



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

**as of June 30, 2012**

**Produced by [Cheiron](#)**

**November 2012**

## Table of Contents

Letter of Transmittal .....	i
Foreword .....	ii
Section I – Board Summary .....	1
Section II – Assets .....	12
Section III – Liabilities .....	17
Section IV – Contributions .....	21
Section V – Accounting Statement Information .....	24
Appendix A – Membership Information.....	30
Appendix B – Summary of Program and Plan Provisions.....	39
Appendix C – Actuarial Assumptions and Methods.....	48

November 26, 2012

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, 2012 Actuarial Valuation Report for the Plans in the State Employee and Teacher Retirement Program of the Maine Public Employees Retirement System. The purpose of this report is to present the annual actuarial valuation of Maine Public Employees Retirement System. This report is for the use of the Public Employees' Retirement Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. 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 on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23.

To the best of our knowledge, this report and its contents have 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. Furthermore, as credentialed actuaries we meet the Qualification Standards of the American Academy of Actuaries 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.

This valuation was prepared for the Maine Public Employees Retirement System for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. This valuation report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely,  
Cheiron



Gene Kalwarski, FSA, EA  
Principal Consulting Actuary



Fiona E. Liston, FSA, EA  
Principal Consulting Actuary



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**FOREWORD**

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, 2012. 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 2014 and 2015 were developed in July 2012, based on a roll forward of the June 30, 2011 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).

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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. The contribution rates used in the State’s budgeting process to produce the applicable State budget contributions in FY 2014 and FY 2015 were based on the liabilities of the 2011 valuation adjusted for anticipated growth in benefits and reductions due to payouts to reflect our best estimate of the June 30, 2012 liability. The budgeting process then combined this expected liability with the actual plan assets as of June 30, 2012 to develop the budgeted rates.

The State of Maine composite rate produced by the June 30, 2011 valuation for all plans in the State Employees and Teacher Retirement Program was 15.51% of payroll. The State composite rate produced in this valuation is 16.77% of payroll. The FY 2014 and FY 2015 budgeted rate from rolling forward the June 30, 2011 valuation results, was 16.27%. The 0.76% increase in the contribution rate from 15.51% to 16.27% was largely attributable to a loss in investment returns, partially offset by a liability gain. The 0.50% increase in the biennium budget contribution from 16.27% to 16.77% was almost entirely attributable to a modification to the actuarial cost method moving from the new entrant profile entry age normal method to the individual entry age normal method. This was done in preparation for compliance with GASB Standard No. 67 which does not support the use of the new entrant variation of this funding method.

Finally, 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 zero.

**Experience from July 1, 2011 through June 30, 2012 (FY 2012)**

As of June 30, 2012, the Program had an Unfunded Actuarial Liability (UAL) of \$2.673 billion. This represents an increase of \$0.128 billion from the \$2.545 billion UAL measured as of June 30, 2011. The specific factors contributing to this change are presented in Table I-1 below.

<b>Table I-1 Components of UAL Change</b>		<b>\$ in billions</b>
1. Unfunded Actuarial Liability as of June 30, 2011		\$ 2.545
2. Decrease expected as of June 30, 2012		(0.019)
3. Decrease due to method changes		(0.016)
4. Increase due to recognized investment losses		0.220
5. Decrease due to liability gains during the year		<u>(0.057)</u>
6. Actuarial Liability as of June 30, 2012		\$ 2.673

