inflation at:	3.50%
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**TABLE 9**

**SOLVENCY TEST**  
**COMPARATIVE SUMMARY OF ACCRUED LIABILITY AND**  
**ACTUARIAL VALUE OF ASSETS**  
(\$ Amounts in Thousands)

Valuation as of June 30	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2004	\$ 8,755,109	\$ 24,482,234	\$ 23,885,657	\$ 52,094,479	100 %	100 %	79 %
2003	8,282,753	22,094,109	24,066,913	52,900,465	100	100	94
2002	7,780,370	19,978,567	24,037,574	54,296,368	100	100	100
2001	7,464,404	15,802,140	24,650,750	54,830,300	100	100	100
2000	6,775,934	16,036,880	17,010,018	49,293,047	100	100	100
1999	6,298,483	15,275,756	15,924,876	44,606,526	100	100	100

-

**TABLE 10****HISTORY AND PROJECTION OF CONTRIBUTION RATES**

Fiscal Year Ending June	Employer Payroll	Contribution Rates					
		Employee	Employer Normal Cost	Unfunded Liability Rate	Preliminary Employer Pension Rate	Health Care Contribution	Total Employer Rate
1996/1997	\$ 7,745,001	5.62 %	6.44 %	3.56 %	10.00	0.60 %	10.60 %
1997/1998	8,091,481	5.65	6.44	2.17	8.61	0.15	8.76
1998/1999	8,247,602	5.69	6.33	(0.44)	5.89	0.15	6.04
1999/2000	8,939,598	5.72	6.40	(2.04)	4.36	0.25	4.61
2000/2001	9,414,884	5.77	6.29	(4.65)	1.64	0.30	1.94
2001/2002	9,378,944	6.43	5.63	(6.05)	(0.42)	1.09	1.09
2002/2003	9,652,881	7.10	7.20	(10.03)	1.00	0.97	1.15
2003/2004	10,030,705	7.08	7.25	(4.27)	2.98	0.79	3.77
2004/2005	11,062,589	7.12	7.48	(7.10)	4.00	0.23	4.23
<b>2005/2006</b>	<b>11,505,093</b>	<b>7.16</b>	<b>7.61</b>	<b>(4.28)</b>	<b>4.00</b>	<b>0.69</b>	<b>4.69</b>
2006/2007	11,954,466	7.19	7.51	(1.86)	5.65	0.73	6.38
2007/2008	12,383,441	7.21	7.44	(0.68)	6.76	0.73	7.49
2008/2009	12,805,781	7.24	7.36	(0.65)	6.71	0.71	7.42
2009/2010	13,223,169	7.27	7.29	(1.17)	6.12	0.72	6.84
2010/2011	13,645,851	7.29	7.24	(1.09)	6.15	0.71	6.86
2011/2012	14,083,440	7.32	7.19	(1.06)	6.13	0.70	6.83
2012/2013	14,551,285	7.35	7.17	14.61	21.78	0.68	22.46
2013/2014	15,052,138	7.37	7.15	13.61	20.76	0.68	21.44
2014/2015	15,592,095	7.39	7.13	12.27	19.40	0.66	20.06
2015/2016	16,180,363	7.41	7.11	11.82	18.93	0.64	19.57

The projection of contribution rates is based on the assumption that there are no changes in demographics or economic assumptions, no changes in benefit provisions, and no actuarial gains or losses other than gains or losses on the actuarial value of assets that result from recognizing currently deferred gains or losses on the market value of assets.

**TABLE 11**

**HISTORY AND PROJECTION OF  
ANNUITANTS, BENEFICIARIES, SURVIVOR ANNUITANTS AND  
ACTIVE MEMBERS**

Valuation as of June 30	New Annuitants During the Year	Annuitant Deaths During the Year	Annuitants at End of Year	Beneficiaries and Survivor Annuitants at End of Year	Total Annuitants, Beneficiaries and Survivor Annuitants	Active Members
1995			110,509	5,451	115,960	210,783
1996			113,007	5,719	118,726	213,906
1997			118,137	5,987	124,124	215,077
1998			120,665	6,149	126,814	220,703
1999			126,448	6,421	132,869	223,495
2000			127,404	6,654	134,058	234,210
2001			125,880	6,836	132,716	243,311
2002			134,300	7,114	141,414	242,616
2003			138,383	7,310	145,693	246,700
<b>2004</b>			<b>143,997</b>	<b>7,555</b>	<b>151,552</b>	<b>247,901</b>
2005	11,665	4,293	151,369	8,056	159,425	247,901
2006	11,103	4,444	158,028	8,524	166,552	247,901
2007	11,507	4,609	164,926	8,945	173,871	247,901
2008	11,895	4,759	172,062	9,331	181,393	247,901
2009	12,189	4,927	179,324	9,689	189,013	247,901
2010	12,068	5,088	186,304	10,019	196,323	247,901
2011	11,902	5,250	192,956	10,331	203,287	247,901
2012	11,904	5,413	199,447	10,625	210,072	247,901
2013	11,790	5,566	205,671	10,907	216,578	247,901
2014	11,606	5,737	211,540	11,183	222,723	247,901



**TABLE 12****DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS****ASSUMPTIONS**

**Interest Rate:** 8½% per annum, compounded annually (adopted as of June 30, 1990). The components are 3½% for inflation and 5% for the real rate of return. Actuarial equivalent benefits are determined based on 4% (since 1960).

**Separation From Service:** Illustrative rates of assumed separation from service are as follows (adopted in 2000):

Age	Annual Rate of:						
	Non-Vested Withdrawal	Vested Withdrawal*		Death	Disability	Early Retirement**	Superannuation Retirement
		Less Than 10 Years of Service	10 or More Years of Service				
<b>MALES</b>							
25	13.00%	5.50%	1.40%	.05%	.02%		
30	11.00	3.00	1.40	.05	.02		
35	11.00	3.00	1.10	.05	.10		
40	11.00	3.00	.80	.07	.18	.13%	
45	11.00	3.00	.50	.10	.18	.15	
50	9.00	3.00	1.78	.16	.28	1.56	24.00%
55	9.00	3.00	3.50	.25	.43	10.00	24.00
60	9.00	2.40	4.50	.46	.58	10.00	28.00
65				.90			20.00
69				1.44			20.00
<b>FEMALES</b>							
25	13.00%	9.50%	4.00%	.01%	.04%		
30	13.00	7.50	4.00	.02	.04		
35	13.00	5.50	2.00	.03	.08		
40	10.00	3.50	1.00	.04	.13	.60%	
45	10.00	3.00	.55	.07	.18	.60	
50	10.00	3.00	1.50	.10	.25	1.74	10.00%
55	10.00	3.00	3.00	.15	.35	10.00	10.00
60	10.00	3.50	5.90	.23	.45	15.00	25.00
65				.48			28.00
69				.88			20.00

\* Vested Withdrawal – At least 5 years service but not eligible for Early or Superannuation retirement.

