Maine Public Employees Retirement System
State Employee and Teacher Retirement Program
Actuarial Valuation Report

as of June 30, 2010

Produced by Cheiron

October 2010

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October 28, 2010

Board of Trustees
Maine Public Employees Retirement System
#46 State House Station
Augusta, Maine 04333-0046

Dear Members of the Board:

We are pleased to submit the June 30, 2010 Actuarial Valuation Report for the Plans in the State Employee and Teacher Retirement Program of the Maine Public Employees Retirement System. This report contains information on assets, liabilities, and contributions of the System's Retirement Programs, as well as the required accounting statement disclosures under the Government Accounting Standards Board Statement #25.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. The actuarial assumptions reflect our understanding of the likely future experience of the plans in the program and the assumptions as a whole represent our best estimate for the future experience of the those plans. The accuracy of the results presented in this report is dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the plans could vary from our results.

We hereby certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, and that as Members of the American Academy of Actuaries, we meet the Qualification Standards to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

Gene Kalwarski, FSA, EA
Consulting Actuary

Fiona E. Liston, FSA, EA
Consulting Actuary

1750 Tysons Boulevard, Suite 1100, McLean, VA 22102 Tel: 703.893.1456 Fax: 703.893.2006 www.cheiron.us

FORWARD

Cheiron has performed the actuarial valuation of the plans in the Maine Public Employees Retirement System State Employee and Teacher Program as of June 30, 2010. The purpose of this report is to:

1) **Measure and disclose**, as of the valuation date, the financial condition of the plans in the Program;

2) **Indicate trends**, both historical and prospective, in the financial condition of the plans in the Program;

3) **Report on the contribution rate** developed in this valuation (actual contributions to be paid by the State for Fiscal Years 2012 and 2013 were developed in July 2010, based on a roll forward of the June 30, 2009 valuation); and

4) **Provide specific information** and documentation required by the Government Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of investment performance as well as an analysis of actuarial liability gains and losses.

Section I presents a summary containing our key findings and discloses important trends experienced by the plans in the Program in recent years.

Section II contains details on various asset measures, together with pertinent performance measurements.

Section III shows similar information on liabilities, measured for actuarial, accounting, and government reporting purposes.

Section IV develops the State contribution rates that would be applied absent the State's biennial budgeting process.

Section V includes the required disclosures under GASB Statement No. 25.

Finally, at the end of this report we present appendices that contain a summary of the:

- Program membership by plan at the valuation date (Appendix A);
- The actuarial methods and assumptions used in the valuation (Appendix B); and
- Major benefit provisions of the Program and the various plans included in the Program (Appendix C).

SECTION I
BOARD SUMMARY

General Comments

The State of Maine's annual contributions to the plans in this Program are determined on a biennial basis. Starting with Fiscal Years (FY) 2012 and 2013, the contribution rates used in the State's budgeting process to produce the applicable State budget contributions will be based on a roll forward of valuation results from every odd-numbered year. This means the contribution rates developed in this valuation will not be used to develop applicable State budget contributions for FY 2012 and FY 2013. In July of 2010, a roll forward of the 2009 valuation contribution rates were developed for that purpose. The roll forward consisted of projecting the June 30, 2009 actuarial liability to June 30, 2010 using generally accepted actuarial techniques, and assuming that there was no cost-of-living adjustments for members in pay status during fiscal year ending 2010. The roll forward unfunded actuarial liability as of June 30, 2010 was then based on actual assets known as of June 30, 2010.

The State of Maine composite rate produced by the June 30, 2009 valuation for all plans in the State Employees and Teacher Retirement Program was 21.79% of payroll. The State composite rate produced in this valuation is 23.75% of payroll.

State law requires that a portion of any General Fund surplus must be allocated to the Maine Public Employee Retirement System (MainePERS) on an annual basis. The surplus allocation taken into account in this valuation report was $11.2 million.

There were no changes in actuarial assumptions or program or plan provisions since the 2009 valuation.

Experience from July 1, 2009 through June 30, 2010 (FY 2010)

As of June 30, 2010, the Program had an Unfunded Actuarial Liability (UAL) of $4.304 billion. This represents an increase of $309 million from the $3.995 billion UAL measured as of June 30, 2009. The UAL was expected to increase to $4.018 billion and so the experience of the Program reflected a net loss of $286 million over what was anticipated.

Two sources contributed to that $286 million net loss; investment performance measured on an actuarial smoothing basis produced an actuarial loss of $534 million, and the overall liability experience for FY 2010 produced a gain of $248 million.

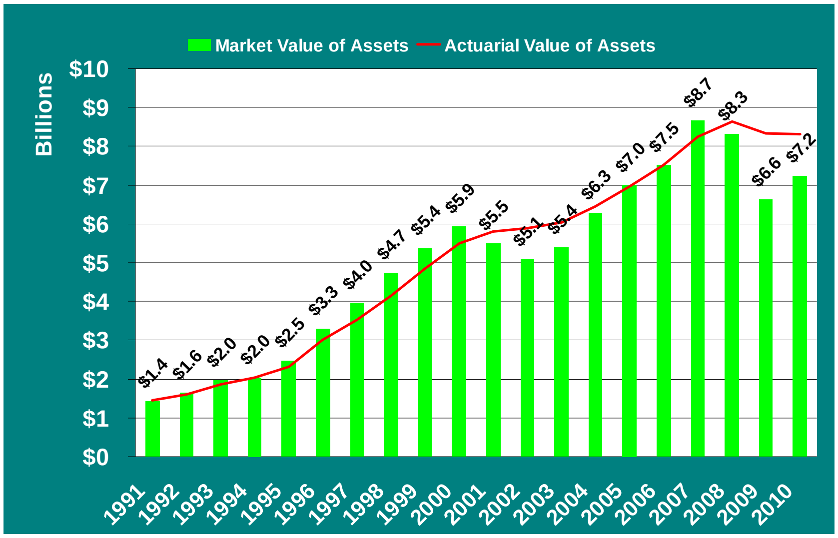
Historical Trends

On the next page, we present a series of charts which display key historical trends in the Program's financial condition. Following the historical review, we present projections of the probable condition of the Program into the future under various market return scenarios.

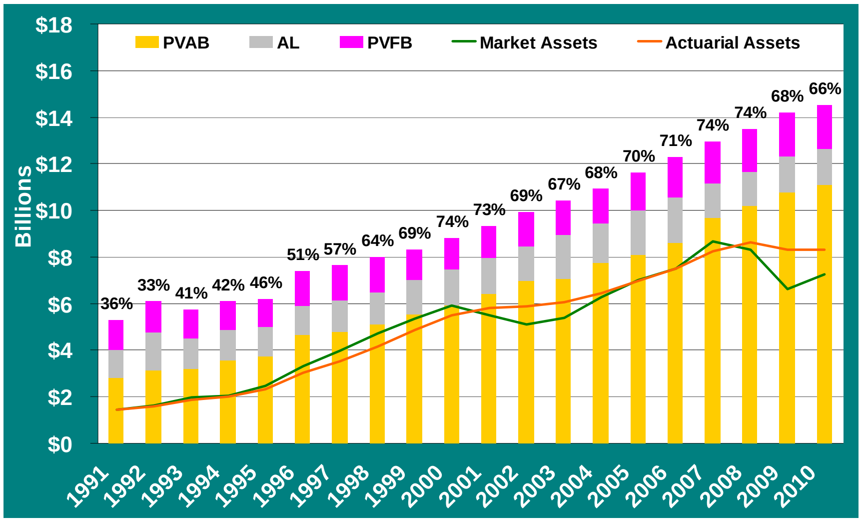
SECTION I
BOARD SUMMARY

Growth in Assets

The graph to the right illustrates how well the actuarial smoothing method has insulated the Program from market volatility. There has been an upward trend in the market value of assets since 1991, with the exception of 2001, 2002, 2008 and 2009. Due to the asset smoothing method in place, the actuarial value of assets continued to increase over the 2001-02 period. Because of the severity of the 2008/2009 loss the actuarial value of assets has declined over the last two years.



Assets and Liabilities

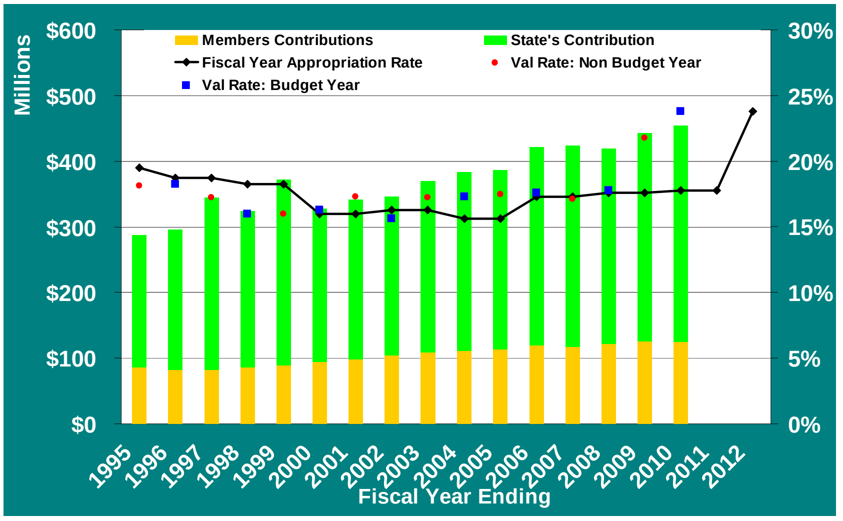


This next graph illustrates the progress of assets against liabilities. The three colored bars represent the three different measures of liability mentioned in Section III of this report. Used for funding purposes, the actuarial liability (AL) is represented by the top of the grey bar. We compare the actuarial value of assets to this measure of liability in developing the funding ratios. These are the percentages shown in the graph labels.

The chart illustrates that the funded ratio, has improved significantly since 1991. At the top of the pink bars, there is the Present Value of Future Benefits (PVFB). This is the amount needed to provide all projected benefits for the current participants and their beneficiaries. The yellow bars represent the Present Value of Accrued Benefits (PVAB) as of the valuation date.

SECTION I
BOARD SUMMARY

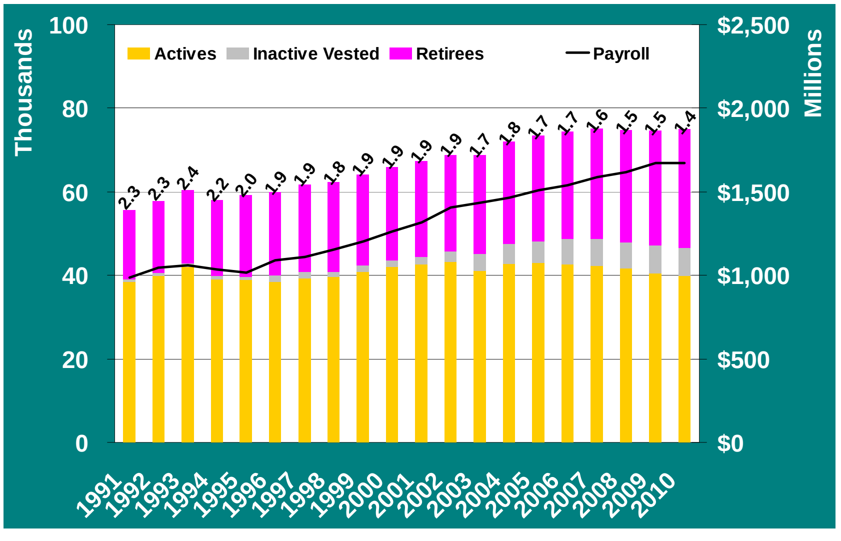
Contributions



This graph shows the history of contributions to the Program both as dollar amounts and as a percentage of payroll. The stacked bars in this graph show the contributions made by both the State and the members in dollar terms. These bars should be read in relation to the axis on the left-hand side. The solid black line shows the State's Fiscal Year Appropriation contribution rate as a percent of payroll and should reference the right-hand axis. In addition red and blue dots show the computed contribution rates coming out of each year's valuation.

