

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

**ACTUARIAL VALUATION  
JUNE 30, 2007**

January 18, 2008

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, 2007.

The valuation takes into account all of the promised benefits to which members are entitled as of June 30, 2007, including pension and survivor benefits; and as required by the Retirement Code is the basis for the contribution rate for fiscal year 2008/2009.

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 and methods for funding are unchanged from the prior valuation.

The actuarial assumptions and methods for financial reporting meet the parameters set forth in Governmental Accounting Standards Board (GASB) Statements No. 25 and 43, and are unchanged from the prior valuation. The actuarial assumptions and methods for GASB 25 disclosure are the same as for pension funding, except that in fiscal years in which the amortization requirements of the PSERS code result in an equivalent single amortization period that is longer than 30 years, the GASB 25 amortization payment will be determined based on 30-year level-dollar funding. The Health Insurance funding provisions of the PSERS code differ from the GASB 43 disclosure retirements. For funding purposes the actuarial liability equals the assets in the health insurance account, and a contribution is determined that will assure the solvency of the account through the third fiscal year following the valuation date. For purposes of GASB 43 disclosure the Health Insurance actuarial liability and normal cost requirements have been determined under the entry age actuarial cost method, with 30-year level dollar funding. (The entry age actuarial cost method meets the GASB 43 parameters for determining actuarial liability and normal cost, and is the cost method specified by the PSERS code for the PSERS pension plan.)

The Retirement Board  
Public School Employees'  
Retirement System of Pennsylvania  
January 18, 2008  
Page 2

### **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**

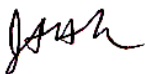
The valuation results determine that the employer contribution rate for fiscal year 2008/2009 is 4.76%. As of June 30, 2007, the total funded ratio of the plan (for Pensions and Health Insurance combined) is 85.8%, based on the accrued liability and actuarial value of assets calculated under the funding requirements of Section 8328 of the Retirement Code.

### **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 the PSERS Comprehensive Annual Financial Report (CAFR), and also prepared the trend data schedules included in the Financial Section of the CAFR.

Qualified actuaries completed the valuation 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,



Janet Cranna, FSA  
Principal, Consulting Actuary



S. Lynn Hill  
Director, Retirement Consulting



Dana Spangher, FSA  
Director, Consulting Actuary

JC/SLH/DS:pl

# THE PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM OF PENNSYLVANIA

## TABLE OF CONTENTS

	<u>Table / Exhibit</u>	<u>Page</u>
Executive Summary .....		1
Table 1 — Summary of Results of Actuarial Valuation .....		11
Table 2 — Summary of Sources of Employer Contribution Rate as of June 30, 2007...		12
Table 3 — Determination of Health Insurance Contribution Rate for Fiscal Year 2008/2009.....		13
Table 4 — Summary of Market Value of Plan Assets as of June 30, 2007 .....		14
Table 5 — Derivation of Actuarial Value of Assets as of June 30, 2007.....		15
Table 6 — Analysis of Change in Unfunded Accrued Liability .....		16
Table 7 — Schedule of Funding Progress — GASB Statements No. 25 and 43 Disclosure .....		17
Table 8a — Schedule of Employer Contributions for Pensions — GASB Statement No. 25 Disclosure.....		18
Table 8b — Schedule of Employer Contributions for Postemployment Benefits Other than Pensions — GASB Statement No. 43 Disclosure .....		19
Table 9 — Solvency Test — Comparative Summary of Accrued Liability and Actuarial Value of Assets.....		20
Table 10 — History and Projection of Contribution Rates and Funded Ratios .....		21
Table 11 — History and Projection of Annuitants, Beneficiaries, Survivor Annuitants and Active Members .....		22
Table 12 — Description of Actuarial Assumptions and Methods.....		23
Table 13 — Summary of Benefit and Contribution Provisions .....		26
Table 14 — Summary of Membership Data as of June 30, 2007 .....		30
Exhibit I — Active Membership Data as of June 30, 2007 - Number and Average Annual Salary .....		31
Exhibit II — The Number and Average Annual Annuity as of June 30, 2007 – Retired on Account of Superannuation, Early Retirement and Those in Receipt of Withdrawal Annuities.....		32
Exhibit III — The Number and Average Annual Annuity as of June 30, 2007 – Beneficiaries and Survivor Annuitants.....		33
Exhibit IV — The Number and Average Annual Annuity as of June 30, 2007 – Retired on Account of Disability .....		34
Exhibit V — Annuitant and Beneficiary Membership Data as of June 30, 2007 .....		35
Exhibit VI — 10-Year History of Membership Data.....		36
Exhibit VII — Detailed Tabulations of the Data.....		38
Exhibit VIII — Glossary.....		52

## **Executive Summary**

This report presents the actuarial valuation as of June 30, 2007 for the Public School Employees' Retirement System of Pennsylvania.

The principal valuation results include:

- The employer contribution rate for fiscal year 2008/2009, which is 4.76%.
- The total funded ratio of the plan determined as of June 30, 2007 under the funding requirements of Section 8328 of the Retirement Code, which is 85.8% based on the accrued liability and the actuarial value of assets for Pensions and Health Insurance as of that date.
- The determination of the actuarial gain or loss as of June 30, 2007, which is a gain of \$3.9 billion.
- Annual disclosures as of June 30, 2007 as required by Statements No. 25 and 43 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 the PSERS Comprehensive Annual Financial Report (CAFR), and also prepared the trend data schedules included in the Financial Section of the CAFR.

## **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**

There were no significant changes to the actuarial assumptions or methods since the prior valuation.

The actuarial assumptions and methods are outlined in Table 12.

### **Contribution Rates**

The results of the valuation as of June 30, 2007 determine the employer contribution rate for fiscal year 2008/2009. The calculated employer contribution rate for the 2008/2009 fiscal year is 4.76%, and the Board of Trustees certified this rate at their December 2007 meeting.

The average contribution rate payable by the members is 7.29%. Effective January 1, 2002, the employee contribution rate for members who elected to have prior school service and intervening military service converted to Class T-D service increased by 1.25%. However, anyone who enrolls (or re-enrolls) in PSERS on or after July 1, 2001 is *automatically* a member of Class T-D with regard to all subsequent school service and subsequent intervening military service, with a member rate equal to 7.5%. The average member contribution rate of 7.29% is a pay-weighted average of member rates that vary based on date of hire and based on Class T-D membership.

### **Reasons for Change in the Rate Calculated by the Actuary**

The employer contribution rate calculated by the actuary decreased from 7.13% for fiscal year 2007/2008 to 4.76% for fiscal year 2008/2009. The decrease of 2.37% is due to the following sources:

- |  |             |
|--|-------------|
| • Change due to change in employer normal rate                       | 0.00        |
| • Decrease due to payroll growth                                     | (0.01)      |
| • Decrease due to actuarial gain on assets                           | (2.25)      |
| • Decrease due to actuarial gain on liabilities                      | (0.87)      |
| • Increase due to change in health insurance contribution rate       | 0.07        |
| • Increase due to effect of 4% floor on FY 2007 pension contribution | <u>0.69</u> |
| • Total  | (2.37)%     |

## 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, 2007. Comparable results from the June 30, 2006 valuation are also shown.

Item	June 30, 2007	June 30, 2006
<b>Demographics</b>		
Active Members		
• Number	264,023	263,350
• Average Annual Pay	\$ 43,217	\$ 43,361
Annuitants		
• Number	168,026	161,813
• Average Annual Benefit Payment	\$ 20,970	\$ 20,236
<b>Contribution Rates (as a Percentage of Payroll)</b>		
	(Fiscal Year 2008/2009)	(Fiscal Year 2007/2008)
Employer Contribution Rate:		
• Total Pension Contribution Rate	4.00%	6.44%
• Health Insurance Contribution Rate	<u>0.76</u>	<u>0.69</u>
• Total Contribution Rate Calculated by Actuary	4.76%	7.13%
• Total Contribution Rate Certified by Board	4.76%	7.13%
Member Average Contribution Rate		
• Total Rate	<u>7.29</u> 12.05%	<u>7.25</u> 14.38%
<b>Actuarial Funded Status*</b>		
• Accrued Liability	\$ 66,593.1 Mil	\$ 64,720.1 Mil
• Actuarial Value of Assets	<u>57,155.1</u>	<u>52,557.5</u>
• Unfunded Accrued Liability	\$ 9,438.0	\$ 12,162.6
• Funded Ratio	85.8%	81.2%
*Pensions and Health Insurance combined		

## Five-Year History of Principal Financial Results

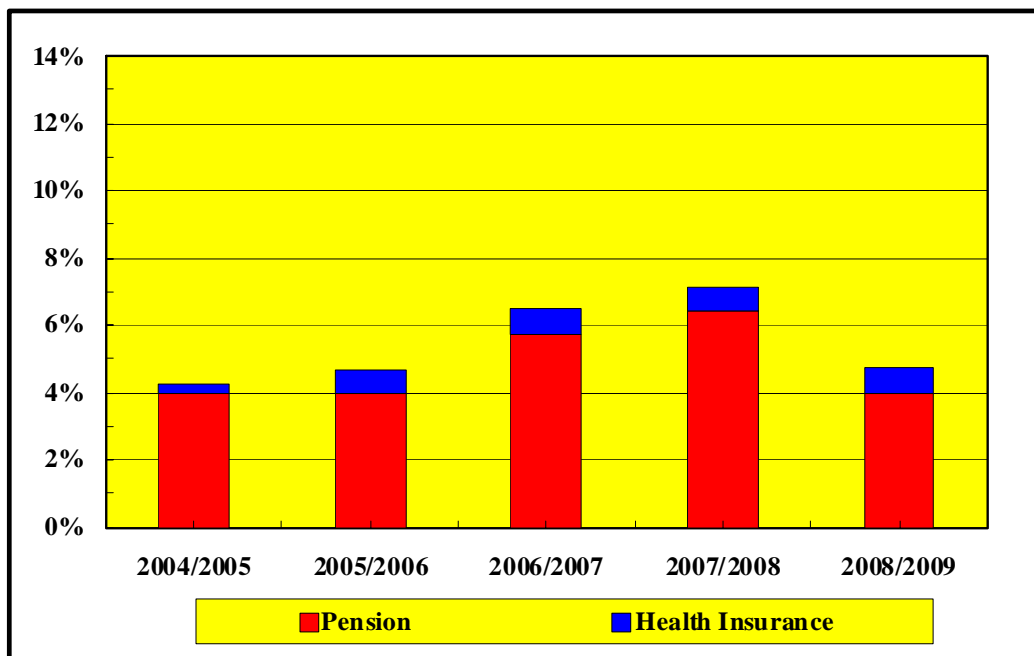
### Five-Year History of Contribution Rates (As a % of Payroll)

Fiscal Year	Member Contributions	Employer Contributions			
		Normal Cost	Unfunded Accrued Liability	Health Insurance	Total*
2008/2009	7.29%	6.68%	(3.37)%	0.76%	4.76%
2007/2008	7.25	6.68	(0.24)	0.69	7.13
2006/2007	7.21	6.62	(0.95)	0.74	6.46
2005/2006	7.16	7.61	(4.28)	0.69	4.69
2004/2005	7.12	7.48	(7.10)	0.23	4.23

\* Certified by the Board.