\*\* Early Retirement – Age 55 with 25 years service, but not eligible for Superannuation retirement.

**Death After Retirement:** The 1995 George B. Buck Mortality Tables, rated forward one year for males and unadjusted for females, adopted in 2000, are used to project mortality for healthy annuitants and for dependent beneficiaries. Special mortality tables based on PSERS' experience are used for disability retirements. (The 1995 George B. Buck Mortality Tables, rated forward one year for males and unadjusted for females, adopted in 2000, are used to determine actuarial equivalent benefits.)

**TABLE 12****DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS**  
(Continued)

**Salary Increase:** Effective average of 6¼% per annum, compounded annually. The components are 3½% for inflation, 1% for real wage growth and 1¾% for merit or seniority increases (adopted as of June 30, 2000). Representative values are as follows:

Age	Annual Rate of Salary Increase
20	10.00%
30	9.50
40	7.25
50	5.00
55	4.75
60	4.50
65	4.50
70	4.50

**MISCELLANEOUS**

**Option 4 Elections:** 100% of members are assumed to elect a refund of contributions and a reduced annuity.

**Withdrawal Annuity:** 90% of members are assumed to commence payment immediately and 10% are assumed to defer payment to superannuation age.

**METHODS**

**Calculations:** The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system, and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

**Actuarial Cost Method:** Entry Age Normal Cost Method. The outstanding balance of the unfunded accrued liability as of June 30, 2001 and the decrease in the unfunded accrued liability due to the actuarial asset method change provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, beginning July 1 2002. The increases in the unfunded accrued liability due to the July 1, 2002 and July 1, 2004 cost-of-living adjustments provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, starting on July 1, 2003 and July 1, 2004, respectively. All other changes in the unfunded accrued liability at June 30, 2002, June 30, 2003, and June 30, 2004 – including the Act 9 benefit changes – are amortized over a 30-year period, with level dollar funding, starting on July 1, 2003, July 1, 2004, and July 1, 2005, respectively. Future benefit improvements for active members and retirees will be amortized over a 10-year period with level dollar funding. Future gains and losses will be amortized over a 30-year period with level dollar funding. Act 40 also provides a 4.00% floor on the employer pension rate.

**TABLE 12****DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS**  
(Continued)

**Asset Valuation Method:** A five-year moving market average value of assets that recognizes the 8½% actuarial expected investment return immediately and spreads the difference between the actual and expected return (beginning with the 2000/2001 fiscal year) over a period of five years (adopted as of June 30, 2001).

**Determination of Health Care Contribution Rate:** Rate necessary to establish reserves sufficient to provide premium assistance payments for all participating eligible annuitants for the subsequent fiscal year.

**DATA**

**Census and Assets:** The valuation was based on members of the System as of June 30, 2004 and does not take into account future members. All census data was supplied by the System and was subject to reasonable consistency checks. The actuary adjusts the data to account for service and pay earned by members on or before the valuation that is not reported by the System until after the actuarial valuation is performed. Asset data was supplied by the System.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS****MEMBERSHIP**

For valuation purposes, all employees are considered to be full coverage. All employees who become members on and after January 1, 1966 are members of the dual coverage group. Dual coverage members contribute to both PSERS and to Social Security.

**BENEFITS****Superannuation Annuity**

Eligibility Age 62, or age 60 with 30 years of service, or 35 years of service regardless of age.

Amount 2.5% of final average salary times years of school service and intervening military service. 2% of final average salary for non-school service and for members who do not elect Class T-D coverage. Minimum of \$100 per year of service. "Final average salary" means the highest average annual salary for any 3 years of service.

Annual salary is subject to a limit of \$200,000, as adjusted under Section 401(a)(17).

For members who elect coverage under Class T-D, the maximum benefit is equal to the limit established by Section 415 of the Internal Revenue Code.

**Early Retirement Annuity**

Eligibility Age 55 with 25 years of service.

Amount Accrued benefit as of date of retirement, reduced 1/4% for each month by which commencement of payments precedes Superannuation Age.

For members who elect coverage under Class T-D, the maximum benefit is equal to the limit established by Section 415 of the Internal Revenue Code.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

(Continued)

**Withdrawal Annuity**

Eligibility	5 years of service.
Amount	Accrued benefit deferred to superannuation retirement age or an actuarially reduced benefit payable immediately. Actuarially equivalent benefits are based on 4% interest and the 1995 George B. Buck mortality tables, rated forward one year for males and unadjusted for females.

**Disability Annuity**

Eligibility	5 years of service.
Amount	The standard single life annuity if the total number of credited service is greater than 16.667, otherwise the standard single life annuity multiplied by the lesser of the following ratios: $(Y^*/Y)$ or $(16.667/Y)$ where Y is the number of years of credited service and Y* is the total years of credited service if the member were to continue as a school employee until superannuation retirement age (or at current age, if later). Minimum of \$100 per year of service.

**Return of Contributions**

Eligibility	Death or separation from service and member does not qualify for other benefits.
Amount	Refund of accumulated deductions includes interest (less annuity payments received prior to death in the case of a retired member).

**Death Benefit**

Eligibility	Death of an active member or vestee who was eligible to receive an annuity.
Amount	The present value of the annuity which would have been effective if the member retired on the day before death. Option 1 (see next page) assumed payable if no other option elected.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**  
(Continued)**Normal and  
Optional Forms  
of Benefits**

Normal Form:	Life annuity with a guaranteed payment equal to member contributions with interest.
Option 1:	Reduced benefit with refund of balance of present value of annuity at retirement over payments received. If balance is less than \$5,000, benefit is paid in lump sum; otherwise, beneficiary may elect annuity and/or lump sum.
Option 2:	Joint and 100% survivorship annuity.
Option 3:	Joint and 50% survivorship annuity.
Option 4:	Benefit of equivalent actuarial value, including lump sum payment of member contributions.