The member contribution rate is set by the statutes, depending on the plan in which the member participates. The employer contribution rate paid by the State is set by the actuarial process, on a biennial basis. The contribution rate paid during FY 2010 was based on the June 30, 2008 valuation.

Participant Trends



As with many funds in this country, there has been a steady growth in the number of retired members as the Program has matured. The bars in the graph to the left show the number of active members, terminated vesteds and retirees over the last 14 years. The labels above each bar show the "support ratio" defined as the number of active members per retiree. We anticipate this support ratio will continue to decline as the baby boom generation enters retirement. The valuation process takes this trend into account and the projections on the next two pages show that assets will be sufficient to meet this growing demand.

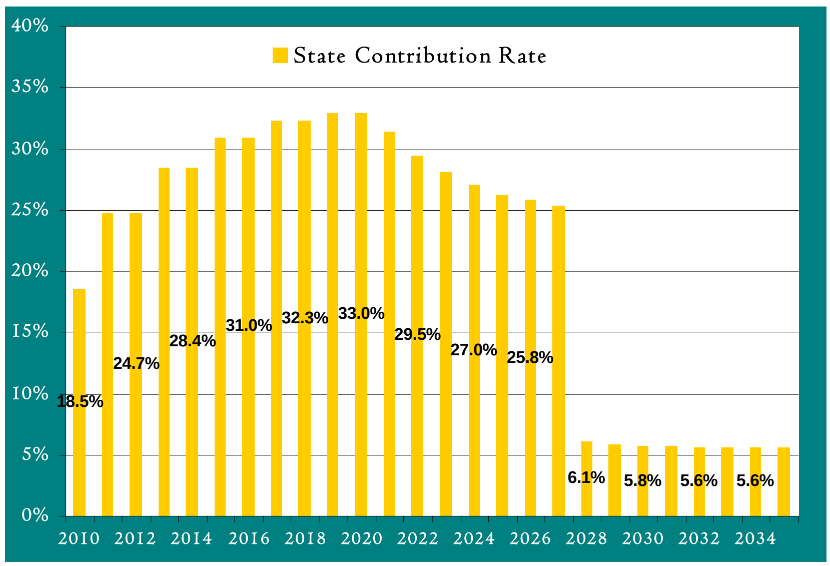
SECTION I
BOARD SUMMARY

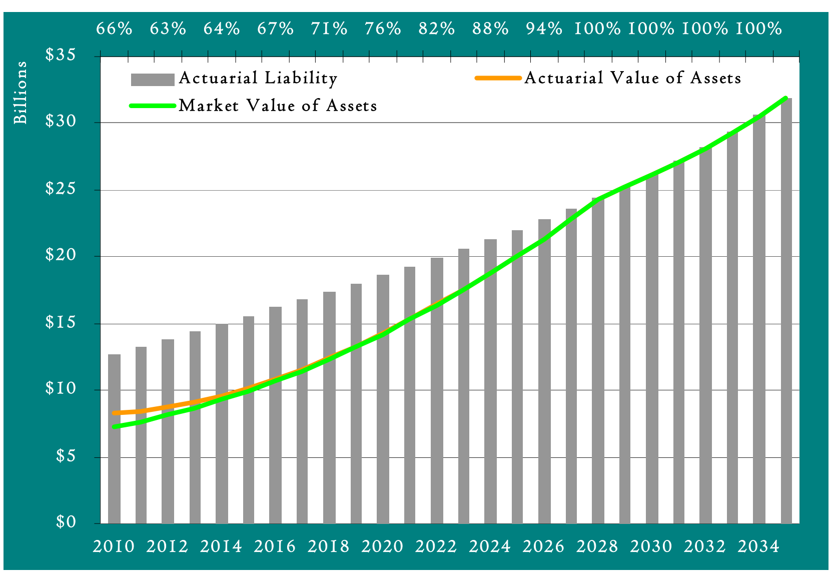
Projections

Our analysis of the projected financial trends for MainePERS is an important part of this valuation. In this section, we present a sensitivity analysis of future valuation results in terms of benefit security (assets over liabilities) and the State's expected cost progression. We first present a baseline projection of these future results if the assumed 7.75% investment return were achieved each year. We then present the same projections based on earnings 1% above and 1% below the assumed 7.75% return. The primary purpose of presenting these projections is to demonstrate how sensitive future valuation results could be to positive and down investment markets.

Base Line Projections

The charts on this page show the expected progress of the Program's funding status over the next 25 years measured in terms of the employer contribution rate and the funding ratio. The chart on the right shows that the State's overall composite contribution rate is projected to increase as the remaining asset loss is recognized through 2027, if all actuarial assumptions are met, including the 7.75% investment assumption. In 2028, the UAL is expected to be paid off, and the State's contribution rate drops to the Normal Cost.



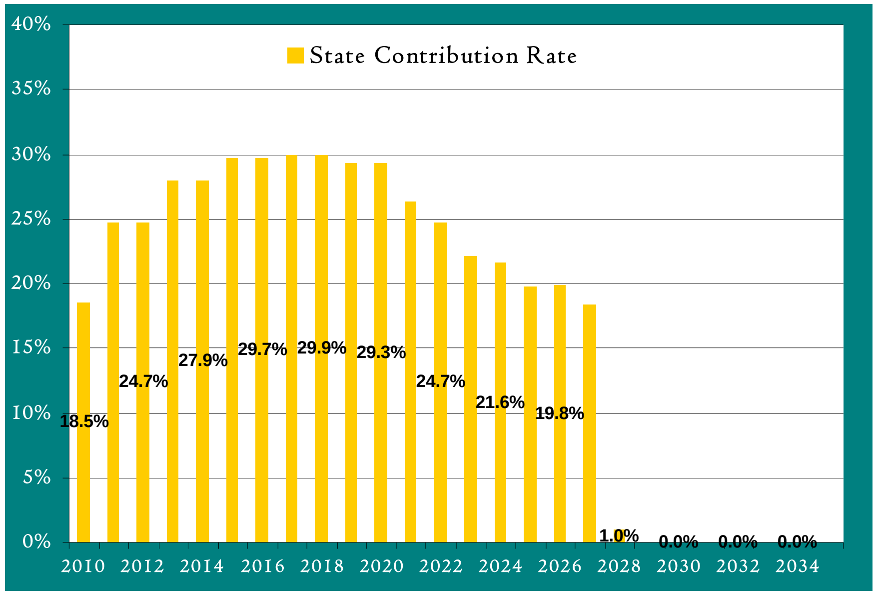


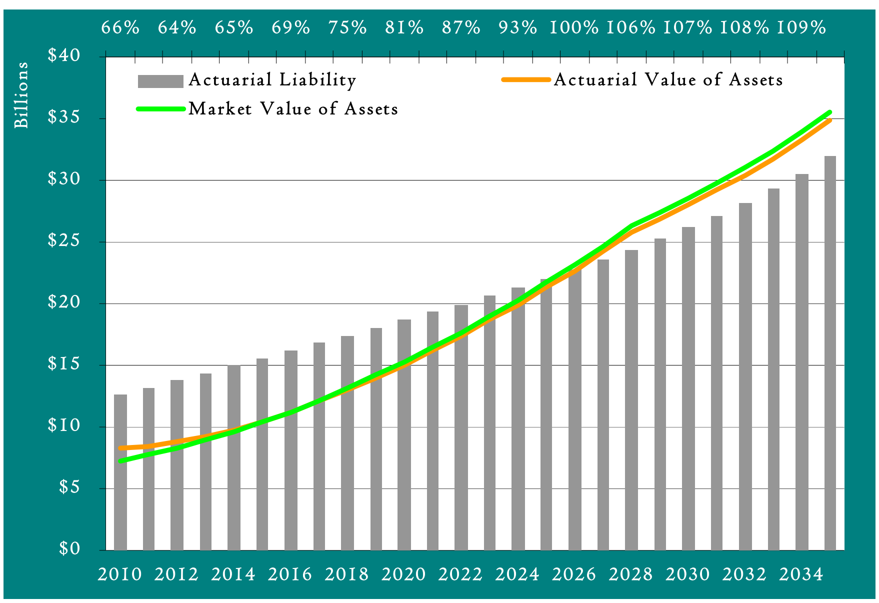
The next chart compares Assets and Liabilities and shows that if all actuarial assumptions are exactly met, the Program's funded ratio is projected to improve from the current level of 66% to 100% funding in 2028, the year that the Maine Constitution mandates that the Program's UAL is to be paid off.

SECTION I
BOARD SUMMARY

Projections with Asset Returns of 8.75%

The future funding of this Program will be largely driven by the investment earnings. Relatively minor changes in the market returns can have significant effects on the Program's status. The chart to the right shows that if the Program were to earn 8.75% annual returns each year, the contribution rate would first grow, as the 2008-2009 investment losses are recognized and then decline to 0% by 2028.



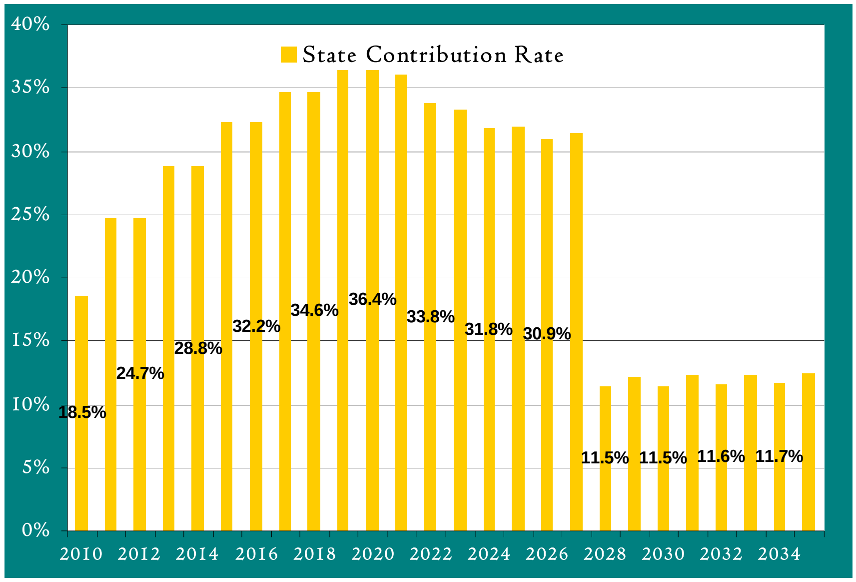


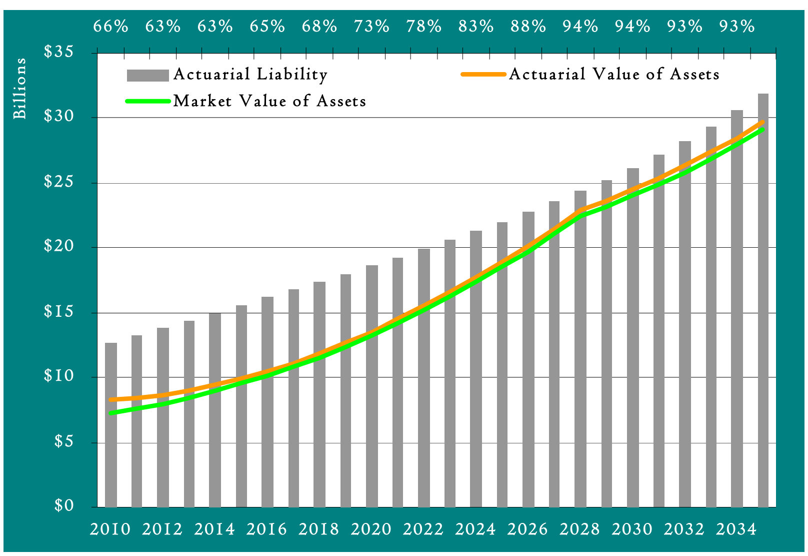
Assuming the same 8.75% return on investments, this next chart shows that the Program's funded level would increase to reach 100% by 2026 and then escalate to 109% by 2035.