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

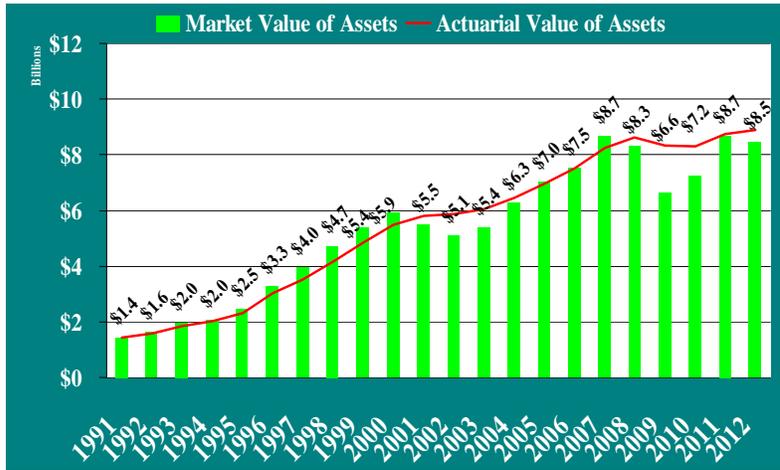
**SECTION I  
BOARD SUMMARY**

**Historical Trends**

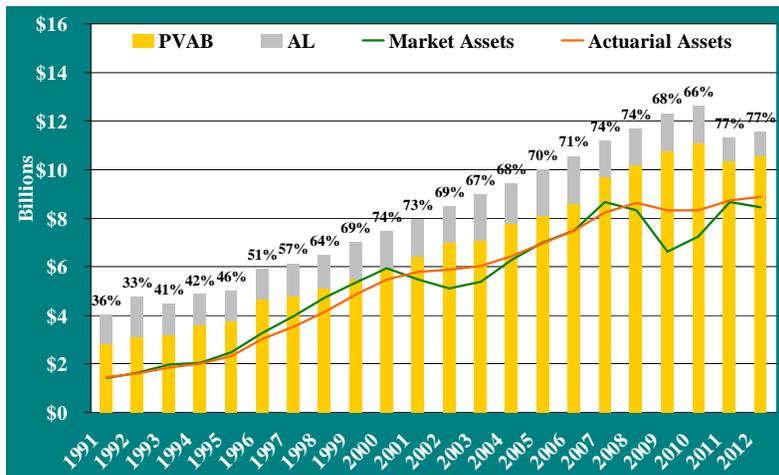
We present a series of charts which display key historical trends in the Program’s financial condition. Following the historical review, we present projections of the probable condition of the Program into the future under various market return scenarios.

Growth in Assets

The graph to the right illustrates how well the actuarial smoothing method has insulated the Program from market volatility. Also, there has generally been an upward trend for both the market value (green bars) and actuarial value of assets (red line) of assets since 1991. The few exceptions are the years immediately following the severe market declines in the last decade.



Assets and Liabilities



This next graph illustrates the progress of assets against liabilities. The colored bars represent different measures of liability mentioned in Section III of this report. The yellow bars represent the Present Value of Accrued Benefits (PVAB) as of the valuation date. The actuarial liability (AL), used for funding purposes, is represented by the top of the grey bar. We compare the actuarial value of assets to this measure of liability in

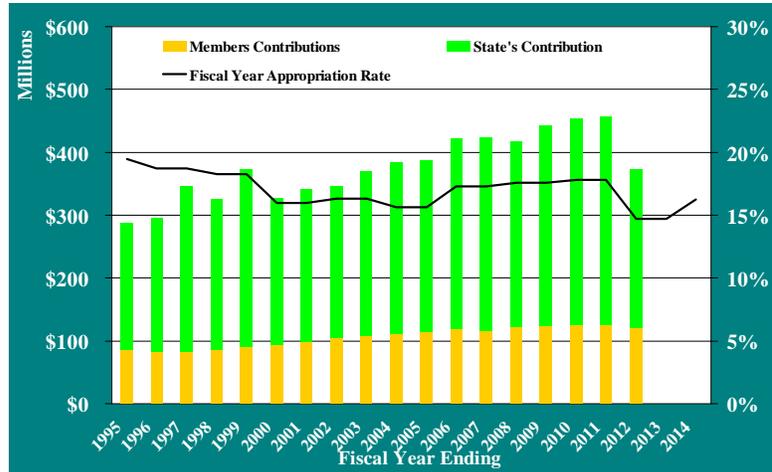
developing the funding ratios. These are the percentages shown in the graph labels. As of June 30, 2012 the Plan is funded 77% on this measure.