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 4.76% of payroll payable by employers, when taken together with the contributions payable by the members, current assets, and expected future asset returns, is sufficient to achieve the financing objective.

The System's total funded ratio 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 for Pensions is the present value of benefits accumulated to date under the System's funding method and reflects future pay increases for active employees. The accrued liability for Health Insurance equals the assets in the Health Insurance account.

On this basis, the System's total funded ratio (for Pensions and Health Insurance combined) is 85.8% as of June 30, 2007. This funded ratio is based on an actuarial value of assets of \$57.2 billion and an accrued liability of \$66.6 billion. The funded ratio for Pensions alone is also 85.8% as of June 30, 2007, based on an actuarial value of assets of \$57.1 billion, and an accrued liability of \$66.5 billion.

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

The total funded ratio increased from 81.2% as of June 30, 2006 to 85.8% as of June 30, 2007. This increase is primarily due to experience gains on the assets and liabilities that occurred during the year. These gains were partially offset by contributions that were less than normal cost plus one year's interest on the June 30, 2006 unfunded accrued liability.

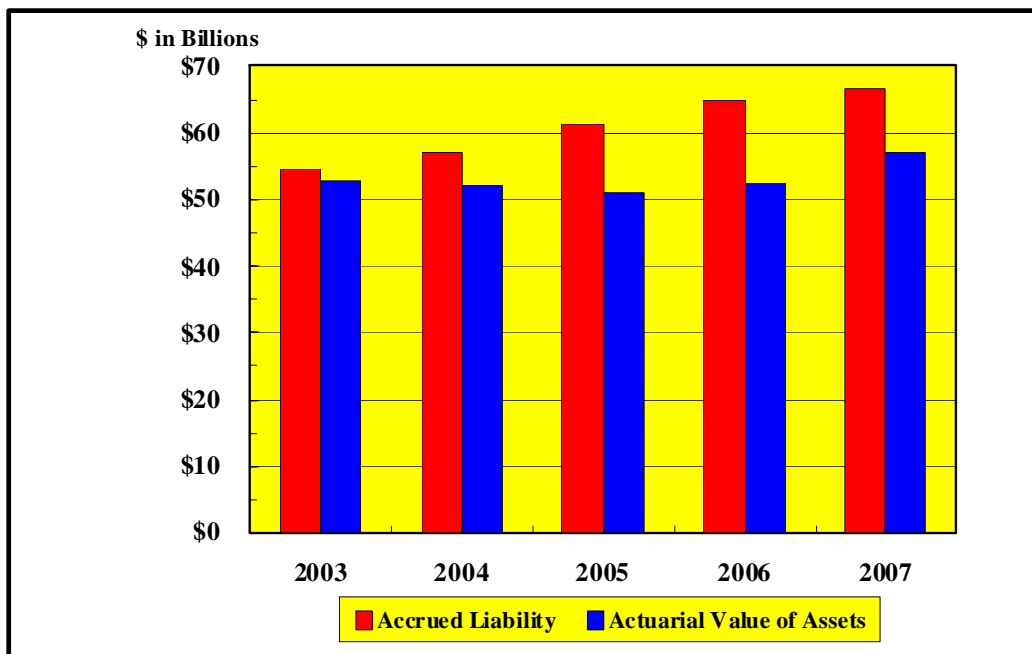
**Five-Year History of  
Total Funded Ratio\***  
(\$ Amounts in Millions)

Valuation as of June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio
2007	\$ 66,593.1	\$ 57,155.1	\$ 9,438.0	85.8%
2006	64,720.1	52,557.5	12,162.6	81.2
2005	61,226.6	51,219.3	10,007.3	83.7
2004	57,123.0	52,094.5	5,028.5	91.2
2003	54,443.8	52,900.5	1,543.3	97.2

\*For Pensions and Health Insurance (under the funding provisions of the PSERS code)

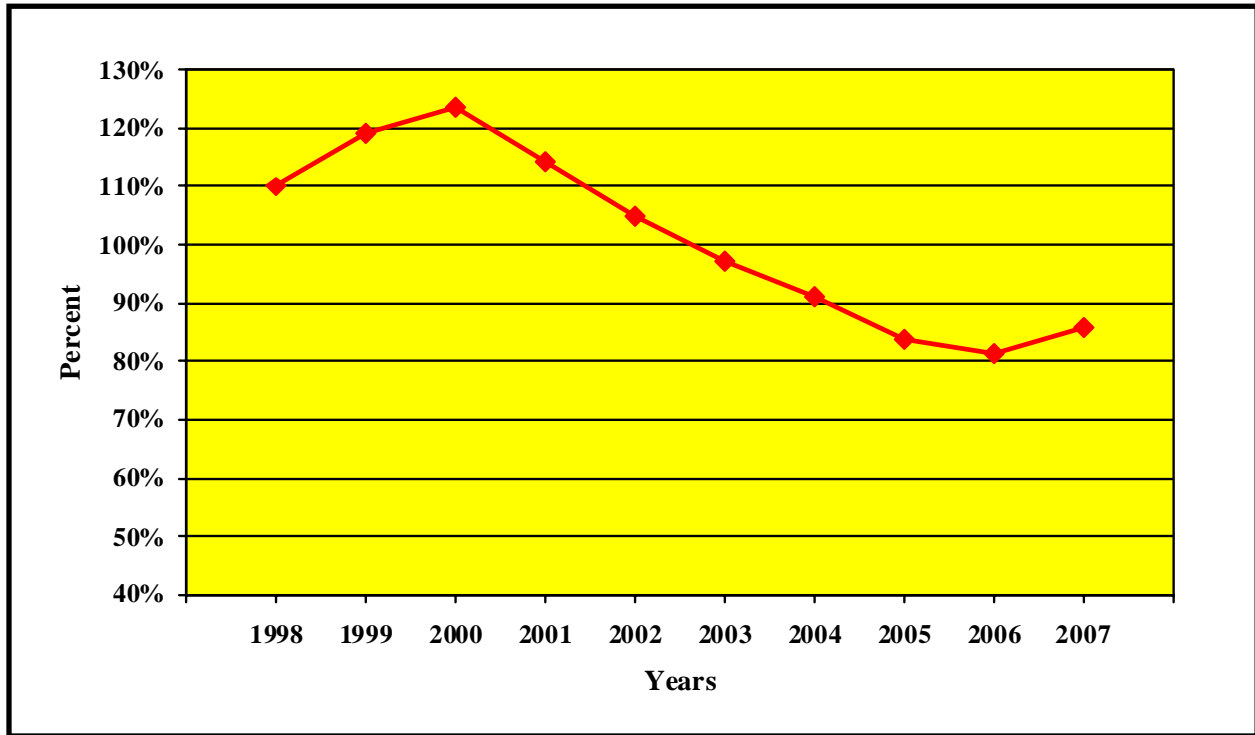
The following chart shows a five-year history of the accrued liability and the actuarial value of assets:

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



The following chart shows a ten-year history of the total funded ratio for Pensions and Health Insurance:

**Ten-Year History of Total Funded Ratio  
(1998 - 2007)**



## **GASB No. 25 Disclosure**

Statement No. 25 of the Governmental Accounting Standards Board (GASB) 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 pension assets, the actuarial accrued liability for pensions and the unfunded actuarial accrued liability for pensions. The actuarial funded ratio for pensions is measured by comparing the actuarial value of pension assets (based on a 5-year moving average market value) with the accrued liability for pensions. The accrued liability is the present value of pension 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 for pensions is 85.8% as of June 30, 2007. This funded ratio is based on an actuarial value of pension assets of \$57.1 billion and an accrued liability for pensions of \$66.5 billion. See Table 7 for more detail.

The schedule of employer contributions shows historical trend information about the GASB Annual Required Contribution (ARC) for pensions, and the percentage of the ARC contributed to the System. The pension contribution requirements of the PSERS code differ from the GASB disclosure requirements. As a result, there may be different determinations of contribution requirements for GASB accounting purposes and for State funding purposes. For GASB accounting purposes, the ARC equals the employer normal cost for pensions plus an amount that will amortize the unfunded actuarial accrued liability for pensions over a period no longer than 30 years. (For years ending on or before June 30, 2006, the maximum amortization period for the GASB ARC was 40 years.) Although the employer normal cost for GASB accounting equals the PSERS normal cost for funding, section 8328 of the PSERS code specifies different amortization periods for different portions of the unfunded accrued liability – each change in the unfunded accrued liability is amortized over either a 10 or 30-year period – as well as a 4% floor on the employer pension rate. Therefore, the resulting equivalent single amortization period may be any number of years. Table 8a presents the GASB 25 schedule of employer contributions.

### **GASB No. 43 Disclosure**

GASB Statement No. 43 established reporting standards for the annual financial reports of postemployment benefit plans other than pension plans, and these reporting requirements apply to the PSERS health insurance premium assistance plan. The System complied with Statement No. 43 beginning with the June 30, 2006 valuation. The statement requires disclosure of the "schedule of funding progress" and the "schedule of employer contributions" in the System's financial statements.

The health insurance liability and funding provisions of the PSERS code differ from the GASB disclosure requirements. As a result, there are different determinations of actuarial liability and contribution requirements for GASB accounting purposes and for State funding purposes. For purposes of funding, the actuarial liability equals the assets in the health insurance account, and the contribution required is the amount necessary to establish reserves sufficient to provide premium assistance payments to all participating eligible annuitants during the fiscal year that immediately follows the year the employer contribution is made. For GASB accounting purposes, the actuarial liability has been determined under the entry age actuarial cost method, and the Annual Required Contribution (ARC) is equal to the entry age normal cost for health insurance plus an amount that will amortize the entry age unfunded actuarial liability for health insurance over a period of 30 years. (The entry age actuarial cost method was selected for this calculation because it meets the GASB parameters for determining actuarial liability and normal cost, and is the cost method specified by the PSERS code for the PSERS pension plan.)

The GASB 43 schedule of funding progress, presented in Table 7, shows that as of June 30, 2007, the health insurance assets were \$97,292,000, measured on a market value basis, while the GASB 43 health insurance liabilities were \$1,058,092,000, resulting in a funded ratio of 9.2%.

