Commonwealth of Pennsylvania State Employees' Retirement System

2010 Actuarial Report

COMMONWEALTH OF PENNSYLVANIA

STATE EMPLOYEES' RETIREMENT SYSTEM

2010 ACTUARIAL REPORT

DEFINED BENEFIT PLAN

HAY GROUP, INC.
JUNE 8, 2011

HayGroup®

Hay Group, Inc.
Suite 600
4301 North Fairfax Drive
Arlington, VA 22203-1653
USA

tel +1.703.841.3100
fax +1.703.841.3108

www.haygroup.com

June 8, 2011

Mr. Leonard M. Knepp
Executive Director
State Employees' Retirement System
30 North Third Street
Suite 150
Harrisburg, PA 17101-1716

Dear Mr. Knepp:

The purpose of this letter is to certify the actuarial adequacy of the contributions being made by the Commonwealth of Pennsylvania and other participating agencies to the Pennsylvania State Employees' Retirement System (SERS), and to discuss the approach currently being taken toward meeting the financing objectives of the plan. The results provided herein are based upon the December 31, 2010 annual actuarial valuation.

The funding objective of the plan is set forth in the State Employees' Retirement Code (SERC). The annual employer contribution is equal to the sum of the following for the fiscal year beginning July 1, 2011:

(1) The employer share of the normal cost.
(2) The fresh start amortization of the December 31, 2009 unfunded liability over a 30-year period beginning July 1, 2010 and ending on June 30, 2040.
(3) The amortization of the change in liability due to Act 2010-120 over a 30-year period beginning July 1, 2011 and ending on June 30, 2041.
(4) The amortization of changes in liability due to actual experience differing from assumed experience after December 31, 2009 over 30-year periods beginning with the July first following the actuarial valuation determining such changes.

The amortization payments are level amounts over the remaining applicable amortization periods. The employer cost is determined as a percent of retirement covered compensation. The total employer cost is the average contribution amount that needs to be received from the employer groups participating in the system. Some employer groups contribute a higher percent of compensation, and some employer groups contribute a lower percent of compensation depending on the benefits payable to their employees.

All costs and liabilities have been determined in conformance with generally accepted actuarial principles and procedures in accordance with the principles of practice prescribed by the American Academy of Actuaries. The calculations were performed on the basis of actuarial assumptions and methods, which are internally consistent, and reasonable (taking into account the past experience of SERS and reasonable expectations) and which in combination represent the best estimate of anticipated experience under the plan.

The actuarial valuation is based on financial and participant data, which is prepared by SERS staff. The data are reviewed for internal and year-to-year consistency as well as general reasonableness prior to their use in the actuarial valuation.

The actuarial valuation uses assumptions regarding future rates of investment return and rates of retirement, withdrawal, death, and disability among SERS members and their beneficiaries. The current set of assumptions used in the December 31, 2010 actuarial valuation was adopted by the State Employees' Retirement Board (the Board) and was based on actual experience of SERS during the years 2006 through 2010. The investment data analyzed during the experience study supported the continued use of an 8.0% annual investment return in the December 31, 2010 actuarial valuation. We continue to closely monitor this assumption and will recommend changing it if the investment data warrants such change. The actuarial value of assets is developed by recognizing the difference between the expected actuarial value of assets and the market value of assets over a five-year period.

Apart from the statutory funding requirements set forth in the SERC, there are also separate accounting standards that SERS uses for financial reporting purposes. Governmental Accounting Standards Board (GASB) Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans* establishes a range of actuarial cost and amortization methods for the Unfunded Actuarial Accrued Liability. The scheduled payments since July 1, 2005 have been below the amount required to meet the GASB minimum. Previously this was a result of financing changes implemented by Act 2003-40 in December 2003. Currently this is a result of the contribution collars required under Act 2010-120.

Based upon the valuation results, it is our opinion that, provided future employer contributions are made in accordance with current law, the Pennsylvania State Employees' Retirement System is in sound condition in accordance with generally accepted actuarial principles and procedures. The employer contribution has been below the GASB Statement No. 25 minimum since July 1, 2005 and will likely remain below the minimum through June 30, 2015. Thereafter, provided that employer contributions are made in accordance with current law, we expect employer contributions to exceed the GASB minimum.

It should be noted that, with the recent passage of Act 2010-120 (Act 120), significant reform to many key provisions of SERS has been legislated. This was an appropriate response to the significant funding challenges SERS has been facing in recent years, and will continue to face in coming years. By reducing pensions for future Commonwealth employees and providing funding relief to SERS employers through the use of contribution collars, Act 120 addressed both SERS' long-term and short-term funding challenges.

As actuaries for SERS, Hay Group considers it important to note that the establishment of contribution collars results in employer funding for FY2012 (and likely for the next few years) at levels below the otherwise applicable actuarially required funding levels. This is not to say that required employer contributions will never be made; rather, Act 120 provides that they will be deferred and paid in future years. It is therefore essential to the long-term funding of the system that the Commonwealth adhere not only to the short-term collars provided by Act 120 but also to the long-term funding obligations that the statute established. We expect that the contribution collars will govern employer contribution levels for at least the next few years, and this will continue to be the case until such time as the actuarially determined annual employer funding requirement is below the collared contribution level. While Hay Group would prefer that SERS funding be based upon our actuarially determined funding level, we recognize, given the extraordinary funding challenges the Commonwealth of Pennsylvania is facing over coming years, that the contribution collars represent an important and necessary funding deferral mechanism for a temporary period, after which funding on an actuarial basis will resume.

Respectfully submitted,
Hay Group, Inc.

By ______________________
Brent M. Mowery, F.S.A.
Member American Academy of Actuaries
Enrolled Actuary No. 11-3885

By ______________________
Adam J. Reese, F.S.A.
Member American Academy of Actuaries
Enrolled Actuary No. 11-4303

By ______________________
Craig R. Graby
Member American Academy of Actuaries
Enrolled Actuary No. 11-7319

Table of Contents

State Employees' Retirement System
Valuation Highlights

	December 31, 2010 Valuation	December 31, 2009 Valuation
Summary of Employer Contributions as a Percent of Total Compensation		
SERS Plan Contribution		
Normal Cost	4.08%	9.53%
Amortization of Liabilities	14.85%	-3.89%
Contribution Before Change Prescribed by Law	18.93%	5.64%
Total SERS Plan Contribution*	8.00%	5.00%
Benefits Completion Plan Contribution	0.01%	0.01%
Total Contribution	8.01%	5.01%

* Reflects Rates Prescribed by Law (12/31/10 - Act 2010-120; 12/31/09 - Act 2010-46)

	December 31, 2010 Valuation	December 31, 2009 Valuation
Demographic Characteristics of the Population		
Active Participants:		
Number	109,255	110,107
Average age	46.6	46.5
Average service	12.2	12.2
Average annualized compensation	$ 51,228	$ 50,813
Total annualized compensation	$ 5,596,915,000	$ 5,594,867,000
Funding payroll	$ 5,851,704,000	$ 5,935,988,000
Annuitants and Beneficiaries:		
Number	111,713	109,639
Average age	68.6	68.5
Total annual pension	$ 2,087,317,311	$ 1,987,987,717
Inactive and Vested Participants:		
Number	6,326	6,190
Assets		
Market Value of Assets	$ 25,879,380,227	$ 24,654,710,857
Actuarial Value of Assets	$ 29,443,945,435	$ 30,204,693,112
Funded Status (Market Assets)	66.1%	68.9%
Funded Status (Actuarial Assets)	75.2%	84.4%

State Employees' Retirement System

Employer Contribution Rate by Group
Fiscal Year 2011 - 2012,
Including Classes A-3 and A-4

	SERS Plan	Benefits Completion Plan	Total
Class A-3 and A-4 Members:			
Age 65 Retirement	4.82%	0.01%	4.83%
Age 55 Retirement	6.91%	0.01%	6.92%
Park Rangers	6.88%	0.01%	6.89%
Capitol Police	6.88%	0.01%	6.89%
Class AA Members:			
Age 60 Retirement	6.98%	0.01%	6.99%
Age 50 Retirement	10.00%	0.01%	10.01%
Park Rangers	9.68%	0.01%	9.69%
Capitol Police	9.68%	0.01%	9.69%
Enforcement Officers	10.00%	0.01%	10.01%
Class A Members:			
Age 60 Retirement	5.58%	0.01%	5.59%
Age 50 Retirement	8.00%	0.01%	8.01%
Park Rangers	7.87%	0.01%	7.88%
Capitol Police	7.87%	0.01%	7.88%
State Police	16.13%	0.01%	16.14%
Enforcement Officers	8.00%	0.01%	8.01%
Class D-4 Legislators	12.00%	0.01%	12.01%
Class E Members	8.84%	0.01%	8.85%

The above group rates result in employer contribution rates (expressed as a percentage of total projected covered compensation for active members in fiscal year 2011-2012) of 8.00% for the SERS Plan, 0.01% for the Benefits Completion Plan and 8.01% in Total.

General Discussion

The liabilities and costs in this report were based upon actuarial assumptions adopted by the State Employees' Retirement Board (the Board) and funding procedures specified in the SERC. The SERC requires that the Board conduct a study of the actuarial experience of the SERS plan every five years as a basis for setting the actuarial assumptions used in the valuation. A five-year study was conducted and delivered to the Board for review and approval in January 2011. The Board approved the recommendations of the actuary and the new assumptions were first used in the December 31, 2010 valuation.

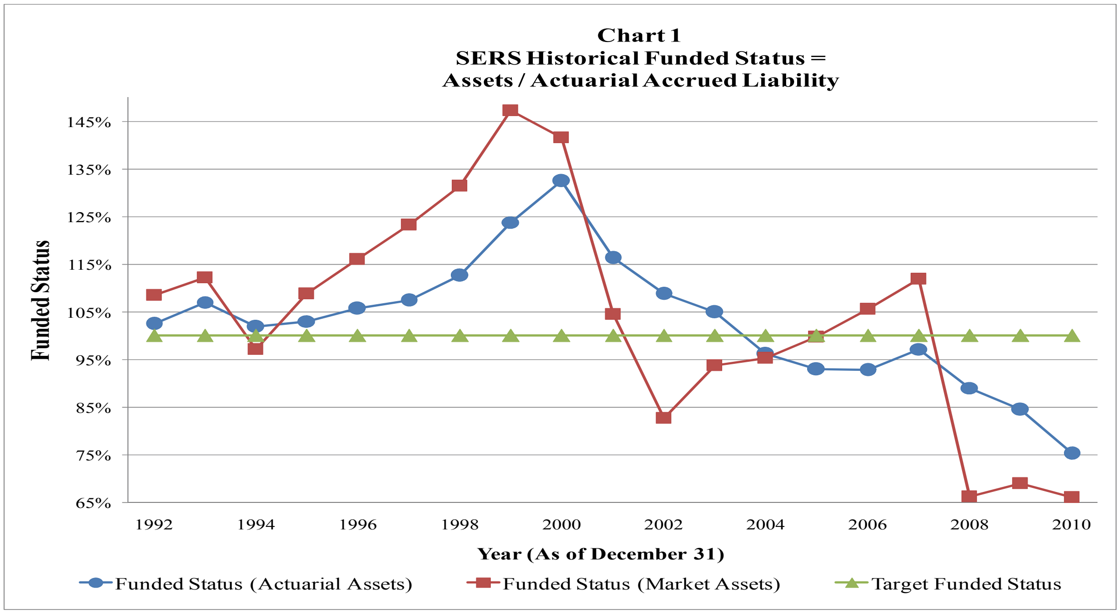
The most important actuarial assumptions are the investment return, which is used as the basis for the valuation interest rate, and salary growth. The annual investment return assumption of 8.0 percent, which has been in use since the December 31, 2008 actuarial valuation, was just approved by the Board in January 2011 after it was affirmed by the actuarial experience study. Salary growth is the total of assumed increases in salary rates and career salary growth. It is generally assumed that the salary rates will increase at 3.05 percent a year due to general salary schedule increases and that career salary growth (promotion and longevity growth) will average an additional 3.15 percent a year. Thus, the total average salary increase for an individual will generally be 6.20 percent a year. The investment return and the salary rate increase assumptions are based on an underlying inflation rate of 2.75 percent a year.

The SERS plan employer contribution is determined as a percent of covered compensation that is the total of (1) the employer normal cost percent and (2) the net amortization of the unfunded liability, but not less than any applicable minimum contribution prescribed by the SERC and not more than the total contribution amount that results from applying the collars established by Act 2010-120 to limit the extent of annual increase in the employer contribution rate. The final actuarially determined total employer contribution as of December 31, 2010 is 18.93 percent of covered compensation, which is the sum of (1) the employer normal cost of 4.08 percent of compensation plus (2) the net amortization of the unfunded liability of 14.85 percent of compensation. To determine the maximum 2011-2012 employer contribution rate under Act 2010-120, we add the fiscal 2011-2012 contribution collar of 3 percent of payroll to the final 2010-2011 employer contribution requirement of 5.00 percent of payroll, to produce a result of 8.00 percent of compensation. Therefore, the 2011-2012 employer contribution rate is limited to 8.00 percent of covered compensation, well below the actuarially determined rate that would otherwise be required. See Schedule O for further discussion of the Act 2010-120 employer contribution collars.

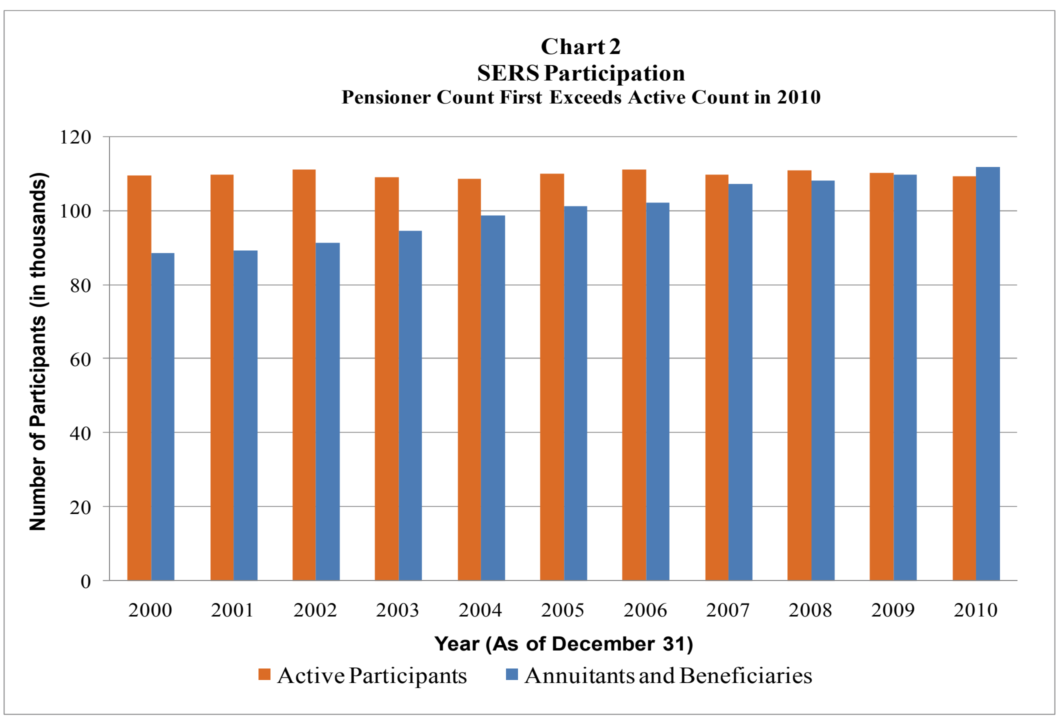
The funded ratio is the ratio of assets to the actuarial accrued liability. As a consequence of the global economic downturn, SERS experienced very unfavorable investment results during calendar 2008. Thus, SERS' funded status, as measured by the funded ratio, declined significantly during 2008, to a level of 66.2 percent based on market value and 89.0 percent based on actuarial value of plan assets as of December 31, 2008. As a result of more favorable investment results during calendar year 2009, the funded ratio based on market value of assets increased slightly from 66.2 percent to 68.9 percent; however, the funded ratio based on the actuarial value of assets (which recognizes investment losses over a five-year period) decreased from 89.0 percent to 84.4 percent. During calendar year 2010, the funded ratio based on market value of assets decreased from 68.9

percent to 66.1 percent, and the funded ratio based on the actuarial value of assets decreased from 84.4 percent to 75.2 percent.