SECTION I
BOARD SUMMARY

Projections with Asset Returns of 6.75%

Just as returns in excess of the earnings assumption will lead to declining State contributions and an improved funded status, the opposite will occur if investment earnings are below the assumption. The graphs on this page show the projections under a 6.75% annual return scenario. The State's contribution rate would rise to over 35% of payroll in order to meet the requirement of full funding in 2028.





The Program's funded ratio would initially decline and then increase to 93% over the next 24 years. In this scenario, the Program would likely still have an Unfunded Actuarial Liability at the end of the current amortization period. The Constitutional Amendment would be satisfied, in that the UAL existing on July 1, 1997 would be paid off by 2028, but new losses would create additional UAL that would have to be funded.

SECTION I
BOARD SUMMARY

Table I-1
Summary of Principal Results
Total State Employee and Teacher Program

Valuation as of:	June 30, 2009	June 30, 2010	% Change
Participant Counts			
Actives	40,486	39,884	(1.5%)
Retired Members	19,368	20,021	3.4%
Beneficiaries of Retirees	5,797	5,823	0.4%
Survivors of Deceased Members	696	684	(1.7%)
Disabled Members	1,683	1,720	2.2%
Deferred "Vested" Members	6,599	6,749	2.3%
Total	74,629	74,881	0.3%
Annual Salaries of Active Members	$ 1,669,885,710	$ 1,672,252,868	0.1%
Annual Payments to Benefit Recipients	$ 525,718,969	$ 547,042,219	4.1%
Assets and Liabilities			
Total Actuarial Liability	$ 12,321,219,332	$ 12,617,144,005	2.4%
Assets/Actuarial (Smoothed)	8,325,951,236	8,313,459,810	(0.2%)
Unfunded Actuarial Liability	$ 3,995,268,096	$ 4,303,684,195	7.7%
Funding Ratio	67.57%	65.89%	
Present Value of Accrued Benefits	$ 10,776,571,716	$ 11,071,757,869	2.7%
Assets/Market Value	6,620,849,642	7,239,332,094	9.3%
Unfunded PVAB	$ 4,155,722,074	$ 3,832,425,775	(7.8%)
Accrued Benefit Funding Ratio	61.44%	65.39%	
Contributions as a Percentage of Payroll			
Normal Cost Contribution	5.52%	5.51%	
Unfunded Actuarial Liability Contribution	16.27%	18.24%	
Total Contribution	21.79%	23.75%	

SECTION I
BOARD SUMMARY

Table I-2
Summary of Principal Results
Teachers

Valuation as of:	June 30, 2009	June 30, 2010	% Change
Participant Counts			
Actives	26,450	26,022	(1.6%)
Retired Members	11,258	11,611	3.1%
Beneficiaries of Retirees	2,540	2,542	0.1%
Survivors of Deceased Members	287	282	(1.7%)
Disabled Members	691	711	2.9%
Deferred "Vested" Members	4,819	4,993	3.6%
Total	46,045	46,161	0.3%
Annual Salaries of Active Members	$ 1,065,781,637	$ 1,087,036,508	2.0%
Annual Payments to Benefit Recipients	$ 308,769,707	$ 320,137,395	3.7%
Assets and Liabilities			
Total Actuarial Liability	$ 7,965,675,793	$ 8,223,113,332	3.2%
Assets/Actuarial (Smoothed)	5,389,933,203	5,418,749,271	0.5%
Unfunded Actuarial Liability	$ 2,575,742,590	$ 2,804,364,061	8.9%
Funding Ratio	67.66%	65.09%	
Present Value of Accrued Benefits	$ 6,875,499,357	$ 7,116,688,979	3.5%
Assets/Market Value	4,286,109,335	4,718,628,153	10.1%
Unfunded PVAB	$ 2,589,390,022	$ 2,398,060,826	(7.4%)
Accrued Benefit Funding Ratio	62.34%	66.30%	
Contributions as a Percentage of Payroll			
Normal Cost Contribution	5.25%	5.25%	
Unfunded Actuarial Liability Contribution	16.44%	18.28%	
Total State Contribution	21.69%	23.53%	

SECTION I
BOARD SUMMARY

Table I-3
Summary of Principal Results
State Employees (Regular and Special Plans)

Valuation as of:	June 30, 2009	June 30, 2010	% Change
Participant Counts			
Actives	14,036	13,862	(1.2%)
Retired Members	8,110	8,410	3.7%
Beneficiaries of Retirees	3,257	3,281	0.7%
Survivors of Deceased Members	409	402	(1.7%)
Disabled Members	992	1009	1.7%
Deferred "Vested" Members	1,780	1,756	(1.3%)
Total	28,584	28,720	0.5%
Annual Salaries of Active Members	$ 604,104,073	$ 585,216,360	(3.1%)
Annual Payments to Benefit Recipients	$ 216,949,262	$ 226,904,824	4.6%
Assets and Liabilities			
Total Actuarial Liability	$ 4,355,543,539	$ 4,394,030,673	0.9%
Assets/Actuarial (Smoothed)	2,936,018,033	2,894,710,539	(1.4%)
Unfunded Actuarial Liability	$ 1,419,525,506	$ 1,499,320,134	5.6%
Funding Ratio	67.41%	65.88%	
Present Value of Accrued Benefits	$ 3,901,072,359	$ 3,955,068,890	1.4%
Assets/Market Value	2,334,740,307	2,520,703,941	8.0%
Unfunded PVAB	$ 1,566,332,052	$ 1,434,364,949	(8.4%)
Accrued Benefit Funding Ratio	59.85%	63.73%	
Contributions as a Percentage of Payroll			
Normal Cost Contribution	6.00%	5.98%	
Unfunded Actuarial Liability Contribution	15.98%	18.16%	
Total State Contribution	21.98%	24.14%	

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SECTION I
BOARD SUMMARY

Table I-4
Summary of Principal Results
State Employees (Regular Plan)

Valuation as of:	June 30, 2009	June 30, 2010	% Change
Participant Counts			
Actives	12,159	12,041	(1.0%)
Retired Members	7,315	7,579	3.4%
Beneficiaries of Retirees	2,904	2,917	0.2%
Survivors of Deceased Members	402	392	(2.5%)
Disabled Members	920	933	1.4%
Deferred "Vested" Members	1,780	1,756	(1.3%)
Total	25,480	25,618	0.5%
Annual Salaries of Active Members	$ 506,742,352	$ 491,192,049	(3.1%)
Annual Payments to Benefit Recipients	$ 187,465,642	$ 195,897,215	4.5%
Assets and Liabilities			
Total Actuarial Liability	$ 3,691,954,089	$ 3,716,542,037	0.7%
Assets/Actuarial (Smoothed)	2,550,177,993	2,507,661,208	(1.7%)
Unfunded Actuarial Liability	$ 1,141,776,096	$ 1,208,880,829	5.9%
Funding Ratio	69.07%	67.47%	
Present Value of Accrued Benefits	$ 3,299,775,687	$ 3,338,268,118	1.2%
Assets/Market Value	2,027,917,841	2,183,662,720	7.7%
Unfunded PVAB	$ 1,271,857,846	$ 1,154,605,398	(9.2%)
Accrued Benefit Funding Ratio	61.46%	65.41%	
Contributions as a Percentage of Payroll			
Normal Cost Contribution	5.75%	5.75%	
Unfunded Actuarial Liability Contribution	15.32%	17.44%	
Total State Contribution	21.07%	23.19%	

SECTION I
BOARD SUMMARY

Table I-5
Summary of Principal Results
State Employees (Special Plans - Composite)

Valuation as of:	June 30, 2009	June 30, 2010	% Change
Participant Counts			
Actives	1,877	1,821	(3.0%)
Retired Members	795	831	4.5%
Beneficiaries of Retirees	353	364	3.1%
Survivors of Deceased Members	7	10	42.9%
Disabled Members	72	76	5.6%
Deferred "Vested" Members	0	0	0.0%
Total	3,104	3,102	(0.1%)
Annual Salaries of Active Members	$ 97,361,721	$ 94,024,311	(3.4%)
Annual Payments to Benefit Recipients	$ 29,483,620	$ 31,007,609	5.2%
Assets and Liabilities			
Total Actuarial Liability	$ 663,589,450	$ 677,488,636	2.1%
Assets/Actuarial (Smoothed)	385,840,040	387,049,331	0.3%
Unfunded Actuarial Liability	$ 277,749,410	$ 290,439,305	4.6%
Funding Ratio	58.14%	57.13%	
Present Value of Accrued Benefits	$ 601,296,672	$ 616,800,772	2.6%
Assets/Market Value	306,822,466	337,041,221	9.8%
Unfunded PVAB	$ 294,474,206	$ 279,759,551	(5.0%)
Accrued Benefit Funding Ratio	51.03%	54.64%	
Contributions as a Percentage of Payroll			
Normal Cost Contribution	7.28%	7.21%	
Unfunded Actuarial Liability Contribution	19.40%	21.89%	
Total State Contribution	26.68%	29.10%	

SECTION II
ASSETS

Pension program assets play a key role in the financial operation of the Program and in the decisions the Trustees make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, State contributions, and the ultimate security of participants' benefits.

The assets of the Program include amounts contributed for all programs for which the System is the Plan Sponsor, namely, the State Employee and Teacher Retirement Program, the Judicial Retirement Program, the Legislative Retirement Program, the Participating Local District Retirement Program, which includes the Consolidated Plan for Participating Local Districts (PLDs), along with several plans of PLDs who withdrew from the System, as the assets of all these programs are co-mingled for investment purposes. In performing the annual valuation, the actuarial value of assets that is developed reflects all defined benefit plan assets and subsequently it is allocated across all of the defined benefit plans included in the programs administered by MainePERS.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of assets at June 30, 2009 and June 30, 2010;
- Statement of the **changes** in market values during the year;
- Development of the **actuarial value of assets**;
- **Allocation** of actuarial value to subplans;
- Assessment of **investment performance**; and
- Projection of expected **cash flows** for the next ten years.

Disclosure

The market value of assets represents a "snap-shot" or "cash-out" value which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. Because these fluctuations would result in volatility in the resulting contributions if the market value were used, unadjusted, in the valuation process, an actuarial value is developed.

The actuarial values are market values which have been smoothed and are used for evaluating the Program's ongoing liability to meet its obligations.

Current actuarial methods employed in this Program set the actuarial value equal to the expected value plus one-third of the difference between the actual market value of assets and the expected value of assets. The expected value of assets takes the prior year's actuarial value of assets and adjusts it for contributions, benefit payments, and expected interest earnings at the assumed 7.75% rate.

