

Public School Employees' Retirement System

Actuarial Section



January 28, 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%.

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Financial Results and Membership Data

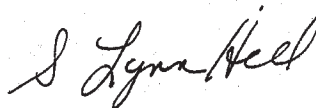
Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of PSERS Comprehensive Annual Financial Report. The actuary prepared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

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	.13
• Increase due to payroll growth	.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	.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.

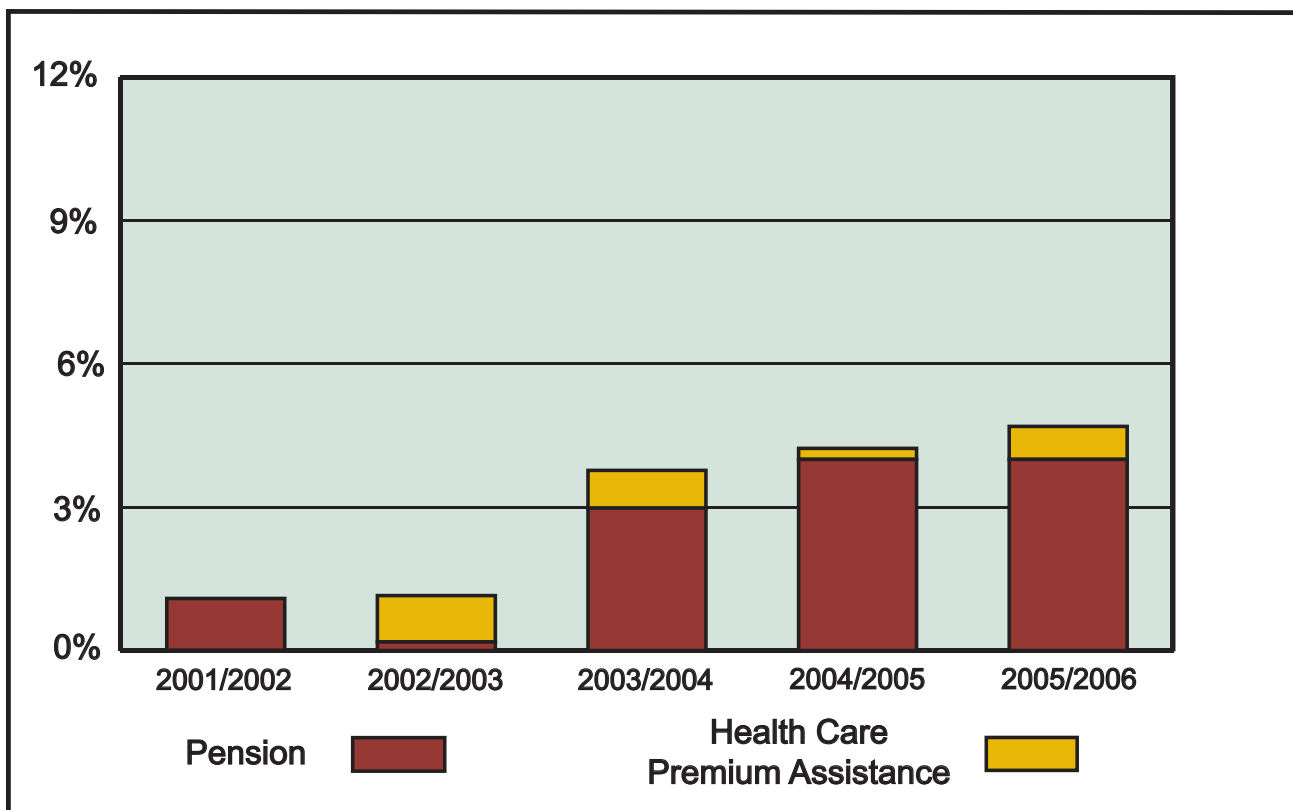
Item	June 30, 2004	June 30, 2003
Demographics		
Active Members		
• Number	247,901	246,700
• Average Annual Pay	\$ 40,463	\$ 39,128
Annuitants		
• Number	151,552	145,693
• Average Annual Benefit Payment	\$ 18,464	\$ 17,469
Contribution Rates (as a Percentage of Payroll)		
	(Fiscal Year 2005/2006)	(Fiscal Year 2004/2005)
Employer Contribution Rate:		
• Total Pension Contribution Rate	4.00%	4.00%
• Health Insurance Contribution Rate	0.69	0.23
• Total	4.69%	4.23%
Member Average Contribution Rate	7.16	7.12
• Total Rate	11.85%	10.35%
Actuarial Funded Status		
• Accrued Liability	\$ 57,123.0 Mil	\$ 54,443.8 Mil
• Actuarial Value of Assets	52,094.5	52,900.5
• 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:



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

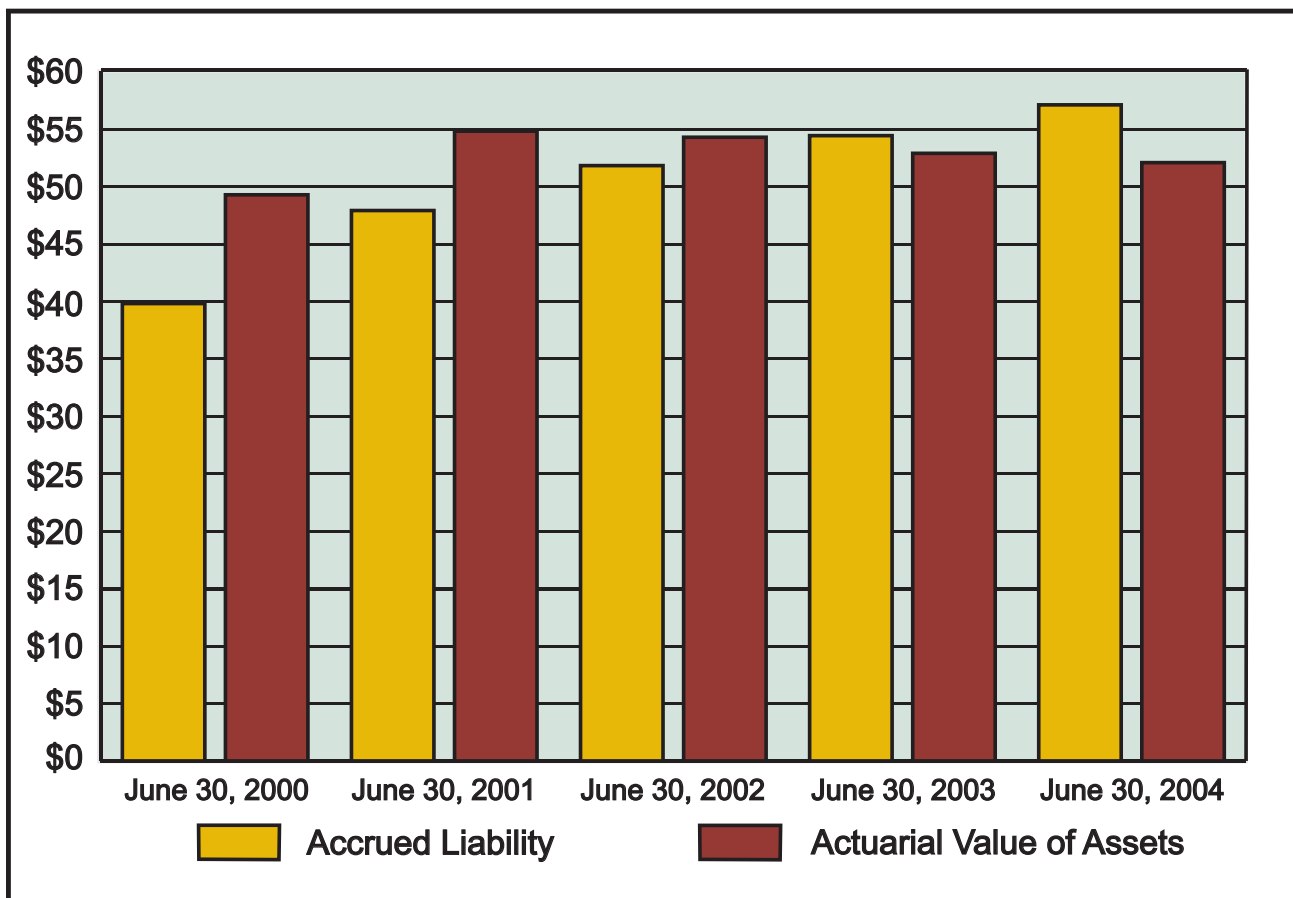
(Dollar Amounts in Millions)