Chart 1 below presents a history of SERS funded ratios, relative to the ultimate 100% target.



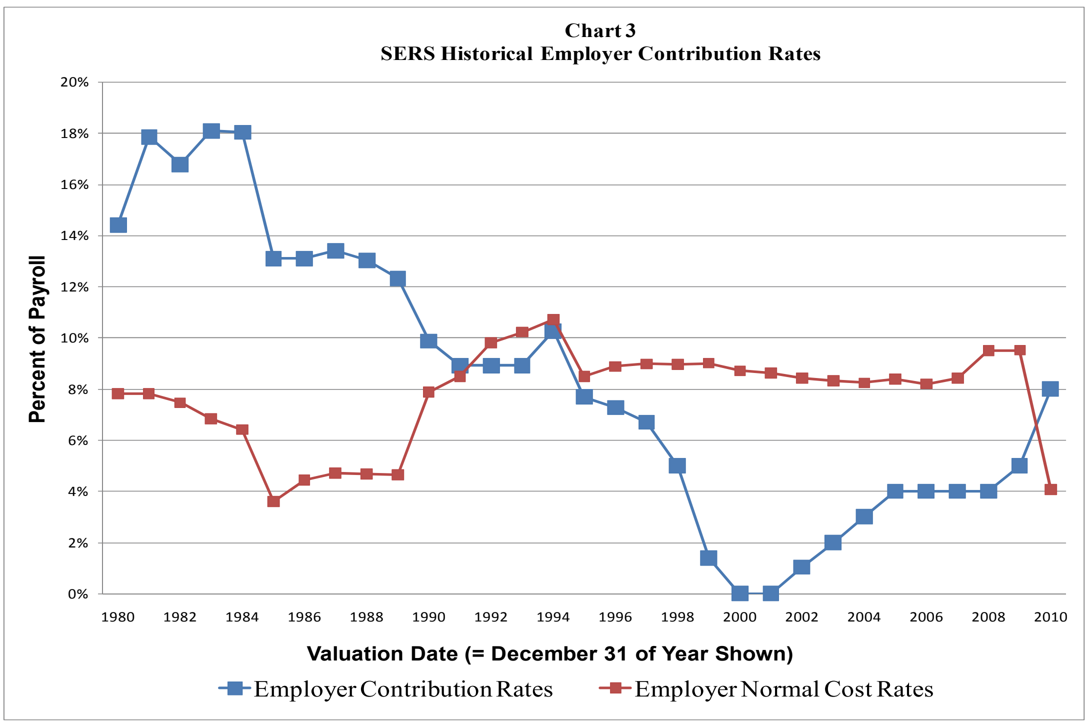
SERS reached a milestone during 2010 in terms of the make-up of the covered participant group. Specifically, for the first time in the history of SERS, the count of pensioners (111,713) now exceeds the count of active participants (109,255), a clear sign of a mature retirement system. Chart 2 below illustrates the maturing of the SERS population since 2000.



A separate and distinct Benefits Completion Plan (BCP) provides benefits to certain members whose SERS benefits are limited by IRC Section 415(b) maximum benefit limitations. The BCP employer contribution requirements for fiscal year 2011-2012, which were determined by a separate December 31, 2010 actuarial valuation, are presented in the Valuation Highlights herein. Otherwise, BCP costs and liabilities are not included in the schedules of this report.

History of the Employer Contribution Rate

Chart 3 below shows the history of the employer contribution rate from 1980 through 2010. With some fluctuations, the general trend from 1980 through 2001 had been downward, with the rate declining from the 14 to 18 percent range in the years 1980 to 1984 to zero in 2000 and 2001. The investment returns were below the actuarial assumption (then 8.5 percent) in 2000 through 2002. The changes to the amortizations under Act 2003-40 and subsequent investment gains would have kept the contributions from increasing if it had not been for legislated floors that caused the employer contributions to increase between 2002 and 2005.



The total employer cost is the actual contribution rate during the succeeding fiscal year. For instance, the rate of 8.00 percent of covered compensation for the December 31, 2010 valuation date will be the employer contribution for the fiscal year beginning July 1, 2011.

History of Inflation, Investment Return and Salary Growth

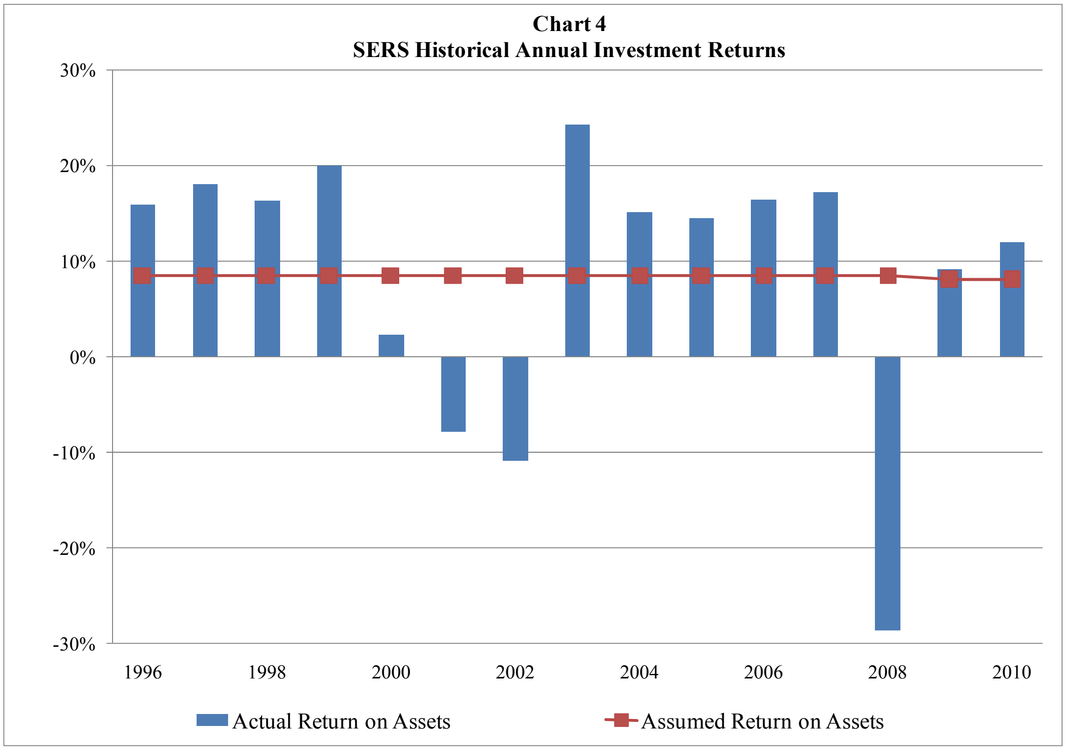
Table 1 below shows the rate of inflation, the nominal and real investment return based on the market value of assets, and the nominal and real salary growth for the past twenty years. The nominal rates are the actual investment rate and salary growth. The real rates are the nominal rates adjusted by removing inflation. The inflation rates shown are based on the Consumer Price Index for All Urban Consumers (CPI-U) data. The nominal rate of salary growth is the percentage increase in general pay levels specified by the predominant collective bargaining agreement.

Table 1: Comparison of Annual Rates of Growth

		Investment Return		Salary Growth	
Year	Inflation	Nominal	Real	Nominal	Real
1991	3.1	22.6	19.0	1.0	(2.0)
1992	2.9	7.4	4.4	2.1	(0.8)
1993	2.7	13.2	10.2	5.1	2.3
1994	2.7	(1.1)	(3.7)	3.9	1.2
1995	2.5	25.5	22.4	3.8	1.2
1996	3.3	15.9	12.2	2.0	(1.3)
1997	1.7	18.0	16.0	3.0	1.3
1998	1.6	16.3	14.5	3.0	1.4
1999	2.7	19.9	16.8	3.0	0.3
2000	3.4	2.2	(1.1)	3.0	(0.4)
2001	1.6	(7.9)	(9.3)	3.3	1.7
2002	2.4	(10.9)	(13.0)	3.5	1.1
2003	1.9	24.3	22.0	2.0	0.1
2004	3.3	15.1	11.4	1.9	(1.4)
2005	3.4	14.5	10.7	3.0	(0.4)
2006	2.5	16.4	13.6	3.5	1.0
2007	4.1	17.2	12.6	2.8	(1.2)
2008	0.1	(28.7)	(28.8)	3.0	2.9
2009	2.7	9.1	6.2	3.0	0.3
2010	1.5	11.9	10.2	3.0	1.5
Average 1991-2010	**2.5%**	**9.1%**	**6.5%**	**3.0%**	**0.5%**

The averages represent the geometric averages of all of the rates over the 20-year period, not the arithmetic averages.

Chart 4 below presents a 15-year history of SERS annual investment returns relative to the actuarially assumed returns of 8.5% for 1996 through 2008 and 8.0% for 2009 and 2010.



Comments on Schedules

Employer Contribution Rate

Schedules A and B summarize the development of the employer contribution rate before allocation by group. The employer contribution is equal to the sum of (1) the employer share of the normal cost and (2) amortization of the unfunded liability.

The normal cost is the level percentage of compensation needed to fund the liability for any prospective benefits earned by new active members over the period of their actual service. The normal cost calculation uses data for all active members in Class A-3 (65) who had not yet completed one year of credited service. The employer share of the normal cost decreased from 9.53 percent in 2009 to 4.08 percent in 2010. The normal cost dropped significantly due to Act 2010-120 and the fact that the cost to fund Class A-3 (65) benefits is much lower than the cost to fund Class AA (60) benefits.

Portions of the unfunded liability are amortized over either 10 years or 30 years as required by the SERC. Under Act 120, the total December 31, 2009 unfunded liability was amortized over 30 years as part of a fresh start that combined all of the unfunded liability amortizations into one amortization. The net losses in 2010 were amortized over 30 years. The total unfunded liability as of December 31, 2010 was $9.74 billion. As of December 31, 2009, the total unfunded liability was $5.59 billion.

Schedule B shows the allocation of the total unfunded liability by year into those liabilities being amortized over 10 years and those being amortized over 30 years. All amortization payments are level dollar amounts over the applicable amortization period. There are currently no 10-year amortizations. The total net charge for the amortization of the unfunded liability is 14.85 percent of compensation in 2010.

The employer contribution rate is equal to the total of the normal cost and the amortization of the unfunded liabilities, but not less than 4 percent and not more than the rate based on the collar (which limits the contribution increases during the next several years) applicable to the 2011/2012 employer contribution rate. The employer contribution rate calculated as a result, 8.00 percent of covered compensation, will be applied for the fiscal year beginning July 1, 2011.

Employer Contribution Rates by Group

Schedule C summarizes the development of the employer contribution rate for each group of members with different benefits. The Class A-3 (65) rate is used to determine the base contribution rate because the majority of new members enter that class. The base employer contribution rate for Class A-3 benefits is 4.82 percent of compensation.

The employer contribution rate for each class is a function of the Class A-3 (65) rate. Three adjustments are made for the Class rates. The first is to add the cost of earlier full retirement conditions if applicable. The second is to multiply by the applicable adjustment factor relative to the Class A-3 benefit value. Third, the Park Rangers, Capitol Police and State Police Officers are also charged the amount necessary to fund the past service cost of benefit improvements that were effective in prior years. These charges are further explained in Schedule O. The complete schedule of contributions by group is shown in Table 2.

Table 2 Employer Contribution Rate by Group Fiscal Year 2011/2012 (Excluding Benefits Completion Plan Contribution)	
Class AA	
Age 60 benefit	6.98%
Age 50 benefit	10.00
Park Rangers	9.68
Capitol Police	9.68
Enforcement Officers	10.00
Class A	
Age 60 benefit	5.58
Age 50 benefit	8.00
Park Rangers	7.87
Capitol Police	7.87
State Police	16.13
Enforcement Officers	8.00
Class A3/A4	
Age 65 benefit	4.82
Age 55 benefit	6.91
Park Rangers	6.88
Capitol Police	6.88
Class D-4 Legislators	12.00
Class E Members	8.84

Schedule D shows the development of the contribution rates for additional annuities for certain State Police and Enforcement Officers. These members receive an additional annuity that is equal to the accumulated member contributions and interest at retirement determined as if the members were at least age 60 at retirement. These benefits have been fully funded by past contributions so no future contribution is required. Since there are no longer any active members eligible for these benefits, the assets available for and present value of additional annuities are zero.

Change in Employer Contribution Rate

Schedule E contains an analysis of the change in the employer contribution rate and unfunded liability from the 2009 to 2010 valuation.

The largest increase in the unfunded liability, $2.69 billion, resulted from benefit changes under Act 2010-120. Since the normal cost required to fund Act 120 benefits is significantly lower than the pre-Act 120 normal cost, Act 120 gives rise to (i) a much smaller portion of the total plan liability being funded through future normal costs and (ii) a much larger portion being funded through the amortization of the unfunded accrued liability. Therefore, this increase of $2.69 billion resulted in an increase to the unfunded accrued liability amortization of 4.09 percent of compensation. This cost was offset by a 4.62 percent drop in the normal cost rate under Act 120. The net result was a cost reduction of 0.53 percent.

Another increase in the unfunded liability, $1.25 billion, resulted primarily from recognition (under the five-year asset smoothing method) of another 20 percent of the large investment loss from 2008, which more than offset the 20 percent recognition of investment gains from the other four years of the five-year smoothing period. This net loss of $1.25 billion resulted in an increase in the employer cost of 1.90 percent of compensation.