**Health Care Premium Assistance**

Eligibility	Retired members who: <ul style="list-style-type: none"> <li>(a) have 24½ or more years of service, or</li> <li>(b) are disability annuitants, or</li> <li>(c) have 15 or more years of service and who both terminated school service and retired after attaining superannuation age and</li> <li>(d) participate in the PSERS health options program or in an employer-sponsored health insurance program.</li> </ul>
Amount	Participating eligible annuitants receive health insurance premium assistance payments from the Health Insurance Account equal to the lesser of \$100 per month or the actual monthly premium. All administrative expenses necessary to operate the health insurance premium assistance program are to be funded by the Health Insurance Account. The Health Insurance Account is credited with contributions of the Commonwealth and the employers.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**  
(Continued)**CONTRIBUTIONS**

## By Members

Members who elect coverage under Class T-D and who were hired prior to July 22, 1983 contribute at a rate of 6½% of compensation, while members who elect coverage under Class T-D who were most recently hired on or after July 22, 1983 contribute at a rate of 7½% of compensation. Members who do not elect coverage under Class T-D and who were hired prior to July 22, 1983 contribute at a rate of 5¼% of compensation, while members who do not elect coverage under Class T-D who were most recently hired on or after July 22, 1983 contributed at a rate of 6¼% of compensation. Reduction for a joint coverage member of 40% of Social Security tax, exclusive of disability and medical coverage portion.

By Commonwealth and  
School Districts

Balance of required contribution determined as normal contribution, accrued liability contribution, supplemental annuity contribution, experience adjustment factor and premium assistance contribution, is funded by the Commonwealth and the School Districts.

**TABLE 14****SUMMARY OF MEMBERSHIP DATA  
AS OF JUNE 30, 2004****Active Members\***

Item	Male	Female	Total
Number of Members	69,017	178,884	247,901
Annual Salaries**	\$ 3,250,885	\$ 6,779,820	\$ 10,030,705
Average Age	45.1	45.1	45.1
Average Service	13.0	11.1	11.7

\* Excludes 70,014 inactive members and vestees.

\*\* These salaries shown in the table above represent a rate of pay for members who were in active service on June 30, 2004.

**Annuitants and Beneficiaries**

Item	Number	Annual Annuities	Average Annuities	Average Age
Annuitants (Normal, Early and Withdrawal)	137,301	\$ 2,639,851	\$ 19,227	70.0
Survivors and Beneficiaries	7,555	59,619	7,891	75.8
Disabled Annuitants	<u>6,696</u>	<u>98,741</u>	<u>14,746</u>	<u>62.3</u>
Total	151,552	\$ 2,798,211	\$ 18,464	69.9



**EXHIBIT I****ACTIVE MEMBERSHIP DATA AS OF JUNE 30, 2004  
NUMBER AND AVERAGE ANNUAL SALARY**

Age	Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
<b>Under 25</b>	6,912 \$29,179	47 \$25,476									6,959 \$29,154
<b>25-29</b>	16,222 \$33,362	4,899 \$41,276	20 \$34,498								21,141 \$35,197
<b>30-34</b>	9,773 \$30,110	12,156 \$43,532	2,637 \$49,848	58 \$38,228							24,624 \$38,869
<b>35-39</b>	9,188 \$23,210	6,762 \$39,549	6,561 \$51,792	2,080 \$54,182	54 \$37,052						24,645 \$37,947
<b>40-44</b>	11,996 \$19,765	7,165 \$31,288	4,356 \$45,912	5,156 \$56,586	1,763 \$54,890	133 \$35,862					30,569 \$34,498
<b>45-49</b>	10,879 \$19,952	9,007 \$29,440	5,620 \$39,890	4,819 \$51,871	5,226 \$61,253	3,944 \$62,186	125 \$39,333				39,620 \$38,533
<b>50-54</b>	7,154 \$21,798	6,769 \$30,454	6,477 \$39,523	5,974 \$49,036	4,143 \$58,159	10,383 \$66,914	8,872 \$68,601	44 \$41,454			49,816 \$49,325
<b>55-59</b>	4,362 \$20,560	3,582 \$28,584	3,816 \$35,848	4,512 \$43,592	3,549 \$51,331	3,675 \$60,278	7,708 \$70,411	1,647 \$73,230	9 \$40,929		32,860 \$48,477
<b>60-64</b>	2,242 \$17,728	1,615 \$23,195	1,635 \$29,968	1,903 \$36,014	1,654 \$40,644	1,501 \$46,557	787 \$56,878	620 \$72,418	148 \$72,534		12,105 \$35,708
<b>Over 64</b>	1,561 \$12,175	951 \$17,340	779 \$21,863	727 \$25,854	498 \$27,832	480 \$33,051	316 \$39,363	134 \$45,610	116 \$70,805		5,562 \$22,979
<b>Total</b>	80,289 \$25,021	52,953 \$34,971	31,901 \$42,473	25,229 \$48,896	16,887 \$54,663	20,116 \$62,242	17,808 \$68,142	2,445 \$70,938	273 \$70,758		247,901 \$40,463

**EXHIBIT II****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2004****RETIRED ON ACCOUNT OF SUPERANNUATING, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>	5	853	1,415	443	153	32	2			2,903
	\$1,173	\$727	\$1,406	\$3,594	\$8,425	\$14,952	\$14,429			\$2,068
<b>50-54</b>	10	162	1,564	599	368	411	338	9		3,461
	\$3,576	\$1,499	\$1,351	\$3,845	\$8,899	\$20,361	\$30,884	\$33,604		\$7,824
<b>55-59</b>	16	159	2,501	1,245	729	1,357	8,076	2,918	2	17,003
	\$26,523	\$2,032	\$1,622	\$4,487	\$9,448	\$23,870	\$38,386	\$51,125	\$53,341	\$29,934
<b>60-64</b>	136	343	2,234	1,934	1,607	2,421	8,806	5,354	243	23,078
	\$3,383	\$2,860	\$3,012	\$6,888	\$13,050	\$23,496	\$34,990	\$46,833	\$52,580	\$29,075
<b>65-69</b>	456	714	2,634	2,607	2,887	3,270	4,947	4,417	887	22,819
	\$1,551	\$2,366	\$3,548	\$7,013	\$11,781	\$19,532	\$28,733	\$37,460	\$45,809	\$20,866
<b>70-74</b>	601	1,001	2,725	2,651	3,005	3,279	3,895	2,463	1,888	21,508
	\$2,105	\$1,950	\$3,392	\$6,148	\$10,729	\$16,851	\$25,230	\$33,641	\$41,548	\$17,474
<b>75-79</b>	682	1,186	2,766	2,917	3,050	2,924	2,614	2,025	1,041	19,205
	\$1,851	\$1,706	\$3,308	\$6,086	\$10,705	\$16,227	\$21,998	\$28,828	\$39,080	\$13,895
<b>80-84</b>	563	1,029	2,313	2,413	2,110	1,912	1,450	1,488	530	13,808
	\$1,901	\$1,588	\$3,308	\$5,952	\$9,693	\$14,161	\$19,107	\$23,619	\$33,044	\$11,052
<b>85-89</b>	392	697	1,592	1,290	1,135	1,017	774	874	405	8,176
	\$3,147	\$1,738	\$3,554	\$6,128	\$9,462	\$13,240	\$18,140	\$22,293	\$27,204	\$10,366
<b>Over 89</b>	250	441	663	722	593	662	541	765	703	5,340
	\$7,622	\$2,361	\$4,391	\$7,433	\$11,056	\$14,033	\$17,920	\$21,338	\$24,948	\$13,226
<b>Total</b>	3,111	6,585	20,407	16,821	15,637	17,285	31,443	20,313	5,699	137,301
	\$2,691	\$1,780	\$2,884	\$6,110	\$10,812	\$18,197	\$31,103	\$38,295	\$38,377	\$19,227