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**SECTION I  
BOARD SUMMARY**

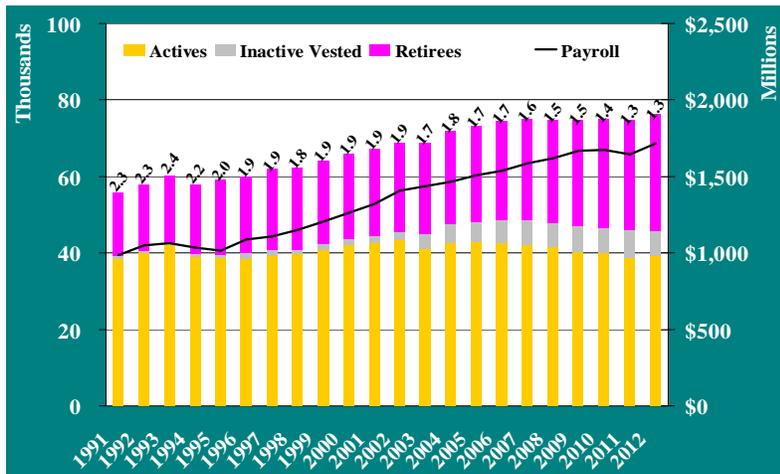
Contributions

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.



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 2012 was based on the June 30, 2010 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 22 years. The labels above each bar show the ratio of active members per inactive member, which has been declining since 1991. We anticipate that this ratio will continue to decline as

the baby boom generation enters retirement. While a declining ratio would be a concern in a plan with no prefunding, in MainePERS's case, it merely indicates that on a cash flow basis, there is more money being paid for benefits than made in contributions. The more negative that a Plan's cash flows are, the more sensitive (in terms of contribution volatility) the Plan is to volatile investment markets.

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

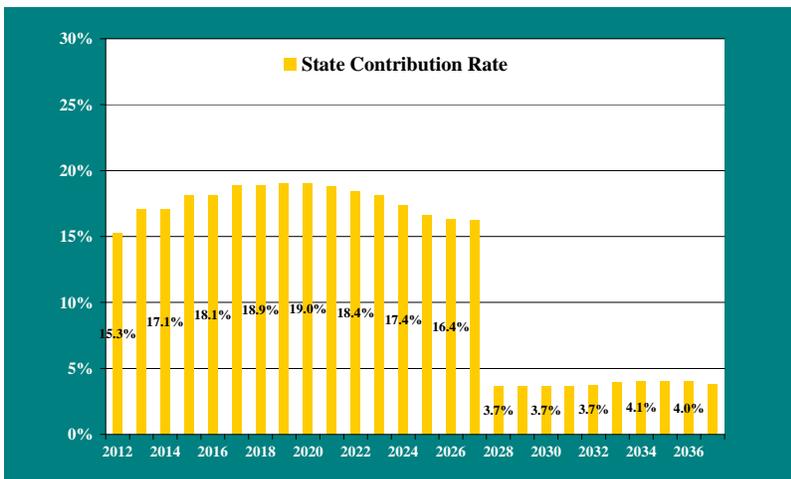
**SECTION I  
BOARD SUMMARY**

**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 7.25% investment return were achieved each year. We then present the same projections based on earnings 1% above and 1% below the assumed 7.25% return. The primary purpose of presenting these projections is to demonstrate how sensitive future valuation results could be to positive and negative investment markets.