Another increase in the unfunded liability, $741 million, resulted from underfunding due to a retroactive Fresh Start and other changes. This net loss of $741 million resulted in an increase in the employer cost of 1.00 percent of compensation.

The remainder of the increase in the unfunded liability was the result of demographic changes. Changes in demographic assumptions resulted in an increase of $98.4 million. Changes in the demographics of the new entrant population resulted in an increase of $64.2 million. These losses resulted in an increase in the employer cost of 0.15 percent and 0.10 percent respectively.

The largest reduction in the unfunded liability was due to smaller than expected pay increases, which resulted in a gain of $421 million, and therefore a decrease in employer cost of 0.64 percent of compensation.

The other decrease in the unfunded liability, $236 million, resulted from changes in economic assumptions. This gain resulted in a decrease in the employer cost of 0.36 percent of compensation.

Actuarial Balance Sheet and Account Balance Transfers

Schedule F contains the actuarial balance sheet that compares the total assets and liabilities of $44.9 billion. The assets include current assets and the present value of future contributions. The liabilities include the present value of all benefits to current active and retired members.

Each year the account balances in the three benefit payment accounts are compared to the actuarial liabilities developed in the valuation. If needed, transfers are made to bring the accounts into balance with the liabilities. The accounts go out of balance during the year as a result of differences between actual experience and the reserves set for retirees. In 2010, a transfer of $240.4 million was made from the State Accumulation Account to the Annuity Reserve Account to keep the latter account in balance. There were also transfers of $0.7 million and $23.8 million from the State Accumulation Account to the Enforcement Officers' Benefit Account and the State Police Benefit Account, respectively, to keep these accounts in balance. No other transfers were necessary.

The details of these transfers are shown in Schedule G.

Accounting Disclosure Statements

Schedule H is a statement of disclosure to report the information required by the Governmental Accounting Standards Board (GASB) Statement No. 25. Page 1 of Schedule H shows the funding progress from December 31, 1992 through December 31, 2010.

Page 2 of Schedule H shows a comparison of the actual contributions to the system over recent years to the Annual Required Contribution (ARC) as defined by GASB Statement No. 25.

GASB Statement No. 25 defines the ARC to be equal to the employer normal cost plus an amount to amortize the unfunded actuarial accrued liability over an acceptable amortization period. The 2011-2012 employer contribution is lower than the ARC. GASB requires that the net unfunded liability be funded over a period of no more than 30 years. Because the employer contribution collars under Act 120 will result in employer contribution rates for a number of years that will be lower than the actuarially determined rates, we anticipate that the actual employer contributions to SERS will be lower than the ARC through June 30, 2015. Thereafter, provided that employer contributions are made in accordance with current law, we expect employer contributions to exceed the GASB minimum. Overall, the amortization schedules are reasonable and if met will assure the long-term financial soundness of SERS.

Schedule I shows the results of the solvency test. A short-term solvency test is one means of checking a pension system's progress under its funding program. In this solvency test, the SERS assets are compared with the actuarial accrued liabilities. The liabilities are classified into the following categories:

- Liability for active participant contributions in the Fund,
- Liability for future benefits to present annuitants and beneficiaries, and
- Liability for service already rendered by the active participants.

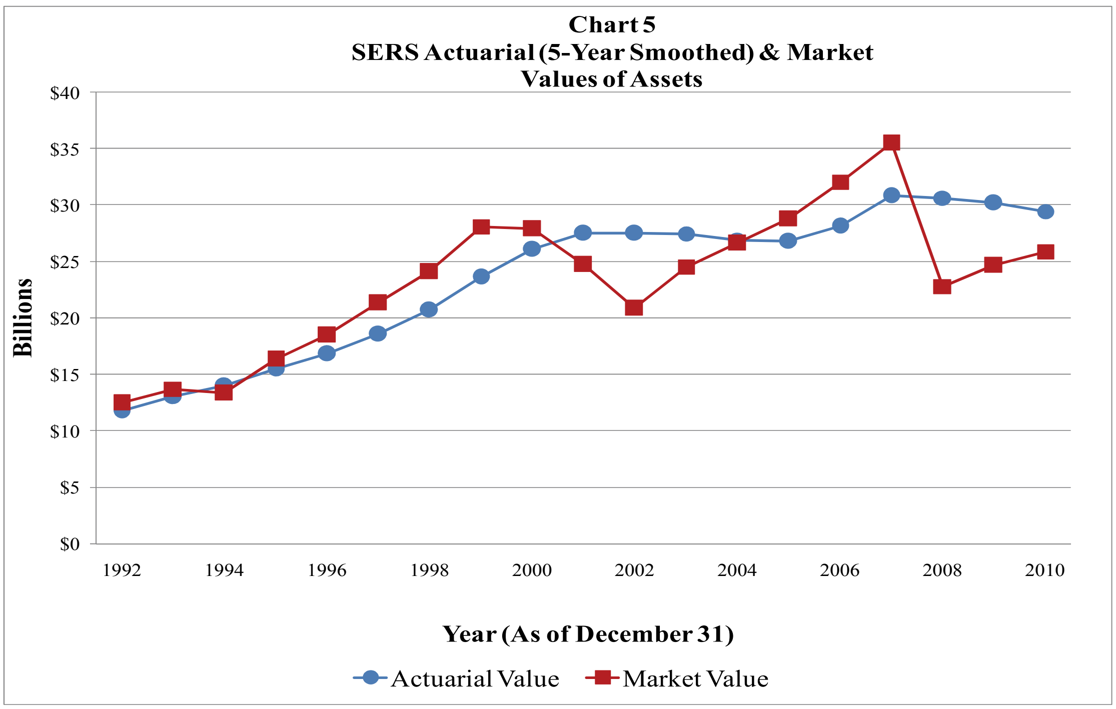
The schedule shows that from 1992 through 2003 the total actuarial accrued liability was fully covered by the assets. In 2004 the funded ratio dropped below 100 percent and it is currently at 75.2 percent. Absent unusual circumstances, the funded status of defined benefit plans will be below 100 percent and gradually approach 100 percent funding as liabilities become fully amortized. The State Employees' Retirement Fund had exceeded 100 percent of liabilities as a result of the high level of investment returns between 1985 and 1999. The funded ratio dropped below 100 percent largely as a result of the low investment returns of 2000 to 2002 and 2008, the Act 2001-9 benefit increases, the 2002-2003 COLAs, and the amortization schedule. Also, the implementation of Act 120 led to a lower December 31, 2010 normal cost and a higher accrued liability (and unfunded accrued liability).

The current funding policy will eventually restore the funded ratio to 100 percent provided that contributions are made as provided in current law. SERS is being funded in accordance with generally accepted actuarial principles and procedures even though the accrued liabilities are temporarily greater than the assets.

Plan Assets

Schedule J summarizes the development of the actuarial value of assets as of December 31, 2010. The assets are based on the financial statements prepared by SERS. The asset valuation method smoothes out year-to-year fluctuations in the market value. The approach gradually recognizes, over a 5-year period, the differences between total investment return and the actuarial assumed annual rate of return (8.5 percent prior to 2009; 8.0 percent for 2009 and later). This smoothing method recognizes 20 percent of the 2010 asset gain of $734 million this year, with the remainder to be recognized over the next four years.

Chart 5 below presents a history since 1992 of SERS asset values, including both the actuarial value and the market value.



Projection

Schedule K shows the number of participants, contributions, and benefits from 1992 through 2010 with a projection through 2021. The first page of Schedule K shows new annuitants, annuitant deaths, new beneficiaries, and beneficiary deaths during the year. The second and third pages of Schedule K show the projection of employer and employee contributions and a projection of the benefits and expenses. The projected employee and employer contributions are shown in dollars and as a percentage of compensation.

The second page of the Schedule K projection shows projected contributions under Act 120, fully reflecting the employer contribution collars under Act 120. The third page of the Schedule K projection also projects contributions under Act 120; however, this projection presents future employer contribution rates without applying the Act 120 contribution collars; thus, these projected employer contributions reflect the actuarially determined employer contribution rates.

Participant Data

Sections I and II of Schedule L provide a distribution of the total of the active, inactive, and terminated vested participants as of December 31, 2010 by benefit class, sex, age, and length of service. Inactive participants include employees on furlough as well as employees with prior SERS service currently participating in the Pennsylvania Public School Employees' Retirement System (PSERS). The table also shows the average annualized salary in 2010 by age group and sex. Section III of the schedule shows retired annuitants, disabled annuitants, survivors and beneficiaries receiving benefits by age, sex, and benefit amounts.

Although we have made tests to check for reasonableness and consistency, we have not independently audited the data, which were submitted by SERS. As appropriate, we have made certain adjustments to the SERS data, including the use of a minimum annual salary assumption of $20,000.

Section III of Schedule L shows the monthly annuities that were being paid as of December 31, 2010. Total benefits from the fund include lump sum payments and death benefits so these are much higher than the sum of annuities shown in Schedule L and in the highlights.

Plan Provisions

Schedule M contains a summary of the principal provisions of the plan. As a consequence of Act 2010-120 being signed into law in November 2010 and becoming effective (for most purposes) January 1, 2011, there were significant changes in plan provisions in 2010.

Actuarial Assumptions

Schedule N summarizes the actuarial assumptions used for the valuation. The two types of assumptions are economic assumptions, such as the investment return and salary growth assumptions, and demographic assumptions, such as the assumed rates of mortality and retirement. For the December 31, 2010 valuation, as a result of the 2006-2010 actuarial experience study and the large number of actuarial assumption changes that were recommended, changes were made to most of the actuarial assumptions used for the SERS actuarial valuation. Although the 8.0 percent annual interest rate assumption was reviewed, study results supported continuing with 8.0 percent for the December 31, 2010 valuation, consistent with the return assumption used for both the December 31, 2008 and December 31, 2009 valuations.

Actuarial Methods

Schedule O explains the asset valuation and funding method used in the valuation, and the determination of the annual contribution, including a discussion of the Act 120 employer contribution collars. The asset valuation method spreads investment gains and losses over five years. The funding method provides for reasonable levels of contribution that will fund the cost of future benefits with a credit for amortization of the excess of assets over liabilities. Schedule O also explains how the individual class rates are determined. The final section of Schedule O discusses the plan provisions that are not valued.

Glossary

Schedule P defines certain terms used in this actuarial report.

State Employees' Retirement System
Unfunded Liability and Normal Cost as of December 31, 2010

I.	Present Value of Benefits:			
	A) Active and Inactive Participants			
		1) Superannuation and Withdrawal	$	24,164,150,537
		2) Disability		911,756,256
		3) Death		798,142,741
		4) Refunds		45,387,813
		5) Special Police and Enforcement Officer Benefits		-
		6) Subtotal	$	25,919,437,347
	B) Annuitants and Beneficiaries			18,995,355,294
	C) Total		$	44,914,792,641
II.	Present Value of Member and Employer Contributions:			
	A) Employer Portion of Normal Cost		$	2,380,902,534
	B) Member Contributions			3,354,296,138
	C) Total		$	5,735,198,672
III.	Actuarial Accrued Liability: (I) - (II)		$	39,179,593,969
IV.	Actuarial Value of Assets		$	29,443,945,435
V.	Unfunded Liability (III) - (IV)		$	9,735,648,534
VI.	Employer Normal Cost Rate			
	A) Total Normal Cost Rate for new active members to fund:			
		1) Superannuation and Withdrawal		8.80%
		2) Disability		0.72%
		3) Death		0.41%
		4) Refunds		0.40%
		5) Total		10.33%
	B) Member Contribution Rate			6.25%
	C) Employer Normal Cost Rate (A) - (B)			4.08%

SCHEDULE A

State Employees' Retirement System
Employer Contribution Rate in Fiscal Year 2011 - 2012

	Funding Period Initial Years	Funding Period From July 1	Initial Amount of Liability	Outstanding Balance as of 12/31/10	Annual Payment Amount	Payment as a Percent of Compensation*
I. Amortization of Liability (Asset) For:						
A) Liability Fresh Start	30	2010	$5,592,323,524	$5,542,957,661	$496,751,745	8.49%
B) Changes in 2010	30	2011	4,192,690,873	4,192,690,873	372,425,969	6.36%
Total				**$ 9,735,648,534**	**$ 869,177,714**	**14.85%**
II. Employer Normal Cost						**4.08%**
III. Total Employer Cost before Act 2010-120 = (I) + (II)						**18.93%**
IV. Total Employer Cost (III), reflecting the 8.00 percent contribution prescribed by Act 2010-120						**8.00%**

* The payment is expressed as a percentage of the total projected covered compensation for active members in fiscal year 2011-2012 of $5,851,704,000. Percentages may not add due to rounding.

State Employees' Retirement System

Employer Contribution Rate by Group

(excluding Benefits Completion Plan rate)

Employer Group (1)	Base Contribution Rate (2)	Age 50 or 55 Retirement Adjustment (3)	Multiplier Adjustment * (4)	Past Liability Adjustment (5)	Adjusted Contribution Rate** (6)	Projected 2011-2012 Compensation (7)	Employer Contribution Amount (8)
Class A-3 and A-4 - Age 65 Retirement	4.82%		1.0000		4.82%	$ 211,861,000	$ 10,211,700
Class AA - Age 60 Retirement	4.82%		1.4472		6.98%	4,092,747,000	285,673,741
Class A - Age 60 Retirement	4.82%		1.1578		5.58%	33,958,000	1,894,856
Class A-3 and A-4 - Age 55 Retirement	4.82%	2.09%	1.0000		6.91%	67,564,000	4,668,672
Class AA - Age 50 Retirement (Including Enforcement Officers)	4.82%	2.09%	1.4472		10.00%	885,565,000	88,556,500
Class A - Age 50 Retirement (Including Enforcement Officers)	4.82%	2.09%	1.1578		8.00%	15,094,000	1,207,520
Class A-3 and A-4 - Park Rangers & Capitol Police	4.82%	1.42%	1.0000	0.64%	6.88%	688,000	47,334
Class AA - Park Rangers & Capitol Police	4.82%	1.42%	1.4472	0.64%	9.68%	13,175,000	1,275,340
Class A - Park Rangers & Capitol Police	4.82%	1.42%	1.1578	0.64%	7.87%	114,000	8,972
State Police	4.82%	2.09%	1.6491	4.73%	16.13%	385,358,000	62,158,245
Class D4	4.82%	2.09%	1.7367		12.00%	17,382,000	2,085,840
Class E	4.82%		1.8347		8.84%	128,198,000	11,332,703
					Total***	$5,851,704,000	$ 469,121,424

* The multiplier adjustment is the adjustment for the employer group contribution rate. Because the majority of new active members of SERS will be covered under Class A-3 (65), the 2.0 percent accrual rate for that Class is used to determine the base contribution rate. Column (4) is the applicable adjustment factor relative to the Class A-3 benefit value.

** The adjusted contribution rate is [(2) + (3)] times (4) + (5).

*** The total employer contribution ($469,121,424) is approximately equal to the average employer contribution rate from Schedule B (8.00 percent) times the total projected covered compensation of $5,851,704,000. The base contribution rate of 4.82 percent was determined as the percentage needed to produce employer contribution amounts by employer group that sum to $469,121,424.