The GASB 43 schedule of employer contributions first applies to fiscal year 2006/2007, and is presented in Table 8b.

## 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 2002/2003 through 2006/2007 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 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
2006/2007	22.9%	13.9%
2005/2006	15.3	7.9
2004/2005	12.9	3.2
2003/2004	19.7	2.6
2002/2003	2.7	1.4

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

**TABLE 1**  
**SUMMARY OF RESULTS OF ACTUARIAL VALUATION**  
(\$ Amounts in Thousands)

Item	June 30, 2007	June 30, 2006
<b>Member Data</b>		
1. Number of Members		
a) Active Members	264,023	263,350
b) Inactive Members and Vestees	109,186	94,071
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>168,026</u>	<u>161,813</u>
d) Total	541,235	519,234
2. Annualized Salaries	\$ 11,410,257	\$ 11,419,049
3. Annual Annuities	\$ 3,523,429	\$ 3,274,451
<b>Valuation Results</b>		
4. Present Value of Future Pension Benefits		
a) Active Members	\$ 49,167,907	\$ 50,310,197
b) Inactive Members and Vestees	1,589,329	823,575
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>31,603,788</u>	<u>29,117,164</u>
d) Total	\$ 82,361,024	\$ 80,250,936
5. Present Value of Future Pension Normal Cost		
a) Active Members	\$ 8,430,801	\$ 8,131,437
b) Employer	<u>7,434,353</u>	<u>7,492,138</u>
c) Total	\$ 15,865,154	\$ 15,623,575
6. Pension Accrued Liability		
a) Active Members (4a) - (5c)	\$ 33,302,753	\$ 34,686,622
b) Inactive Members and Vestees	1,589,329	823,575
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>31,603,788</u>	<u>29,117,164</u>
d) Total	\$ 66,495,870	\$ 64,627,361
7. Health Insurance Assets for Premium Assistance	\$ 97,292	\$ 92,777
8. Total Accrued Liability for Funding (6) + (7)	\$ 66,593,162	\$ 64,720,138
9. Actuarial Value of Assets	\$ 57,155,130	\$ 52,557,503
10. Funded Status (9) / (8)	85.8 %	81.2 %
11. Unfunded Accrued Liability (8) - (9)	\$ 9,438,032	\$ 12,162,635
12. Total Normal Cost Rate	13.97 %	13.93 %
13. Member Contribution Rate	7.29 %	7.25 %
14. Employer Normal Cost Rate (12) - (13)	6.68 %	6.68 %
<b>Employer Annual Funding Requirement</b>		
15. Employer Contribution Rate Calculated by Actuary	<b>Fiscal 2008/2009</b>	<b>Fiscal 2007/2008</b>
a) Normal	6.68 %	6.68 %
b) Unfunded Accrued Liability	<u>(3.37)</u>	<u>(0.24)</u>
c) Preliminary Pension Rate	3.31 %	6.44 %
d) Preliminary Pension Rate with 4% Floor	4.00	6.44
e) Health Insurance	<u>0.76</u>	<u>0.69</u>
f) Total Rate	4.76 %	7.13 %

**TABLE 2**

**SUMMARY OF SOURCES OF EMPLOYER CONTRIBUTION RATE  
AS OF JUNE 30, 2007  
(\$ Amounts in Thousands)**

	Funding Period (Years)	Beginning July 1	Initial Liability	7/1/2007 Outstanding Balance	Annual Payment Amount	Percent *
1. Amortization of:						
a) 2001 Fresh Start Unfunded Base	10	2002	\$ (9,137,130)	\$ (5,954,063)	\$ (1,510,937)	(12.09)%
b) 2001 Asset Method Change (Act 38)	10	2002	(4,638,306)	(3,022,477)	(767,001)	(6.14)%
c) Other 2001 Changes	30	2002	7,570,507	6,837,575	668,111	5.34 %
d) 2002 Changes	30	2003	3,014,171	2,962,314	286,101	2.30 %
e) 2002 COLA	10	2003	463,795	349,234	76,694	0.61 %
f) 2003 COLA	10	2004	754,524	692,921	135,375	1.08 %
g) 2003 Changes	30	2004	3,229,593	3,412,081	326,059	2.61 %
h) 2004 Changes	30	2005	2,903,093	3,096,984	293,096	2.35 %
i) 2005 Changes	30	2006	3,765,745	4,052,939	380,189	3.04 %
j) 2006 Changes	30	2007	812,226	881,265	82,002	0.66 %
k) 2007 Changes	30	2008	(3,870,741)	<u>(3,870,741)</u>	<u>(390,789)</u>	<u>(3.13)%</u>
Total Amortization Payments				\$ 9,438,032	\$ (421,100)	(3.37)%
2. Employer Normal Cost Rate						<u>6.68 %</u>
3. Preliminary Pension Rate (1) + (2)						3.31 %
4. Preliminary Pension Rate with 4% Floor -- Maximum of (3) and 4%						4.00 %
5. Health Insurance Rate						<u>0.76 %</u>
6. Final Total Employer Contribution Rate Calculated by Actuary (4) + (5)						4.76 %

\* Based on Estimated Employer Payroll for Fiscal Year Ending 2009 of \$ 12,500,000.



**TABLE 3****DETERMINATION OF HEALTH INSURANCE CONTRIBUTION RATE  
FOR FISCAL YEAR 2008/2009**

(\$ Amounts in Thousands)

Item			
1. June 30, 2007 Balance in Health Insurance Account			\$ 97,292
2. Estimated Fiscal 2007/2008 Contribution			
(a) Contribution Rate Certified in 2006 Valuation			0.69%
(b) Estimated Fiscal 2007/2008 payroll			\$ 11,977,344
(c) Estimated Contribution = (a) x (b)			\$ 82,644
3. Estimated Number of Annuitants who:	Are Eligible	Elect Coverage	
(a) Fiscal 2007/2008	110,000	72,600	
(b) Fiscal 2008/2009	113,000	74,580	
(c) Fiscal 2009/2010	115,900	76,494	
4. Estimated Disbursements:	Administration	Assistance	Total
(a) Fiscal 2007/2008	\$ 2,205	\$ 87,120	\$ 89,325
(b) Fiscal 2008/2009	1,963	89,496	91,459
(c) Fiscal 2009/2010	2,042	91,793	93,835
(d) Total	\$ 6,210	\$ 268,409	\$ 274,619
5. Required Fiscal 2008/2009 Contribution			\$ 94,683
(4d) - (1) -(2c)			
6. Required Health Insurance Contribution Rate			
(a) Estimated 2008/2009 Payroll			\$ 12,500,000
(b) Required Health Insurance Contribution Rate (5) / (6a)			0.76%
(rounded up)			

## Notes:

1. Current estimates of fiscal 2007/2008 membership payroll and administrative expenses, and of fiscal 2008/2009 administrative expenses, were provided by PSERS staff.
2. 66% of eligible annuitants are assumed to elect coverage.
3. Premium Assistance payments equal \$100 per month per eligible annuitant.

**TABLE 4**

**SUMMARY OF MARKET VALUE OF PLAN ASSETS  
AS OF JUNE 30, 2007  
(\$ Amounts in Thousands)**

<b>Market Value</b>	
1. Market Value of Assets as of June 30, 2006	\$ 57,328,444
2. Contributions During Fiscal 2006/2007	1,601,630
3. Disbursements During Fiscal 2006/2007	4,150,656
4. Investment Return During Fiscal 2006/2007	
a) Investment Return (Net of Investment Expenses)	\$ 12,696,900
b) Administrative Expenses	<u>38,029</u>
c) Investment Return After Expenses (a) - (b)	\$ 12,658,871
5. Market Value of Assets as of June 30, 2007 (1) + (2) - (3) + (4c)	\$ 67,438,289
6. Rate of Return (per Wilshire)	22.93 %
<b>Asset Allocation by Account</b>	
1. Members' Savings Account	\$ 10,183,433
2. Annuity Reserve Account	31,603,788
3. State Accumulation Account	25,553,776
4. Health Insurance Account	<u>97,292</u>
5. Total (1) + (2) + (3) + (4)	\$ 67,438,289

**TABLE 5**

**DERIVATION OF ACTUARIAL VALUE OF ASSETS  
AS OF JUNE 30, 2007**  
(\$ Amounts in Thousands)

1. Market Value of Assets as of June 30, 2007					\$ 67,438,289
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>
2006/2007	\$ 12,658,871	\$ 4,359,054	\$ 8,299,817	80%	\$ 6,639,854
2005/2006	7,901,068	4,242,878	3,658,190	60%	2,194,914
2004/2005	6,044,305	4,321,981	1,722,324	40%	688,929
2003/2004	8,201,871	4,404,561	3,797,310	20%	759,462
					<hr/>
					\$ 10,283,159
3. Actuarial Value of Assets (1) - (2)					\$ 57,155,130
4. Actuarial Rate of Return *					13.94%

\* The actuarial rate of return is the investment return based on the change in the actuarial value of assets from the June 30, 2006 valuation to the June 30, 2007 valuation.

**TABLE 6**

**ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY  
AS OF JUNE 30, 2007**  
(\$ Amounts in Thousands)

Item	Amount
1. Unfunded Accrued Liability at June 30, 2006	\$ 12,162,635
2. Interest Credit at 8.50% to June 30, 2007	1,033,825
3. Contributions Toward Unfunded Accrued Liability	(112,313)
4. Change due to Effect of 4% Floor on FY 2007 Pension Contribution	-
5. Expected Unfunded Accrued Liability at June 30, 2007 (1) + (2) - (3) + (4)	\$ 13,308,773
6. Actual Unfunded Accrued Liability at June 30, 2007	<u>\$ 9,438,032</u>
7. Increase (Decrease) from Expected (6) - (5)	\$ (3,870,741)
8. Reasons for Increase (Decrease)	
(a) Experience (Gains) Losses	
(i) Gain from Investment Return on Actuarial Value of Assets	\$ (2,787,600)
(ii) Loss from New Entrants and Pickups	242,000
(iii) Gain from Salary Increases Less than Expected	(1,154,455)
(iv) Loss from Mortality Experience	113,484
(v) Gain from Vested Termination Experience (Retirement/Disability/Termination)	(342,086)
(vi) Gain from Non-vested Termination Experience	(93,416)
(vii) Loss from Data/Miscellaneous	<u>151,332</u>
Subtotal	\$ (3,870,741)
(b) Changes in Assumptions and Funding Method	\$ -
(c) Grand Total	\$ (3,870,741)

**TABLE 7**

**SCHEDULE OF FUNDING PROGRESS FOR PENSIONS\***  
**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
2007	\$ 57,057,838	\$ 66,495,870	\$ 9,438,032	85.8 %	\$ 11,410,257	82.7 %
2006	52,464,726	64,627,361	12,162,635	81.2	11,419,049	106.5
2005	51,122,156	61,129,444	10,007,288	83.6	10,527,668	95.1
2004	51,949,622	56,978,143	5,028,521	91.2	10,030,705	50.1
2003	52,770,018	54,313,328	1,543,310	97.2	9,652,881	16.0
2002	54,193,064	51,693,207	(2,499,857)	104.8	9,378,944	(26.7)

\* The amounts reported above include assets and liabilities for Pensions.