SECTION II
ASSETS

Table II-1
Changes in Market Value of Total Defined Benefit Plan Assets (All Programs)

Value of Assets – June 30, 2009			**$ 8,323,312,801**
Additions			
Contributions:			
Employer Contributions	$ 341,527,493		
Employee Contributions	158,938,693		
Transfer	(5,355)		
Total Contributions		$ 500,460,831	
Investment Income:			
Net Appreciation (Depreciation) in Fair Value of Investments	$ 950,347,311		
Interest on Bank Balances	183,748		
Total Investment Income		$ 950,531,059	
Investment Activity Expenses:			
Management Fees	$ (20,504,526)		
Investment Related Expense	(1,388,268)		
Banking Fees	(27,826)		
Total Investment Activity Expenses		$ (21,920,620)	
Net Income from Investing Activities		$ 928,610,439	
Total Additions			$ 1,429,071,270
Deductions			
Retirement Benefits	$ (595,783,240)		
Disability Benefits	(35,862,703)		
Survivor Benefits	(19,001,489)		
Refunds and Other Expenses	(32,295,618)		
Total Deductions			$ 682,943,050
Total			
Net Increase (Decrease)			$ 746,128,220
Value of Assets – June 30, 2010			**$ 9,069,441,021**

SECTION II
ASSETS

Table II-2
Development of Actuarial Value of Assets (All Programs)
as of June 30, 2010

1.	Actuarial Value of Assets at June 30, 2009	$ 10,466,858,521
2.	Amount in (1) with Interest to June 30, 2010	11,278,040,056
3.	Employer and Member Contributions for the Plan Year Ended June 30, 2010	500,460,831
4.	Interest on Contributions Assuming Received Uniformly Throughout the Year to June 30, 2010	19,031,011
5.	Disbursements from Trust Except Investment Expenses, July 1, 2009 through June 30, 2010	(682,943,050)
6.	Interest on Disbursements Assuming Payments Made Uniformly throughout the Year to June 30, 2010	(26,645,739)
7.	Expected Value of Assets at June 30, 2010 = (2) + (3) + (4) + (5) + (6)	$ 11,087,943,109
8.	Actual Market Value of Assets at June 30, 2010	9,069,441,021
9.	Excess of (8) Over (7)	(2,018,502,088)
10.	Actuarial Value of Assets at June 30, 2010 = (7) + 33⅓% of (9)	$ 10,415,109,080

Actuarial Value of Assets

The actuarial value of assets represents a "smoothed" value developed by the actuary to reduce, or eliminate, volatile contribution rates which could develop from short-term fluctuations in the market value of assets. For this Program, the actuarial value has been calculated by adding one-third of the difference between actual market value and expected value, to the expected value. The previous table illustrates the calculation of actuarial value of assets for the June 30, 2010 valuation.

Allocation of Actuarial Value of Assets

The assets for all of the defined benefit plans in the programs administered by MainePERS are commingled for investment purposes. The actuarial smoothing methodology is applied on the market value of total assets. This produces an asset ratio which is then applied to the market value of assets attributable to each of the programs. The asset value derived in this valuation is 1.14837 ($10,415,109,080 ÷ $9,069,441,021). The allocation of actuarial value of assets to each of the System's retirement programs is shown in the following chart.

SECTION II
ASSETS

Table II-3
Allocation of Actuarial Value of Assets
as of June 30, 2010

	Market Value	Actuarial Value
Teachers	$ 4,718,628,153	$ 5,418,749,271
State (Regular & Special)	2,520,703,941	2,894,710,539
Judges	41,517,520	47,677,635
Legislators	7,519,010	8,634,635
Participating Local Districts (Consolidated & Non-Consolidated)	1,781,072,397	2,045,337,000
Total Fund	$ 9,069,441,021	$ 10,415,109,080

Investment Performance

The market value of assets returned a positive 11.28% during FY 2010. This is significantly higher than the assumed return of 7.75%. The returns in FY 2009 and FY 2008 were negative 19.00% and negative 3.10% respectively.

On an actuarial value of assets basis, the return for FY 2010 was a positive 1.26%. This return is lower than the return on a market value basis and does not meet the 7.75% assumption; therefore, this return gives rise to an investment loss this year.

SECTION II
ASSETS

Table II-4
Projection of State and Teacher Program Benefit Payments and Contributions

FY Ending June 30	Expected Benefit Payments	Expected State Contributions	Expected Member Contributions	Total Expected Contribution
2011	$ 603,313,000	$ 397,160,000	$ 128,931,000	$ 526,091,000
2012	654,920,000	416,025,000	135,055,000	551,080,000
2013	707,463,000	435,786,000	141,470,000	577,256,000
2014	761,238,000	456,486,000	148,190,000	604,676,000
2015	815,971,000	478,169,000	155,229,000	633,398,000
2016	870,854,000	500,882,000	162,602,000	663,484,000
2017	925,429,000	524,674,000	170,326,000	695,000,000
2018	979,802,000	549,596,000	178,416,000	728,012,000
2019	1,032,135,000	575,702,000	186,891,000	762,593,000
2020	1,083,789,000	603,048,000	195,768,000	798,816,000

We provide this projection of cash flows in and out of the Program for informational purposes. The Board may share these projections with its investment advisor for consideration of the growing gap between cash coming in from State and member contributions and cash being paid out to provide benefits. The chart shows this gap is expected to widen over time.

The expected benefit payments were developed on the basis of those currently included in this valuation and on the assumption that the actuarial assumptions disclosed in Appendix B will be exactly met. Actual benefit payments will vary if members retire sooner or later than assumed and if salary increases and projected future post-retirement COLAs differ from those assumed. The projections exclude any assumption about new hires, whose experience will eventually lead to increased benefit payments. However, we do not feel this exclusion will materially impact the projections for the time period shown.

Expected contributions are based on the current covered payroll and the composite State contribution rate developed in this valuation of 23.75% of payroll. We have assumed that payroll will increase by 4.75% per year in the projection period and that the rate will remain constant.

The projection of member contributions is similarly based on a 4.75% per year increase in covered payroll multiplied by the average aggregate member contribution rate of 7.71%.

SECTION III
LIABILITIES

In this section, we present detailed information on liabilities including:

- **Disclosure** of liabilities at June 30, 2009 and June 30, 2010;
- Statement of **changes** in these liabilities during the year; and
- An **allocation** of liabilities to the Teachers, State Regular and State Special plans.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the purpose for which the figures are ultimately used.

- **Present Value of Future Benefits:** Used for analyzing the overall financial obligations, this represents the amount of money needed today to fully pay off all future benefits, assuming participants continue to earn salary increases and accrue benefits under the current program and plan provisions.

- **Actuarial Liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the Present Value of Future Benefits above and subtracting the value of accruals that are assigned to future years. This offset is equal to the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. For MainePERS, this method is referred to as the **Entry Age Normal** funding method.

- **Present Value of Accrued Benefits:** Used for communicating the liabilities for benefits accrued as of the valuation date. These liabilities are also required for accounting purposes (FASB ASC Topic 960) and used to assess whether the Program can meet its current benefit commitments.

The following table discloses each of these liabilities for the current and prior years' valuations. With respect to the actuarial liability and the present value of accrued benefits, a subtraction of the appropriate value of assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

The present value of future benefits is compared to the current market value of assets, the expected future value of member contributions and the expected future value of State contributions made on behalf of current members assuming the valuation rate remains constant. The difference between the present value of future benefits (PVB) and these anticipated resources indicates a shortfall representing additional funding required on the payroll of new hires to pay for benefits of existing members. This surplus or a shortfall indicates the size of the State and Teacher Program's allocation of the stored gains or losses that remain outside of the valuation process. These gains or losses may enter the rate-making processes depending on the future investment performance.

SECTION III
LIABILITIES

Table III-1
Disclosure of Liabilities

	June 30, 2009	June 30, 2010
Present Value of Future Benefits (PVB)		
Active Participant Benefits	$ 7,583,346,432	$ 7,638,231,191
Retiree Benefits	6,203,580,797	6,423,967,840
Terminated Vested and Inactive Members	418,562,812	432,860,587
Total PVB	**$ 14,205,490,041**	**$ 14,495,059,618**
Market Value of Assets (MVA)	$ 6,620,849,642	$ 7,239,332,094
Future Employee Contributions	1,098,844,776	1,095,782,658
Future State Contributions for Current Members at the Current Rate (21.79% PYE 10; 23.75% PYE 11)	4,782,222,269	5,087,299,261
Projected (Surplus)/Shortfall	1,703,573,354	1,072,645,605
Total Resources	**$ 14,205,490,041**	**$ 14,495,059,618**
Actuarial Liability		
Present Value of Future Benefits (PVB)	$ 14,205,490,041	$ 14,495,059,618
Present Value of Future Normal Costs (PVFNC)		
Employer Portion	785,425,933	782,132,955
Employee Portion	1,098,844,776	1,095,782,658
Actuarial Liability (AL = PVB – PVFNC)	**$ 12,321,219,332**	**$ 12,617,144,005**
Actuarial Value of Assets (AVA)	8,325,951,236	8,313,459,810
Net (Surplus)/Unfunded (AL – AVA)	**$ 3,995,268,096**	**$ 4,303,684,195**
Present Value of Accrued Benefits		
Present Value of Future Benefits (PVB)	$ 14,205,490,041	$ 14,495,059,618
Present Value of Future Benefit Accruals (PVFBA)	3,428,918,325	3,423,301,749
Accrued Liability (PVAB = PVB – PVFBA)	**$ 10,776,571,716**	**$ 11,071,757,869**
Market Value of Assets (MVA)	6,620,849,642	7,239,332,094
Net (Surplus)/Unfunded (PVAB – MVA)	**$ 4,155,722,074**	**$ 3,832,425,775**

SECTION III
LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table is expected to change at each subsequent valuation. The components of these changes, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Program and Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in assets resulting from:

- State contributions being different than expected
- Investment earnings being different than expected
- A change in the method used to measure Plan assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the Program. Below we present key changes in liabilities since the last valuation.

Table III-2

	Present Value of Future Benefits	Actuarial Liability	Present Value of Accrued Benefits
Liabilities 6/30/2009	$ 14,205,490,041	$ 12,321,219,332	$ 10,776,571,716
Liabilities 6/30/2010	14,495,059,618	12,617,144,005	11,071,757,869
Liability Increase (Decrease)	$ 289,569,577	$ 295,924,673	$ 295,186,153
Change Due to:			
Program/Plan Amendment	$ --	$ --	$ --
System Change	--	--	--
Actuarial (Gain)/Loss	N/C	(248,398,931)	N/C
Benefits Accumulated and Other Sources	$ 301,342,942	$ 544,323,604	$ 306,959,518

N/C = Not calculated

SECTION III
LIABILITIES

Table III-3
Allocation of Actuarial Liability as of June 30, 2010

	Total Program	Teachers	State Regular	Special Plans
1. Actuarial Liabilities for:				
a. Active Members	$ 5,760,315,578	$ 4,028,714,276	$ 1,444,677,131	$ 286,924,171
b. Retired, Disabled and Beneficiary Members	$ 6,423,967,840	$ 3,868,373,728	$ 2,165,029,647	$ 390,564,465
c. Vested Deferred and Inactive Status Members	$ 432,860,587	$ 326,025,328	$ 106,835,259	$ 0
2. Total Actuarial Liability (1(a) + 1(b) + 1(c))	$ 12,617,144,005	$ 8,223,113,332	$ 3,716,542,037	$ 677,488,636
3. Actuarial Value of Assets	$ 8,313,459,810	$ 5,418,749,271	$ 2,507,661,208	$ 387,049,331
4. Unfunded Actuarial Liability (2 – 3)	$ 4,303,684,195	$ 2,804,364,061	$ 1,208,880,829	$ 290,439,305

SECTION IV
CONTRIBUTIONS

In the process of evaluating the financial condition of any pension program, the actuary analyzes the assets and liabilities to determine the level of contributions needed to achieve and maintain an appropriate funded status. Typically, the primary goal in setting contributions is to maintain, over time, a pattern of contributions that is both stable and predictable.