State Employees' Retirement System
State Police and Enforcement Officers Additional Annuity Rate
(Fiscal Year 2011 - 2012)

		State Police	Enforcement Officers
1)	Balance in Benefit Account as of December 31, 2010	$1,631,216,832	$43,303,763
2)	Present Value of Benefits for Annuitants and Beneficiaries	1,631,216,832	43,303,763
3)	Assets available for additional annuities for Active Members: (1) - (2)	-	-
4)	Present Value of additional annuities for Active Members	-	-
5)	Present Value of Future Contribution to fund additional annuities: (4) - (3); not less than zero	-	-
6)	Present Value of Future Compensation for eligible Active Members	*	*
7)	Contribution Rate as a percentage of payroll payable January 1: (5) / (6)	0.00%	0.00%

* Not calculated because additional annuity is fully funded.

SCHEDULE D

State Employees' Retirement System

Analysis of the Change in Employer Contribution Rate

		Normal Cost	Unfunded Liability	Total
I.	December 31, 2009 Valuation	9.53%	-3.89%	5.64%
II.	Changes in the December 31, 2010 Valuation:			
	A) Benefit changes under Act 2010-120 (including increase in liability due to decrease in normal cost)	-4.62%	4.09%	-0.53%
	B) Loss from investment earnings		1.90%	1.90%
	C) Underfunding due to retroactive Fresh Start and other changes		1.00%	1.00%
	D) Pay increases different than assumptions		-0.64%	-0.64%
	E) Changes in Economic Assumptions	-0.78%	-0.36%	-1.14%
	F) Changes in Demographic Assumptions	0.06%	0.15%	0.21%
	G) Change in demographics of new entrants	-0.11%	0.10%	-0.01%
	H) Impact of Liability Fresh Start Amortization		12.38%	12.38%
	I) Change in amortization due to change in payroll	0.00%	0.12%	0.12%
	J) Total Change	-5.45%	18.74%	13.29%
III.	December 31, 2010 Valuation: I + II(J)	4.08%	14.85%	18.93%

Analysis of the Change in the Unfunded Liability

I.	December 31, 2009 Unfunded Liability	$	5,592,323,524
II.	Expected Amortization Payment (as modified by the Fresh Start)		496,751,745
III.	Expected Liability as of December 31, 2010 [(I x 1.080) - II]	$	5,542,957,661
IV.	Change in Liability Due to:		
	A) Benefit changes under Act 2010-120 (including increase in liability due to decrease in normal cost)	$	2,694,534,957
	B) Loss from investment earnings		1,251,331,836
	C) Underfunding due to retroactive Fresh Start and other changes		741,206,894
	D) Pay increases different than assumptions		(421,223,587)
	E) Changes in Economic Assumptions		(235,734,336)
	F) Changes in Demographic Assumptions		98,384,109
	G) Change in demographics of new entrants		64,191,000
	H) Total change	$	4,192,690,873
V.	December 31, 2010 Unfunded Liability: III + IV(H)	$	9,735,648,534

State Employees' Retirement System

Actuarial Balance Sheet as of December 31, 2010

ASSETS

Present Assets:	
Members' Savings Account	$ 4,409,444,260
Annuity Reserve Account	17,320,834,699
State Police Benefit Account	1,631,216,832
Enforcement Officers' Benefit Account	43,303,763
State Accumulation Account *	2,474,580,673
Supplemental Annuity Account	-
Total Present Assets (Market Value)	$ 25,879,380,227
Adjustment to Smooth Market Fluctuations	3,564,565,208
Total Present Assets (Actuarial Value)	$ 29,443,945,435
Present Value of Future Contributions	
Members' Contributions (Employee)	$ 3,354,296,138
Normal Cost Contributions (Employer)	2,380,902,534
Accrued Liability Amortization (Employer)	9,735,648,534
Supplemental Annuity Amortizatior (Employer)	-
Special State Police Contributions (Employer)	-
Special Enforcement Officer Contributions (Employer)	-
Total Future Contributions	$ 15,470,847,206
Total Assets	$ 44,914,792,641

* Includes $3,821,602 in directed commissions.

LIABILITIES

Present Value of Benefits Payable to Annuitants and Beneficiaries from:	
Annuity Reserve Account	$ 17,320,834,699
State Police Benefit Account	1,631,216,832
Enforcement Officers' Benefit Account	43,303,763
Total for Annuitants and Beneficiaries	$ 18,995,355,294
Present Value of Benefits to Active and Inactive Members from:	
Members' Savings Account and State Accumulation Account	
Superannuation and withdrawal	$ 24,164,150,537
Disability	911,756,256
Death	798,142,741
Refunds	45,387,813
Subtotal	$ 25,919,437,347
State Police Benefit Account	-
Enforcement Officers' Benefit Account	-
Total Present Value of Benefits to Active and Inactive Members	$ 25,919,437,347
Total Liabilities	$ 44,914,792,641

State Employees' Retirement System
Required Transfers Within SERS Accounts

I. Annuity Reserve Account

Balance as reported by SERS	$	17,080,448,533
Transfer from State Accumulation Account		240,386,166
Transfer to Supplemental Annuity Account		-
December 31, 2010 balance after transfers	$	17,320,834,699

II. State Accumulation Account *

Balance as reported by SERS	$	2,739,533,693
Transfer to Enforcement Officers' Benefit Account		(734,841)
Transfer to State Police Benefit Account		(23,832,013)
Transfer to Annuity Reserve Account		(240,386,166)
December 31, 2010 balance after transfers	$	2,474,580,673

III. Enforcement Officers' Benefit Account

Balance as reported by SERS	$	42,568,922
Transfer from State Accumulation Account		734,841
Transfer from Supplemental Annuity Account		-
December 31, 2010 balance after transfers	$	43,303,763

IV. State Police Benefit Account

Balance as reported by SERS	$	1,607,384,819
Transfer from State Accumulation Account		23,832,013
Transfer from Supplemental Annuity Account		-
December 31, 2010 balance after transfers	$	1,631,216,832

V. Supplemental Annuity Account

Balance as reported by SERS	$	-
Transfer from Annuity Reserve Account		-
Transfer to State Police Benefit Account		-
Transfer to Enforcement Officers' Benefit Account		-
December 31, 2010 balance after transfers	$	-

* Balance includes $3,821,602 in directed commissions.

State Employees' Retirement System
Accounting Disclosure Statements

I. Schedule of Funding Progress as of December 31, 2010

(Dollars in Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (UAAL) (b-a)	Funded Ratio (a) / (b)	Covered Compensation (c)	Unfunded Actuarial Accrued Liability as a Percentage of Covered Compensation ((b-a)/c)
12/31/1992	11,769,388	11,488,414	(280,974)	102.4%	3,533,428	-8.0%
12/31/1993	13,060,613	12,213,736	(846,877)	106.9%	3,731,515	-22.7%
12/31/1994	13,991,485	13,742,056	(249,429)	101.8%	3,990,440	-6.3%
12/31/1995 *	15,510,309	15,067,205	(443,104)	102.9%	4,021,605	-11.0%
12/31/1996	16,841,069	15,936,616	(904,453)	105.7%	4,163,683	-21.7%
12/31/1997	18,565,136	17,288,413	(1,276,723)	107.4%	4,219,034	-30.3%
12/31/1998	20,670,711	18,357,899	(2,312,812)	112.6%	4,446,147	-52.0%
12/31/1999	23,624,267	19,091,840	(4,532,427)	123.7%	4,519,112	-100.3%
12/31/2000 *	26,094,306	19,702,278	(6,392,028)	132.4%	4,769,180	-134.0%
12/31/2001	27,505,494	23,658,757	(3,846,737)	116.3%	4,872,375	-78.9%
12/31/2002	27,497,464	25,650,389	(1,847,075)	107.2%	5,093,454	-36.3%
12/31/2003	27,465,615	26,179,761	(1,285,854)	104.9%	4,965,360	-25.9%
12/31/2004	26,900,027	27,999,026	1,099,000	96.1%	5,093,573	21.6%
12/31/2005 *	26,793,782	28,851,716	2,057,934	92.9%	5,138,377	40.1%
12/31/2006	28,148,834	30,364,997	2,216,163	92.7%	5,661,675	39.1%
12/31/2007	30,839,877	31,753,971	914,093	97.1%	5,529,069	16.5%
12/31/2008 **	30,635,621	34,437,396	3,801,775	89.0%	5,660,319	67.2%
12/31/2009	30,204,693	35,797,017	5,592,324	84.4%	5,935,988	94.2%
12/31/2010*	29,443,945	39,179,594	9,735,649	75.2%	5,851,704	166.4%

* Revised economic and demographic assumptions due to experience review.

** Revised interest rate assumption from 8.5% to 8.0%.

II. Schedule of Employer Contributions as of December 31, 2010

(Dollars in Thousands)

Calendar Year	Annual Required Contribution (ARC)	Actual Contribution	Percentage Contributed
1992	319,093	319,093	100.0%
1993	310,089	304,122	98.1%
1994	342,158	342,927	100.2%
1995	376,692	384,506	102.1%
1996	373,903	373,903	100.0%
1997	324,093	324,093	100.0%
1998	310,501	310,501	100.0%
1999	269,869	269,869	100.0%
2000	168,002	168,002	100.0%
2001	52,104	76,709	147.2%
2002	22,906	50,831	221.9%
2003	55,079	67,947	123.4%
2004	105,229	105,229	100.0%
2005	319,190	147,163	46.1%
2006	548,745	195,407	35.6%
2007	617,253	242,337	39.3%
2008	584,248	233,138	39.9%
2009	643,861	251,870	39.1%
2010	866,822	272,525	31.4%

Notes Pertaining to Governmental Accounting Standards Board Statement No. 25

The actual contribution amounts in the above table include the employer share of regular contributions, the employer share of purchased service and contributions for employee service under the Public School Employees' Retirement System.

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows.

Accounting Disclosure Statements (continued)

Valuation Date	December 31, 2010
Actuarial cost method	Variation of Entry-age Actuarial Cost Method
Amortization method	10-year or 30-year schedule with level payments
Remaining amortization period	29 to 30 years
Asset valuation method	5-year smooth market
Actuarial Assumptions	
Investment rate of return	8.0 percent
Projected compensation increases	Average increase of 6.2 percent (range: 4.3 to 11.05 percent)
Inflation	2.75 percent
Cost-of-living adjustments	None

The annual employer contribution as set forth in the SERC is equal to the sum of the following:

(1) The employer share of the normal cost.
(2) The fresh start amortization of the December 31, 2009 unfunded liability over a 30-year period beginning July 1, 2010 and ending on June 30, 2040.
(3) The amortization of the change in liability due to Act 2010-120 over a 30-year period beginning July 1, 2011 and ending on June 30, 2041.
(4) The amortization of changes in liability due to actual experience differing from assumed experience after December 31, 2009 over 30-year periods beginning with the July first following the actuarial valuation determining such changes.

Valuations are performed on December 31 of each year and the results are presented to the Board as a basis for determining the employer contribution rate for the year beginning July 1 after the valuation date. The Board has adopted the rate from the valuation unless information available after or as part of the valuation supports an adjustment to the valuation rate.

Apart from the statutory funding requirements set forth in the SERC, there is a separate accounting standard that defines an Annual Required Contribution (ARC) for financial reporting purposes. As long as the statutory annual employer contribution, as defined above, is at least equal to the minimum contribution reported under GASB Statement No. 25, the statutory annual employer contribution will be deemed to be the ARC. Should the statutory annual employer contribution be less than the minimum contribution reported under GASB, the GASB minimum will be the ARC.

Accounting Disclosure Statements (continued)

GASB Statement No. 25 defines the ARC to be equal to the employer normal cost plus an amount to amortize the unfunded actuarial accrued liability. The Statement prescribes the maximum acceptable period over which the total unfunded actuarial liability should be amortized. GASB requires that the "equivalent single amortization period" for all combined amortizations should not exceed the maximum acceptable period. Under the contribution collars from Act 2010-120, the current contribution level results in an "equivalent single amortization period" in excess of the maximum acceptable period and thus an actual contribution less than the ARC. In this case, the ARC is determined using a 30-year amortization period.

The Board has adopted the valuation rate as the contribution rate since 1995. The Board adopted slightly different rates in 1993 and 1994 based on information available after the valuation was performed. In 1993, the valuation rate of 9.27 percent was lowered to 8.92 percent because it was determined that the covered compensation reported for the valuation was unusually high and that future covered compensation was expected to be relatively lower. In 1994, the valuation rate of 8.53 percent was increased to 8.92 percent to allow for the extension of the early retirement window and acceleration of the longevity pay scales.

The actuary agreed with the actions taken by the Board that resulted in some difference between the ARC and the actual contribution. The table presented on page 2 of Schedule H shows the ARC based on the actuarial valuation. The effect of the adjustments in 1993 and 1994 extended over three calendar years so the 1993 through 1995 actual contributions are different from the ARCs in those years.

During 2001, 2002, and 2003, actual contributions exceeded the ARC. For the period July 1, 2001 through June 30, 2003, the ARC was set at zero. However, contributions were made by employers of some special class members for the cost of additional benefits including payment of past liabilities for retroactive benefit enhancements. Collection of those amounts resulted in the actual contributions exceeding the ARC for all or part of calendar years 2001, 2002 and 2003.

All amortization payments are currently based upon a 30-year schedule of contributions which remain level during the amortization period. The employer cost is determined as a percent of covered compensation, and the employer contributes that percent of the compensation of all covered members during each fiscal year.

The employer contribution has been below the GASB Statement No. 25 minimum since July 1, 2005, and we anticipate that the employer contribution to SERS will be lower than the ARC through June 30, 2015. Thereafter, provided that employer contributions are made in accordance with current law, we expect actual employer contributions to exceed the GASB minimum.