**SCHEDULE OF FUNDING PROGRESS FOR  
POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS\***  
**GASB STATEMENT NO. 43 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
2007	\$ 97,292	\$ 1,058,092	\$ 960,800	9.2 %	\$ 11,410,257	8.4 %
2006	92,777	1,056,154	963,377	8.8	11,419,049	8.4

\* The amounts reported above include assets and liabilities for Health Insurance Premium Assistance. The health insurance liabilities for GASB 43 disclosure have been calculated under the entry age normal cost method, which provides liabilities that differ from those determined under the funding requirements of the PSERS code.

**TABLE 8a**

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

Fiscal Year Ended June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2007	\$ 1,708,821	\$ 659,545	39 %
2006	1,328,373	456,878	34
2005	945,107	431,556	46
2004	321,091	321,091	100
2003	20,831	20,831	100
2002	539	539	100

The Annual Required Contribution (ARC) presented above was determined as part of the actuarial valuation as of two years prior to the dates indicated (i.e., the ARC for the fiscal year ended June 30, 2007 was determined by the valuation completed as of June 30, 2005.

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2007
Actuarial Cost Method:	Entry Age
Amortization Method:	Level dollar open
Remaining Amortization Period:	30 Years
Asset Valuation Method:	5-year smoothed market

Actuarial Assumptions:

- Investment Rate of Return *	8.50%
-Projected Salaried Increases *	6.00%

* Includes Inflation at:	3.25%
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**TABLE 8b**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR  
POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS  
GASB STATEMENT NO. 43 DISCLOSURE**

(\$ Amounts in Thousands)

Fiscal Year Ended June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2007	\$ 94,970	\$ 86,763	91 %

The Annual Required Contribution (ARC) presented above was determined as part of the actuarial valuation as of one year prior to the dates indicated (i.e., the ARC for the fiscal year ended June 30, 2007 was determined by the valuation completed as of June 30, 2006.

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2007
Actuarial Cost Method:	Entry Age
Amortization Method:	Level dollar open
Remaining Amortization Period:	30 Years
Asset Valuation Method:	Market

Actuarial Assumptions:	
- Investment Rate of Return *	8.50%
- Projected Salaried Increases *	6.00%

* Includes Inflation at:	3.25%
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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)
2007	\$ 10,183,433	\$ 31,701,080	\$ 24,708,649	\$ 57,155,130	100 %	100 %	62 %
2006	9,571,668	29,209,941	25,938,529	52,557,503	100	100	53
2005	9,116,347	27,051,245	25,058,989	51,219,293	100	100	60
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

\* The amounts reported include assets and liabilities for both Pensions and Health Insurance.



**TABLE 10****HISTORY AND PROJECTION OF CONTRIBUTION RATES AND FUNDED RATIOS<sup>1</sup>**

Fiscal Year Ending June	Appropriation Payroll (thousands)	Contribution Rates <sup>2</sup>							Funded Ratio
		Employee	Employer Normal Cost	Employer Unfunded Liability	Preliminary Employer Pension	Final Employer Pension	Employer Health Insurance	Total Employer	
2000	\$ 8,939,598	5.72 %	6.40 %	(2.04) %	4.36 %	4.36 %	0.25 %	4.61 %	123.8 %
2001	9,414,884	5.77	6.29	(4.65)	1.64	1.64	0.30	1.94	114.4
2002 <sup>3</sup>	9,378,944	6.43	5.63	(6.05)	(0.42)	0.00	1.09	1.09	104.8
2003 <sup>4</sup>	9,652,881	7.10	7.20	(10.03)	1.00	0.18	0.97	1.15	97.2
2004	10,030,705	7.08	7.25	(4.27)	2.98	2.98	0.79	3.77	91.2
2005 <sup>5</sup>	11,062,589	7.12	7.48	(7.10)	0.38	4.00	0.23	4.23	83.7
2006	11,505,093	7.16	7.61	(4.28)	3.33	4.00	0.69	4.69	81.2
2007 <sup>6</sup>	11,821,951	7.21	6.62	(0.95)	5.67	5.72	0.74	6.46	<b>85.8</b>
2008	12,881,244	7.25	6.68	(0.24)	6.44	6.44	0.69	7.13	90.5
<b>2009</b>	<b>12,500,000</b>	<b>7.29</b>	<b>6.68</b>	<b>(3.37)</b>	<b>3.31</b>	<b>4.00</b>	<b>0.76</b>	<b>4.76</b>	93.8
2010	12,866,029	7.31	6.64	(6.15)	0.49	4.00	0.75	4.75	96.8
2011	13,226,878	7.33	6.62	(8.37)	(1.75)	4.00	0.74	4.74	99.0
2012	13,603,456	7.35	6.59	(10.55)	(3.96)	4.00	0.74	4.74	99.1
2013	14,001,264	7.37	6.57	3.93	10.50	10.50	0.73	11.23	100.1
2014	14,420,497	7.39	6.54	2.18	8.72	8.72	0.72	9.44	100.6
2015	14,859,650	7.41	6.52	1.01	7.53	7.53	0.72	8.25	100.9
2016	15,333,694	7.42	6.50	0.88	7.38	7.38	0.70	8.08	101.1
2017	15,848,584	7.44	6.48	0.80	7.28	7.28	0.68	7.96	101.3
2018	16,409,583	7.45	6.46	0.75	7.21	7.21	0.67	7.88	101.5
2019	17,015,045	7.46	6.44	0.72	7.16	7.16	0.64	7.80	101.7

1. The projection of contribution rates is based on the assumption that there are no changes in demographic 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.
2. In general, the Preliminary Employer Pension Rate equals the sum of the rates for the Employer Normal Cost and the Unfunded Liability; and the Final Employer Pension Rate is the greater of the Preliminary Pension Rate and any Pension Rate Floor stated in the PSERS Code (the Code). The Total Employer Rate is the sum of the Final Employer Pension Rate and the Employer Health Insurance Rate.
3. For fiscal years ending on or before June 30, 2002, there was no floor specified in the Code, but the Final Employer Pension Rate could not be less than 0%, since money can only be removed from the trust for purposes allowed by the Code.
4. Act 2002-38 amended the Code to place a permanent 1% floor on the Employer Pension Rate, but also provided that the Total Employer Rate for the year ending June 30, 2003 could not exceed 1.15%, resulting in a 0.18% Final Employer Pension Rate (the Total Employer Rate of 1.15% minus the 0.97% Employer Health Insurance Rate).
5. Act 2003-40 amended the Code to increase the Employer Pension Rate Floor from 1% to 4%.
6. Revised actuarial assumptions based on a five-year experience review ending June 30, 2005 were used to determine the contributions for the fiscal year ending June 30, 2007. Since the benefit changes under Act 2001-9 had not been in effect throughout the entire period covered by the study the Board decided, at its December 2005 meeting, to delay making any changes to the retirement rate assumptions until further data became available. The 5.72% Final Employer Pension Rate equals the 6.46% Total Employer Rate certified by the Board at that meeting, minus the 0.74% Employer Health Insurance Rate. The 5.67% Preliminary Employer Pension Rate equals the sum of the Employer Normal Cost and Unfunded Liability rates. The Normal Cost and Unfunded Liability rates were calculated by the actuary in January 2006, based on the package of assumptions adopted at the December 2005 meeting.

**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
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			148,727	7,792	156,519	255,465
2006			153,757	8,056	161,813	263,350
<b>2007</b>			<b>159,760</b>	<b>8,266</b>	<b>168,026</b>	<b>264,023</b>
2008	15,018	4,351	170,427	8,735	179,162	264,023
2009	11,839	4,522	177,744	9,173	186,917	264,023
2010	12,188	4,704	185,228	9,574	194,802	264,023
2011	12,199	4,903	192,524	9,953	202,477	264,023
2012	12,170	5,088	199,606	10,307	209,913	264,023
2013	11,802	5,264	206,144	10,643	216,787	264,023
2014	11,671	5,458	212,357	10,971	223,328	264,023
2015	11,583	5,645	218,295	11,298	229,593	264,023
2016	11,405	5,822	223,878	11,618	235,496	264,023
2017	11,280	6,011	229,147	11,938	241,085	264,023

\* The number for the first year of the projection reflects the assumption that all Active members age 74 and above, and that all vested inactive members who have reached superannuation age retire immediately.

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

**Interest Rate:** 8.5% per annum, compounded annually (adopted as of June 30, 1990). The components are 3.25% for inflation and 5.25% for the real rate of return (both adopted as of June 30, 2005). Actuarial equivalent benefits are determined based on 4% (since 1960).

**Separation from Service:** Illustrative rates of assumed separation from service are shown in the following table. (Rates of non-vested withdrawal, of death, and of disability were adopted as of June 30, 2005; other rates were adopted as of June 30, 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	12.40%	5.50%	1.40%	.042%	.024%		
30	10.00	3.00	1.40	.057	.024		
35	11.00	3.00	1.10	.062	.100		
40	11.00	3.00	.80	.072	.180		
45	11.00	3.00	.50	.100	.180		
50	11.00	3.00	1.78	.152	.280		24.00%
55	10.50	3.00	3.50	.252	.430	10.00	24.00
60	10.00	2.40	4.50	.467	.580	10.00	28.00
65				.870	.100		20.00
69				1.335	.100		20.00
<b>FEMALES</b>							
25	14.10%	9.50%	4.00%	.019%	.040%		
30	14.10	7.50	4.00	.023	.040		
35	14.10	5.50	2.00	.031	.080		
40	10.90	3.50	1.00	.043	.130		
45	10.90	3.00	.55	.061	.180		
50	10.90	3.00	1.50	.085	.250		10.00%
55	10.90	3.00	3.00	.146	.480	10.00	10.00
60	10.90	3.50	5.90	.284	.480	15.00	25.00
65				.561	.160		28.00
69				.866	.160		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 Uninsured Pensioners 1994 Mortality Table (UP94) with mortality improvements projected 10 years, and with age set back one year for males and females, adopted in 2005, 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 6% per annum, compounded annually (adopted as of June 30, 2005). The components are 3.25% for inflation, 1% for real wage growth and 1.75% for merit or seniority increases. Representative values are as follows:

Age	Annual Rate of Salary Increase
20	12.00%
30	9.00
40	7.00
50	4.75
55	4.50
60	4.25
65	4.25
70	4.25

**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.

**Health Insurance**

**Elections:** 65% of eligible retirees are assumed to elect premium assistance.

**Administrative Expenses:** Assumed equal to 2% of contributions made during the year.

**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.

**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 return on the market value of assets and the expected return on the actuarial value of assets over a period of five years (adopted as of June 30, 2001).