For the plans in this Program, the funding methodology employed is the **Entry Age Actuarial Cost Method**. Under this method, there are two components to the total contribution: the **normal cost rate**, and the **unfunded actuarial liability rate** (UAL rate). The normal cost rate is determined by the following steps. First, an individual normal cost rate is determined by taking the value, as of entry age into a plan, of a representative new entrant's projected future benefits. Second, this value is then divided by the value, also at entry age, of the member's expected future salary to produce a total normal cost rate. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

The UAL rate is that percentage of member payroll which, when applied to each year's payroll, is sufficient to amortize the unfunded actuarial liability (UAL) over 18 years from June 30, 2010.

The table below presents and compares the composite State contribution rate for all plans in the Program for this valuation and the prior one.

Table IV-1
Composite State Rate

	June 30, 2009	June 30, 2010
Normal Cost Rate	5.52%	5.51%
UAL Rate	16.27%	18.24%
Total State Rate	21.79%	23.75%*

* State law requires that a portion of any General Fund surplus must be allocated to the Maine Public Employee Retirement System (MainePERS) on an annual basis. The surplus allocation taken into account in this valuation report was $11.2 million. Had that surplus not been allocated to the MainePERS the composite State rate would have been 23.80% of payroll.

The charts on the pages that follow show the contribution rate component for each plan within the State and Teacher Program and the development of the UAL amortization rate for each plan.

SECTION IV
CONTRIBUTIONS

Table IV-2
State Employer Contribution Rates

Valuation Date June 30, 2010	New Entrant Normal Cost Contributions*	Unfunded Actuarial Liability Contribution*	Total Contributions*
Total State	5.51%	18.24%	23.75%
Teacher	5.25	18.28	23.53
State Regular	5.75	17.44	23.19
State Police Marine Resources			
Inland Fish & Wildlife (Closed)	17.84	54.18	72.02
Prison Employees (Closed)	9.04	27.45	36.49
Forest Rangers (Closed)	7.34	22.29	29.63
25 & Out Plan	8.25	25.05	33.30
1998 Special Plan	6.50	19.74	26.24

*As a Percent of Payroll

The rates developed above are for valuation purposes only. Actual budgeted rates are set based on the process described in the Board Summary section.

SECTION IV
CONTRIBUTIONS

Table IV-3
Derivation of Unfunded Actuarial Liability Rates

Valuation Date June 30, 2010	Teachers	State Regular	State Police Marine Resources Inland Fish & Wildlife (Closed)	Prison Employees (Closed)	Forest Rangers (Closed)	25 & Out Plan	1998 Special Plan
1. Present Value of Future Benefits	$ 9,410,215,640	$ 4,284,300,153	$ 263,653,562	$ 57,599,766	$ 27,657,125	$ 142,415,910	$ 309,217,462
2. Normal Cost Rate	5.25%	5.75%	17.84%	9.04%	7.34%	8.25%	6.50%
3. Present Value of Future Payroll	$ 9,202,343,475	$ 4,237,000,868	$ 2,441,079	$ 1,383,897	$ 906,742	$ 240,593,227	$ 537,019,747
4. Present Value of Future Normal Cost (2) x (3)	$ 483,123,032	$ 243,627,550	$ 435,489	$ 125,104	$ 66,555	$ 19,848,941	$ 34,906,284
5. Present Value of Future Contributions	$ 703,979,276	$ 324,130,566	$ 211,154	$ 119,707	$ 78,433	$ 20,811,314	$ 46,452,208
6. Actuarial Liability (1) – (4) – (5)	$ 8,223,113,332	$ 3,716,542,037	$ 263,006,920	$ 57,354,955	$ 27,512,137	$ 101,755,655	$ 227,858,970
7. Actuarial Value of Assets	$ 5,418,749,271	$ 2,507,661,208	$ 253,149,485	$ 55,479,244	$ 26,188,755	$ (88,113)	$ 52,319,962
8. Unfunded Actuarial Liability (6) – (7)	$ 2,804,364,061	$ 1,208,880,829	$ 9,857,435	$ 1,875,711	$ 1,323,382	$ 101,843,768	$ 175,539,008
9. Estimated Payroll	$ 1,087,036,508	$ 491,192,049	$ 1,289,439	$ 484,205	$ 420,747	$ 28,807,943	$ 63,021,977
10. Amortization Factor	14.1109	14.1109	14.1109	14.1109	14.1109	14.1109	14.1109
11. Unfunded Actuarial Liability Rate (8) / (9) / (10)	18.28%	17.44%	54.18%	27.45%	22.29%	25.05%	19.74%

SECTION V
ACCOUNTING STATEMENT INFORMATION

ASC Topic 960 of the Financial Accounting Standards Board (FASB) requires the disclosure of certain information regarding the funded status of a retirement program. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The FASB ASC Topic 960 disclosures provide a quasi "snap shot" view of how assets compare to liabilities if contributions were to stop and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if all plans in the Program were to terminate.

The GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (FASB ASC Topic 960) and the actuarial accrued liability (GASB-25) are determined assuming that the plans in the Program are ongoing and participants will continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.75% per annum.

FASB ASC Topic 960 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of June 30, 2009 and June 30, 2010 are exhibited in Table V-1. Table V-2 reconciles the FASB ASC Topic 960 liabilities determined as of the prior valuation, June 30, 2009 to the liabilities as of June 30, 2010.

Tables V-3 through V-5 are exhibits required for the System's Comprehensive Annual Financial Report. The GFOA recommends showing 6-10 years of experience in each of these exhibits. This report will continue to add years of experience to the charts and eventually build up to the recommended disclosure. Table V-3 shows the Notes to Required Supplementary Information. Table V-4 is a history of gains and losses in Accrued Liability, and Table V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-1
Accounting Statement Information

	June 30, 2009	June 30, 2010
A. FASB ASC Topic 960 **Basis**		
1. Present Value of Benefits Accrued to Date		
a. Members Currently Receiving Payments	$ 6,203,580,797	$ 6,423,967,840
b. Vested Terminated	418,562,812	432,860,587
c. Active Members	4,154,428,107	4,214,929,442
d. Total PVAB	$ 10,776,571,716	$ 11,071,757,869
2. Assets at Market Value	6,620,849,642	7,239,332,094
3. Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	$ 4,155,722,074	$ 3,832,425,775
4. Ratio of Assets to Value of Benefits (2) / (1)(d)	61.44%	65.39%
B. GASB No. 25 Basis		
1. Actuarial Liabilities		
a. Members Currently Receiving Payments	$ 6,203,580,797	$ 6,423,967,840
b. Vested Deferred and Inactive Status Members	418,562,812	432,860,587
c. Active Members	5,699,075,723	5,760,315,578
d. Total	$ 12,321,219,332	$ 12,617,144,005
2. Actuarial Value of Assets	8,325,951,236	8,313,459,810
3. Unfunded Actuarial Liability	$ 3,995,268,096	$ 4,303,684,195
4. Ratio of Actuarial Value of Assets to Actuarial Liability (2) / (1)(d)	67.57%	65.89%

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-2
Statement of Changes in Total Actuarial Present Value of All Accrued Benefits

	Accumulated Benefit Obligation (FASB ASC Topic 960)
Actuarial Present Value of Accrued Benefits as of June 30, 2009	$ 10,776,571,716
Increase (Decrease) During Years Attributable to:	
Passage of Time	791,341,281
Benefits Paid – FY 2010	(565,716,478)
Program/Plan Amendment	0
Benefits Accrued, Other Gains/Losses	69,561,350
Net Increase (Decrease)	$ 295,186,153
Actuarial Present Value of Accrued Benefits as of June 30, 2010	$ 11,071,757,869

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-3
NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

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

Valuation date	June 30, 2010
Actuarial cost method	Entry age
Amortization method	Level percent closed
Remaining amortization period	18 years
Asset valuation method	3-Year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.75%
Projected salary increases*	4.75%
*Includes inflation at	4.50%
Cost-of-living adjustments	3.75%

The actuarial assumptions used have been recommended by the actuary and adopted by the System's Board of Trustees based on the most recent review of the experience of the plans in the Program, completed in 2006.

The rate of employer contributions to the plans in the Program is composed of the normal cost and an amortization of the unfunded actuarial accrued liability. The normal cost is a level percent of payroll cost which, along with the member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-4
ANALYSIS OF FINANCIAL EXPERIENCE
Gain and Loss in Accrued Liability During Years Ended June 30
Resulting from Differences Between Assumed Experience and Actual Experience

Type of Activity	*Gain (or Loss) for Year ended June 30, 2005*	*Gain (or Loss) for Year ended June 30, 2006*	*Gain (or Loss) for Year ended June 30, 2007*	*Gain (or Loss) for Year ended June 30, 2008*	*Gain (or Loss) for Year ended June 30, 2009*	*Gain (or Loss) for Year ended June 30, 2010*
Investment Income	$ 16,350,568	$ (2,036,992)	$209,910,525	$(160,831,089)	$(843,411,410)	$(534,019,417)
Combined Liability Experience	3,388,524	48,354,919	$(39,346,019)	$ 68,570,730	$ (91,293,558)	$ 248,398,931
Gain (or Loss) During Year from Financial Experience	$ 19,739,092	$ 46,317,927	$170,564,505	$ (92,260,359)	$(934,704,969)	$(285,620,486)
Non-Recurring Items	0	5,292,234	0	0	0	0
Composite Gain (or Loss) During Year	**$ 19,739,092**	**$ 51,610,161**	**$170,564,505**	**$ (92,260,359)**	**$(934,704,969)**	**$(285,620,486)**

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-5
SOLVENCY TEST
Aggregate Actuarial Accrued Liabilities For

Valuation Date June 30,	(1) Active Member Contributions	(2) Retirees Vested Terms, Beneficiaries	(3) Active Members (Employer Financed Portion)	Reported Assets	Portion of Actuarial Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
2010	$ 2,117,903,830	$ 6,856,828,427	$ 3,642,411,748	$ 8,313,459,810	100%	90%	0%
2009	2,002,784,768	6,622,143,609	3,696,290,955	8,325,951,236	100%	95%	0%
2008	1,898,148,565	6,209,005,616	3,560,878,330	8,631,557,629	100%	100%	15%
2007	1,789,362,929	5,850,882,771	3,517,524,438	8,245,520,019	100%	100%	17%
2006	1,645,241,719	5,367,785,679	3,534,271,796	7,504,219,546	100%	100%	14%
2005	1,569,409,748	4,832,994,427	3,596,845,863	6,964,597,457	100%	100%	16%
2004	1,464,936,256	4,387,963,456	3,589,489,687	6,452,570,243	100%	100%	17%