State Employees' Retirement System
Solvency Test

	Actuarial Accrued Liabilities For								
	(1)	(2)	(3)						
Valuation Date	Active Participant Contributions	Annuitants and Beneficiaries	Active Participants (Employer Financed Portion)	Total Actuarial Accrued Liability (AAL)	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)	Funded Ratio
			(Amounts in Thousands)						
December 31, 1992	$ 1,994,567	$ 4,621,318	$ 4,872,529	$ 11,488,414	$ 11,769,388	100.0 %	100.0 %	100.0 %	102.4 %
December 31, 1993	2,170,593	4,806,907	5,236,236	12,213,736	13,060,613	100.0	100.0	100.0	106.9
December 31, 1994	2,352,731	5,039,221	6,350,104	13,742,056	13,991,485	100.0	100.0	100.0	101.8
December 31, 1995	2,499,485	5,649,454	6,918,265	15,067,205	15,510,309	100.0	100.0	100.0	102.9
December 31, 1996	2,646,630	6,027,333	7,262,653	15,936,616	16,841,069	100.0	100.0	100.0	105.7
December 31, 1997	2,748,177	6,951,411	7,588,825	17,288,413	18,565,136	100.0	100.0	100.0	107.4
December 31, 1998	2,904,232	7,200,000	8,253,666	18,357,899	20,670,711	100.0	100.0	100.0	112.6
December 31, 1999	2,989,489	7,779,993	8,322,358	19,091,840	23,624,267	100.0	100.0	100.0	123.7
December 31, 2000	3,182,776	8,148,876	8,370,626	19,702,278	26,094,306	100.0	100.0	100.0	132.4
December 31, 2001	3,344,107	8,684,734	11,629,915	23,658,757	27,505,494	100.0	100.0	100.0	116.3
December 31, 2002	3,498,672	10,129,669	12,022,048	25,650,389	27,497,464	100.0	100.0	100.0	107.2
December 31, 2003	3,588,664	11,296,520	11,294,578	26,179,761	27,465,615	100.0	100.0	100.0	104.9
December 31, 2004	3,593,576	12,779,570	11,625,880	27,999,026	26,900,027	100.0	100.0	90.5	96.1
December 31, 2005	3,696,477	14,000,196	11,155,043	28,851,716	26,793,782	100.0	100.0	81.6	92.9
December 31, 2006	3,916,841	14,474,525	11,973,631	30,364,997	28,148,834	100.0	100.0	81.5	92.7
December 31, 2007	3,849,293	16,255,843	11,648,835	31,753,971	30,839,877	100.0	100.0	92.2	97.1
December 31, 2008	4,068,036	17,305,971	13,063,389	34,437,396	30,635,621	100.0	100.0	70.9	89.0
December 31, 2009	4,280,680	17,962,741	13,553,596	35,797,017	30,204,693	100.0	100.0	58.7	84.4
December 31, 2010	4,409,444	18,995,355	15,774,795	39,179,594	29,443,945	100.0	100.0	38.3	75.2

State Employees' Retirement System
Actuarial Value of Assets

I.	Development of 12/31/10 Expected Actuarial Value:		
	A) Actuarial Value as of 12/31/09	$	30,204,693,112
	B) Contributions in 2010		621,574,047
	C) Benefits and Expenses in 2010		(2,473,296,441)
	D) Investment return at 8.0% to 12/31/10 on (A)		2,416,375,449
	E) Investment return at 8.0% to 12/31/10 on (B) and (C): 8.0% x .5 x ((B) + (C))		(74,068,896)
	F) Expected Actuarial Value as of 12/31/10: (A) + (B) + (C) + (D) + (E)	$	30,695,277,271
II.	Previous Differences Not Yet Amortized:		
	A) Unrecognized amount of 12/31/06 Difference: .2 x $2,513,224,923	$	502,644,985
	B) Unrecognized amount of 12/31/07 Difference: .4 x $2,929,711,196		1,171,884,478
	C) Unrecognized amount of 12/31/08 Difference: .6 x ($13,612,163,456)		(8,167,298,074)
	D) Unrecognized amount of 12/31/09 Difference: .8 x $1,178,482,945		942,786,356
	E) Total	$	(5,549,982,255)
III.	Gain or Loss from 2010		
	A) Market Value of Assets on 12/31/10	$	25,879,380,227
	B) Expected Market Value II(E) + I(F)		25,145,295,016
	C) Gain (loss) from 2010 Investments (A) - (B)	$	734,085,211
IV.	Development of Actuarial Value of Assets as of 12/31/10:		
	A) 20% of $2,513,224,923 (12/31/06 Difference):	$	502,644,985
	B) 20% of $2,929,711,196 (12/31/07 Difference):		585,942,239
	C) 20% of ($13,612,163,456) (12/31/08 Difference):		(2,722,432,691)
	D) 20% of $1,178,482,945 (12/31/09 Difference):		235,696,589
	E) 20% of $734,085,211 (12/31/10 Difference):		146,817,042
	F) Total Difference: (A) + (B) + (C) + (D) + (E)	$	(1,251,331,836)
	G) Actuarial Value at 12/31/10: I(F) + IV(F)	$	29,443,945,435

State Employees' Retirement System

Projection of Population, Benefits, and Contributions

Projection of Annuitants, Beneficiaries and Active Participants
Actual Data Through 2010

Calendar Year	New Annuitants During the Year	Annuitant Deaths During the Year	Total Annuitants (End of Year)	New Beneficiaries During the Year	Beneficiary Deaths During the Year	Total Beneficiaries (End of Year)	Total Annuitants and Beneficiaries	Active Participants
1992			73,897			6,595	80,492	109,609
1993			73,894			6,796	80,690	111,962
1994			73,780			7,055	80,835	114,120
1995			74,110			7,094	81,204	112,637
1996			75,609			7,477	83,086	110,922
1997			77,667			7,790	85,457	108,684
1998			78,017			7,817	85,834	108,893
1999			80,095			7,948	88,043	108,035
2000			80,289			8,103	88,392	109,469
2001			80,911			8,306	89,217	109,716
2002			82,805			8,423	91,228	111,059
2003			85,808			8,604	94,412	109,018
2004			89,869			8,858	98,727	108,405
2005			92,120			9,059	101,179	109,981
2006			92,879			9,181	102,060	110,972
2007			97,657			9,473	107,130	109,610
2008			98,492			9,654	108,146	110,866
2009			99,776			9,863	109,639	110,107
2010			101,701			10,012	111,713	109,255
2011	5,262	3,317	103,646	663	540	10,135	113,781	109,255
2012	5,306	3,363	105,589	673	588	10,220	115,809	109,255
2013	5,382	3,396	107,575	679	629	10,270	117,845	109,255
2014	5,393	3,422	109,546	684	663	10,291	119,837	109,255
2015	5,263	3,449	111,360	690	689	10,292	121,652	109,255
2016	5,165	3,480	113,045	696	711	10,277	123,322	109,255
2017	5,022	3,504	114,563	701	726	10,252	124,815	109,255
2018	4,717	3,533	115,747	707	736	10,223	125,970	109,255
2019	4,504	3,564	116,687	713	742	10,194	126,881	109,255
2020	4,258	3,595	117,350	719	745	10,168	127,518	109,255
2021	4,055	3,643	117,762	729	748	10,149	127,911	109,255

The retirement projections in Schedule K are based upon the current retirement assumptions used for the valuation.

State Employees' Retirement System
Projection of Population, Benefits, and Contributions

Projection of Expected Contributions and Benefits - Reflecting Act 120 Collars
Actual Data Through 2010 (Dollars in Millions)

	Calendar Year Contributions (After 2010, Based Upon Blended Fiscal Projections)		Contributions as a Percent of Pay: Calendar Year Contributions (Employer Rates Based Upon Blended Fiscal Projections)		Contributions as a Percent of Pay: Actual Projected Employer Rate (Fiscal Year Beginning July 1)	Calendar Year Benefits and Expenses
Year	Employee	Employer	Employee	Employer		
1992	$ 187	$ 319				$ 851
1993	190	304				781
1994	193	343				812
1995	202	385				894
1996	210	374				943
1997	213	324				1,037
1998	222	311				1,080
1999	224	270				1,248
2000	232	168				1,198
2001	240	77				1,266
2002	304	51				1,450
2003	308	68				1,656
2004	302	106				1,880
2005	306	147				1,966
2006	317	196				1,943
2007	334	242				2,361
2008	337	233				2,231
2009	349	252				2,297
2010	349	273				2,473
2011	355	383	6.0%	6.5%	8.0%	2,551
2012	358	579	6.0%	9.8%	11.5%	2,673
2013	369	842	6.0%	13.8%	16.0%	2,794
2014	380	1,151	6.0%	18.3%	20.5%	2,911
2015	391	1,479	6.0%	22.8%	25.0%	3,027
2016	403	1,703	6.0%	25.4%	25.9%	3,143
2017	416	1,768	6.0%	25.6%	25.4%	3,250
2018	428	1,784	6.0%	25.1%	24.8%	3,354
2019	441	1,797	6.0%	24.5%	24.2%	3,454
2020	455	1,812	6.0%	24.0%	23.7%	3,550
2021	469	1,826	6.0%	23.5%	23.2%	3,655

This projection is based upon these assumptions: a projected investment return of 8.0 percent in 2011 and after; general pay increases of 3.05 percent; no future COLAs. The employer contributions are subject to the Act 2010-120 collars, which are projected to be applicable through 2015, after which actuarially determined employer contribution rates apply.

State Employees' Retirement System
Projection of Population, Benefits, and Contributions

Projection of Expected Contributions and Benefits - Without Act 120 Collars
Actual Data Through 2010 (Dollars in Millions)

	Calendar Year Contributions (After 2010, Based Upon Blended Fiscal Projections)		Contributions as a Percent of Pay: Calendar Year Contributions (Employer Rates Based Upon Blended Fiscal Projections)		Contributions as a Percent of Pay: Actual Projected Employer Rate (Fiscal Year Beginning July 1)	Calendar Year Benefits and Expenses
Year	Employee	Employer	Employee	Employer		
1992	$ 187	$ 319				$ 851
1993	190	304				781
1994	193	343				812
1995	202	385				894
1996	210	374				943
1997	213	324				1,037
1998	222	311				1,080
1999	224	270				1,248
2000	232	168				1,198
2001	240	77				1,266
2002	304	51				1,450
2003	308	68				1,656
2004	302	106				1,880
2005	306	147				1,966
2006	317	196				1,943
2007	334	242				2,361
2008	337	233				2,231
2009	349	252				2,297
2010	349	273				2,473
2011	355	705	6.0%	12.0%	18.9%	2,551
2012	358	1,205	6.0%	20.3%	21.6%	2,673
2013	369	1,417	6.0%	23.1%	24.7%	2,794
2014	380	1,525	6.0%	24.2%	23.7%	2,911
2015	391	1,521	6.0%	23.4%	23.1%	3,027
2016	403	1,535	6.0%	22.9%	22.7%	3,143
2017	416	1,553	6.0%	22.5%	22.3%	3,250
2018	428	1,567	6.0%	22.0%	21.8%	3,354
2019	441	1,581	6.0%	21.6%	21.3%	3,454
2020	455	1,595	6.0%	21.1%	20.9%	3,550
2021	469	1,610	6.0%	20.7%	20.5%	3,655

This projection is based upon these assumptions: a projected investment return of 8.0 percent in 2011 and after; general pay increases of 3.05 percent; no future COLAs. No Act 2010-120 employer contribution collars are assumed in this projection, therefore actuarially determined employer contribution rates apply.

State Employees' Retirement System

I. Age, Service and Salary Profile of Active Participants as of December 31, 2010

Active Participants*

Males - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	9	0	0	0	0	0	0	9	$ 25,862
20-24	829	12	0	0	0	0	0	841	29,636
25-29	2,056	561	4	0	0	0	0	2,621	36,494
30-34	1,600	1,303	343	3	0	0	0	3,249	42,316
35-39	1,292	1,178	875	270	10	0	0	3,625	46,535
40-44	1,353	1,177	1,007	1,055	425	18	0	5,035	50,167
45-49	1,325	1,170	873	997	1,223	563	37	6,188	52,690
50-54	1,306	1,284	937	963	1,270	1,293	800	7,853	54,113
55-59	1,177	1,252	933	991	1,052	1,066	1,536	8,007	56,022
60-64	858	843	654	572	486	397	753	4,563	55,298
65+	357	371	276	210	116	91	270	1,691	58,241
Total	12,162	9,151	5,902	5,061	4,582	3,428	3,396	43,682	$ 51,050

Average Age 47.95
Average Service 12.53

Females - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	20	0	0	0	0	0	0	20	$ 24,461
20-24	848	28	0	0	0	0	0	876	27,946
25-29	2,094	623	36	0	0	0	0	2,753	34,044
30-34	1,633	1,400	448	22	0	0	0	3,503	39,543
35-39	1,409	1,167	795	374	28	0	0	3,773	41,953
40-44	1,479	1,284	854	847	652	51	0	5,167	44,183
45-49	1,624	1,298	899	844	998	777	136	6,576	46,309
50-54	1,493	1,430	1,031	1,012	1,033	994	1,040	8,033	47,838
55-59	1,128	1,239	907	941	1,091	902	1,429	7,637	49,905
60-64	524	751	559	487	468	332	477	3,598	48,697
65+	150	192	179	134	102	68	118	943	46,822
Total	12,402	9,412	5,708	4,661	4,372	3,124	3,200	42,879	$ 45,083

Average Age 46.95
Average Service 12.13

* The following three pages contain information on members in special categories. These include selected hazardous duty members, legislators, judges and district justices. The above information is for all other active members. Page five of Schedule L is the total of all active categories. Page six is the total of all active participants and inactive and vested participants.

State Employees' Retirement System

I. Age, Service and Salary Profile of Active Participants as of December 31, 2010

Selected Hazardous Duty*

Males - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	0	0	0	0	0	0	0	0	$ -
20-24	163	0	0	0	0	0	0	163	37,624
25-29	1,322	188	1	0	0	0	0	1,511	46,005
30-34	1,008	828	155	4	0	0	0	1,995	51,274
35-39	632	788	931	308	11	0	0	2,670	58,274
40-44	485	597	927	1,582	657	8	0	4,256	67,450
45-49	287	427	440	825	1,087	256	1	3,323	68,404
50-54	196	249	306	308	449	322	53	1,883	65,384
55-59	119	160	214	240	206	150	89	1,178	63,981
60-64	71	121	155	179	125	61	48	760	60,946
65+	22	17	35	35	18	11	11	149	65,369
Total	4,305	3,375	3,164	3,481	2,553	808	202	17,888	$ 61,631

Average Age 42.71

Average Service 11.90

Females - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	0	0	0	0	0	0	0	0	$ -
20-24	41	0	0	0	0	0	0	41	39,362
25-29	285	36	0	0	0	0	0	321	43,668
30-34	258	184	27	1	0	0	0	470	47,402
35-39	187	180	129	29	0	0	0	525	50,473
40-44	155	142	144	125	28	0	0	594	54,085
45-49	152	98	110	94	81	22	1	558	55,937
50-54	99	105	73	82	77	56	18	510	58,884
55-59	57	67	71	74	40	27	26	362	58,086
60-64	19	28	22	31	21	9	12	142	64,696
65+	3	5	5	6	6	2	1	28	57,100
Total	1,256	845	581	442	253	116	58	3,551	$ 53,391

Average Age 43.12

Average Service 9.29

* Enforcement officers, correction officers, psychiatric security aides, and officers of the Pennsylvania State Police and the Delaware River Port Authority

State Employees' Retirement System
I. Age, Service and Salary Profile of Active Participants as of December 31, 2010

Legislators*

Males - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	0	0	0	0	0	0	0	0	$ -
20-24	0	0	0	0	0	0	0	0	-
25-29	4	1	0	0	0	0	0	5	79,623
30-34	6	2	0	0	0	0	0	8	81,019
35-39	8	6	2	0	0	0	0	16	79,623
40-44	13	2	4	1	0	0	0	20	80,181
45-49	7	4	9	5	0	0	0	25	84,027
50-54	12	10	5	2	5	2	1	37	83,916
55-59	4	5	8	5	2	3	4	31	84,920
60-64	3	4	3	4	6	4	4	28	84,137
65+	3	2	2	2	2	4	9	24	84,933
Total	60	36	33	19	15	13	18	194	$ 83,279

Average Age 52.18
Average Service 12.54

Females - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	0	0	0	0	0	0	0	0	$ -
20-24	0	0	0	0	0	0	0	0	-
25-29	0	0	0	0	0	0	0	0	-
30-34	2	0	0	0	0	0	0	2	79,623
35-39	0	1	0	0	0	0	0	1	79,623
40-44	2	0	1	1	1	0	0	5	81,857
45-49	3	0	0	2	1	0	0	6	82,304
50-54	2	0	1	1	0	0	0	4	82,415
55-59	0	1	0	0	1	1	1	4	83,851
60-64	1	2	0	3	1	0	0	7	79,623
65+	1	0	2	3	2	1	0	9	79,623
Total	11	4	4	10	6	2	1	38	$ 81,079

Average Age 54.89
Average Service 12.92

*Legislators are not required to join the retirement system, therefore the total participant count may not add to 253.