**EXHIBIT III****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2004****BENEFICIARIES AND SURVIVOR ANNUITANTS**

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>	1 \$240	19 \$1,851	49 \$1,571	45 \$2,717	41 \$4,696	37 \$7,240	24 \$15,253	19 \$13,102	17 \$10,748	252 \$5,924
<b>50-54</b>	1 \$217	7 \$640	16 \$2,055	21 \$3,370	31 \$6,077	29 \$11,720	34 \$13,244	15 \$13,848	9 \$6,824	163 \$8,319
<b>55-59</b>	3 \$4,913	9 \$1,695	33 \$2,501	23 \$2,866	37 \$5,193	47 \$10,331	101 \$14,631	68 \$14,411	19 \$13,171	340 \$10,483
<b>60-64</b>	4 \$1,966	16 \$1,480	46 \$3,085	56 \$4,375	43 \$5,678	58 \$11,036	129 \$16,650	120 \$17,537	31 \$13,933	503 \$11,902
<b>65-69</b>	11 \$2,388	21 \$1,608	96 \$2,664	75 \$4,081	73 \$6,796	75 \$9,844	131 \$12,985	139 \$18,015	62 \$16,535	683 \$10,375
<b>70-74</b>	10 \$992	36 \$1,551	109 \$2,709	131 \$4,228	113 \$5,969	109 \$7,953	197 \$12,526	159 \$13,821	100 \$19,278	964 \$9,387
<b>75-79</b>	30 \$2,128	70 \$1,378	175 \$2,497	153 \$3,601	147 \$5,999	181 \$8,511	194 \$10,261	234 \$11,646	113 \$15,033	1,297 \$7,699
<b>80-84</b>	29 \$3,580	102 \$1,193	194 \$2,308	182 \$3,353	171 \$5,584	189 \$7,072	204 \$9,261	303 \$10,252	124 \$12,339	1,498 \$6,743
<b>85-89</b>	21 \$3,212	91 \$1,075	165 \$1,961	122 \$3,698	124 \$4,803	97 \$6,725	137 \$7,011	218 \$9,149	151 \$10,382	1,126 \$5,960
<b>Over 89</b>	13 \$2,785	37 \$1,086	63 \$2,035	53 \$2,884	50 \$4,240	59 \$5,369	84 \$6,332	169 \$7,179	200 \$8,279	728 \$5,889
<b>Total</b>	123 \$2,688	408 \$1,285	946 \$2,349	861 \$3,634	830 \$5,581	881 \$8,155	1,235 \$11,322	1,444 \$11,968	826 \$12,508	7,554 \$7,892

**EXHIBIT IV****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2004****RETIRED ON ACCOUNT OF DISABILITY**

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
<b>Under 50</b>	1 \$13,658	202 \$9,328	188 \$11,922	92 \$15,412	69 \$19,917	20 \$25,372					572 \$13,005
<b>50-54</b>		163 \$8,140	198 \$10,664	137 \$15,045	163 \$22,170	234 \$35,344	36 \$46,032				931 \$20,452
<b>55-59</b>	1 \$4,215	220 \$7,720	249 \$9,663	225 \$13,391	278 \$20,466	355 \$31,105	165 \$43,741	2 \$42,052			1,495 \$20,839
<b>60-64</b>	2 \$18,061	202 \$5,805	298 \$7,978	253 \$11,013	268 \$17,451	200 \$26,348	30 \$37,063	1 \$42,631			1,254 \$13,934
<b>65-69</b>	3 \$10,929	158 \$5,032	229 \$7,121	182 \$8,978	157 \$14,003	111 \$22,127	19 \$28,675	2 \$42,997			861 \$10,892
<b>70-74</b>	3 \$9,715	123 \$3,458	170 \$6,155	146 \$8,709	119 \$12,878	58 \$20,107	11 \$27,072	1 \$43,179			631 \$9,211
<b>75-79</b>	5 \$9,631	98 \$3,516	132 \$5,949	81 \$8,289	97 \$12,870	55 \$17,301	9 \$23,701	1 \$24,751	1 \$54,601		479 \$9,065
<b>80-84</b>	5 \$11,091	69 \$3,541	69 \$6,041	45 \$7,386	47 \$10,180	31 \$15,429	16 \$20,612	1 \$29,135			283 \$8,356
<b>85-89</b>	3 \$7,764	19 \$2,593	40 \$5,723	26 \$8,383	21 \$10,488	15 \$16,164	17 \$20,857				141 \$9,480
<b>Over 89</b>	1 \$8,547	2 \$4,158	16 \$6,095	18 \$7,871	6 \$10,224	4 \$12,971	2 \$15,183				49 \$8,156
<b>Total</b>	24 \$10,474	1,256 \$6,329	1,589 \$8,396	1,205 \$11,243	1,225 \$17,219	1,083 \$28,104	305 \$38,547	8 \$38,724	1 \$54,601		6,696 \$14,746