**Actuarial Cost Method for Pension Funding:** Entry Age Normal Cost Method (modified slightly as of June 30, 2005 to use a pay-weighted average normal contribution rate). The results of each June 30 valuation normally determine the employer contribution rate for the second succeeding fiscal year. 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

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

(Continued)

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, 2003 cost-of-living adjustments provided by Act 38 were both recognized at June 30, 2002 and 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, 2001 and June 30, 2002 – including the Act 9 benefit changes – are amortized over a 30-year period, with level dollar funding starting on July 1, 2002, and July 1, 2003, respectively. Post June 30, 2002 benefit changes for active members and retirees are amortized over a 10-year period with level dollar funding. Post June 30, 2002 gains and losses, and changes in the unfunded accrued liability resulting from changes in actuarial assumptions and methods, are amortized over a 30-year period with level dollar funding. Act 40 also provided a 4.00% floor on the employer pension rate.

**Actuarial Cost Method for GASB 25 Accounting for Pensions:** Same as for pension funding, except that in fiscal years in which the amortization requirements of the PSERS code result in an equivalent single amortization period that is longer than the maximum allowable period specified by GASB 25 (40 years for fiscal years ending on or before June 30, 2006; and 30 years for subsequent fiscal years), the GASB 25 amortization payment will be set equal to the level dollar amount that will amortize the unfunded accrued liability over a period equal to the maximum allowable period specified by GASB 25.

**Actuarial Cost Method for Health Insurance Funding:** The actuarial liability equals the assets in the health insurance account, and the results of the June 30 valuation determine the contribution rate for the second succeeding fiscal year. The rate so determined is the rate necessary to establish reserves sufficient to cover administrative expenses and provide premium assistance payments for all participating eligible annuitants during the third fiscal year that follows the valuation date.

**Actuarial Cost Method for GASB 43 Accounting for Health Insurance:** The actuarial liability is determined under the entry age actuarial cost method, and the Annual Required Contribution (ARC) for the fiscal year that follows the valuation date is equal to the entry age normal cost for health insurance plus an amount that will amortize the entry age unfunded actuarial liability for health insurance over a period of 30 years.

**DATA**

**Census and Assets:** The valuation was based on members of the System as of June 30, 2007 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). As of June 30, 2007, the adjusted limit is \$225,000.

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 that 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 elected coverage under Class T-D and who were most recently enrolled prior to July 22, 1983 contribute at a rate of 6½% of compensation, while members who elected coverage under Class T-D and who were most recently enrolled on or after July 22, 1983 contribute at a rate of 7½% of compensation. Members who did not elect coverage under Class T-D and who were most recently enrolled prior to July 22, 1983 contribute at a rate of 5¼% of compensation, while members who did not elect coverage under Class T-D and who were most recently enrolled on or after July 22, 1983 and prior to July 1, 2001 contribute at a rate of 6¼% of compensation. Anyone who enrolls or re-enrolls on or after July 1, 2001 automatically has coverage under class T-D for subsequent school service and subsequent intervening military service, and must contribute at a rate of 7½% of compensation. Reduction in rate for a joint coverage member: 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, 2007**

(\$ Amounts in Thousands)

**ACTIVE MEMBERS \***

Item	Male	Female	Total
Number of Members	72,195	191,828	264,023
Annual Salaries **	\$ 3,553,463	\$ 7,856,794	\$ 11,410,257
Average Age ***	44.5	44.7	44.6
Average Service ***	11.7	10.5	10.8

\* Excludes 109,186 inactive members and vestees.

\*\* The salaries shown in the table above represent an annual rate of pay for the year ended June 30, 2007 for members who were in active service on June 30, 2007.

\*\*\* Average complete years of age and service.

**ANNUITANTS AND BENEFICIARIES**

Item	Number	Annual Annuities <sup>#</sup>	Average Annuities	Average Age
Annuitants (Normal, Early and Withdrawal)	152,361	\$ 3,327,020	\$ 21,836	69.7
Survivors and Beneficiaries	8,266	76,055	9,201	75.7
Disabled Annuitants	<u>7,399</u>	<u>120,354</u>	16,266	62.6
Total	168,026	\$ 3,523,429	\$ 20,970	69.7

# The annuities shown in the table above represent the annual amount payable as of July 1, 2007 for participants who were in payment on June 30, 2007.

**EXHIBIT I****ACTIVE MEMBERSHIP DATA AS OF JUNE 30, 2007  
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>	9,003 \$29,360	56 \$26,889								9,059 \$29,345
<b>25-29</b>	20,474 \$36,666	5,886 \$45,601	46 \$35,033							26,406 \$38,655
<b>30-34</b>	9,697 \$34,466	13,078 \$49,371	2,962 \$55,846	32 \$41,510						25,769 \$44,497
<b>35-39</b>	9,840 \$27,009	8,710 \$45,838	9,342 \$58,494	2,112 \$61,905	56 \$42,436					30,060 \$44,730
<b>40-44</b>	11,230 \$23,277	7,486 \$35,818	5,015 \$52,668	5,399 \$63,420	2,035 \$62,958	82 \$43,322				31,247 \$40,572
<b>45-49</b>	10,939 \$22,998	9,431 \$31,581	5,714 \$42,688	4,276 \$56,654	4,712 \$65,676	2,289 \$64,275	137 \$43,807			37,498 \$39,953
<b>50-54</b>	7,775 \$23,510	8,323 \$32,381	6,879 \$40,916	5,616 \$51,088	4,341 \$61,303	6,968 \$70,428	5,220 \$71,531	71 \$48,462		45,193 \$47,670
<b>55-59</b>	5,074 \$24,046	4,837 \$32,616	4,645 \$40,185	5,246 \$48,404	4,515 \$56,264	3,673 \$66,307	7,648 \$75,110	1,943 \$76,949	24 \$46,653	37,605 \$51,669
<b>60-64</b>	2,807 \$20,590	2,220 \$29,522	1,940 \$34,935	2,225 \$42,714	2,027 \$48,766	1,608 \$52,980	945 \$61,517	821 \$77,817	165 \$77,937	14,758 \$40,999
<b>Over 64</b>	1,966 \$14,567	1,193 \$19,700	818 \$25,428	737 \$29,726	583 \$33,933	482 \$36,145	326 \$39,048	172 \$49,160	151 \$72,101	6,428 \$25,533
<b>Total</b>	88,805 \$28,368	61,220 \$39,156	37,361 \$47,596	25,643 \$53,602	18,269 \$59,047	15,102 \$65,394	14,276 \$71,777	3,007 \$74,924	340 \$73,137	264,023 \$43,217

**EXHIBIT II****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2007****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+	
<b>Under 50</b>	1	1,991	1,280	399	115	22	1			3,809
	\$64	\$776	\$1,727	\$4,234	\$8,105	\$12,617	\$23,910			\$1,753
<b>50-54</b>		502	1,089	503	264	259	151	13		2,781
		\$1,355	\$1,645	\$4,431	\$9,861	\$21,460	\$31,332	\$33,623		\$6,483
<b>55-59</b>		415	2,252	1,201	753	1,401	7,479	3,059	2	16,562
		\$2,188	\$1,935	\$5,695	\$11,649	\$26,498	\$43,330	\$53,410	\$39,672	\$32,938
<b>60-64</b>	115	627	2,965	2,193	1,796	2,879	11,230	7,986	204	29,995
	\$999	\$3,035	\$2,939	\$7,750	\$14,856	\$27,212	\$38,037	\$52,479	\$59,070	\$33,041
<b>65-69</b>	533	937	2,782	2,902	2,849	3,553	7,739	5,022	731	27,048
	\$917	\$2,889	\$3,876	\$8,183	\$13,848	\$22,376	\$32,626	\$42,877	\$56,107	\$24,605
<b>70-74</b>	575	938	2,714	2,646	2,988	3,189	4,136	3,596	1,316	22,098
	\$633	\$2,235	\$3,544	\$6,708	\$11,174	\$18,107	\$27,038	\$35,882	\$43,496	\$18,964
<b>75-79</b>	594	1,102	2,645	2,665	2,977	3,109	3,378	2,156	1,529	20,155
	\$551	\$1,822	\$3,395	\$6,048	\$10,722	\$16,503	\$24,108	\$32,020	\$41,329	\$16,092
<b>80-84</b>	508	1,000	2,310	2,471	2,457	2,297	1,853	1,621	751	15,268
	\$490	\$1,595	\$3,304	\$6,094	\$10,426	\$15,517	\$20,707	\$26,701	\$37,552	\$12,814
<b>85-89</b>	311	689	1,622	1,580	1,355	1,225	872	962	354	8,970
	\$555	\$1,581	\$3,346	\$5,928	\$9,426	\$13,648	\$18,499	\$22,774	\$30,469	\$10,521
<b>Over 89</b>	175	474	895	888	750	730	583	685	495	5,675
	\$688	\$2,059	\$3,943	\$6,712	\$10,367	\$13,772	\$18,150	\$22,030	\$25,701	\$11,772
<b>Total</b>	2,812	8,675	20,554	17,448	16,304	18,664	37,422	25,100	5,382	152,361
	\$653	\$1,788	\$3,067	\$6,634	\$11,648	\$19,946	\$33,852	\$42,892	\$41,859	\$21,836