Base Line Projections

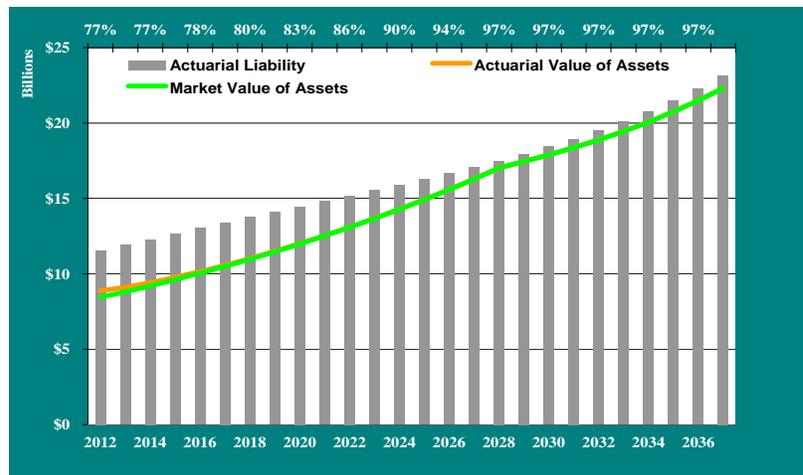
The charts on this page show the expected progress of the Program's funding status over the next 25 years measured in terms of the employer contribution rate and the funding ratio for the fiscal year beginning in that year.



The chart on the left shows that the State's overall composite contribution rate is projected to remain fairly level until the UAL has been paid off in FY beginning 2027, if all actuarial assumptions are met, including the 7.25% investment assumption. While the chart shows that by 2028 the UAL will be paid off, and the State's contribution rate would drop to the Normal Cost, the reality is that there will be gains and losses each and every year resulting in amortization

payments (negative or positive) occurring every year.

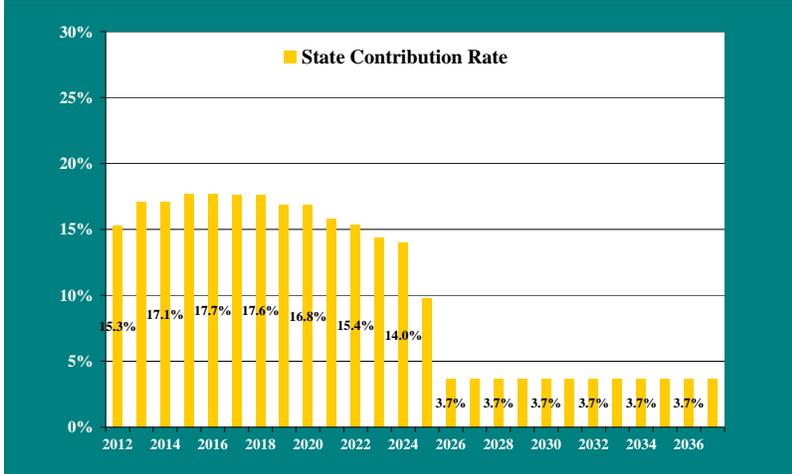
The chart on the right above projects Assets and Liabilities and shows that if all actuarial assumptions are exactly met, the Program's funded ratio is projected to improve from the current level of 77% to 97% funding in 2028, the year that the Maine Constitution mandates that the Program's UAL is to be paid off. However as just mentioned earlier, annual gains and losses will always occur, meaning that by 2028 there will be either an unfunded actuarial liability (if more losses occur) or a surplus of plan assets (if more gains occur).