**EXHIBIT V****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2004****THOSE IN RECEIPT OF A REFUND ANNUITY**

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>										
<b>50-54</b>										
<b>55-59</b>										
<b>60-64</b>										
<b>65-69</b>										
<b>70-74</b>										
<b>75-79</b>										
<b>80-84</b>										
<b>85-89</b>										
<b>Over 89</b>	1									1
	\$66									\$66
<b>Total</b>	1									1
	\$66									\$66

**EXHIBIT VI****ANNUITANT AND BENEFICIARY MEMBERSHIP DATA  
AS OF JUNE 30, 2004****NUMBER AND AVERAGE ANNUAL BENEFIT  
EXCLUDES PARTIAL LUMP SUM PAYMENTS**

Age Last Birthday	Number	Annual Benefit (Thousands)	Average Annual Benefit
<b>Annuitants (Normal, Early and Withdrawal)</b>			
Under 60	23,367	\$ 542,049	\$ 23,197
60 - 64	23,078	670,992	29,075
65 - 69	22,819	476,143	20,866
70 - 74	21,508	375,825	17,474
75 - 79	19,205	266,849	13,895
Over 79	27,324	307,993	11,272
Total	137,301	\$ 2,639,851	\$ 19,227
<b>Survivors and Beneficiaries</b>			
Under 60	755	\$ 6,413	\$ 8,494
60 - 64	503	5,987	11,903
65 - 69	683	7,087	10,376
70 - 74	964	9,049	9,387
75 - 79	1,297	9,985	7,699
Over 79	3,353	21,098	6,292
Total	7,555	\$ 59,619	\$ 7,891
<b>Disabled Annuitants</b>			
Under 60	2,998	\$ 57,635	\$ 19,224
60 - 64	1,254	17,473	13,934
65 - 69	861	9,378	10,892
70 - 74	631	5,812	9,211
75 - 79	479	4,342	9,065
Over 79	473	4,101	8,670
Total	6,696	\$ 98,741	\$ 14,746
<b>Grand Total Average Annual Benefit</b>	151,552	\$ 2,798,211	\$ 18,464

**EXHIBIT VII****10 YEAR HISTORY OF MEMBERSHIP DATA****ACTIVE MEMBERS**

Valuation as of June 30	Number of Active Members	Percentage Change in Membership	Total Annual Payroll (Thousands)	Percentage Change in Payroll
2004	247,901	0.49%	\$ 10,030,705	3.91%
2003	246,700	1.68%	9,652,881	2.92%
2002	242,616	(0.29%)	9,378,944	(0.38%)
2001	243,311	3.89%	9,414,884	5.32%
2000	234,210	4.79%	8,939,598	8.39%
1999	223,495	1.27%	8,247,602	1.93%
1998	220,703	2.62%	8,091,481	4.47%
1997	215,077	0.55%	7,745,001	1.69%
1996	213,906	1.48%	7,616,585	3.23%
1995	210,783	2.05%	7,378,342	7.16%

**ANNUITANT AND SURVIVOR ANNUITANT MEMBERS**

Year Ended June 30	Number on roll	Additions	Deletions	Percentage Change in Membership	Annual Annuities (Millions)	Percentage Change in Annuities
2004	151,552	10,526	4,667	4.02%	\$ 2,798.2	9.94%
2003	145,693	9,079	4,800	3.03%	2,545.1	13.20%
2002	141,414	13,003	4,305	6.55%	2,248.3	20.10%
2001	132,716	3,140	4,482	(1.00%)	1,872.0	0.00%
2000	134,058	5,923	4,734	0.89%	1,880.6	2.73%
1999	132,869	10,609	4,554	4.77%	1,830.6	10.77%
1998	126,814	7,132	4,442	2.17%	1,652.6	14.21%
1997	124,124	9,787	4,389	4.55%	1,447.0	11.74%
1996	118,726	7,047	4,281	2.39%	1,295.0	6.05%
1995	115,960	4,923	3,994	0.81%	1,221.1	2.99%

**EXHIBIT VIII**

**DETAILED TABULATIONS OF THE DATA**



**TABLE 1**  
**THE NUMBER AND ANNUAL SALARIES**  
**OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY**  
**AGE AS OF JUNE 30, 2004**

Age	Males		Females	
	Number	Salaries	Number	Salaries
17	15	\$ 142,018	4	\$ 122,063
18	11	93,257	4	48,272
19	51	678,664	45	659,533
20	67	1,127,537	69	1,011,161
21	99	1,893,512	138	2,260,185
22	212	5,352,442	569	15,727,956
23	593	17,624,225	1,755	52,801,046
24	887	27,636,908	2,440	75,706,011
25	1,097	35,557,078	2,778	90,371,548
26	1,191	40,503,284	2,906	98,571,279
27	1,261	45,523,240	3,110	109,392,437
28	1,376	51,822,026	3,018	108,787,535
29	1,335	52,008,873	3,069	111,566,738
30	1,375	55,783,169	2,938	109,108,855
31	1,496	62,020,322	3,093	115,276,716
32	1,609	68,973,477	3,410	124,592,045
33	1,709	74,275,637	3,697	136,952,536
34	1,622	72,951,745	3,675	137,170,425
35	1,530	69,806,379	3,369	124,216,571
36	1,472	67,822,589	3,304	117,752,716
37	1,380	65,156,790	3,450	119,792,622
38	1,460	67,653,830	3,513	116,282,750
39	1,355	62,104,730	3,812	124,604,077
40	1,489	69,103,720	4,128	126,663,334
41	1,457	65,468,184	4,254	132,338,955
42	1,419	65,074,007	4,646	143,062,050
43	1,579	71,349,965	5,031	156,379,228
44	1,576	72,053,273	4,990	153,077,770
45	1,680	76,162,042	5,345	170,193,023
46	1,754	81,519,705	5,880	198,844,970
47	1,922	93,945,151	6,177	216,631,444
48	1,926	94,296,851	6,184	229,909,859
49	2,139	106,694,219	6,613	258,461,264
50	2,187	113,797,383	7,019	296,910,644
51	2,533	139,023,295	7,364	333,334,690
52	2,787	157,996,161	7,769	366,345,297
53	2,873	170,560,278	7,482	365,231,984
54	2,891	174,541,565	6,911	339,446,435
55	2,725	164,073,146	6,135	296,881,581
56	2,456	143,073,940	5,461	252,405,700

**TABLE 1**  
**THE NUMBER AND ANNUAL SALARIES**  
**OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY**  
**AGE AS OF JUNE 30, 2004**