**EXHIBIT III****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2007****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>	2	20	50	46	47	36	36	22	16	275
	\$488	\$1,715	\$2,043	\$3,559	\$5,643	\$7,551	\$12,698	\$13,836	\$11,518	\$6,487
<b>50-54</b>	2	13	22	25	37	30	32	29	11	201
	\$365	\$1,400	\$2,423	\$3,113	\$6,224	\$10,286	\$16,027	\$13,647	\$12,722	\$8,644
<b>55-59</b>	2	10	42	31	43	60	97	93	15	393
	\$291	\$2,023	\$3,150	\$4,285	\$6,299	\$13,171	\$16,489	\$19,677	\$13,354	\$12,663
<b>60-64</b>	3	16	53	55	56	69	191	150	34	627
	\$331	\$2,281	\$2,815	\$4,771	\$7,176	\$12,012	\$16,605	\$20,565	\$12,473	\$13,333
<b>65-69</b>	9	21	84	87	75	87	175	183	52	773
	\$631	\$1,757	\$3,259	\$5,476	\$7,234	\$12,598	\$16,911	\$20,356	\$18,214	\$13,018
<b>70-74</b>	8	42	124	100	113	104	213	180	106	990
	\$605	\$1,695	\$2,869	\$4,488	\$7,202	\$10,075	\$13,068	\$17,205	\$21,985	\$11,064
<b>75-79</b>	25	54	155	179	168	170	219	223	128	1,321
	\$551	\$1,433	\$2,979	\$4,196	\$6,659	\$8,446	\$12,597	\$13,949	\$18,065	\$9,114
<b>80-84</b>	29	97	216	191	177	205	222	295	117	1,549
	\$639	\$1,434	\$2,539	\$3,980	\$6,391	\$8,565	\$10,116	\$11,494	\$15,627	\$7,629
<b>85-89</b>	11	96	175	140	152	145	168	266	140	1,293
	\$531	\$1,187	\$2,235	\$3,324	\$5,537	\$7,028	\$9,191	\$10,814	\$12,194	\$6,933
<b>Over 89</b>	3	61	104	76	68	74	100	187	171	844
	\$505	\$1,112	\$2,082	\$3,679	\$4,937	\$6,417	\$7,066	\$8,829	\$9,500	\$6,348
<b>Total</b>	94	430	1,025	930	936	980	1,453	1,628	790	8,266
	\$569	\$1,432	\$2,619	\$4,106	\$6,359	\$9,213	\$12,897	\$14,414	\$14,808	\$9,201

**EXHIBIT IV****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2007****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>		239	167	111	46	13	2				578
	\$10,349	\$13,505	\$18,032	\$22,420	\$24,180	\$24,371					\$14,057
<b>50-54</b>		196	190	156	150	134	26				852
	\$9,290	\$11,383	\$16,768	\$23,923	\$36,819	\$43,048					\$19,062
<b>55-59</b>		251	285	241	271	381	214	2			1,645
	\$8,144	\$11,421	\$15,383	\$23,390	\$35,010	\$47,413	\$50,776				\$23,667
<b>60-64</b>		236	311	281	317	297	118	4			1,564
	\$6,930	\$9,295	\$12,317	\$20,056	\$28,640	\$40,574	\$46,850				\$17,792
<b>65-69</b>		181	269	235	202	139	19				1,045
	\$5,317	\$8,063	\$10,322	\$15,896	\$25,862	\$31,337					\$12,400
<b>70-74</b>		132	185	147	122	81	15	3			685
	\$4,787	\$6,848	\$8,657	\$13,837	\$21,060	\$27,409	\$43,058				\$10,374
<b>75-79</b>		93	158	103	104	44	5		1		508
	\$3,238	\$5,630	\$8,803	\$12,919	\$19,578	\$22,130		\$54,601			\$8,795
<b>80-84</b>		71	66	50	57	40	11	2			297
	\$3,660	\$6,183	\$8,263	\$11,539	\$16,362	\$21,261	\$26,943				\$9,027
<b>85-89</b>		30	35	25	29	21	12				152
	\$3,613	\$5,719	\$7,680	\$10,469	\$15,205	\$23,408					\$9,239
<b>Over 89</b>		8	23	21	9	4	8				73
	\$2,753	\$5,001	\$8,217	\$10,349	\$15,562	\$18,641					\$8,413
<b>Total</b>		1,437	1,689	1,370	1,307	1,154	430	11	1		7,399
	\$7,140	\$9,243	\$12,532	\$18,832	\$29,715	\$41,589	\$42,910	\$54,601			\$16,266

**EXHIBIT V****ANNUITANT AND BENEFICIARY MEMBERSHIP DATA  
AS OF JUNE 30, 2007****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	23,152	\$ 570,235	\$ 24,630
60 - 64	29,995	991,054	33,041
65 - 69	27,048	665,516	24,605
70 - 74	22,098	419,059	18,964
75 - 79	20,155	324,327	16,092
Over 79	29,913	356,829	11,929
Total	152,361	\$ 3,327,020	\$ 21,836
<b>Survivors and Beneficiaries</b>			
Under 60	869	\$ 8,498	\$ 9,779
60 - 64	627	8,360	13,333
65 - 69	773	10,063	13,018
70 - 74	990	10,953	11,064
75 - 79	1,321	12,040	9,114
Over 79	3,686	26,141	7,092
Total	8,266	\$ 76,055	\$ 9,201
<b>Disabled Annuitants</b>			
Under 60	3,075	\$ 63,297	\$ 20,584
60 - 64	1,564	27,826	17,792
65 - 69	1,045	12,958	12,400
70 - 74	685	7,106	10,374
75 - 79	508	4,468	8,795
Over 79	522	4,699	9,002
Total	7,399	\$ 120,354	\$ 16,266
<b>Grand Total Average Annual Benefit</b>	168,026	\$ 3,523,429	\$ 20,970

**EXHIBIT VI****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
2007	264,023	0.26%	\$ 11,410,257	(0.08%)
2006	263,350	3.09%	11,419,049	8.47%
2005	255,465	3.05%	10,527,668	4.95%
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%



**EXHIBIT VI**  
(Continued)

**10 YEAR HISTORY OF MEMBERSHIP DATA**

**THE NUMBER AND ANNUAL ANNUITIES OF  
ANNUITANT AND SURVIVOR ANNUITANT MEMBERS**

Year Ended June 30	Number	Annual Annuities (Millions)	Average Annual Annuities	Additions*	Annual Annuities* (Millions)	Deletions*	Annual Annuities* (Millions)	Percentage Change in Membership	Percentage Change in Annuities
2007	168,026	\$ 3,523.4	\$ 20,970	10,612	\$ 307.5	4,399	\$ 56.0	3.84%	7.60%
2006	161,813	3,274.5	20,236	10,637		5,343		3.38%	8.16%
2005	156,519	3,027.6	19,343	10,050		5,083		3.28%	8.20%
2004	151,552	2,798.2	18,464	10,526		4,667		4.02%	9.94%
2003	145,693	2,545.1	17,469	9,079		4,800		3.03%	13.20%
2002	141,414	2,248.3	15,899	13,003		4,305		6.55%	20.10%
2001	132,716	1,872.0	14,105	3,140		4,482		-1.00%	0.00%
2000	134,058	1,880.6	14,028	5,923		4,734		0.89%	2.73%
1999	132,869	1,830.6	13,777	10,609		4,554		4.77%	10.77%
1998	126,814	1,652.6	13,032	7,132		4,442		2.17%	14.21%

\* The annual annuities added and deleted are for the annuitants and survivor annuitants who were added and deleted. Changes in annuities for continuing payees may also occur due to finalization of benefit calculations and due to the commencement of supplemental annuity payments.

**EXHIBIT VII**

**DETAILED TABULATIONS OF THE DATA**

**TABLE 1**  
**THE NUMBER AND ANNUAL SALARIES**  
**OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY**  
**AGE AS OF JUNE 30, 2007**

Age	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
17	16	\$ 147,973	15	\$ 103,651	31	\$ 251,624
18	28	353,943	25	236,696	53	590,639
19	73	741,862	84	872,500	157	1,614,362
20	125	1,915,359	119	1,359,689	244	3,275,048
21	173	2,683,099	195	2,628,505	368	5,311,604
22	283	6,097,374	664	16,209,278	947	22,306,652
23	747	23,426,927	2,268	69,748,687	3,015	93,175,614
24	1,039	33,253,898	3,205	106,054,882	4,244	139,308,780
25	1,377	46,577,857	3,572	128,135,220	4,949	174,713,077
26	1,473	54,091,673	3,815	140,704,802	5,288	194,796,475
27	1,556	62,579,190	3,940	154,029,592	5,496	216,608,782
28	1,558	62,860,323	3,903	156,608,859	5,461	219,469,182
29	1,577	66,795,279	3,635	148,339,268	5,212	215,134,547
30	1,617	70,523,123	3,670	156,459,496	5,287	226,982,619
31	1,623	75,073,500	3,441	148,867,543	5,064	223,941,043
32	1,606	79,781,388	3,500	147,974,668	5,106	227,756,056
33	1,623	79,687,219	3,376	146,935,817	4,999	226,623,036
34	1,731	85,545,495	3,582	155,793,805	5,313	241,339,300
35	1,813	91,712,019	3,963	168,234,937	5,776	259,946,956
36	1,941	99,376,739	4,385	186,971,599	6,326	286,348,338
37	1,787	94,617,555	4,470	188,829,090	6,257	283,446,645
38	1,723	90,354,679	4,235	177,353,715	5,958	267,708,394
39	1,584	84,890,628	4,159	162,245,653	5,743	247,136,281
40	1,551	82,518,330	4,299	169,520,683	5,850	252,039,013
41	1,602	84,574,059	4,361	169,539,049	5,963	254,113,108
42	1,555	79,303,518	4,656	168,491,891	6,211	247,795,409
43	1,650	86,257,320	4,962	173,087,033	6,612	259,344,353
44	1,598	79,710,530	5,013	174,738,710	6,611	254,449,240
45	1,573	78,669,033	5,328	193,315,646	6,901	271,984,679
46	1,733	86,921,983	5,723	204,188,573	7,456	291,110,556
47	1,732	87,245,930	5,508	197,295,173	7,240	284,541,103
48	1,837	91,873,502	5,885	214,632,445	7,722	306,505,947
49	1,926	97,979,387	6,253	246,051,181	8,179	344,030,568
50	2,050	110,941,935	6,540	263,490,037	8,590	374,431,972
51	2,041	109,528,143	6,549	275,406,602	8,590	384,934,745
52	2,224	122,149,626	6,732	297,903,143	8,956	420,052,769
53	2,232	126,185,720	6,986	333,251,553	9,218	459,437,273
54	2,567	150,691,673	7,272	364,806,324	9,839	515,497,997
55	2,567	152,913,938	7,066	361,018,656	9,633	513,932,594
56	2,297	139,608,987	6,386	327,530,354	8,683	467,139,341