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:

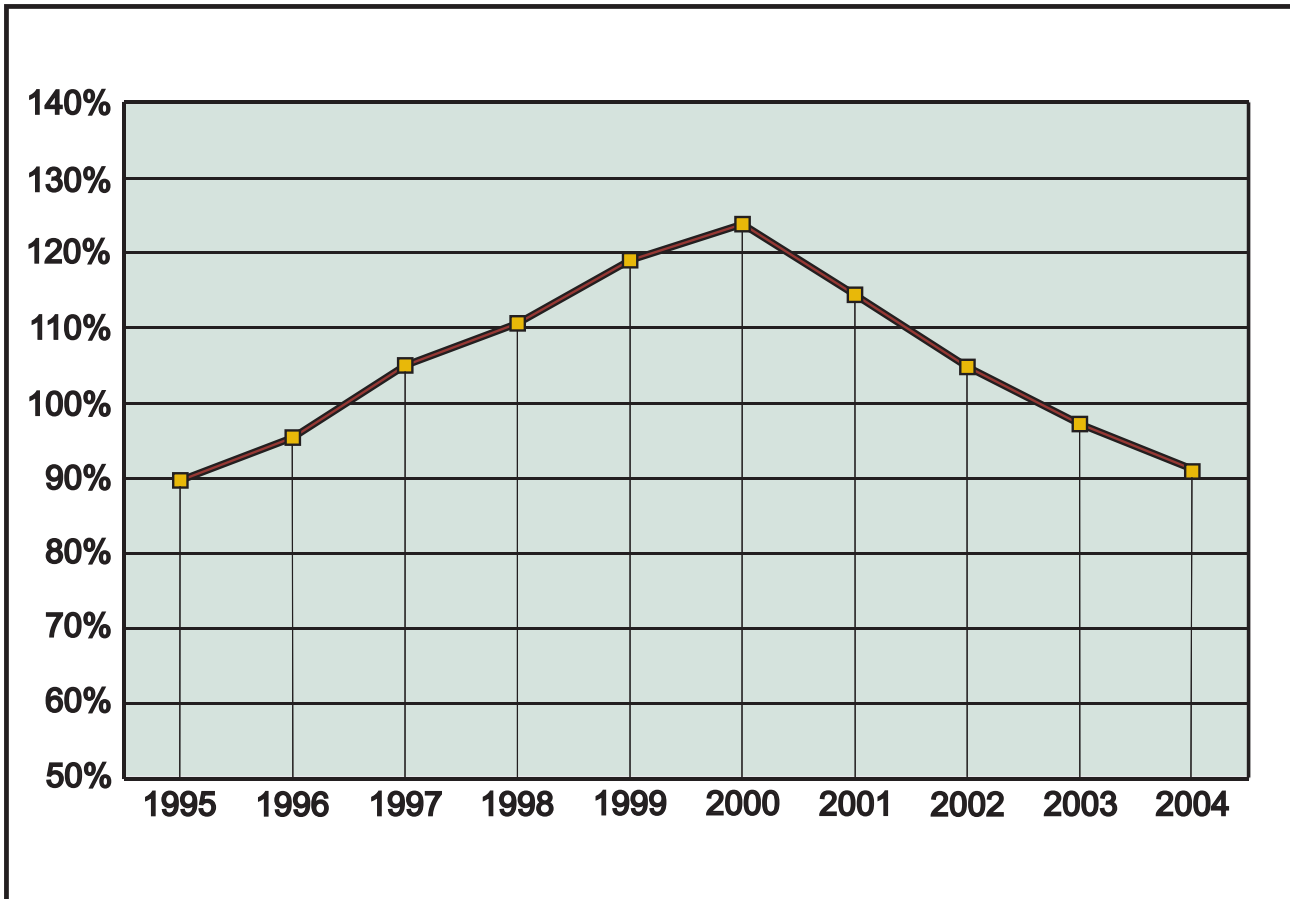
Five-Year History of Accrued Liability and Actuarial Value of Assets