State Employees' Retirement System
I. Age, Service and Salary Profile of Active Participants as of December 31, 2010

Judges And Magisterial District Judges

Males - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	0	0	0	0	0	0	0	0	$ -
20-24	0	0	0	0	0	0	0	0	-
25-29	0	0	0	0	0	0	0	0	-
30-34	1	1	0	0	0	0	0	2	83,057
35-39	5	2	2	0	0	0	0	9	89,936
40-44	21	11	6	1	0	0	0	39	102,086
45-49	23	17	15	10	2	1	0	68	105,703
50-54	27	33	25	19	7	3	0	114	114,437
55-59	29	48	27	50	24	21	6	205	114,431
60-64	14	39	40	54	29	22	13	211	126,743
65+	3	13	13	28	19	13	12	101	130,808
Total	123	164	128	162	81	60	31	749	$ 118,295

Average Age 57.05
Average Service 13.45

Females - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	0	0	0	0	0	0	0	0	$ -
20-24	0	0	0	0	0	0	0	0	-
25-29	0	0	0	0	0	0	0	0	-
30-34	0	1	0	0	0	0	0	1	80,935
35-39	4	5	1	0	0	0	0	10	81,041
40-44	6	11	7	0	0	0	0	24	111,149
45-49	20	10	5	6	0	0	0	41	116,657
50-54	16	18	16	6	4	1	0	61	128,530
55-59	10	14	11	22	13	3	3	76	131,148
60-64	2	6	6	13	6	7	2	42	129,312
65+	0	1	4	3	5	5	1	19	128,064
Total	58	66	50	50	28	16	6	274	$ 124,138

Average Age 53.85
Average Service 11.82

State Employees' Retirement System
I. Age, Service and Salary Profile of Active Participants as of December 31, 2010

All Active Participants

Males - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	9	0	0	0	0	0	0	9	$ 25,862
20-24	992	12	0	0	0	0	0	1,004	30,933
25-29	3,382	750	5	0	0	0	0	4,137	40,020
30-34	2,615	2,134	498	7	0	0	0	5,254	45,792
35-39	1,937	1,974	1,810	578	21	0	0	6,320	51,640
40-44	1,872	1,787	1,944	2,639	1,082	26	0	9,350	58,315
45-49	1,642	1,618	1,337	1,837	2,312	820	38	9,604	58,584
50-54	1,541	1,576	1,273	1,292	1,731	1,620	854	9,887	57,066
55-59	1,329	1,465	1,182	1,286	1,284	1,240	1,635	9,421	58,384
60-64	946	1,007	852	809	646	484	818	5,562	58,925
65+	385	403	326	275	155	119	302	1,965	62,838
Total	16,650	12,726	9,227	8,723	7,231	4,309	3,647	62,513	$ 54,983

Average Age 46.58
Average Service 12.36

Females - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	Average Salary
Less than 20	20	0	0	0	0	0	0	20	$ 24,461
20-24	889	28	0	0	0	0	0	917	28,456
25-29	2,379	659	36	0	0	0	0	3,074	35,049
30-34	1,893	1,585	475	23	0	0	0	3,976	40,503
35-39	1,600	1,353	925	403	28	0	0	4,309	43,090
40-44	1,642	1,437	1,006	973	681	51	0	5,790	45,509
45-49	1,799	1,406	1,014	946	1,080	799	137	7,181	47,489
50-54	1,610	1,553	1,121	1,101	1,114	1,051	1,058	8,608	49,080
55-59	1,195	1,321	989	1,037	1,145	933	1,459	8,079	51,052
60-64	546	787	587	534	496	348	491	3,789	50,248
65+	154	198	190	146	115	76	120	999	48,951
Total	13,727	10,327	6,343	5,163	4,659	3,258	3,265	46,742	$ 46,206

Average Age 46.71
Average Service 11.91

State Employees' Retirement System
II. Age and Service Profile of Active Participants and Inactive and Vested Participants
As of December 31, 2010

Active Participants and Inactive and Vested Participants

Males - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total
Less than 20	9	0	0	0	0	0	0	9
20-24	992	12	0	0	0	0	0	1,004
25-29	3,396	767	6	0	0	0	0	4,169
30-34	2,632	2,237	503	8	0	0	0	5,380
35-39	1,957	2,126	1,864	587	21	0	0	6,555
40-44	1,903	1,957	2,051	2,675	1,089	26	0	9,701
45-49	1,685	1,772	1,448	1,882	2,326	829	39	9,981
50-54	1,611	1,692	1,376	1,360	1,772	1,646	869	10,326
55-59	1,409	1,593	1,284	1,336	1,323	1,273	1,694	9,912
60-64	1,044	1,081	907	854	695	520	867	5,968
65+	436	436	347	298	162	126	315	2,120
Total	17,074	13,673	9,786	9,000	7,388	4,420	3,784	65,125

Average Age 46.75
Average Service 12.31

Females - Full Years of Service to December 31, 2010

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total
Less than 20	20	0	0	0	0	0	0	20
20-24	894	28	0	0	0	0	0	922
25-29	2,397	686	36	0	0	0	0	3,119
30-34	1,924	1,732	482	23	0	0	0	4,161
35-39	1,651	1,561	971	411	28	0	0	4,622
40-44	1,714	1,660	1,113	1,009	688	51	0	6,235
45-49	1,891	1,595	1,145	997	1,096	809	137	7,670
50-54	1,744	1,754	1,307	1,174	1,144	1,061	1,086	9,270
55-59	1,438	1,554	1,163	1,119	1,188	966	1,522	8,950
60-64	773	890	656	570	534	376	527	4,326
65+	208	236	219	161	125	83	129	1,161
Total	14,654	11,696	7,092	5,464	4,803	3,346	3,401	50,456

Average Age 47.02
Average Service 11.72

State Employees' Retirement System
III. Age and Benefit Profile of Annuitants and Beneficiaries as of December 31, 2010

Superannuation Annuitants

	Male		Female		Total	
Age	Number	Annual Annuity	Number	Annual Annuity	Number	Annual Annuity
Under 25	-	$ -	-	$ -	-	$ -
25-29	-	-	-	-	-	-
30-34	-	-	-	-	-	-
35-39	-	-	-	-	-	-
40-44	-	-	-	-	-	-
45-49	-	-	-	-	-	-
50-54	413	14,845,515	133	4,360,295	546	19,205,810
55-59	1,626	60,276,743	1,147	42,601,506	2,773	102,878,249
60-64	6,142	209,628,054	3,585	104,264,860	9,727	313,892,914
65-69	6,408	198,367,981	4,071	93,286,372	10,479	291,654,352
70-74	5,483	149,900,017	3,690	68,758,248	9,173	218,658,265
75-79	4,306	96,228,511	3,161	44,156,988	7,467	140,385,498
80-84	3,632	69,725,057	3,086	35,060,713	6,718	104,785,770
85-89	2,395	39,000,089	2,555	24,674,986	4,950	63,675,075
90 & over	1,104	14,481,159	1,722	14,360,070	2,826	28,841,229
Total	31,509	$ 852,453,126	23,150	$ 431,524,036	54,659	$ 1,283,977,162

Average Age	72.7
Average Annual Annuity	$23,491

State Employees' Retirement System

III. Age and Benefit Profile of Annuitants and Beneficiaries as of December 31, 2010

Early Retirement Annuitants

	Male		Female		Total	
Age	Number	Annual Annuity	Number	Annual Annuity	Number	Annual Annuity
Under 25	-	$ -	-	$ -	-	$ -
25-29	16	9,164	36	22,045	52	31,209
30-34	155	153,218	191	147,713	346	300,931
35-39	301	531,253	345	492,732	646	1,023,985
40-44	616	2,732,339	562	1,273,242	1,178	4,005,582
45-49	921	12,914,028	827	4,151,624	1,748	17,065,652
50-54	1,514	27,905,433	1,634	13,521,166	3,148	41,426,599
55-59	2,707	50,362,729	3,945	57,427,642	6,652	107,790,371
60-64	5,499	124,803,930	4,612	75,023,082	10,111	199,827,012
65-69	3,913	81,474,983	2,473	34,906,347	6,386	116,381,329
70-74	2,087	31,958,715	1,627	17,335,707	3,714	49,294,422
75-79	1,485	21,742,664	1,272	11,893,850	2,757	33,636,514
80-84	810	11,409,691	800	6,696,875	1,610	18,106,566
85-89	261	3,288,090	410	3,052,151	671	6,340,241
90 & over	75	921,705	147	1,290,382	222	2,212,087
Total	20,360	$ 370,207,942	18,881	$ 227,234,557	39,241	$ 597,442,499

Average Age	62.6
Average Annual Annuity	$15,225

III. Age and Benefit Profile of Annuitants and Beneficiaries as of December 31, 2010

Disabled Annuitants

	Male		Female		Total	
Age	Number	Annual Annuity	Number	Annual Annuity	Number	Annual Annuity
Under 25	-	$ -	-	$ -	-	$ -
25-29	-	-	-	-	-	-
30-34	8	80,037	9	94,059	17	174,096
35-39	48	577,455	43	473,170	91	1,050,625
40-44	112	1,683,396	114	1,265,008	226	2,948,404
45-49	302	4,992,079	265	3,523,688	567	8,515,767
50-54	412	7,315,287	527	8,087,685	939	15,402,972
55-59	729	12,720,653	840	13,444,626	1,569	26,165,280
60-64	871	13,624,255	872	12,664,978	1,743	26,289,233
65-69	563	6,731,744	558	6,532,314	1,121	13,264,058
70-74	318	3,172,778	361	3,303,648	679	6,476,426
75-79	191	1,779,615	243	1,973,042	434	3,752,656
80-84	113	1,133,935	141	1,035,621	254	2,169,555
85-89	50	478,057	73	501,750	123	979,807
90 & over	14	106,749	24	158,570	38	265,319
Total	3,731	$ 54,396,041	4,070	$ 53,058,158	7,801	$ 107,454,199

Average Age	61.4
Average Annual Annuity	$13,774

State Employees' Retirement System
III. Age and Benefit Profile of Annuitants and Beneficiaries as of December 31, 2010

Beneficiaries and Survivor Annuitants

	Male		Female		Total	
Age	Number	Annual Annuity	Number	Annual Annuity	Number	Annual Annuity
Under 25	18	$ 115,712	15	$ 105,405	33	$ 221,117
25-29	6	49,707	12	124,278	18	173,985
30-34	18	185,619	13	151,953	31	337,571
35-39	13	186,788	30	284,339	43	471,128
40-44	27	180,957	49	488,970	76	669,927
45-49	29	255,833	116	941,978	145	1,197,811
50-54	57	358,196	244	2,531,171	301	2,889,367
55-59	94	906,444	485	5,206,896	579	6,113,341
60-64	135	1,325,583	835	10,502,641	970	11,828,224
65-69	122	1,350,782	870	12,197,177	992	13,547,959
70-74	126	1,168,933	1,042	12,659,099	1,168	13,828,032
75-79	105	920,023	1,233	12,777,215	1,338	13,697,238
80-84	122	1,095,377	1,573	14,001,753	1,695	15,097,131
85-89	87	611,496	1,392	10,406,907	1,479	11,018,402
90 & over	41	249,317	1,103	7,102,901	1,144	7,352,219
Total	1,000	$ 8,960,769	9,012	$ 89,482,682	10,012	$ 98,443,451

Average Age	75.0
Average Annual Annuity	$9,833

State Employees' Retirement System

Benefit and Contribution Provisions as of December 31, 2010
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

The State Employees' Retirement System makes provision for retirement, disability, and death benefits for all State employees, except those specifically excluded under Section 5301 of the SERC, and certain other eligible groups. The major provisions are summarized as follows:

Eligible Employees

Class A-3 - All eligible employees hired after December 31, 2010, except members of the judiciary. Certain groups have effective dates after December 31, 2010 that are tied to the expiration of collective bargaining agreements. Members of the General Assembly who joined SERS on or after December 1, 2010 are also part of this class.

Class A-4 - Same as Class A-3 except that this class is for members who elect to pay a higher member contribution amount and receive a higher benefit.

Class AA - All eligible employees hired after June 30, 2001 but prior to January 1, 2011, except State Police Officers, members of the judiciary and legislators, and employees hired before July 1, 2001, who elected Class AA by December 31, 2001.

Class A - State Police Officers hired on or after March 1, 1974 but prior to January 1, 2011, members of the judiciary who have not elected Class E-1 or E-2, legislators elected and became members before July 1, 2001, who have not elected Class AA or Class D-4 and Class A employees hired before July 1, 2001, who remained in Class A.

Class D-4 - Legislators coming into service after June 30, 2001 but prior to December 1, 2010, who elect to be SERS members, and legislators who elected Class D-4 before July 1, 2001.

Class E-1 - Judges who elect Class E-1.

Class E-2 - Magisterial District Judges who elect Class E-2.

Benefit and Contribution Provisions as of December 31, 2010 (continued)
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

Age and Service Requirements for Superannuation (full formula benefits)

Class A-3 & Class A-4

General Conditions	Age 65 with three years of credited state service; or a total attained age and years of credited service of 92 (the "Rule of 92") with credited service being at least 35 years.
Legislators and certain enforcement officers	Age 55 with three years of credited state service.
Park Rangers & Capitol Police	Age 55 with 20 years of Park Ranger or Capitol Police credited service. If total credited service is less than 20 years, General Conditions apply.
State Police	Age 55. State Police are eligible for special unreduced benefits after 20 years of credited service, regardless of age; however, age 55 remains their superannuation age.

Class AA & Class A

General Conditions	Age 60 with three years of credited state service; or 35 or more years of credited service, regardless of age.
Legislators and certain enforcement officers	Age 50 with three years of credited state service.
Park Rangers & Capitol Police	Age 50 with 20 years of Park Ranger or Capitol Police credited service. If total credited service is less than 20 years, General Conditions apply.
State Police	Age 50. State Police are eligible for special unreduced benefits after 20 years of credited service, regardless of age; however, age 50 remains their superannuation age.
Class D-4	Age 50 with three years of credited state service.
Class E-1 & Class E-2	Age 60 with three years of credited state service; or 35 or more years of credited service, regardless of age.