Age	Males		Females	
	Number	Salaries	Number	Salaries
57	2,267	\$ 126,804,728	5,292	\$ 234,808,644
58	1,326	69,371,546	3,090	130,149,293
59	1,150	55,151,511	2,958	120,228,596
60	1,028	45,034,845	2,476	92,589,114
61	1,017	42,363,148	2,448	86,537,131
62	660	24,889,589	1,530	49,533,632
63	483	17,662,661	1,124	33,233,249
64	442	14,032,306	897	26,365,930
65	309	9,070,449	664	16,820,226
66	277	9,051,386	531	13,824,833
67	241	6,313,994	447	10,850,845
68	223	5,646,327	349	7,619,847
69	180	3,890,437	285	6,202,508
70	156	3,216,568	250	5,434,277
71	128	2,816,946	193	3,517,373
72	105	2,278,183	157	2,491,996
73	96	1,799,483	140	2,823,746
74	71	1,355,933	114	1,885,972
75	64	1,190,617	91	1,344,918
76	46	853,837	83	1,401,345
77	47	916,198	55	721,172
78	31	529,705	49	751,045
79	23	318,434	32	459,027
80	12	200,101	23	420,874
81	15	252,366	13	205,247
82	9	287,321	13	389,538
83	8	148,992	11	151,716
84	2	51,792	6	67,635
85	2	16,561	6	74,003
86	1	88,583	2	22,986
88	1	7,761		
90	1	28,536		
<b>Total</b>	69,017	\$ 3,250,885,461	178,884	\$ 6,779,820,023

**TABLE 2**  
**THE NUMBER AND ANNUAL SALARIES**  
**OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY**  
**YEARS OF CREDITED SERVICE AS OF JUNE 30, 2004**

Service	Males		Females	
	Number	Salaries	Number	Salaries
0	4,800	\$ 128,086,267	13,856	\$ 309,359,910
1	3,451	81,717,496	10,309	179,280,935
2	4,290	132,192,533	13,052	306,239,557
3	3,931	130,739,586	12,000	310,376,774
4	3,525	125,841,995	11,075	305,113,334
5	3,772	146,665,755	10,941	331,079,541
6	3,105	124,910,381	8,307	257,753,326
7	3,011	130,638,003	7,501	249,212,283
8	2,355	103,015,349	6,209	211,839,249
9	2,148	96,494,385	5,604	200,230,781
10	1,930	87,541,642	5,056	190,021,859
11	2,267	110,359,515	5,328	211,690,659
12	1,511	73,104,658	4,386	179,458,710
13	1,407	67,462,450	4,209	174,162,623
14	1,569	77,745,176	4,238	183,387,084
15	1,509	75,956,535	4,266	191,387,930
16	1,378	72,249,250	4,104	190,382,740
17	1,343	71,327,376	3,718	177,069,531
18	1,243	67,911,490	3,517	173,537,331
19	1,057	56,927,361	3,094	156,846,821
20	985	53,688,193	2,533	130,545,157
21	854	47,082,644	2,202	118,530,518
22	825	45,289,201	2,305	122,577,272
23	850	49,176,872	2,495	135,572,217
24	1,007	60,849,479	2,831	159,777,993
25	1,127	69,845,381	2,929	170,531,381
26	1,105	72,287,760	2,745	164,605,764
27	1,157	74,904,536	2,664	163,381,522
28	1,329	86,819,627	2,829	176,432,944
29	1,447	97,606,169	2,784	175,646,058
30	1,616	111,291,533	2,733	177,076,874
31	1,607	115,168,917	2,563	168,263,360
32	1,648	117,781,265	2,175	142,850,850
33	1,356	99,053,310	1,711	113,891,477
34	1,097	81,126,704	1,302	86,971,019
35	564	43,197,794	469	30,473,645
36	333	25,105,503	293	19,293,695
37	180	13,634,075	191	12,350,637
38	124	9,766,420	132	8,397,316
39	84	6,579,219	75	4,646,180

TABLE 2

**THE NUMBER AND ANNUAL SALARIES  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2004**

Service	Males		Females	
	Number	Salaries	Number	Salaries
40	42	3,704,440	40	2,695,832
41	21	1,719,672	34	2,128,054
42	18	1,346,461	22	1,516,852
43	8	611,053	13	692,794
44	12	1,020,891	9	478,340
45	8	613,538	4	268,843
46	3	184,650	9	483,597
47	2	155,403	3	134,407
48	1	62,479	5	351,926
49	4	288,156	5	362,652
50	1	36,913	3	167,423
51			1	33,499
52			2	127,053
54			1	38,500
56			2	93,394
<b>Total</b>	69,017	\$ 3,250,885,461	178,884	\$ 6,779,820,023

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2004**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female	
	Number	Annuities	Number	Annuities
24	1	\$ 316		
26	1	511	2	\$ 436
27	4	1,802	3	893
28	5	1,782	5	1,853
29	6	3,333	8	2,957
30	8	5,584	16	7,122
31	16	11,126	19	10,875
32	18	11,582	34	20,992
33	16	11,811	52	38,038
34	20	21,193	51	46,631
35	19	15,067	45	46,725
36	24	32,673	48	48,849
37	34	53,827	59	76,223
38	37	41,726	70	91,576
39	43	80,778	67	89,935
40	44	83,374	91	121,622
41	61	112,092	86	130,486
42	54	104,678	87	123,775
43	59	136,282	106	201,508
44	69	150,065	120	188,806
45	76	172,309	143	238,969
46	98	217,624	140	318,384
47	103	352,751	197	443,160
48	97	391,293	201	605,540
49	107	394,976	233	740,254
50	138	620,774	272	1,020,573
51	135	686,603	332	1,495,598
52	182	1,352,842	428	2,683,620
53	252	2,245,556	645	5,643,616
54	317	4,019,871	760	7,309,942
55	504	10,893,152	1,052	18,831,619
56	1,064	31,410,668	1,630	41,912,106
57	2,046	69,172,995	2,499	71,632,143
58	2,063	73,446,868	2,284	67,423,276
59	1,870	66,187,282	1,991	58,055,503
60	1,912	68,569,004	2,116	60,123,538
61	2,163	77,279,784	2,447	67,382,563
62	2,287	80,020,121	2,731	70,517,640
63	1,958	62,360,430	2,910	68,091,593