**TABLE 1**  
(Continued)

**THE NUMBER AND ANNUAL SALARIES  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
AGE AS OF JUNE 30, 2007**

Age	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
57	2,003	\$ 117,365,633	5,212	\$ 258,211,724	7,215	\$ 375,577,357
58	1,843	105,484,475	4,602	218,122,295	6,445	323,606,770
59	1,599	84,227,815	4,030	178,523,923	5,629	262,751,738
60	1,545	76,243,437	3,976	171,995,733	5,521	248,239,170
61	934	44,604,544	2,180	87,470,437	3,114	132,074,981
62	712	30,240,418	1,677	62,958,890	2,389	93,199,308
63	635	24,480,891	1,312	44,303,702	1,947	68,784,593
64	600	22,269,607	1,187	40,501,685	1,787	62,771,292
65	477	15,903,034	830	24,719,130	1,307	40,622,164
66	317	9,168,161	546	14,626,410	863	23,794,571
67	318	8,840,490	458	11,904,203	776	20,744,693
68	250	7,228,088	380	8,756,924	630	15,985,012
69	212	5,804,470	324	8,230,730	536	14,035,200
70	178	4,480,789	262	6,545,793	440	11,026,582
71	149	3,772,100	216	4,218,348	365	7,990,448
72	120	2,481,265	186	3,872,405	306	6,353,670
73	98	2,102,750	153	3,089,073	251	5,191,823
74	88	2,141,222	119	2,103,044	207	4,244,266
75	83	1,781,067	92	1,554,731	175	3,335,798
76	66	1,267,022	82	1,612,621	148	2,879,643
77	45	1,013,705	62	1,113,552	107	2,127,257
78	35	622,488	54	833,219	89	1,455,707
79	24	611,283	41	733,297	65	1,344,580
80	19	431,296	32	482,937	51	914,233
81	10	207,822	30	443,402	40	651,224
82	10	194,357	19	407,236	29	601,593
83	4	52,676	8	146,124	12	198,800
84	7	129,686	2	61,517	9	191,203
85	4	84,305	7	126,738	11	211,043
86	1	13,367	4	79,511	5	92,878
87	1	54,432	5	79,245	6	133,677
<b>Total</b>	72,195	3,553,463,411	191,828	7,856,793,584	264,023	11,410,256,995

TABLE 2

**THE NUMBER AND ANNUAL SALARIES  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2007**

Service	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
0	4,164	\$ 76,363,840	11,339	\$ 209,080,785	15,503	\$ 285,444,625
1	5,939	174,439,764	17,522	428,460,840	23,461	602,900,604
2	5,010	174,707,353	14,261	414,953,964	19,271	589,661,317
3	4,001	151,065,114	12,005	380,019,148	16,006	531,084,262
4	3,713	150,506,861	10,851	359,629,737	14,564	510,136,598
5	3,514	147,798,729	10,253	352,201,338	13,767	500,000,067
6	3,208	143,069,577	9,644	331,253,678	12,852	474,323,255
7	2,882	130,119,003	9,141	338,369,615	12,023	468,488,618
8	3,398	167,858,717	9,060	352,646,238	12,458	520,504,955
9	2,769	137,990,615	7,351	295,814,447	10,120	433,805,062
10	2,783	146,158,561	6,623	276,534,412	9,406	422,692,973
11	2,201	117,113,286	5,580	243,005,620	7,781	360,118,906
12	1,937	107,669,953	5,020	224,019,032	6,957	331,688,985
13	1,773	97,595,662	4,561	212,553,312	6,334	310,148,974
14	2,079	121,526,196	4,804	232,047,027	6,883	353,573,223
15	1,466	83,611,570	4,001	198,219,031	5,467	281,830,601
16	1,242	71,048,883	3,743	188,868,591	4,985	259,917,474
17	1,309	77,334,622	3,787	197,281,742	5,096	274,616,364
18	1,410	83,492,782	3,705	196,453,924	5,115	279,946,706
19	1,310	79,309,767	3,670	198,889,726	4,980	278,199,493
20	1,244	76,028,444	3,187	180,016,690	4,431	256,045,134
21	1,038	64,472,102	2,996	168,618,180	4,034	233,090,282
22	969	59,900,196	2,696	157,879,764	3,665	217,779,960
23	910	56,589,724	2,276	134,825,552	3,186	191,415,276
24	895	54,426,274	2,058	125,980,855	2,953	180,407,129
25	734	45,792,811	1,842	114,557,112	2,576	160,349,923
26	770	49,294,834	1,998	125,035,923	2,768	174,330,757
27	878	59,707,112	2,282	145,551,170	3,160	205,258,282
28	999	68,253,850	2,382	156,665,241	3,381	224,919,091
29	967	70,092,982	2,250	152,626,550	3,217	222,719,532
30	998	72,479,583	2,089	143,094,965	3,087	215,574,548
31	1,042	75,667,306	2,019	140,741,744	3,061	216,409,050
32	1,079	79,942,924	1,909	132,860,921	2,988	212,803,845
33	1,143	86,872,477	1,748	124,838,476	2,891	211,710,953
34	896	71,012,770	1,353	97,183,671	2,249	168,196,441
35	523	41,424,962	654	45,509,881	1,177	86,934,843
36	337	27,915,831	412	28,992,999	749	56,908,830
37	243	19,895,728	293	20,433,383	536	40,329,111
38	150	12,267,598	165	11,666,326	315	23,933,924
39	124	10,132,279	106	7,058,246	230	17,190,525

**TABLE 2**  
(Continued)

**THE NUMBER AND ANNUAL SALARIES  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2007**

Service	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
40	49	\$ 3,902,651	58	\$ 3,823,545	107	\$ 7,726,196
41	30	2,783,482	41	2,418,820	71	5,202,302
42	21	1,821,484	18	1,085,546	39	2,907,030
43	16	1,506,080	16	1,147,323	32	2,653,403
44	13	1,045,876	12	824,318	25	1,870,194
45	2	117,183	13	997,943	15	1,115,126
46	4	327,413	7	474,415	11	801,828
47	5	391,412	5	277,076	10	668,488
48	5	437,707	2	167,948	7	605,655
49	1	79,452	6	324,208	7	403,660
50			1	33,790	1	33,790
51	1	65,178	4	265,730	5	330,908
52			3	199,721	3	199,721
53	1	34,851	2	98,809	3	133,660
54			1	36,663	1	36,663
55			1	72,648	1	72,648
61			1	62,825	1	62,825
64			1	42,400	1	42,400
<b>Total</b>	72,195	3,553,463,411	191,828	7,856,793,584	264,023	\$ 11,410,256,995

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2007**

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

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
24			1	\$ 172	1	\$ 172
25			1	348	1	348
26	2	\$ 896	3	2,570	5	3,466
27	5	1,835	6	1,415	11	3,250
28	6	3,222	4	1,182	10	4,404
29	14	9,852	21	7,764	35	17,616
30	17	9,688	34	12,390	51	22,078
31	23	12,925	35	16,230	58	29,154
32	17	13,995	44	25,947	61	39,942
33	31	26,182	62	34,391	93	60,573
34	30	23,444	62	40,326	92	63,771
35	42	40,541	87	71,393	129	111,934
36	47	54,262	99	93,171	146	147,433
37	56	76,675	114	118,068	170	194,743
38	57	86,916	101	111,516	158	198,432
39	51	76,072	104	136,550	155	212,622
40	73	125,909	130	171,373	203	297,283
41	60	96,137	122	167,828	182	263,965
42	68	148,511	131	192,394	199	340,906
43	63	149,546	157	246,773	220	396,319
44	96	241,772	154	254,807	250	496,579
45	89	249,029	173	326,585	262	575,614
46	97	326,185	190	380,633	287	706,818
47	110	325,000	201	347,814	311	672,814
48	99	308,920	228	461,055	327	769,975
49	136	425,746	256	623,103	392	1,048,849
50	132	536,083	313	968,175	445	1,504,258
51	140	728,884	296	1,025,474	436	1,754,358
52	144	896,810	356	1,796,535	500	2,693,344
53	208	1,706,770	436	2,831,549	644	4,538,318
54	194	2,143,177	562	5,396,865	756	7,540,042
55	332	6,455,003	847	14,810,715	1,179	21,265,718
56	728	21,688,239	1,661	42,476,045	2,389	64,164,284
57	1,134	41,630,241	2,243	67,735,312	3,377	109,365,553
58	1,589	63,442,068	2,773	92,820,382	4,362	156,262,450
59	2,059	82,226,783	3,196	112,240,934	5,255	194,467,717
60	2,901	115,099,770	3,913	130,831,450	6,814	245,931,220
61	2,591	100,855,616	3,283	106,884,605	5,874	207,740,221
62	2,313	85,845,643	3,006	92,051,226	5,319	177,896,869
63	2,367	84,277,587	3,336	91,034,623	5,703	175,312,210

**TABLE 3**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2007**

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

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
64	2,570	\$ 88,609,736	3,715	\$ 95,564,113	6,285	\$ 184,173,849
65	2,607	87,411,599	3,682	89,106,305	6,289	176,517,904
66	2,153	65,285,539	3,539	79,977,796	5,692	145,263,335
67	1,942	58,522,647	3,211	67,761,330	5,153	126,283,977
68	1,804	48,662,666	3,140	61,469,669	4,944	110,132,335
69	1,832	48,181,839	3,138	59,136,730	4,970	107,318,570
70	1,779	45,480,629	2,974	51,079,200	4,753	96,559,829
71	1,755	44,501,924	2,904	49,080,936	4,659	93,582,860
72	1,616	38,016,807	2,812	42,796,458	4,428	80,813,264
73	1,591	37,464,995	2,593	39,385,221	4,184	76,850,217
74	1,552	35,028,595	2,522	36,224,720	4,074	71,253,315
75	1,579	35,136,108	2,692	38,039,613	4,271	73,175,720
76	1,480	34,507,164	2,756	40,009,926	4,236	74,517,090
77	1,470	30,174,977	2,599	35,337,796	4,069	65,512,773
78	1,272	24,938,204	2,494	31,375,244	3,766	56,313,448
79	1,226	23,235,610	2,587	31,572,156	3,813	54,807,766
80	1,208	21,188,014	2,406	28,743,383	3,614	49,931,397
81	1,068	19,100,864	2,272	26,121,202	3,340	45,222,066
82	999	17,238,408	2,024	21,291,250	3,023	38,529,658
83	861	13,937,374	1,970	20,341,883	2,831	34,279,257
84	741	11,071,392	1,719	16,614,019	2,460	27,685,412
85	630	8,714,753	1,628	15,265,852	2,258	23,980,604
86	514	7,407,055	1,546	14,946,614	2,060	22,353,670
87	448	6,082,182	1,410	13,272,675	1,858	19,354,857
88	285	3,698,472	1,122	10,626,047	1,407	14,324,519
89	288	3,429,932	1,099	10,928,430	1,387	14,358,361
90	226	2,671,842	956	9,511,103	1,182	12,182,945
91	210	2,580,721	793	7,891,563	1,003	10,472,284
92	142	1,668,882	658	7,031,287	800	8,700,169
93	112	1,544,397	562	6,336,595	674	7,880,992
94	90	1,276,826	451	5,405,762	541	6,682,588
95	64	881,933	375	4,937,320	439	5,819,252
96	32	533,900	274	3,586,521	306	4,120,420
97	20	322,197	198	2,762,039	218	3,084,236
98	29	446,565	172	2,562,990	201	3,009,556
99	7	125,065	112	1,651,921	119	1,776,987
100	8	135,948	76	1,186,688	84	1,322,636
101	3	36,704	45	657,359	48	694,063
102	4	84,297	22	375,654	26	459,951
103	2	37,267	8	130,415	10	167,682



**TABLE 3**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2007**

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

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
104			8	\$ 137,030	8	\$ 137,030
105	1	\$ 31,818	9	173,837	10	205,656
106			3	46,422	3	46,422
107			2	28,212	2	28,212
108			1	17,586	1	17,586
<b>Total</b>	54,341	\$ 1,479,771,782	98,020	\$ 1,847,248,556	152,361	\$ 3,327,020,338

**TABLE 3**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2007**

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

<u>OPTION</u>		<u>MALE</u>		<u>FEMALE</u>	
Maximum	28,205	\$	803,723,746	66,432	\$ 1,232,529,872
1	7,034		150,597,253	16,878	271,178,858
2	10,168		238,310,893	7,901	166,266,675
3	8,019		248,850,569	6,439	164,289,135
4	<u>915</u>		<u>38,289,321</u>	<u>370</u>	<u>12,984,016</u>
	54,341	\$	1,479,771,782	98,020	\$ 1,847,248,556

**DEFINITIONS OF OPTIONS**

- Option 1 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 other than the normal option 1, 2, or 3 death benefit.