Benefit and Contribution Provisions as of December 31, 2010 (continued)
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

Formula for Superannuation Annuity

The single life annuity applicable to members of Class AA and Class A-4 is equal to 2.5 percent of the high 3-year final average salary (FAS) of the member multiplied by the years and fractions of credited service.

The single life annuity applicable to members of Class A and Class A-3 is equal to 2 percent of the high 3-year final average salary of the member multiplied by the years and fractions of credited service.

The single life annuity applicable to Class A State Police is 50 percent of the highest full calendar year of compensation if the member has over 20 but less than 25 years of service. With more than 25 years of service the benefit is 75 percent of the highest annual salary.

The benefit accrual rates for other classes of members are as follows:

Class	Benefit Accrual Rate
D-4	3.0 percent
E-1	4.0 percent for each of the first 10 years of judicial service, dropping to 3.0 percent for each subsequent year of judicial service.
E-2	3.0 percent for each year of judicial service.

Members who have 41 or more years of combined Class A-3, A-4, A and AA service are entitled to a supplemental benefit ranging from 2 percent of the applicable single life annuity for members with 41 years of service to 10 percent of the applicable single life annuity for members with 45 or more years of service.

The benefit for a member who works past age 70 is at least equal to a benefit that is the actuarial equivalent of the prior year's benefit. This determination is made each year after age 70.

In addition to the above benefits, a member who has elected Social Security Integration Coverage is entitled to a single life annuity of 2 percent of the members' "Average Non-Covered Salary" for each year of Social Security Integration (SSI) coverage. All Class E members can elect SSI coverage. Other members must have elected SSI coverage before March, 1974. "Average Non-Covered Salary" is the average annual salary received while covered by the Retirement System since January 1, 1956 in excess of the maximum covered wages under Social Security.

Benefit and Contribution Provisions as of December 31, 2010 (continued)
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

Limitations on Annuity

In almost all cases, SERS benefits are limited to no more than 100 percent of compensation. An exception to this limit is the actuarial increase portion of the benefit for certain members eligible for actuarial increases due to retirement beyond age 70. For such members, the 100 percent of salary limit only applies to the base benefit. Also, the amount of annual retirement benefit a member may receive shall not exceed the dollar limit specified under Section 415(b) of the Internal Revenue Code. Benefits in excess of the 415(b) limit are paid through the Benefits Completion Plan.

Age and Service Requirements for Disability Retirement

A member is eligible for disability retirement if the member is unable to perform his or her current job and has at least 5 years of service. An officer of the State Police or enforcement officer does not have a service requirement.

Formula for Disability Benefit

The disability benefit is equal to the benefit calculated as of normal retirement age, based on years of credited service at disability, if the result is greater than or equal to 33-1/3 percent of FAS at time of disability. If the benefit so calculated is less than 33-1/3 percent of FAS, the disability benefit is equal to the smaller of:

(a) the benefit calculated as of normal retirement age based on Service projected to retirement date, or

(b) 33-1/3 percent of FAS at time of disability.

For service connected disabilities, the disability benefit payable will be increased, as needed, so that the sum of the plan benefit and the benefits paid or payable under the Workers' Compensation Act, The Pennsylvania Occupational Disease Act, and the Social Security Act equals 70 percent of FAS.

Eligibility for Vested Benefit

All Class A-3 and A-4 members have a vested entitlement to an annuity after 10 years of credited service. All other classes are vested after 5 years of credited service.

Vested Benefit

The vested benefit is equal to the benefit calculated using years of credited service at the time of leaving the plan. The former member can receive the full benefit beginning at normal retirement age, or an actuarially reduced withdrawal annuity beginning at any date after separation but before retirement.

Benefit and Contribution Provisions as of December 31, 2010 (continued)
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

For those not in Classes A-3 or A-4, the withdrawal annuity is reduced from the earlier of age 60, or the age at which the member would have 35 years of credited service. Benefits for Park Rangers and Capitol Police who have 20 years of credited service are reduced from age 50. Benefits for other members who have an age 50 superannuation age are reduced from age 50 irrespective of the amount of credited service they have.

For Classes A-3 and A-4, the withdrawal annuity is reduced from age 65. If prior to age 65 the member has both reached 35 years of credited service and met the conditions of the Rule of 92, then the member is eligible for unreduced benefits. Benefits for Park Rangers and Capitol Police who have 20 years of credited service are reduced from age 55. Benefits for other members who have an age 55 superannuation age are reduced from age 55 irrespective of the amount of credited service they have.

Eligibility for Death Benefit Prior to Retirement

A member is eligible if the member (1) is under superannuation age with 5 years (or 10 years under Classes A-3 and A-4) of credited service or (2) has attained superannuation age with 3 years of credited state service.

Amount of Death Benefit Prior to Retirement

An eligible beneficiary receives the full present value of the benefits to which the member would have been entitled had the member retired the day before he or she died, assuming the member had elected Option 1 if no other option had been elected. This death benefit includes the present value associated with benefits, if any, to which the member may not have been entitled because they exceeded the member’s highest consecutive twelve months of salary and are limited by appropriate IRS limitations.

Death Benefits After Retirement

A member who elects the maximum single life annuity is entitled to a refund of the unpaid balance of the accumulated member contributions and interest at the time of retirement. A member may elect one of several optional reduced pensions in lieu of the maximum single life annuity to provide additional death benefit protection. The optional forms of benefit are actuarially equivalent to the maximum single life benefit using 4.0 percent interest per annum, and the actuarial equivalence factors described below.

The beneficiary of a disabled member who did not elect an alternative option receives benefits determined under Option 1. Option 1 provides that the beneficiary will receive a benefit equal to the present value of the maximum single life annuity at retirement reduced by any payments received by the annuitant. The Option 1 benefit is provided to a disabled member without any reduction in the member’s benefit.

Benefit and Contribution Provisions as of December 31, 2010 (continued)
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

A Supplemental Death Benefit is payable to a beneficiary of a member who had a retirement benefit limited by 100 percent of final compensation. The Supplemental Death Benefit is the present value of the excess of the retirement benefit payable to the member before applying the 100 percent of final compensation limit over the 100 percent of final compensation limit, subject to limits imposed by IRC Section 401(a)(9). If the benefit payable to the member is larger than the IRC Section 415(b) limit, the part of the Supplemental Death Benefit in excess of the IRC Section 415(b) limit will be payable from the Benefits Completion Plan. The Supplemental Death Benefit payment is in addition to any death benefit that may be paid as a result of the optional election.

The "Extra Piece"

The SERC provides for an "extra piece" to be added to the annual benefit if the member's accumulated deductions exceed one-half of the actuarially equivalent value of the annual benefit. The extra piece is equal to the difference between the total accumulated deductions and one-half of the actuarially equivalent value of the annual benefit. This provision does not apply to Classes A-3 and A-4

Cost-of-Living Allowances (COLAs)

Supplemental annuities applying cost-of-living increases to the benefits of annuitants have been instituted from time to time. The last cost-of-living increase was a two-stage increase under Act 2002-38. The first stage was applicable to annuitants who retired on or before July 1, 1990, and it became effective in July of 2002. The second stage provided cost-of-living increases to annuitants who retired after July 1, 1990, but prior to July 2, 2002, and it became effective in July of 2003.

Rate of Member Contribution

(i) Regular member contributions, excluding Social Security Integration contributions

Class A-3 - 6.25 percent of total compensation

Class A-4 - 9.30 percent

Class AA - 6.25 percent

Class A - 5.00 percent

Class D-4 - 7.50 percent

Class E-1 - 10.00 percent during the first 10 years of judicial service and 7.50 percent thereafter.

Class E-2 - 7.50 percent

Benefit and Contribution Provisions as of December 31, 2010 (continued)
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

(ii) Additional contribution for Social Security Integration Credit

Any member who elects the Social Security Integration Credit pays 5.00 percent of any salary in excess of the amount of salary covered by Social Security during the year for which contributions are being made. A member electing to end additional contributions is ineligible to make future contributions or accrue future benefits.

(iii) Waiver of contributions

Members may elect to waive future contributions on an annual basis if their maximum single life annuity exceeds 110 percent of their highest calendar year compensation. This waiver does not apply to Classes A-3 and A-4.

Interest Credited on Member Contributions

A rate of 4 percent, the statutory rate of interest, has been credited on the member contributions since the inception of the system.

Refund of Accumulated Member Contributions

On the death of a member not qualifying for death benefits, the accumulated member contributions and interest will be paid to the beneficiary. Upon application, a member terminating service when not eligible for another form of benefit is paid a refund of the accumulated contributions and interest. Other terminating members may elect to receive a lump sum payment of a portion of the present value of their benefit, not to exceed their accumulated contributions and interest under Option 4 as part of the members' option. Their lump sum payment results in a decrease to the annuity benefit otherwise payable. Under Act 120, Classes A-3 and A-4 are not eligible to receive a lump sum and reduced annuity under Option 4.

Employer Contributions

The employer pays the balance of the cost in excess of the members' contributions with payment schedules determined by law. Act 2010-120 made changes to the SERS funding rules which have significantly affected the required employer contributions. See Section III of Schedule O for the details.

Actuarial Equivalence

The actuarial table used to determine optional and early retirement benefits for members who entered service after August 1983 is the 1983 Group Annuity Mortality (1983GAM) Unisex table.

Benefit and Contribution Provisions as of December 31, 2010 (continued)
(as embodied in Act 31 of 1974, and amended through Act 120 in November 2010)

Members who entered service before August 1983 receive the better of benefits based on the 1983 GAM table or a variation of the 1971 Group Annuity Mortality (1971GAM) male table. The 1971 GAM table that applies in determining the benefits for members who entered service before August 1983 is:

For service before August, 1983:

Males (members or survivors) – 1971 GAM for males
Females (members or survivors) – 1971 GAM for males, set back 6 years

For service after August, 1983:

Members (male or female) – 1971 GAM for males, set back 6 years
Survivors (male or female) – 1971 GAM for males

Actuarial Assumptions

This schedule shows the actuarial assumptions used for the valuation. These assumptions were based upon a review of experience under SERS from 2006 through 2010. Schedule N contains an extract of the full set of rates used in the valuation. The full set of rates is in the Seventeenth Investigation of Actuarial Experience of the State Employees' Retirement System of the Commonwealth of Pennsylvania – January 12, 2011, which can be obtained from SERS. The rates are the probabilities that an event will occur in the year after the valuation and are all assumed to occur at the beginning of the year. For example, the male retirement rate of 25.0 percent at age 60 means that 250 of every 1,000 male employees age 60 and who are eligible for full benefits are expected to retire at the date of the valuation.

Interest Rate: 8.0 percent compounded annually. The assumed interest rate of 8.0 percent is the investment return less investment and administrative expenses.

Mortality After Retirement:

Non-disabled Retirees, Beneficiaries and Survivors: The RP-2000 Healthy Annuitant Mortality Table projected to 2008 and updated to reflect actual SERS experience through 2010. The table includes a margin for future improvement in life expectancy.

Disability Retirees: The RP-2000 Disabled Retiree Mortality Table projected to 2008 and updated to reflect actual SERS experience through 2010. The table includes a margin for future improvement in life expectancy.

Spouse Age Difference: Females are assumed to be 2 years younger than males.

Actuarial Assumptions (continued)

Demographic Assumptions for General Employees while Active Members

Rates of Separation for Eligibility for Full Unreduced Benefits:
(35 years of credited service under age 60; 3 years of credited service over age 60)

Representative Rates of Separation for Eligibility for Full Unreduced Benefits		
Age	Male	Female
53	25.0%	23.0%
54	26.0	23.0
55	27.0	23.0
56	28.0	23.0
57 - 59	30.0	23.0
60	25.0	25.0
61	20.0	20.0
62	25.0	25.0
63 – 64	20.0	20.0
65	25.0	25.0
66 – 79	20.0	20.0
80	100.0	100.0

Rates of Separation for Eligibility for Reduced Benefits
(only apply to members not eligible for full unreduced benefits)

Representative Rates of Separation for Eligibility for Reduced Benefits				
	5 – 14 Years of Credited Service		15 or More Years of Credited Service	
Age	Male	Female	Male	Female
25	1.0%	1.0%	N/A	N/A
30	1.5	1.5	N/A	N/A
35	1.5	1.5	1.5%	1.5%
40	1.0	1.0	1.5	1.5
45	1.0	1.0	1.5	1.5
50	1.0	1.0	2.0	2.0
55	1.0	1.0	5.5	5.5

Actuarial Assumptions (continued)

Rates of Separation Due to Withdrawal
It is assumed that the benefit will be reduced from age 58 for general members (to factor 35 years of service before age 60) and from age 50 for members eligible for age 50 retirement.

Representative Rates of Separation Due to Withdrawal								
	Male				Female			
	Years of Credited Service				Years of Credited Service			
Age	0	5	9	14	0	5	9	14
20	20.7%	N/A	N/A	N/A	22.4%	N/A	N/A	N/A
25	16.2	0.8%	0.8%	N/A	20.5	2.7%	1.9%	N/A
30	13.9	0.8	0.6	0.6%	17.9	2.4	1.7	1.8%
35	13.6	0.7	0.4	0.4	12.8	1.9	1.2	1.3
40	13.0	0.5	0.4	0.4	10.0	1.9	0.7	0.5
45	12.1	0.5	0.2	0.2	9.8	1.8	0.7	0.5
50	11.3	0.5	0.2	0.2	9.8	1.8	0.4	0.5
55	11.3	0.6	0.6	0.6	9.8	1.5	1.2	1.2

Rates of Separation Due to Death and Disability
(Disability rates only apply to members not eligible for full retirement)

Representative Rates of Separation Due to Death and Disability				
	Death		Disability	
Age	Male	Female	Male	Female
20	0.04%	0.02%	N/A	N/A
25	0.04	0.02	0.02%	0.04%
30	0.05	0.02	0.07	0.09
35	0.06	0.03	0.12	0.16
40	0.08	0.04	0.19	0.21
45	0.12	0.06	0.33	0.33
50	0.22	0.09	0.46	0.50
55	0.27	0.14	0.60	0.63
60	0.32	0.24	N/A	N/A

Actuarial Assumptions (continued)

For Special Benefit Classes if Different from General Employee Rates:

Rates of Separation Due to Withdrawal			
Years of Service	State Police/ Hazardous Duty	Legislators	Judicial Officers
0	15.0%	5.0%	2.0%
1	5.0	5.0	2.0
2	3.0	5.0	1.0
3	2.5	10.0	1.0
4	1.5	5.0	1.0
5	0.9	10.0	0.5
6	0.7	5.0	0.5
7	0.6	5.0	0.4
8	0.4	5.0	0.4
9	0.3	5.0	0.3
10+	0.2	1.3	0.3

Rates of Separation Due to Early Retirement at Any Age		
State Police/ Hazardous Duty	Legislators	Judicial Officers
0.8%	3.0%	0.5%*

* The Judicial Officer rate increase to 1.2% at beginning at age 50.