APPENDIX A
MEMBERSHIP INFORMATION

Active Member Data as of June 30, 2010	
Teachers	
Count	26,022
Average Current Age	46.8
Average Service	15.7
Average Valuation Pay	$ 41,774
State Employee Regular Plan	
Count	12,041
Average Current Age	48.0
Average Service	13.4
Average Valuation Pay	$ 40,793
Forest Rangers Special Plan (Closed Plan)	
Count	8
Average Current Age	52.0
Average Service	30.4
Average Valuation Pay	$ 52,593
Inland Fisheries & Wildlife Officers Special Plan (Closed Plan)	
Count	5
Average Current Age	56.1
Average Service	31.5
Average Valuation Pay	$ 57,931
Prison Employees Special Plan (Closed Plan)	
Count	9
Average Current Age	52.2
Average Service	29.1
Average Valuation Pay	$ 53,801

APPENDIX A
MEMBERSHIP INFORMATION

Active Member Data as of June 30, 2010	
State Police Special Plan (Closed Plan)	
Count	12
Average Current Age	55.1
Average Service	29.4
Average Valuation Pay	$ 74,773
Marine Resource Officers Special Plan (Closed Plan)	
Count	2
Average Current Age	53.6
Average Service	31.7
Average Valuation Pay	$ 51,253
State Employee Special 25 & Out Plan	
Count	445
Average Current Age	40.8
Average Service	14.1
Average Valuation Pay	$ 64,737
State Employee 1998 Special Plan	
Count	1,340
Average Current Age	44.7
Average Service	11.8
Average Valuation Pay	$ 47,031
State Employee Totals (Excludes Teachers)	
Count	13,862
Average Current Age	47.4
Average Service	13.3
Average Valuation Pay	$ 42,217

APPENDIX A
MEMBERSHIP INFORMATION

Non-Active Member Data as of June 30, 2010
Teachers

	Count	Total Annual Benefit	Average Annual Benefit
Retired	11,611	$ 273,513,086	$ 23,556
Retired – Concurrent Beneficiaries	1,366	$ 7,497,869	$ 5,489
Disabilities / 1122	1	$ 23,985	$ 23,985
Disabilities / 3 and 3A	710	$ 19,559,804	$ 27,549
Beneficiaries	1,176	$ 17,912,513	$ 15,232
Pre-Retirement Death Benefits	282	$ 1,630,138	$ 5,781
Terminated Vested	4,993	$ 34,295,704	$ 6,869

Non-Active Member Data as of June 30, 2010
State Regular

	Count	Total Annual Benefit	Average Annual Benefit
Retired	7,567	$ 145,462,118	$ 19,223
Retired – Concurrent Beneficiaries	1,104	$ 5,405,486	$ 4,896
Disabilities / 1122	5	$ 86,086	$ 17,217
Disabilities / 3 and 3A	928	$ 20,271,392	$ 21,844
Beneficiaries	1,807	$ 22,086,145	$ 12,223
Pre-Retirement Death Benefits	392	$ 2,199,345	$ 5,611
Terminated Vested	1,756	$ 13,807,996	$ 7,863

APPENDIX A
MEMBERSHIP INFORMATION

Non-Active Member Data as of June 30, 2010
Special Plans

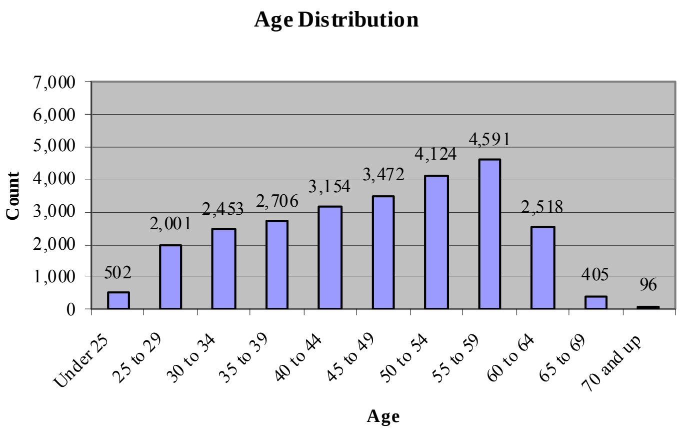
	Count	Total Annual Benefit	Average Annual Benefit
Retired	831	$ 25,056,680	$ 30,152
Retired – Concurrent Beneficiaries	160	$ 883,843	$ 5,524
Disabilities / 1122	2	$ 38,434	$ 19,217
Disabilities / 3 and 3A	74	$ 1,851,009	$ 25,014
Beneficiaries	204	$ 3,100,581	$ 15,199
Pre-Retirement Death Benefits	10	$ 77,062	$ 7,706
Terminated Vested	0	$ 0	$ 0

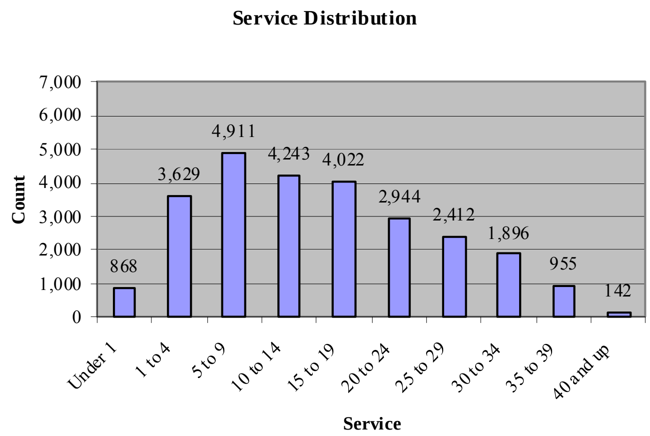
APPENDIX A
MEMBERSHIP INFORMATION

Distribution of Active Members
As of June 30, 2010

Teachers

	Years of Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Totals
Under 25	201	271	30	0	0	0	0	0	0	0	502
25 to 29	177	926	857	41	0	0	0	0	0	0	2,001
30 to 34	120	504	996	791	42	0	0	0	0	0	2,453
35 to 39	102	474	549	845	735	1	0	0	0	0	2,706
40 to 44	84	463	617	579	1,050	350	11	0	0	0	3,154
45 to 49	64	352	650	552	511	767	568	8	0	0	3,472
50 to 54	55	269	565	631	651	570	827	551	5	0	4,124
55 to 59	43	204	382	503	647	702	594	1,015	493	8	4,591
60 to 64	17	128	202	237	334	477	342	271	422	88	2,518
65 to 69	2	29	49	44	45	68	59	43	30	36	405
70 and up	3	9	14	20	7	9	11	8	5	10	96
Total	868	3,629	4,911	4,243	4,022	2,944	2,412	1,896	955	142	26,022





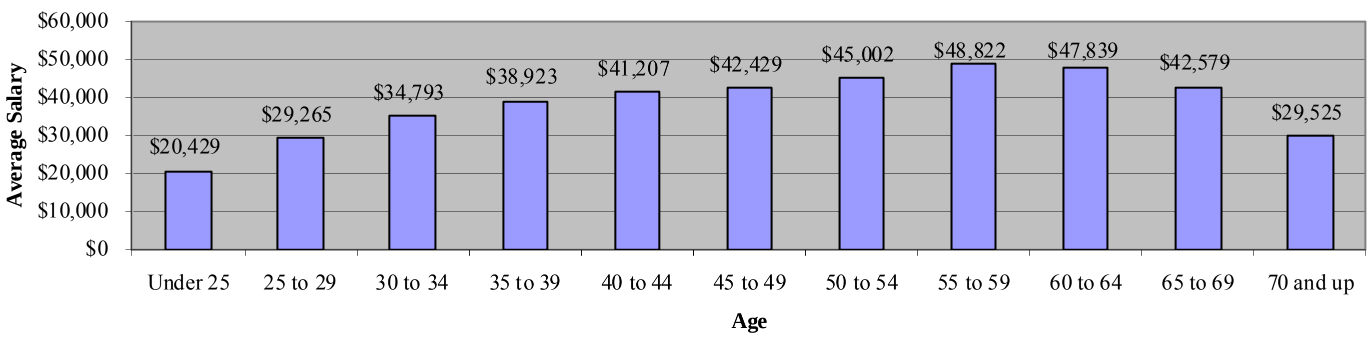
APPENDIX A
MEMBERSHIP INFORMATION

Distribution of Active Members
As of June 30, 2010

Teachers

	Average Salary Years of Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Average
Under 25	$ 17,697	$ 22,242	$ 22,348								$ 20,429
25 to 29	20,481	27,511	32,680	35,415							29,265
30 to 34	20,996	29,545	35,724	38,613	43,152						34,793
35 to 39	18,686	28,800	38,213	41,863	45,389	55,552					38,923
40 to 44	26,223	27,533	35,287	42,518	47,965	50,211	62,667				41,207
45 to 49	21,049	27,745	31,805	37,472	46,882	52,676	52,917	53,136			42,429
50 to 54	27,311	28,168	32,748	37,791	43,402	50,247	55,015	57,162	54,331		45,002
55 to 59	25,683	28,862	34,932	38,340	43,703	50,369	53,982	58,213	59,397	56,683	48,822
60 to 64	29,786	26,459	34,865	37,841	44,036	48,208	52,744	55,876	57,978	59,136	47,839
65 to 69	14,661	20,285	30,199	32,541	43,720	44,863	47,845	50,022	57,434	55,568	42,579
70 and up	6,278	19,196	12,974	17,200	33,242	31,300	49,269	26,605	52,942	58,325	29,525
Average	$ 21,104	$ 27,603	$ 34,256	$ 39,252	$ 45,483	$ 50,394	$ 53,778	$ 57,233	$ 58,648	$ 58,036	$ 41,774

Average Salary Distribution



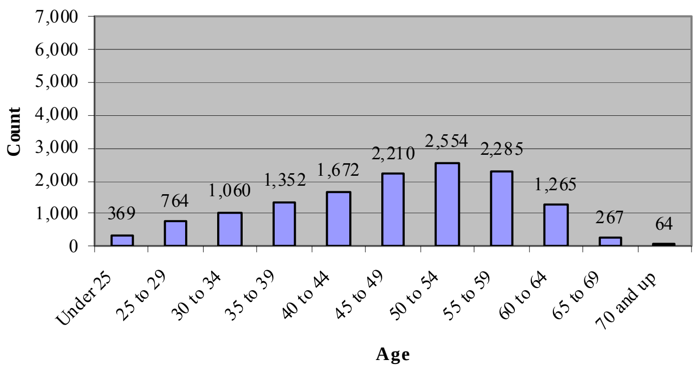
APPENDIX A
MEMBERSHIP INFORMATION

Distribution of Active Members
As of June 30, 2010

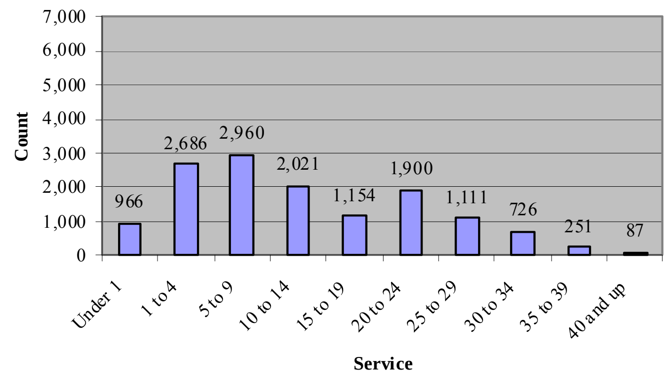
State

	Years of Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Totals
Under 25	162	186	21	0	0	0	0	0	0	0	369
25 to 29	138	385	232	9	0	0	0	0	0	0	764
30 to 34	108	357	414	180	1	0	0	0	0	0	1,060
35 to 39	108	346	416	350	107	25	0	0	0	0	1,352
40 to 44	111	327	370	341	221	283	19	0	0	0	1,672
45 to 49	115	326	434	313	220	505	257	40	0	0	2,210
50 to 54	99	335	447	334	244	441	344	285	25	0	2,554
55 to 59	75	254	336	296	191	377	301	296	137	22	2,285
60 to 64	45	142	230	152	139	215	143	82	71	46	1,265
65 to 69	4	25	50	34	27	46	39	15	14	13	267
70 and up	1	3	10	12	4	8	8	8	4	6	64
Total	966	2,686	2,960	2,021	1,154	1,900	1,111	726	251	87	13,862