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

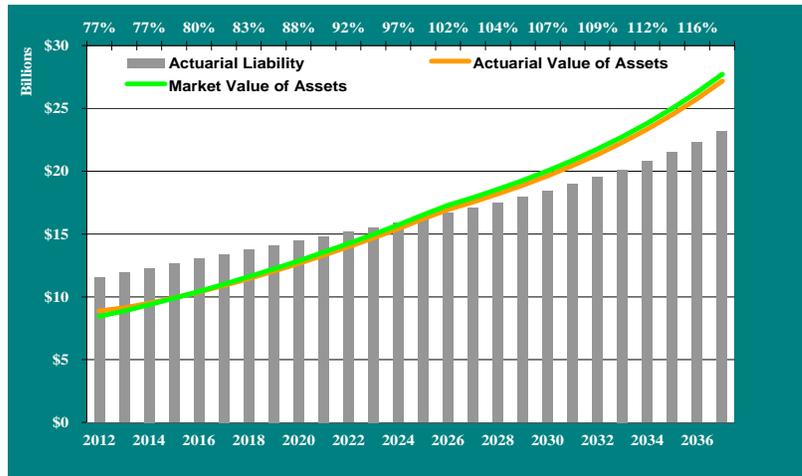
**SECTION I  
BOARD SUMMARY**

Projections with Asset Returns of 8.25%



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 left shows that if the Program were to earn 8.25% annual returns each year, the contribution rate would decline throughout the UAL pay off period and the UAL would be projected to have been paid in full by 2025.

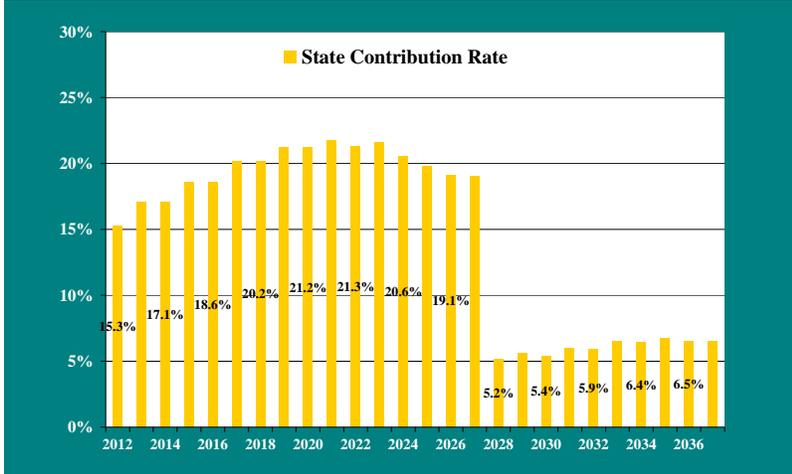
Assuming the same 8.25% return on investments, this next chart shows that the Program's funded level would increase to reach 100% by 2025 and then continue to improve.



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

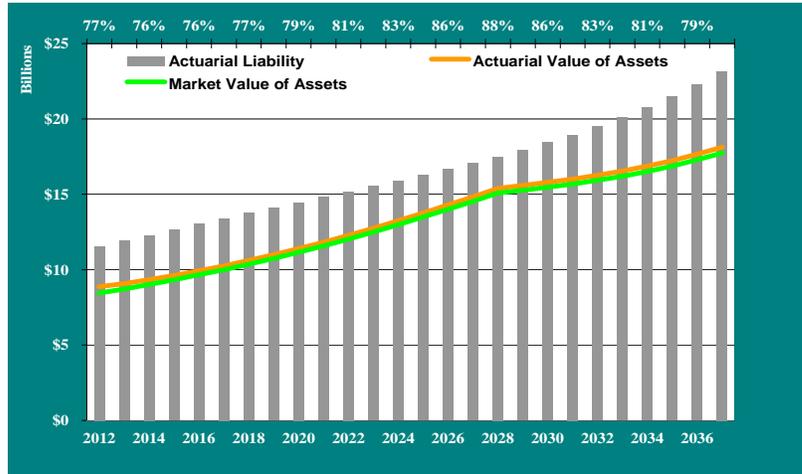
**SECTION I  
BOARD SUMMARY**

Projections with Asset Returns of 6.25%



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 6.25% annual return scenario. The State's contribution rate would rise to around 23% of payroll in order to meet the requirement of full funding in 2028.

The Program's funded ratio would increase to 79% over the next 24 years. In this scenario, the Program would 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 that create additional UAL would have to be funded over ten years.



MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I  
BOARD SUMMARY

<b>Table I-2</b>			
<b>Summary of Principal Results</b>			
<b>Total State Employee and Teacher Program</b>			
<b>Valuation as of:</b>	<b>June 30, 2011</b>	<b>June 30, 2012</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	38,759	39,360	1.6%
Retired Members	20,689	22,145	7.0%
Beneficiaries of Retirees	5,842	5,948	1.8%
Survivors of Deceased Members	655	638	-2.6%
Disabled Members	1,714	1,754	2.3%
Deferred "Vested" Members	7,074	6,291	-11.1%
<b>Total</b>	<b>74,733</b>	<b>76,136</b>	<b>1.9%</b>
Annual Salaries of Active Members	\$ 1,643,389,735	\$ 1,718,449,172	4.6%
Annual Payments to Benefit Recipients	\$ 569,141,838	\$ 614,303,923	7.9%
<b><u>Assets and Liabilities</u></b>			
Total Actuarial Liability	\$ 11,281,665,186	\$ 11,553,306,281	2.4%
Assets/Actuarial (Smoothed)	8,736,885,121	8,880,730,120	1.6%
Unfunded Actuarial Liability	\$ 2,544,780,065	\$ 2,672,576,161	5.0%
Funding Ratio	77.44%	76.87%	
Present Value of Accrued Benefits	\$ 10,334,098,094	\$ 10,539,025,275	2.0%
Assets/Market Value	8,677,947,874	8,453,862,754	-2.6%
Unfunded PVAB	\$ 1,656,150,220	\$ 2,085,162,521	25.9%
Accrued Benefit Funding Ratio	83.97%	80.21%	
<b><u>Contributions as a Percentage of Payroll</u></b>			
	<b>Fiscal Year 13</b>	<b>Fiscal Year 14</b>	
Normal Cost Contribution	2.93%	3.67%	
Unfunded Actuarial Liability Contribution	12.58%	13.10%	
<b>Total Contribution</b>	<b>15.51%</b>	<b>16.77%</b>	

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I  
BOARD SUMMARY

<b>Table I-3</b>			
<b>Summary of Principal Results</b>			
<b>Teachers</b>			
<b>Valuation as of:</b>	<b>June 30, 2011</b>	<b>June 30, 2012</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	25,495	26,417	3.6%
Retired Members	12,180	12,961	6.4%
Beneficiaries of Retirees	2,601	2,667	2.5%
Survivors of Deceased Members	274	264	-3.6%
Disabled Members	702	727	3.6%
Deferred "Vested" Members	<u>5,161</u>	<u>4,556</u>	-11.7%
Total	46,413	47,592	2.5%
Annual Salaries of Active Members	\$ 1,074,639,515	\$ 1,132,474,064	5.4%
Annual Payments to Benefit Recipients	\$ 338,228,540	\$ 364,117,774	7.7%
<b><u>Assets and Liabilities</u></b>			
Total Actuarial Liability	\$ 7,361,705,930	\$ 7,555,171,743	2.6%
Assets/Actuarial (Smoothed)	<u>5,732,486,621</u>	<u>5,865,478,176</u>	2.3%
Unfunded Actuarial Liability	\$ 1,629,219,309	\$ 1,689,693,567	3.7%
Funding Ratio	77.87%	77.64%	
Present Value of Accrued Benefits	\$ 6,717,390,638	\$ 6,833,578,111	1.7%
Assets/Market Value	<u>5,693,816,434</u>	<u>5,583,544,012</u>	-1.9%
Unfunded PVAB	\$ 1,023,574,204	\$ 1,250,034,099	22.1%
Accrued Benefit Funding Ratio	84.76%	81.71%	
<b><u>Contributions as a Percentage of Payroll</u></b>			
	<b>Fiscal Year 13</b>	<b>Fiscal Year 14</b>	
Normal Cost Contribution	2.65%	2.97%	
Unfunded Actuarial Liability Contribution	<u>12.31%</u>	<u>12.55%</u>	
Total State Contribution	14.96%	15.52%	