(Dollar Amounts in Billions)



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

* Market rate of return provided by Wilshire

Table 1
Summary of Results of Actuarial Valuation
As of June 30, 2004
(Dollar Amounts in Thousands)

Item	Amount
Member Data	
1. Number of Members	
a) Active Members	247,901
b) Inactive Members and Vestees	72,014
c) Annuitants, Beneficiaries and Survivor Annuitants	151,552
d) Total	471,467
2. Annualized Salaries	\$ 10,030,705
3. Annual Annuities	\$ 2,798,211
Valuation Results	
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	24,337,377
d) Total	\$ 71,324,148
5. Present Value of Future Pension Normal Cost	
a) Active Members	\$ 6,954,461
b) Employer	7,391,544
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	24,337,377
d) Total	\$ 56,978,143
7. Health Care Premium Assistance 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 %
Employer Annual Funding Requirement for Fiscal 2005/2006	
14. Employer Contribution Rate	
a) Normal	7.61 %
b) Unfunded Accrued Liability	(4.28)
c) Preliminary Pension Rate	3.33 %
d) Preliminary Pension Rate with 4% Floor	4.00
e) Health Insurance Premium Assistance	0.69
f) Total Rate	4.69 %

Table 2
Summary of Sources of Employer Contribution Rate
As of June 30, 2004
(Dollar Amounts in Thousands)

	Funding Period	Funding Period Beginning July 1	Initial Amount of Liability	Outstanding Balance as of July 1, 2004	Annual Payment	
					Amount	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	2,903,093	293,096	2.55 %
Total Amortization Payments				5,028,521	(492,502)	(4.28)%
2. Employer Normal Cost Rate						7.61 %
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 Premium Assistance Rate						0.69 %
6. Final Total Employer Contribution Rate (4) and (5)						4.69 %

Table 3
Determination of Health Insurance Contribution Rate
For Fiscal Year 2005/2006
(Dollar Amounts in Thousands)

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

Table 4
Summary of Market Value of Plan Assets
As of June 30, 2004
(Dollar Amounts in Thousands)

Market Value	
1. Market Value of Assets as of June 30, 2003	\$ 42,446,826
2. Contributions During Fiscal Year 2003/2004	1,190,413
3. Disbursements During Fiscal Year 2003/2004	3,354,604
4. Investment Return During Fiscal Year 2003/2004	
a) Net Investment Return	\$ 8,243,599
b) Administrative Expenses	41,728
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 %
Asset Allocation by Account	
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	144,857
5. Total (1) + (2) + (3) + (4)	\$ 48,484,506

Table 5
Derivation of Actuarial Value of Assets
As of June 30, 2004
(Dollar Amounts in Thousands)

1. Market Value of Assets as of June 30, 2004					\$ 48,484,506
2. Determination of Deferred Gain (Loss)					
	Return on Assets				
Year	Actual	Expected	Difference	% Deferred	Deferred Amount
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%	(1,671,743)
					\$ (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 the assets from the June 30, 2003 valuation to the June 30, 2004 valuation.

Table 6
Analysis of Change in Unfunded Accrued Liability
As of June 30, 2004
(Dollar 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	\$ 5,028,521
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	128,415
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
(Dollar Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Funded (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
(Dollar 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
(Dollar 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 of Contribution Rates

Fiscal Year	Employer Payroll	Contribution Rates					
		Member	Employer Normal Cost Rate	Unfunded Liability Rate	Preliminary Employer Pension Rate	Health Insurance Rate	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
2005/2006	11,505,093	7.16	7.61	(4.28)	4.00	0.69	4.69

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
2004			143,997	7,555	151,552	247,901
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				
Males							
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
Females							
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.

Description of Actuarial Assumptions and Methods (Continued)

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.)

Salary Increase: Effective average of 6 1/4% per annum, compounded annually. The components are 3 1/2% for inflation, 1% for real wage growth and 1 3/4% 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

Description of Actuarial Assumptions and Methods (Continued)

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.