TABLE 4

**THE NUMBER AND ANNUAL ANNUITIES  
OF BENEFICIARIES AND SURVIVOR ANNUITANTS  
AS OF JUNE 30, 2007**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
6	1	\$ 2,416			1	\$ 2,416
8			1	\$ 2,727	1	2,727
12			1	2,751	1	2,751
13	1	2,775			1	2,775
14			2	9,620	2	9,620
16	2	10,125			2	10,125
18	1	1,497			1	1,497
19			1	3,484	1	3,484
20	2	9,737	2	24,567	4	34,304
21	1	2,483	1	6,094	2	8,577
22			2	8,158	2	8,158
23	2	9,796			2	9,796
25	1	2,514	3	23,371	4	25,885
26	2	14,518	3	10,745	5	25,263
27	2	3,201	2	9,679	4	12,880
28	2	1,996	1	7,797	3	9,793
29	5	42,452	2	4,878	7	47,330
30	2	5,625	3	11,418	5	17,043
31	2	8,515	1	13,554	3	22,068
32	5	78,072	1	12,887	6	90,960
33	3	19,469	2	7,069	5	26,538
34	1	4,781	5	14,541	6	19,322
35	3	37,935	2	11,641	5	49,575
36	1	2,554	7	27,902	8	30,455
37	3	13,590	3	22,405	6	35,994
38	3	21,217	6	79,643	9	100,860
39	3	8,706	5	29,165	8	37,871
40	9	46,998	6	47,597	15	94,595
41	7	42,198	7	41,856	14	84,054
42	2	9,629	6	28,328	8	37,957
43	5	20,071	11	68,344	16	88,416
44	3	13,096	7	80,697	10	93,793
45	4	38,168	6	15,961	10	54,128
46	8	53,300	8	37,521	16	90,821
47	7	43,166	10	109,861	17	153,027
48	8	29,550	30	237,799	38	267,348
49	4	27,125	23	144,652	27	171,777
50	5	25,033	30	186,803	35	211,836
51	11	77,723	19	175,999	30	253,721
52	6	89,463	31	301,415	37	390,878

**TABLE 4**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF BENEFICIARIES AND SURVIVOR ANNUITANTS  
AS OF JUNE 30, 2007**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
53	8	\$ 35,602	30	\$ 285,642	38	\$ 321,244
54	14	74,103	47	485,700	61	559,804
55	16	135,210	38	413,643	54	548,853
56	19	310,460	48	596,006	67	906,465
57	20	201,206	61	767,786	81	968,993
58	22	228,316	63	777,054	85	1,005,370
59	18	175,079	88	1,371,961	106	1,547,040
60	24	209,865	109	1,600,869	133	1,810,734
61	26	283,966	93	1,231,680	119	1,515,645
62	15	194,698	96	1,328,378	111	1,523,076
63	24	361,194	88	1,229,160	112	1,590,354
64	37	378,603	115	1,541,769	152	1,920,372
65	26	374,138	121	1,901,795	147	2,275,933
66	25	400,622	119	1,721,460	144	2,122,082
67	24	243,394	122	1,315,115	146	1,558,509
68	33	382,068	120	1,538,014	153	1,920,082
69	24	357,173	159	1,829,249	183	2,186,422
70	25	168,191	160	1,838,433	185	2,006,624
71	23	262,071	171	1,792,725	194	2,054,796
72	30	280,429	161	1,867,837	191	2,148,266
73	30	344,296	184	2,150,091	214	2,494,387
74	31	218,760	175	2,030,156	206	2,248,916
75	25	171,037	204	1,999,012	229	2,170,048
76	38	360,867	227	2,075,623	265	2,436,490
77	45	445,249	242	2,283,925	287	2,729,174
78	24	188,059	225	2,080,959	249	2,269,018
79	36	305,186	255	2,130,453	291	2,435,639
80	46	430,259	269	2,174,032	315	2,604,291
81	41	349,098	263	1,978,066	304	2,327,164
82	48	437,961	270	1,981,674	318	2,419,634
83	46	388,036	276	1,952,682	322	2,340,718
84	46	376,932	244	1,749,132	290	2,126,064
85	52	357,793	253	1,815,568	305	2,173,362
86	38	346,717	247	1,753,992	285	2,100,709
87	32	251,779	232	1,549,383	264	1,801,162
88	32	253,078	172	1,147,840	204	1,400,918
89	32	244,548	203	1,243,997	235	1,488,545
90	24	171,631	157	946,773	181	1,118,404
91	28	168,055	116	732,597	144	900,652
92	19	148,380	106	683,302	125	831,682

**TABLE 4**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF BENEFICIARIES AND SURVIVOR ANNUITANTS  
AS OF JUNE 30, 2007**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
93	9	\$ 101,036	95	\$ 630,258	104	\$ 731,293
94	4	19,274	73	465,375	77	484,648
95	4	33,063	45	264,642	49	297,705
96	9	65,230	50	324,077	59	389,307
97	5	42,953	28	160,145	33	203,098
98	2	9,204	17	123,828	19	133,032
99	1	14,723	19	100,714	20	115,437
100	1	7,057	10	70,276	11	77,333
101			8	34,166	8	34,166
102	1	7,002	5	15,673	6	22,675
103			4	10,986	4	10,986
104			2	5,873	2	5,873
105	1	1,200			1	1,200
106			1	591	1	591
<b>Total</b>	1,330	\$ 12,134,340	6,936	\$ 63,921,067	8,266	\$ 76,055,407

TABLE 5

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2007**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
31	1	\$ 17,160	3	\$ 26,644	4	\$ 43,804
32	1	13,402	1	11,251	2	24,653
33	1	9,262	1	18,839	2	28,100
34	1	5,188	4	62,367	5	67,556
35	1	20,438	3	35,158	4	55,596
36			8	110,175	8	110,175
37	5	70,379	6	88,912	11	159,291
38	4	58,393	7	82,751	11	141,144
39	3	44,364	11	171,055	14	215,419
40	5	67,940	11	187,541	16	255,481
41	8	120,005	16	227,721	24	347,726
42	7	85,570	24	305,131	31	390,701
43	10	141,351	33	475,569	43	616,920
44	19	217,700	29	384,752	48	602,452
45	16	263,827	33	435,102	49	698,930
46	12	204,910	42	670,525	54	875,435
47	17	238,082	46	693,244	63	931,326
48	36	541,836	48	578,188	84	1,120,024
49	36	567,545	69	872,392	105	1,439,937
50	42	741,907	60	849,945	102	1,591,852
51	57	1,109,153	93	1,599,954	150	2,709,107
52	51	995,648	107	2,003,200	158	2,998,848
53	68	1,450,021	132	2,569,919	200	4,019,940
54	78	1,614,643	164	3,306,429	242	4,921,073
55	90	2,183,728	195	4,446,043	285	6,629,771
56	92	2,638,958	215	5,217,249	307	7,856,207
57	91	2,094,134	226	5,344,880	317	7,439,014
58	136	3,429,709	242	5,536,118	378	8,965,827
59	115	2,888,242	243	5,152,757	358	8,040,999
60	136	3,207,521	278	5,479,431	414	8,686,952
61	112	2,137,082	243	4,352,076	355	6,489,159
62	91	1,932,764	183	2,890,151	274	4,822,915
63	89	1,531,582	156	2,538,707	245	4,070,289
64	88	1,320,361	188	2,436,532	276	3,756,893
65	88	1,322,001	189	2,588,573	277	3,910,575
66	59	736,311	163	1,988,509	222	2,724,821
67	64	875,717	148	1,680,903	212	2,556,620
68	59	825,061	105	1,178,163	164	2,003,224
69	63	709,595	107	1,053,252	170	1,762,847
70	47	536,997	110	1,271,875	157	1,808,872

**TABLE 5**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2007**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
71	49	\$ 551,742	92	\$ 923,804	141	\$ 1,475,546
72	41	506,912	114	1,015,185	155	1,522,097
73	35	386,361	81	770,886	116	1,157,247
74	44	601,369	72	540,397	116	1,141,766
75	24	217,538	97	935,477	121	1,153,015
76	31	275,946	69	532,477	100	808,423
77	22	239,000	75	589,758	97	828,757
78	27	341,608	73	591,005	100	932,613
79	16	149,297	74	595,683	90	744,980
80	26	368,733	44	352,236	70	720,969
81	22	192,838	51	430,528	73	623,366
82	24	232,277	40	354,386	64	586,663
83	6	38,082	37	296,678	43	334,761
84	13	151,730	34	263,582	47	415,313
85	11	94,161	29	253,062	40	347,222
86	5	51,034	32	267,689	37	318,723
87	6	46,705	21	200,985	27	247,689
88	8	131,084	19	145,629	27	276,713
89	1	8,439	20	205,565	21	214,004
90	2	36,947	12	89,597	14	126,543
91	3	36,966	16	118,155	19	155,121
92			15	131,167	15	131,167
93			6	50,941	6	50,941
94			9	71,698	9	71,698
95			2	16,519	2	16,519
96	1	7,150	2	13,207	3	20,357
97			1	8,102	1	8,102
98			1	4,467	1	4,467
99			2	18,445	2	18,445
101			1	10,770	1	10,770
<b>Total</b>	2,316	\$ 41,634,408	5,083	\$ 78,720,063	7,399	120,354,471

**EXHIBIT VIII****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 that 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 VIII**

**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.