Representative Rates of Separation Due to Retirement other than State Police with 19 or More Years of Credited Service			
Age	State Police/ Hazardous Duty	Legislators	Judicial Officers
50	7.0%	5.0%	N/A
55	7.0	7.5	2.3
60	12.0	12.0	5.0
65	25.0	25.0	10.0
70	25.0	25.0	100.0
75	25.0	25.0	N/A
80	100.0	100.0	N/A

Rates of Separation due to Retirement for State Police with 19* or More Years of Credited Service			
Years of Service	Rate	Years of Service	Rate
19* – 23	5.0%	31	20.0%
24*	15.0	32 – 34	40.0
25	50.0	35 – 39	50.0
26 – 29	20.0	40+	100.0
30	30.0		

* State Police with 19 and 24 years of service at the beginning of the year are assumed to retire at the point they reach 20 and 25 years respectively during the year and to receive the FOP award.

Years of Service Purchased by Eligible Members

Service	Number of Years Purchased
0	0.4
1	0.3
2	0.2
3	0.1
4+	0.0

It is assumed that the member will elect to pay for the reduction through an actuarial debt and that all purchased service is a 2 percent accrual. Under Act 2010-120, the assumed purchase years have been reduced by 50%.

Form of Payment: Members are assumed to elect the maximum benefit 33 percent of the time, some form of joint and survivor annuity 26 percent of the time, and some form of guaranteed present value (including joint and survivor with a guaranteed present value) 41 percent of the time. Also, 85 percent of members are assumed to elect a full Option 4 withdrawal of contributions and interest.

Career Salary Increases

The career salary scale shown on the following page includes average increases in the employee salary due to promotions and longevity growth. The average career salary growth is 3.15 percent

Actuarial Assumptions (continued)

per year. In addition, it is assumed that the salary schedules will increase by 3.05 percent a year. The scale on the following page does not include the assumed 3.05 percent general salary increase.

Career Salary Scale for Members			
Years of Credited Service	Annual Increase	Years of Credited Service	Annual Increase
1	8.00%	16	2.50%
2	6.00	17	2.40
3	4.50	18	2.30
4	4.00	19	2.20
5	3.75	20	2.10
6	3.50	21	2.00
7	3.25	22	1.90
8	3.20	23	1.80
9	3.15	24	1.70
10	3.10	25	1.60
11	3.00	26	1.50
12	2.90	27	1.40
13	2.80	28	1.30
14	2.70	29	1.25
15	2.60	30+	1.25

The above scale does not apply to members in Classes D and E. It is assumed that only the general salary increase (3.05 percent each year) would apply to members in these classes.

New Class A-3 and A-4 Assumptions

The following tables are the early and superannuation retirement rates applicable to the new Class A-3 and A-4 members.

Actuarial Assumptions (continued)

Early Retirement Rates for Class A-3 and Class A-4 Active Employees with 15 or more Years of Service	
Ages	**Rate**
35	1.5%
40	1.5
45	1.5
50	2.0
55	5.5
60	5.5
61	6.0
62	20.0
63	10.0
64	15.0
65	N/A

Superannuation Retirement Rates for Class A-3 and Class A-4 Employees	
Age	**Rate**
55	15.0%
56	16.0
57	17.0
58	18.0
59	19.0
60	20.0
61	20.0
62	25.0
63	20.0
64	20.0
65	25.0
66 to 79	20.0
80	100.0

Actuarial Methods

I. Asset Valuation

The actuarial value of assets is developed by recognizing the difference between the expected actuarial value of assets and the market value of assets over a five-year period. The expected actuarial value is last year's actuarial value brought forward to reflect actual contributions, benefit payments and expenses, and assumed investment income. Each year 20 percent of the difference between this expected value and the market value is recognized in determining the current actuarial value of assets with the remaining 80 percent to be recognized over the next four years.

II. Funding Method

The State Employees' Retirement System funding policy provides for employer contributions at actuarially determined rates that will amortize liabilities over a ten-year or 30-year period beginning with the July first following the measurement of the liability. See Section III below for details regarding the specific liabilities subject to amortization and the applicable amortization periods. This policy assures that the SERS is appropriately funded and also that the fund will accumulate sufficient assets to pay benefits when they are due. The policy is set by the State Employees' Retirement Board in conformance with specific legal requirements as to the method of funding.

A variation of the Entry-Age Actuarial Cost Method is used to determine the liabilities and costs related to all SERS benefits including retirement, withdrawal, death and disability benefits. The significant difference between the method used for SERS and the typical Entry-Age Actuarial Cost Method is that the normal cost is based on the benefits and contributions for new employees rather than for all current employees from their date of entry. The SERS variation should produce approximately the same results as the typical method over the long run.

III. Determination of the Annual Contribution

The annual employer contribution is equal to the sum of the following:

(1) The employer share of the normal cost.
(2) The fresh start amortization of the December 31, 2009 unfunded liability over a 30-year period beginning July 1, 2010 and ending on June 30, 2040.
(3) The amortization of the change in liability due to Act 2010-120 over a 30-year period beginning July 1, 2011 and ending on June 30, 2041.
(4) The amortization of changes in liability due to actual experience differing from assumed experience after December 31, 2009 over 30-year periods beginning with the July first following the actuarial valuation determining such changes.

Actuarial Methods (continued)

The amortization payments are level amounts over the remaining applicable amortization period. The employer cost is determined as a percent of compensation, and the employer contributes that percent of the compensation of all covered members during each fiscal year. The actuarially determined employer cost for fiscal year 2011/2012 is the total of (1) the employer normal cost percent and (2) the net amortization payment for fiscal year 2011/2012 divided by the projected covered compensation for the fiscal year. However, Act 2010-120 established employer contribution collars for the purpose of temporarily limiting the extent of annual increase in the employer contribution rate.

To determine the maximum 2011/2012 employer contribution rate under Act 2010-120, we add the fiscal 2011/2012 contribution collar of 3 percent of payroll to the final 2010/2011 employer contribution requirement of 5.00 percent of payroll, to produce a result of 8.00 percent of compensation. Therefore, the 2011/2012 employer contribution rate is limited to 8.00 percent of covered compensation, well below the actuarially determined rate (of 18.93 percent of covered compensation) that would otherwise be required. The other contribution collars established under Act 2010-120 limit the annual increase in the employer contribution rate to:

- 3.5 percent of covered compensation for fiscal year 2012/2013 and
- 4.5 percent of covered compensation for each fiscal year thereafter until the collar ceases to apply, after which the actuarially determined contribution rates apply (subject to a minimum employer contribution rate equal to the employer normal cost percent)

The assumptions used in determining the actuarial cost are stated in Schedule N, and the employer cost, as a percent of covered compensation, is determined in Schedules A and B. The assumptions used for the current valuation were based upon an evaluation of SERS experience from 2006 through 2010.

The annual investment return assumption is 8.0 percent. Salary growth is the total of assumed increases in salary rates and career salary growth. It is generally assumed that the total payroll will increase at 3.05 percent a year and that employee career salary growth (promotion and longevity growth) will average an additional 3.15 percent a year. Therefore, the average total salary growth for an individual will generally be 6.20 (3.05 plus 3.15) percent a year. The investment return and the salary rate increase assumptions are based on an assumed underlying inflation of 2.75 percent a year.

All costs and liabilities have been determined in conformance with generally accepted actuarial principles and procedures in accordance with the principles of practice prescribed by the Actuarial Standards Board of the American Academy of Actuaries. The calculations were performed on the basis of actuarial assumptions and methods, which are internally consistent, and reasonable (taking into account past experience under SERS and reasonable expectations) and which in combination represent the best estimate of anticipated experience under the plan.

Actuarial Methods (continued)

IV. Allocation of the Annual Contribution Among Employer Groups

The annual employer contribution (total employer cost) is expressed as a percentage of the total projected covered compensation for active members. This amount is reflected on Schedule B, line IV. and is referred to as the total employer cost. The total employer cost is the average contribution amount that needs to be received from the employer groups participating in the system. Therefore, some employer groups contribute a higher percent of compensation, and some employer groups contribute a lower percent of compensation.

Schedule C develops the contribution rate for each of the employer groups. The allocation method used to determine the employer rate takes into consideration the cost of additional benefits for special classes of members. For example, the contribution rate for Class E members takes into consideration the additional accrual rate those members receive at retirement. The Base Contribution Rate (column 2 on Schedule C) is determined as the percentage needed to produce employer contribution amounts by class that, when added together, equal the total employer contribution.

The following is an explanation of the elements of Schedule C.

Column (1) is the employer group.

Column (2) is the Base Contribution Rate. The Base Contribution Rate is the amount needed to fund the benefits for Class A-3 (65) members. Because the majority of SERS new entrants will be covered under Class A-3 (65), the 2.0 percent accrual rate for that class is used to determine the base contribution rate.

Column (3) is the additional cost for members who are eligible to retire with unreduced benefits at age 50 or 55. The age 50/55 normal cost is determined for two groups of members: members who can retire at age 50/55 if they have 3 years of credited service, and members who can retire at age 50/55 once they obtain 20 service credits. Park Rangers and Capitol Police fall into the latter category. The additional cost for members who can retire at age 50/55 if they have 3 years of credited service is larger than the additional cost for members who can retire at age 50/55 if they have 20 years of credited service.

Column (4) is the multiplier adjustment to the basic benefit, which is applicable to members in classes that receive a different percent accrual rate than the accrual rate for Class A-3 members. The normal cost is determined for members who would receive the standard 2.0 percent single life annuity set by Act 120 (Class A-3). For example, members in Class AA receive an annuity equal to 1.25 times the standard Class A-3 single life annuity. The multiplier adjustment (Column (4)) for Class AA is 1.4472, which includes the 1.25 multiplier plus some additional adjustments (e.g., differences in superannuation age and limitations on Option 4 withdrawals under Act 120). There currently are no multiplier adjustments less than the 1.0.

Actuarial Methods (continued)

Column (5) is the past-service liability component for certain employee groups. These employee groups were granted benefit improvements that were retroactive at the date of passage and, therefore, cover all credited service for the class. Upon establishment of a benefit improvement it was determined that the employers of the individual employee group, not the Commonwealth, would fund the benefit improvement.

At implementation of the new benefit provision, a liability is established for the members who are eligible for the new benefit provisions, and a schedule is determined to pay off the increase in liability. For example, Park Rangers and Capitol Police Officers were formerly covered under the age 60 retirement provisions. Effective with the valuation at December 31, 1992, Park Rangers and Capitol Police Officers became eligible to retire at age 50 upon attaining 20 years of service. At that valuation, a liability was established that would fund the increase in benefits.

The liability for the increase in benefits for past service is paid off in equal installments by the employers of the member group. Each year, the annual contribution as a percent of payroll is determined as the annual payment divided by the funding payroll for the group. The outstanding balance is carried forward with interest each year.

The following table shows the payment schedule for the two groups of employees who have a past service liability.

Amortization Schedule for Past Liabilities		
Employer Group	**Payment**	**Last Payment (fiscal year beginning)**
State Police	$19,004,493	July 2029
Park Rangers / Capitol Police	$93,603	July 2027

Column (6) is the adjusted contribution rate, and is equal to column (2) plus column (3), multiplied by column (4). Column (5) is added.

Column (7) is the projected compensation for the class of employees. The projected compensation is for the fiscal year to which the contribution rate is applicable.

Column (8) is the dollar amount of the employer group contribution. Except when the base employer contribution rate is zero, the sum of the dollar amounts for each group is (approximately) equal to the total employer contribution (as a percent of covered compensation) multiplied by the total projected covered compensation for the active members.

Actuarial Methods (continued)

V. Plan Provisions Not Valued

The cost effect of two plan provisions was not included in this valuation because the effect of the provisions is minimal. These are the limit on the amount of retirement benefit imposed by Section 5702(c) (100 percent limit) and the supplemental death benefit payable when the retirement benefit is limited by Section 5702(c).

These two provisions are not valued because they only apply to very few SERS members. Since by definition the liability for the supplemental death benefit is lower than the reduction in liability for the 100 percent limit, the net effect of not including these provisions in the actuarial valuation is a minimal overstatement in the total employer cost.

VI. Determination of Present Value of Benefits for Inactive and Vested Members

The present value of benefits for inactive members not currently receiving benefits is determined using the same methods and procedures as for active members. They are valued using the final average compensation and service as of separation and are assumed to begin receiving benefits in accordance with the active employee assumptions.

Glossary

Accrued Service. Service credited under the system, which was rendered before the date of the actuarial valuation.

Active Participants. Active members who are in a position covered by SERS and on payroll, on leave with pay, or on certain unpaid leave (e.g., military leave). Inactive members on leave without pay are also included as active participants if there is an expectation they will return to paid service.

Actuarial Accrued Liability. The portion of the actuarial present value of benefits not provided for by the actuarial present value of future normal costs. Also referred to as Past Service Liability.

Actuarial Assumptions. Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, investment income and salary growth. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the actuarial present value of future benefits between future normal costs and the actuarial accrued liability.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting projected future payments at assumed rates of interest and probabilities of payment.

Amortization. Paying off an amount with periodic payments of interest and principal -- as opposed to paying off with a lump sum payment.

Annuitants. Participants of SERS who are currently receiving benefits for reason of superannuation retirement, early retirement, deferred retirement, or disability retirement.

Beneficiaries and other payment recipients. Beneficiaries, survivors or alternate payees who are receiving benefits as a result of the death of an active member or annuitant or due to a divorce (based upon a domestic relations order).

Funding Payroll. The contribution determinations for the funding of SERS are based on a fiscal year running from July 1 to June 30. The Total Annualized Compensation is adjusted to an appropriate fiscal year Funding Payroll using the salary scale assumption and expected turnover and replacement estimates.

Inactive and Vested Participants. In general, inactive and vested participants are former active members who are not expected to return to paid service in a position covered by SERS. Inactive and vested participants include employees on furlough as well as employees with prior SERS service currently participating in the Pennsylvania Public School Employees' Retirement System

Glossary (continued)

(PSERS). All inactive and vested participants are entitled to either a refund of accumulated deductions from SERS or a monthly benefit. Inactive and vested participants will eventually change statuses; for example, they may terminate non-vested and receive a refund of their accumulated deductions, they may retire and commence annuity payments, they may return to active membership, etc.

Total Annualized Compensation. The Total Annualized Compensation is a snapshot of compensation on December 31. For full-time employees, it is equal to the compensation during the calendar year ending December 31. For part-time employees, compensation is annualized using the current rate of compensation times the appropriate number of pay periods.

Total Normal Cost. The portion of the actuarial present value of future benefits that is allocated to the current year by the actuarial cost method.

Unfunded Actuarial Accrued Liability. The difference between actuarial accrued liability and the actuarial value of assets.