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 postemployment healthcare insurance 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.

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.

 Summary of Benefit and Contribution Provisions (Continued)
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 assumed payable if no other option elected.

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.

Summary of Benefit and Contribution Provisions (Continued)

Postemployment Health Care Insurance Premium Assistance

Eligibility	Retired members who: (a) have 24½ or more years of service, or (b) are disability annuitants, or (c) have 15 or more years of service and who both terminated school service and retired after attaining superannuation age and (d) participate in the PSERS Health Options Program or in an employer-sponsored health insurance program.
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.

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 employers	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 employers.

Table 14
Summary of Membership Data
As of June 30, 2004
(Dollar Amounts in Thousands)

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	6,696	98,741	14,746	62.3
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	Years of Service									Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	
Under 25	6,912	47								6,959
	\$29,179	\$25,476								\$29,154
25 - 29	16,222	4,899	20							21,141
	\$33,362	\$41,276	\$34,498							\$35,197
30 - 34	9,773	12,156	2,637	58						24,624
	\$30,110	\$43,532	\$49,848	\$38,228						\$38,869
35 - 39	9,188	6,762	6,561	2,080	54					24,645
	\$23,210	\$39,549	\$51,792	\$54,182	\$37,052					\$37,947
40 - 44	11,996	7,165	4,356	5,156	1,763	133				30,569
	\$19,765	\$31,288	\$45,912	\$56,586	\$54,890	\$35,862				\$34,498
45 - 49	10,879	9,007	5,620	4,819	5,226	3,944	125			39,620
	\$19,952	\$29,440	\$39,890	\$51,871	\$61,253	\$62,186	\$39,333			\$38,533
50 - 54	7,154	6,769	6,477	5,974	4,143	10,383	8,872	44		49,816
	\$21,798	\$30,454	\$39,523	\$49,036	\$58,159	\$66,914	\$68,601	\$41,454		\$49,325
55 - 59	4,362	3,582	3,816	4,512	3,549	3,675	7,708	1,647	9	32,860
	\$20,560	\$28,584	\$35,848	\$43,592	\$51,331	\$60,278	\$70,411	\$73,230	\$40,929	\$48,477
60 - 64	2,242	1,615	1,635	1,903	1,654	1,501	787	620	148	12,105
	\$17,728	\$23,195	\$29,968	\$36,014	\$40,644	\$46,557	\$56,878	\$72,418	\$72,534	\$35,708
Over 64	1,561	951	779	727	498	480	316	134	116	5,562
	\$12,175	\$17,340	\$21,863	\$25,854	\$27,832	\$33,051	\$39,363	\$45,610	\$70,805	\$22,979
Total	80,289	52,953	31,901	25,229	16,887	20,116	17,808	2,445	273	247,901
	\$25,021	\$34,971	\$42,473	\$48,896	\$54,663	\$62,242	\$68,142	\$70,938	\$70,758	\$40,463