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I  
BOARD SUMMARY

<b>Table I-4</b>			
<b>Summary of Principal Results</b>			
<b>State Employees (Regular and Special Plans)</b>			
<b>Valuation as of:</b>	<b>June 30, 2011</b>	<b>June 30, 2012</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	13,264	12,943	-2.4%
Retired Members	8,509	9,184	7.9%
Beneficiaries of Retirees	3,241	3,281	1.2%
Survivors of Deceased Members	381	374	-1.8%
Disabled Members	1,012	1,027	1.5%
Deferred "Vested" Members	<u>1,913</u>	<u>1,735</u>	-9.3%
Total	28,320	28,544	0.8%
Annual Salaries of Active Members	\$ 568,750,220	\$ 585,975,108	3.0%
Annual Payments to Benefit Recipients	\$ 230,913,298	\$ 250,186,149	8.3%
<b><u>Assets and Liabilities</u></b>			
Total Actuarial Liability	\$ 3,919,959,256	\$ 3,998,134,538	2.0%
Assets/Actuarial (Smoothed)	<u>3,004,398,500</u>	<u>3,015,251,944</u>	0.4%
Unfunded Actuarial Liability	\$ 915,560,756	\$ 982,882,594	7.4%
Funding Ratio	76.64%	75.42%	
Present Value of Accrued Benefits	\$ 3,616,707,456	\$ 3,705,447,164	2.5%
Assets/Market Value	<u>2,984,131,440</u>	<u>2,870,318,742</u>	-3.8%
Unfunded PVAB	\$ 632,576,016	\$ 835,128,422	32.0%
Accrued Benefit Funding Ratio	82.51%	77.46%	
<b><u>Contributions as a Percentage of Payroll</u></b>			
	<b>Fiscal Year 13</b>	<b>Fiscal Year 14</b>	
Normal Cost Contribution	3.47%	5.02%	
Unfunded Actuarial Liability Contribution	<u>13.07%</u>	<u>14.17%</u>	
Total State Contribution	16.54%	19.19%	

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I  
BOARD SUMMARY

<b>Table I-5</b>			
<b>Summary of Principal Results</b>			
<b>State Employees (Regular Plan)</b>			
<b>Valuation as of:</b>	<b>June 30, 2011</b>	<b>June 30, 2012</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	11,455	11,228	-2.0%
Retired Members	7,648	8,228	7.6%
Beneficiaries of Retirees	2,872	2,893	0.7%
Survivors of Deceased Members	371	364	-1.9%
Disabled Members	933	939	0.6%
Deferred "Vested" Members	<u>1,913</u>	<u>1,735</u>	-9.3%
Total	25,192	25,387	0.9%
Annual Salaries of Active Members	\$ 475,965,739	\$ 496,671,281	4.4%
Annual Payments to Benefit Recipients	\$ 198,690,063	\$ 214,740,645	8.1%
<b><u>Assets and Liabilities</u></b>			
Total Actuarial Liability	\$ 3,300,409,113	\$ 3,380,058,853	2.4%
Assets/Actuarial (Smoothed)	<u>2,556,721,618</u>	<u>2,569,122,137</u>	0.5%
Unfunded Actuarial Liability	\$ 743,687,495	\$ 810,936,716	9.0%
Funding Ratio	77.47%	76.01%	
Present Value of Accrued Benefits	\$ 3,045,598,579	\$ 3,128,508,516	2.7%
Assets/Market Value	<u>2,539,474,495</u>	<u>2,445,632,920</u>	-3.7%
Unfunded PVAB	\$ 506,124,084	\$ 682,875,596	34.9%
Accrued Benefit Funding Ratio	83.38%	78.17%	
<b><u>Contributions as a Percentage of Payroll</u></b>			
	<b>Fiscal Year 13</b>	<b>Fiscal Year 14</b>	
Normal Cost Contribution	3.37%	4.86%	
Unfunded Actuarial Liability Contribution	<u>12.69%</u>	<u>13.83%</u>	
Total State Contribution	16.06%	18.69%	