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2004**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female	
	Number	Annuities	Number	Annuities
64	1,799	\$ 56,697,178	2,755	\$ 59,950,324
65	1,703	47,120,098	2,814	55,887,882
66	1,792	48,019,193	2,934	55,690,169
67	1,775	45,842,230	2,852	49,247,426
68	1,740	45,133,251	2,806	47,832,030
69	1,654	39,312,048	2,749	42,058,560
70	1,633	38,940,470	2,571	39,164,382
71	1,641	37,271,815	2,532	36,329,445
72	1,682	37,613,171	2,754	39,295,402
73	1,572	36,369,403	2,835	41,087,599
74	1,586	32,979,050	2,702	36,774,284
75	1,377	26,776,739	2,608	32,654,144
76	1,363	25,659,165	2,747	33,700,035
77	1,366	23,764,344	2,593	30,656,377
78	1,235	21,443,490	2,487	28,563,236
79	1,178	19,920,650	2,251	23,710,629
80	1,046	16,308,145	2,236	22,844,511
81	953	14,017,967	1,980	18,860,170
82	794	10,902,093	1,913	17,951,360
83	670	9,180,829	1,825	17,561,684
84	628	8,210,141	1,763	16,772,232
85	430	5,432,704	1,428	13,492,565
86	451	5,288,146	1,448	14,202,011
87	390	4,532,229	1,310	13,061,827
88	331	4,047,153	1,137	11,498,839
89	244	2,753,545	1,007	10,446,863
90	233	3,171,596	890	10,366,151
91	186	2,402,708	748	8,706,847
92	125	1,451,610	650	8,434,365
93	92	1,338,009	535	7,040,961
94	65	1,118,000	425	5,781,446
95	69	989,932	385	5,511,306
96	28	470,547	282	4,149,795
97	28	372,453	204	3,189,097
98	18	236,143	135	2,091,713
99	14	256,472	89	1,336,266
100	6	105,246	45	746,003
101			30	413,971
102	4	86,298	29	480,380
103	1	24,396	7	106,038

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2004**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female	
	Number	Annuities	Number	Annuities
104	1	\$ 21,907	7	\$ 85,473
105			5	87,681
106			2	27,641
110			1	18,555
112			1	9,418
<b>Total</b>	49,814	\$ 1,226,255,066	87,487	\$ 1,413,596,030

**TABLE 3**

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2004**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

<u>OPTION</u>		<u>MALE</u>		<u>FEMALE</u>	
Maximum	27,177	\$ 718,869,179	63,698	\$ 1,036,146,806	
1A	6	121,399	51	811,299	
1B	4	38,414	26	337,954	
1C	5,789	104,935,536	12,525	161,665,952	
2	8,442	165,081,465	5,619	94,472,781	
3	7,666	209,587,757	5,305	112,129,037	
4	<u>730</u>	<u>27,621,316</u>	<u>263</u>	<u>8,032,201</u>	
	49,814	\$ 1,226,255,066	87,487	\$ 1,413,596,030	

**DEFINITIONS OF OPTIONS**

- Option 1A A life annuity to the member with a guaranteed payment to the beneficiary equal to the member's contributions and interest at retirement less any amounts paid to the member from the employee annuity portion of the retirement benefit prior to death. This option was discontinued in 1975.
- Option 1B A life annuity to the member with a guaranteed payment to the beneficiary equal to the present value of the employer portion of the annuity less any amounts paid to the member from the reduced state portion of the retirement benefit prior to death. This option was discontinued in 1975.
- Option 1C A life annuity to the member with a guaranteed payment to the beneficiary equal to the present value of the total maximum single life annuity less any amounts paid to the member prior to death.
- Option 2 A joint and one hundred percent (100%) survivor annuity payable during the lifetime of the member with the full amount of such annuity payable thereafter to the designated survivor annuitant, if living at the member's death.
- Option 3 A joint and fifty percent (50%) survivor annuity payable during the lifetime of the member with one-half of such annuity payable thereafter to the designated survivor annuitant, if living at the member's death.
- Option 4 A life annuity to the member with a special death benefit for a designated beneficiary.



**TABLE 4**  
**THE NUMBER AND ANNUAL ANNUITIES**  
**OF BENEFICIARIES AND SURVIVOR ANNUITANTS**  
**AS OF JUNE 30, 2004**

Age	Male		Female	
	Number	Annuities	Number	Annuities
3	1	\$ 2,416		
5			1	\$ 2,727
9			1	2,751
11			1	5,518
13	1	2,043		
15	1	1,497		
16			1	3,484
17	1	1,533	2	24,567
18	1	2,483		
19			1	6,315
22	1	2,514	2	22,540
23	2	14,518	2	3,084
24			1	1,312
25	2	1,996	1	11,664
26	2	7,178	2	4,878
27	1	4,889	2	2,368
28	1	1,108		
29	2	50,615	1	12,887
30	2	4,533	2	7,069
31			3	6,156
32	3	37,935	1	8,117
33	1	2,554	5	24,655
34	1	6,590	1	18,495
35	3	21,217	5	72,802
36	2	2,499	3	16,364
37	8	32,375	5	34,184
38	4	22,133	5	22,780
39	1	3,719	3	4,316
40	5	20,071	8	33,641
41	1	4,098	4	66,262
42	3	28,573	4	10,326
43	2	3,684	4	10,798
44	6	34,715	8	86,657
45	6	16,627	21	152,457
46	4	25,215	17	80,452
47	4	24,210	22	108,988
48	5	6,320	11	106,804
49	4	31,710	21	95,831
50	7	32,296	20	193,010
51	10	44,324	19	125,690

**TABLE 4**  
**THE NUMBER AND ANNUAL ANNUITIES**  
**OF BENEFICIARIES AND SURVIVOR ANNUITANTS**  
**AS OF JUNE 30, 2004**

Age	Male		Female	
	Number	Annuities	Number	Annuities
52	11	\$ 56,841	20	\$ 177,087
53	7	40,791	22	260,021
54	10	71,536	37	354,444
55	11	71,572	42	439,629
56	13	136,476	46	507,168
57	18	148,993	72	809,924
58	14	104,052	60	700,257
59	8	57,533	56	588,472
60	19	253,929	59	676,533
61	27	267,232	84	964,043
62	17	254,257	89	1,213,700
63	12	158,796	81	1,073,480
64	19	183,597	96	941,368
65	22	206,725	94	1,240,486
66	15	130,732	110	1,259,191
67	20	113,486	130	1,409,958
68	17	172,470	129	1,182,438
69	22	153,118	124	1,217,850
70	24	195,551	146	1,536,546
71	26	172,121	149	1,644,686
72	20	142,430	155	1,403,402
73	24	213,264	186	1,616,321
74	37	380,989	197	1,743,909
75	19	138,745	204	1,809,007
76	26	174,450	215	1,737,416
77	36	332,852	239	1,823,431
78	38	336,061	234	1,612,113
79	39	325,584	247	1,695,540
80	48	436,008	281	1,829,076
81	50	428,249	223	1,394,757
82	48	356,549	261	1,769,550
83	44	342,926	247	1,660,796
84	38	283,332	258	1,599,345
85	33	253,548	196	1,149,544
86	31	185,121	245	1,420,769
87	31	198,543	208	1,184,557
88	34	199,578	169	997,890
89	30	198,540	149	922,439
90	15	117,520	129	784,635
91	15	91,931	105	614,617