Exhibit II
The Number and Average Annual Annuity
As of June 30, 2004

Retired on Account of Superannuation, 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 +	
Under 50	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
50-54	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
55-59	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
60-64	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
65-69	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
70-74	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
75-79	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
80-84	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
85-89	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
Over 89	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
Total	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 +	
Under 50	1	19	49	45	41	37	24	19	17	252
	\$240	\$1,851	\$1,571	\$2,717	\$4,696	\$7,240	\$15,253	\$13,102	\$10,748	\$5,924
50 - 54	1	7	16	21	31	29	34	15	9	163
	\$217	\$640	\$2,055	\$3,370	\$6,077	\$11,720	\$13,244	\$13,848	\$6,824	\$8,319
55 - 59	3	9	33	23	37	47	101	68	19	340
	\$4,913	\$1,695	\$2,501	\$2,866	\$5,193	\$10,331	\$14,631	\$14,411	\$13,171	\$10,483
60 - 64	4	16	46	56	43	58	129	120	31	503
	\$1,966	\$1,480	\$3,085	\$4,375	\$5,678	\$11,036	\$16,650	\$17,537	\$13,933	\$11,902
65 - 69	11	21	96	75	73	75	131	139	62	683
	\$2,388	\$1,608	\$2,664	\$4,081	\$6,796	\$9,844	\$12,985	\$18,015	\$16,535	\$10,375
70 - 74	10	36	109	131	113	109	197	159	100	964
	\$992	\$1,551	\$2,709	\$4,228	\$5,969	\$7,953	\$12,526	\$13,821	\$19,278	\$9,387
75 - 79	30	70	175	153	147	181	194	234	113	1,297
	\$2,128	\$1,378	\$2,497	\$3,601	\$5,999	\$8,511	\$10,261	\$11,646	\$15,033	\$7,699
80 - 84	29	102	194	182	171	189	204	303	124	1,498
	\$3,580	\$1,193	\$2,308	\$3,353	\$5,584	\$7,072	\$9,261	\$10,252	\$12,339	\$6,743
85 - 89	21	91	165	122	124	97	137	218	151	1,126
	\$3,212	\$1,075	\$1,961	\$3,698	\$4,803	\$6,725	\$7,011	\$9,149	\$10,382	\$5,960
Over 89	13	37	63	53	50	59	84	169	200	728
	\$2,785	\$1,086	\$2,035	\$2,884	\$4,240	\$5,369	\$6,332	\$7,179	\$8,279	\$5,889
Total	123	408	946	861	830	881	1,235	1,444	826	7,554
	\$2,688	\$1,285	\$2,349	\$3,634	\$5,581	\$8,155	\$11,322	\$11,968	\$12,508	\$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 +	
Under 50	1	202	188	92	69	20				572
	\$13,658	\$9,328	\$11,922	\$15,412	\$19,917	\$25,372				\$13,005
50 - 54		163	198	137	163	234	36			931
		\$8,140	\$10,664	\$15,045	\$22,170	\$35,344	\$46,032			\$20,452
55 - 59	1	220	249	225	278	355	165	2		1,495
	\$4,215	\$7,720	\$9,663	\$13,391	\$20,466	\$31,105	\$43,741	\$42,052		\$20,839
60 - 64	2	202	298	253	268	200	30	1		1,254
	\$18,061	\$5,805	\$7,978	\$11,013	\$17,451	\$26,348	\$37,063	\$42,631		\$13,934
65 - 69	3	158	229	182	157	111	19	2		861
	\$10,929	\$5,032	\$7,121	\$8,978	\$14,003	\$22,127	\$28,675	\$42,997		\$10,892
70 - 74	3	123	170	146	119	58	11	1		631
	\$9,715	\$3,458	\$6,155	\$8,709	\$12,878	\$20,107	\$27,072	\$43,179		\$9,211
75 - 79	5	98	132	81	97	55	9	1	1	479
	\$9,631	\$3,516	\$5,949	\$8,289	\$12,870	\$17,301	\$23,701	\$24,751	\$54,601	\$9,065
80 - 84	5	69	69	45	47	31	16	1		283
	\$11,091	\$3,541	\$6,041	\$7,386	\$10,180	\$15,429	\$20,612	\$29,135		\$8,356
85 - 89	3	19	40	26	21	15	17			141
	\$7,764	\$2,593	\$5,723	\$8,383	\$10,488	\$16,164	\$20,857			\$9,480
Over 89	1	2	16	18	6	4	2			49
	\$8,547	\$4,158	\$6,095	\$7,871	\$10,224	\$12,971	\$15,183			\$8,156
Total	24	1,256	1,589	1,205	1,225	1,083	305	8	1	6,696
	\$10,474	\$6,329	\$8,396	\$11,243	\$17,219	\$28,104	\$38,547	\$38,724	\$54,601	\$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 +	
Under 50										
50 - 54										
55 - 59										
60 - 64										
65 - 69										
70 - 74										
75 - 79										
80 - 84										
85 - 89										
Over 89	1 \$ 66									1 \$ 66
Total	1 \$ 66									1 \$ 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 (Dollars in Thousands)	Average Annual Benefit (Dollars)
Annuitants			
(Normal, Early and Withdrawal)			
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
Survivors and Beneficiaries			
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
Disabled Annuitants			
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
Grand Total			
Average Annual Benefit		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 (Dollars in 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 (Dollars in 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%