Age Distribution



Service Distribution



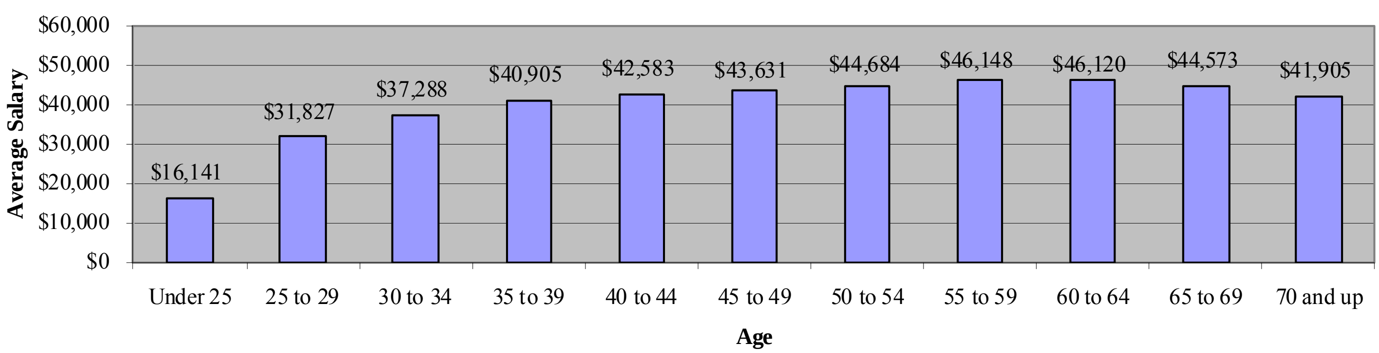
APPENDIX A
MEMBERSHIP INFORMATION

Distribution of Active Members
As of June 30, 2010

State

	Average Salary Years of Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Average
Under 25	$ 8,118	$ 21,995	$ 26,184								$ 16,141
25 to 29	15,982	34,250	36,816	42,495							31,827
30 to 34	15,873	35,465	41,129	44,843	51,209						37,288
35 to 39	15,800	35,197	42,228	49,260	50,674	47,580					40,905
40 to 44	17,221	35,362	42,208	47,001	51,223	48,910	48,291				42,583
45 to 49	12,639	35,563	43,013	46,720	48,884	49,964	47,791	45,425			43,631
50 to 54	18,545	37,109	41,403	46,112	48,208	49,493	49,925	49,490	43,119		44,684
55 to 59	15,800	37,097	42,096	46,228	49,608	48,569	51,147	54,915	47,854	46,405	46,148
60 to 64	19,032	35,128	42,085	46,391	48,449	49,077	54,350	55,418	54,088	50,500	46,120
65 to 69	10,597	32,381	37,458	40,771	41,295	48,681	51,691	60,462	55,412	56,686	44,573
70 and up	43	20,158	36,849	39,869	44,533	38,465	47,507	53,207	55,219	43,677	41,905
Average	$ 14,727	$ 34,619	$ 41,399	$ 46,683	$ 49,232	$ 49,210	$ 50,349	$ 52,415	$ 49,685	$ 49,918	$ 42,217

Average Salary Distribution

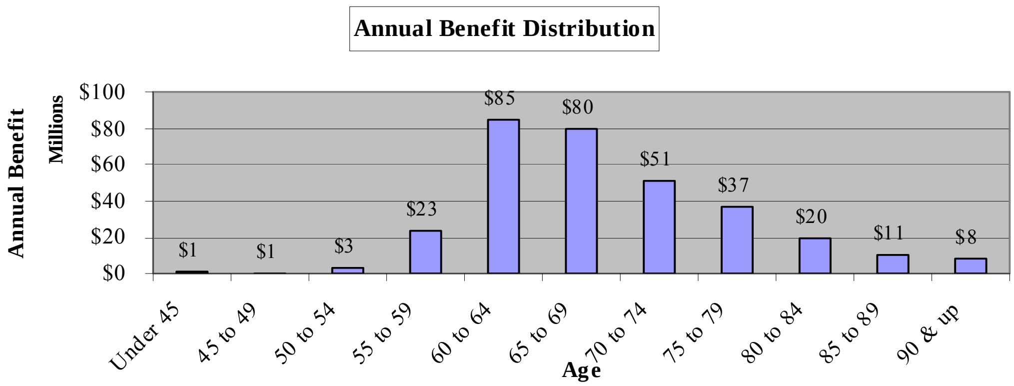


APPENDIX A
MEMBERSHIP INFORMATION

Distribution of Retirees, Disabled Members, Beneficiaries, and Survivors As of June 30, 2010

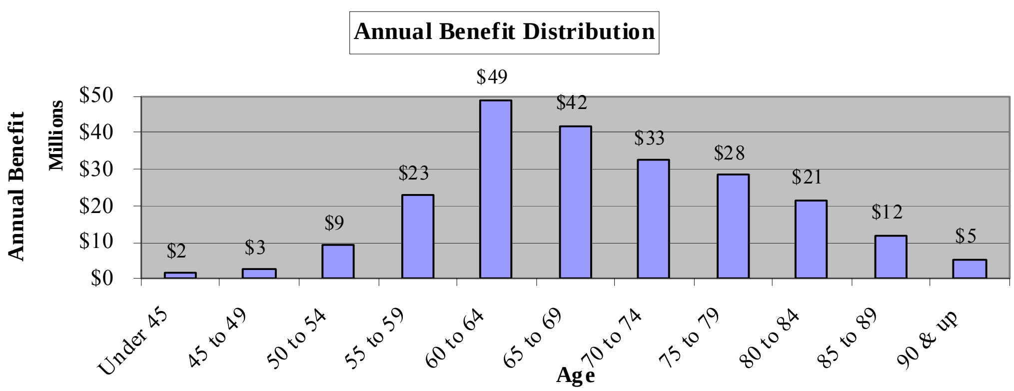
Teachers

Age	Count	Annual Benefit
Under 45	159	$ 1,164,539
45 to 49	60	860,761
50 to 54	161	3,189,166
55 to 59	979	23,244,738
60 to 64	3,428	85,400,403
65 to 69	3,537	79,596,296
70 to 74	2,433	50,937,873
75 to 79	1,913	36,806,666
80 to 84	1,201	19,811,417
85 to 89	710	10,697,445
90 & up	565	8,428,093
Total	15,146	$ 320,137,395



State

Age	Count	Annual Benefit
Under 45	196	1,714,465
45 to 49	180	2,623,110
50 to 54	518	9,228,359
55 to 59	1,102	22,738,836
60 to 64	2,315	48,904,669
65 to 69	2,255	41,875,613
70 to 74	1,916	32,506,862
75 to 79	1,816	28,362,879
80 to 84	1,450	21,483,865
85 to 89	885	12,048,294
90 & up	469	5,417,872
Total	13,102	226,904,824



APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Rate of Investment Return:

State Employees: 7.75%

Teachers: 7.75%

2. Cost-of-Living Increases in Benefits:

State Employees: 3.75%

Teachers: 3.75%

3. Rates of Salary Increase (% at Selected Years of Service):

Service	State Employees and Teachers
0	10.00%
5	7.50
10	6.07
15	5.28
20	4.90
25 and over	4.75

The above rates include a 4.75% across-the-board increase at each year of service.

4. Rates of Termination (% at Selected Service):

Service	State Employees	Teachers
0	30.00%	37.00%
5	7.50	12.50
10	4.40	6.00
15	3.50	4.50
20	2.00	3.00
25	2.00	2.00

Members with ten or more years of service and whose age plus service totals 60 or more are assumed to elect deferred vested benefits; other terminations are assumed to elect refunds.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

5. **Rate of Mortality for Active Healthy Lives and Retired Healthy Lives at Selected Ages (number of deaths per 10,000 members)*:**

	State Employees		Teachers	
Age	Male	Female	Male	Female
20	5	3	5	3
25	7	3	6	3
30	9	4	7	3
35	9	5	8	4
40	12	8	10	6
45	17	10	14	9
50	28	15	24	13
55	48	25	40	21
60	86	48	73	41
65	156	93	133	79
70	255	148	217	125

* For State Regular and Teachers 5% of deaths assumed to arise out of and in the course of employment; for State Special 20% of deaths are assumed to arise out of and in the course of employment.

Rates for State Employees are based on the 1994 Uninsured Pensioner Mortality Table for Males and Females. Rates for Teachers are based on 85% of the 1994 Uninsured Pensioner Mortality Table for Males and Females.

6. **Rates of Mortality for Future Disabled Lives and Retired Disabled Lives at Selected Ages (number of deaths per 10,000 members):**

	State Employees		Teachers	
Age	Male	Female	Male	Female
25	92	72	92	72
30	112	89	112	89
35	134	109	134	109
40	160	126	160	126
45	193	144	193	144
50	236	165	236	165
55	295	191	295	191
60	362	226	362	226
65	446	272	446	272
70	576	331	576	331

Rates are based on the Revenue Ruling 96-7 Disabled Mortality Table for Males and Females.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

7. Rates of Retirement at Selected Ages (number retiring per 1,000 members):

	State Employees		Teachers	
Age	**Tier 1**	**Tier 2**	**Tier 1**	**Tier 2**
45	28	28	18	18
50	42	42	39	39
55	103	103	106	106
59	200	148	156	100
60	228	148	225	100
61	133	133	139	100
62	268	250	277	250
63	202	202	224	224
64	221	221	223	223
65	478	478	485	485
70	589	589	570	570

* Members of Special Groups are assumed to retire at a rate of 50% per year, once they reach eligibility for unreduced benefits at every age.

In the case of State Regular and Teacher employees, Tier 1 refers to those who had accrued at least 10 years of service by July 1, 1993. Tier 2 are those who had not or were hired after that date.

8. Rates of Disability at Selected Ages (members becoming disabled per 10,000 members):**

Age	State Employees	Teachers
25	6.8	4.6
30	7.6	5.0
35	10.2	5.5
40	19.0	6.8
45	27.9	15.5
50	42.7	24.3
55	81.0	33.0
60	119.3	41.8

** 10% assumed to receive Workers Compensation benefits offsetting disability benefit; also, rates for State Special groups are higher by 7 per 10,000 at all ages.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

9. Family Composition Assumptions:

80% of active members are married and have two children born when the member is 24 and 28; children are dependent until age 18; female spouse is three years younger than male spouse; member has no dependent parents; unmarried members have beneficiaries entitled to benefits worth 80% as much as those of married members' beneficiaries.

10. Vacation/Sick Leave Credits:

For members who had ten years of service on July 1, 1993, credits for unused vacation and sick leave may be used to increase final average compensation and/or creditable service. In order to reflect this, projected benefits are increased by 1.0% for state employees and 1.3% for teachers.

11. Date of Adoption of Assumptions

The assumptions were adopted by the Trustees as a result of the latest experience study review performed in 2006 and covering the period July 1, 1997 through June 30, 2005.