**TABLE 4**  
**THE NUMBER AND ANNUAL ANNUITIES**  
**OF BENEFICIARIES AND SURVIVOR ANNUITANTS**  
**AS OF JUNE 30, 2004**

Age	Male		Female	
	Number	Annuities	Number	Annuities
92	11	\$ 69,490	99	\$ 573,512
93	16	91,553	95	567,475
94	9	67,340	58	379,336
95	8	48,442	43	270,227
96	8	63,006	35	174,284
97	7	33,599	23	134,643
98	1	13,421	18	82,898
99	1	7,002	10	40,203
100			7	20,337
101			5	7,234
102			4	16,213
103			3	9,697
104			2	4,227
107			1	4,320
<b>Total</b>	1,147	\$ 8,978,069	6,407	\$ 50,640,952

TABLE 5

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2004**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female	
	Number	Annuities	Number	Annuities
29	1	\$ 13,291		
31	1	11,751		
33			2	\$ 31,756
34	4	60,935	1	13,945
35	2	24,860	2	27,103
36	1	11,817	7	110,163
37	3	42,641	6	97,350
38	5	61,139	11	131,741
39	5	54,484	11	106,767
40	5	62,293	20	229,317
41	16	195,960	18	216,483
42	12	150,724	15	168,025
43	8	118,596	19	256,090
44	12	134,023	25	332,759
45	23	313,157	36	371,211
46	25	310,673	42	429,037
47	27	380,611	31	371,788
48	33	421,558	53	709,360
49	29	478,188	61	989,247
50	43	703,715	71	1,213,650
51	52	774,424	112	2,013,616
52	63	1,246,166	137	2,649,083
53	63	1,631,564	155	3,463,895
54	73	1,621,668	162	3,723,065
55	111	2,723,669	182	4,024,150
56	96	2,209,746	204	4,375,981
57	119	2,894,075	228	4,556,325
58	98	1,981,001	211	3,911,324
59	87	1,914,145	159	2,564,360
60	86	1,508,416	146	2,387,294
61	91	1,386,720	181	2,444,752
62	94	1,455,853	192	2,634,160
63	66	866,353	168	2,022,007
64	69	946,508	161	1,821,345
65	69	941,168	114	1,282,801
66	71	788,284	117	1,163,512
67	46	558,983	118	1,333,658
68	50	591,260	104	1,036,432
69	51	609,089	121	1,072,783
70	42	467,453	91	828,495

TABLE 5

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2004**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female	
	Number	Annuities	Number	Annuities
71	53	\$ 665,167	85	\$ 632,574
72	29	265,334	103	991,419
73	36	345,217	76	628,516
74	31	338,522	85	649,206
75	34	405,742	84	684,378
76	24	235,702	89	695,847
77	30	387,727	49	385,164
78	27	260,673	60	546,654
79	34	328,244	48	411,941
80	10	74,710	47	348,693
81	14	165,515	48	397,811
82	20	171,960	45	351,492
83	11	121,366	41	329,512
84	12	78,715	35	324,908
85	11	171,511	29	216,980
86	3	32,629	25	252,527
87	4	58,916	21	178,630
88	4	42,202	18	149,109
89			26	234,186
90	1	5,605	10	75,685
91	2	16,310	14	112,519
92			6	51,990
93	1	7,150	4	35,896
94			1	8,102
95			2	11,883
96			5	52,293
98			2	16,682
100			1	5,536
<b>Total</b>	2,143	\$ 34,845,881	4,553	\$ 63,894,964

TABLE 6

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2004**

**RECEIVING A REFUND ANNUITY**

Age	Male		Female	
	Number	Annuities	Number	Annuities
94			1	\$ 66
<b>Total</b>			1	\$ 66

**EXHIBIT IX****GLOSSARY**

<b>Accrued Liability</b>	The difference between (a) the present value of future plan benefits, and (b) the present value of future normal cost. It is the portion of the present value of future plan benefits attributable to service accrued as of the valuation date. Sometimes referred to as “actuarial accrued liability.”
<b>Accrued Service</b>	The service credited under the plan which was rendered before the date of the actuarial valuation.
<b>Actuarial Assumptions</b>	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.
<b>Actuarial Cost Method</b>	A mathematical budgeting procedure for allocating the dollar amount of the “present value of future plan benefits” between the present value of future normal cost and the accrued liability. Sometimes referred to as the “actuarial funding method.”
<b>Actuarial Equivalent</b>	A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.
<b>Actuarial Value of Assets</b>	The value of current plan assets recognized for valuation purposes. Based on a smoothed market value that recognizes investment gains and losses over a period of three years.
<b>Amortization</b>	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.
<b>Experience Gain (Loss)</b>	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.
<b>Normal Cost</b>	The annual cost assumed, under the actuarial funding method, for current and subsequent plan years. Sometimes referred to as “current service cost.”

**EXHIBIT IX**

**GLOSSARY**  
(Continued)

<b>Present Value</b>	The amount of funds presently required to provide a payment or series of payments in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
<b>Unfunded Accrued Liability</b>	The difference between the actuarial accrued liability and valuation assets.



January 27, 2005

Mr. Jeff Clay  
Executive Director  
Public School Employees' Retirement  
System of Pennsylvania  
5 North 5th St.  
Harrisburg, Pennsylvania 17101

Dear Jeff:

We are enclosing 30 copies of our report on the annual actuarial valuation of the Public School Employees' Retirement System of Pennsylvania as of June 30, 2004. An additional 50 copies will be sent to you later.

Please call me with any questions.

Sincerely,

Kim M. Nicholl  
Principal, Consulting Actuary

KMN:pl  
0035/C3467RET01-2004-Valuation.doc

Enc.