12. Changes Since Last Valuation

None.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method:

The Entry Age Normal method is used to determine costs. Under this funding method, a total contribution rate is determined which consists of two elements: the normal cost rate and the unfunded actuarial liability (UAL) rate.

For Teachers and State Employees, including each of the State Special Plans, a normal cost rate is determined for a typical new entrant. This rate is determined by taking the value, as of age at entry into a plan in the Program, of the member's projected future benefits, reducing it by the value of future member contributions, and dividing it by the value, also as of the member's entry age, of the member's expected future salary.

In addition to contributions required to meet a plan's normal cost, contributions are required to fund the plan's unfunded actuarial liability. The actuarial liability is defined as the present value of future benefits less the present value of future normal costs and future member contributions. The unfunded actuarial liability is the total of the actuarial liability for all members less the actuarial value of assets. The actuarial liability includes projections of future member pay increases and future service credits and should not be confused with the Accrued Benefit Liability.

The unfunded actuarial liability is amortized by annual payments. The payments are determined so that they will be a level percentage of pay, assuming payroll increases 4.75% per year. The UAL measured as of June 30, 2010 is amortized over an 18 year period.

2. Asset Valuation Method:

For purposes of determining the State contribution to the plans in the Program, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.

APPENDIX C
SUMMARY OF PROGRAM AND PLAN PROVISIONS

State Employees and Teachers

1. **Membership:**

Membership is a condition of employment for state employees and teachers, and optional for elected and appointed officials.

Membership ceases on the earlier of withdrawal of contributions, retirement, or death.

2. **Member Contributions:**

Except as otherwise described below, members are required to contribute 7.65% of earnable compensation.

<u>Contribution Requirements for Special State Employee Groups</u>

State police, inland fisheries and wildlife officers, and marine resources officers employed before 9/1/84 – 8.65% of earnable compensation for 20 years; 7.65% thereafter.

Forest rangers and state prison employees employed before 9/1/84 – 8.65% of earnable compensation until eligible for retirement; 7.65% thereafter.

1998 Special Plan employees which include state prison employees, airplane pilots, forest rangers, defense, veterans and emergency management firefighters employed at Bangor International Airport, corrections employees, Baxter State Park Authority rangers, fire marshals, investigators and inspectors, oil and hazardous materials emergency response workers and capitol security officers – 8.65% of earnable compensation for 25 years; 7.65% thereafter.

State police employed on or after 9/16/84 and special agent investigators hired before 6/21/82 – 8.65% of earnable compensation for 25 years; 7.65% thereafter.

Inland fisheries and wildlife officers and marine resources officers employed on or after 9/1/84 – 8.65% of earnable compensation for 25 years; 7.65% thereafter.

3. **Average Final Compensation:**

For purposes of determining benefits payable, average final compensation is the average annual rate of earnable compensation for the three years of creditable service (not necessarily consecutive) which produce the highest such average.
For compensation paid on or after July 1, 1993, increases in earnable compensation of greater than 5% per year or 10% over the highest three years are not included in calculating average final compensation unless the employer pays the cost of including such compensation.

APPENDIX C
SUMMARY OF PROGRAM AND PLAN PROVISIONS

Earnable compensation does not include sick and vacation pay for those members who had less than ten years of service at July 1, 1993. For members for whom sick and vacation pay is includible in earnable compensation, these payments are included in applying the caps described above.

4. Creditable Service:

Creditable service includes service while a member, certain service prior to the establishment of the Program, purchased military service credit, other purchased service credit, and service while receiving disability benefits under the Program.

5. Service Retirement Benefits:

A. Regular Plan (State Employees and Teachers)

i. Provisions for Members With at Least Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 60

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, and not in Active Service on or After October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or After October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by approximately 2¼% for each year retirement age is less than age 60.

Form of Payment: Life annuity.

APPENDIX C
SUMMARY OF PROGRAM AND PLAN PROVISIONS

ii. Provisions for Members With Less Than Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 62

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement age and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, and not in Active Service on or After October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or After October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by 6% for each year retirement age is less than age 62.

Form of Payment: Life annuity.

B. Special Plans (State Employees)

i. State Police Employed Before 9/16/84; Inland Fisheries and Wildlife Officers and Marine Resource Officers Employed Before 9/1/84

Eligibility: 20 years of creditable service in named positions.

Benefit: one-half of average final compensation plus 2% for each year of service in excess of 20. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: 50% joint and survivor annuity, or life annuity.

ii. Forest Rangers Employed Before 9/1/84

Eligibility: Age 50 with 25 years of creditable service as a forest ranger.

APPENDIX C
SUMMARY OF PROGRAM AND PLAN PROVISIONS

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: Life annuity.

iii. Airplane Pilots Employed Before 9/1/84

Eligibility: Age 55 and 25 years of creditable service as an airplane pilot.

Benefit: Greater of (1) one-half of average final compensation plus 2% for each year of service earned after qualification for retirement, and (2) if retiring after age 60, the benefit under the general formula.

Form of Payment: Life annuity.

iv. Liquor Inspectors Employed Before 9/1/84

Eligibility: Age 55 and 25 years of creditable service as a liquor inspector.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: Life annuity.

v. State Prison Employees Employed Before 9/1/84

Eligibility: Age 50 and 20 years of creditable service as a prison employee.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement.

Form of Payment: Life annuity.

vi. 1998 Special Plan

1998 Entrants: State prison employees, airline pilots, forest rangers and liquor inspectors, employed after 8/31/84; defense, veterans and emergency management firefighters employed on and after 7/1/98.

APPENDIX C
SUMMARY OF PROGRAM AND PLAN PROVISIONS

2000 Entrants: Baxter State Park Authority rangers, correctional employees and state fire marshals employed on or after 1/1/2000.

2002 Entrants: Capitol security officers and oil and hazardous materials emergency response workers.

Eligibility: Ten years of creditable service under the 1998 Special Plan in one or a combination of the covered capacities and the attainment of age 55 – OR – 25 years of creditable service in one or a combination of the covered capacities.

Benefit: For service prior to coverage in the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 60 or 62, except oil and hazardous materials emergency response workers and certain prison employee benefits are reduced for retirement before age 55.

-AND-

For service under the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 55.

Form of Payment: Life annuity.

vii. 25 & Out Plan

1998 Entrants: State police employed on or after 9/16/84 and special agent investigators hired before 6/21/82.

2002 Entrants: Inland fisheries and wildlife officers and marine resources officers employed on and after 8/31/84.

Eligibility: 25 years of creditable service in named positions.

Benefit: 1/50 of average final compensation multiplied by years of service.

Form of Payment: Life annuity.

Members in Special Plans who fail to qualify for special plan benefits can receive regular plan benefits when and as eligible and qualified.

6. Disability Retirement Benefits Other Than No Age Benefits (See Item 7):

Eligibility: Disabled as defined in the MainePERS statutes prior to normal retirement age; employed prior to October 16, 1992 and did not elect No Age Disability Benefits.

APPENDIX C
SUMMARY OF PROGRAM AND PLAN PROVISIONS

Benefit: 66⅔% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Worker's Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after five or two years, depending on disability plan, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the earlier of ten years following normal retirement age or on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, average final compensation is increased with cost-of-living adjustments and service is credited. On the date when service benefits reach a level of 66⅔% of average final compensation or ten years after the normal retirement date, if earlier, the disability benefit converts to a service retirement benefit based on service and average final compensation at that point.

7. No Age Disability Retirement Benefits

Eligibility: Disabled as defined in the MainePERS statutes; employed on or after October 16, 1992 or employed prior to October 16, 1992 and elected the provisions of No Age Disability.

Benefit: 59% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Worker's Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after five or two years, depending on disability plan, unless the member is unable to engage in any substantially gainful activity; in which case payments cease on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, average final compensation is increased with cost-of-living adjustments and service is credited. On the date when service benefits reach a level of 59% of average final compensation, the disability benefit converts to a service retirement benefit based on service and average final compensation at that point.

8. Pre-Retirement Ordinary Death Benefits:

Eligibility: Death while active, inactive eligible to retire, or disabled.

Benefit: Designated beneficiary, spouse, child(ren), or parents entitled to benefit calculated as if deceased member had retired under Option 2 (see item 12); however, beneficiary may elect survivor benefits payable to a surviving spouse, dependent child(ren), parent, or other designated beneficiaries in monthly amounts varying by status of beneficiary and number of eligible survivors. Otherwise accumulated contributions with interest are payable to designated beneficiary, spouse, child(ren), older parents, or estate.

9. Pre-Retirement Accidental Death Benefits:

Eligibility: Death while active or disabled resulting from an injury received in the line of duty.

- If the member is survived by a spouse who has the care of dependent child(ren) of the member, the surviving spouse shall receive an annual sum equal to the member's average final compensation. When there is no longer any dependent child, the surviving spouse shall receive 2/3 of member's average final compensation until death.

- If the member is survived by a spouse who does not have the care of the member's dependent child(ren), the surviving spouse and dependent child(ren) shall share equally an annual sum equal to the member's average final compensation. When there is no longer any dependent child, the surviving spouse shall receive 2/3 of member's average final compensation until death.

- If the member leaves no spouse, the dependent child(ren) shall be paid an annual sum equal to the member's average final compensation. Benefits will cease when the last dependent child no longer meets the definition of "dependent child".

10. Refund of Contributions:

Eligibility: Termination of service without retirement or death.
Benefit: Member's accumulated contributions with interest.

11. Cost-of-Living Adjustments:

All service and disability retirement and survivor benefits are adjusted each year that there is a percentage change in the Consumer Price Index, based on the Index. If the percentage change is negative then no adjustment is made in that year. In subsequent years the adjustment that would have been made will be adjusted downward to the extent necessary to recoup the full actuarial value of not having made the previous year's negative adjustment. This process of adjustment may occur over a multi-year period if needed to recoup the full value of the non-zero COLA.

Cost-of-living adjustments are effective September 1 and are applied to all benefits which have been in payment for twelve months. The maximum annual increase is 4%. Average final compensation used in determining disability benefits for disabled members is similarly adjusted for purposes of determining the recipient's service retirement benefit if and when the recipient moves to service retirement.

Members on service retirement who did not have ten years of service on July 1, 1993 will not receive a cost-of-living adjustment until 12 months after their normal retirement age.

12. Methods of Payment of Service Retirement Benefits:

At retirement, a member who retires with a benefit must choose from the following methods of payment:

Full Benefit: Unadjusted benefit paid for the life of the member only.

Option 1: Cash refund equal to the remaining employee contribution balance, if any, at the date of death (where the employee contribution balance has been reduced each month by the portion of the monthly benefit deemed to be provided by employee contributions).

Option 2: 100% joint and survivor annuity.

Option 3: 50% joint and survivor annuity.

Option 4: Joint and survivor annuity at any percentage other than those available under Option 2 and Option 3.

Option 5: Designated percentage of the benefit (not less than 51%) payable to the member, with the remaining percentage (the two to equal 100%) payable to a beneficiary (may only be a sole beneficiary) while both are alive. At the death of either, the higher of the two percentages is paid to the survivor for the survivor's life, and the lower-percentage benefit ceases to be paid.

Option 6: 100% joint and survivor annuity (Option 2) with pop-up*.

Option 7: 50% joint and survivor annuity (Option 3) with pop-up.*

Option 8: Option 4 with pop-up*.

* The "pop-up" feature attached to a given Option means that in the case of a beneficiary predeceasing the member, the member's benefit will be revised prospectively to the amount that the benefit would have been had the member selected Full Benefit payment upon retirement.