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I  
BOARD SUMMARY

<b>Table I-6</b>			
<b>Summary of Principal Results</b>			
<b>State Employees (Special Plans - Composite)</b>			
<b>Valuation as of:</b>	<b>June 30, 2011</b>	<b>June 30, 2012</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Actives	1,809	1,715	-5.2%
Retired Members	861	956	11.0%
Beneficiaries of Retirees	369	388	5.1%
Survivors of Deceased Members	10	10	0.0%
Disabled Members	79	88	11.4%
Deferred "Vested" Members	<u>0</u>	<u>0</u>	0.0%
Total	3,128	3,157	0.9%
Annual Salaries of Active Members	\$ 92,784,481	\$ 89,303,827	-3.8%
Annual Payments to Benefit Recipients	\$ 32,223,235	\$ 35,445,504	10.0%
<b><u>Assets and Liabilities</u></b>			
Total Actuarial Liability	\$ 619,550,143	\$ 618,075,685	-0.2%
Assets/Actuarial (Smoothed)	<u>447,676,882</u>	<u>446,129,807</u>	-0.3%
Unfunded Actuarial Liability	\$ 171,873,261	\$ 171,945,878	0.0%
Funding Ratio	72.26%	72.18%	
Present Value of Accrued Benefits	\$ 571,108,877	\$ 576,398,648	1.0%
Assets/Market Value	<u>444,656,945</u>	<u>424,685,822</u>	-4.5%
Unfunded PVAB	\$ 126,451,932	\$ 152,252,826	20.4%
Accrued Benefit Funding Ratio	77.86%	73.61%	
<b><u>Contributions as a Percentage of Payroll</u></b>		<b>Fiscal Year 13</b>	<b>Fiscal Year 14</b>
Normal Cost Contribution		3.99%	5.88%
Unfunded Actuarial Liability Contribution		<u>15.04%</u>	<u>16.06%</u>
Total State Contribution		19.03%	21.94%

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**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, 2011 and June 30, 2012;
- Statement of the **changes** in market values during the year;
- Development of the **actuarial value of assets**;
- **Allocation** of actuarial value to sub-plans;
- 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 7.25% rate.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION II  
ASSETS**

<b>Table II-1</b>		
<b>Changes in Market Value of Total Defined Benefit Plan Assets (All Programs)</b>		
<b>Value of Assets – June 30, 2011</b>		<b>\$ 10,841,087,566</b>
<b><u>Additions</u></b>		
Contributions:		
Employer Contributions	\$ 275,192,610	
Employee Contributions	154,171,532	
Transfer	<u>(5,696)</u>	
Total Contributions		\$ 429,358,446
Investment Income:		
Net Appreciation (Depreciation) in Fair Value of Investments	\$ 77,958,283	
Interest on Bank Balances	<u>105,861</u>	
Total Investment Income		\$ 78,064,144
Investment Activity Expenses:		
Management Fees	\$ (22,473,963)	
Investment Related Expense	(1,727,203)	
Banking Fees	<u>(26,757)</u>	
Total Investment Activity Expenses		\$ (24,227,923)
Net Income from Investing Activities		\$ 53,836,221
Total Additions		\$ 483,194,667
<b><u>Deductions</u></b>		
Retirement Benefits	\$ (670,689,254)	
Disability Benefits	(36,778,342)	
Survivor Benefits	(19,559,715)	
Refunds and Other Expenses	<u>(53,221,963)</u>	
Total Deductions		\$ (780,249,274)
<b><u>Total</u></b>		
Net Increase (Decrease)		\$ (297,054,607)
<b>Value of Assets – June 30, 2012</b>		<b>\$ 10,544,032,959</b>

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION II  
ASSETS**

<b>Table II-2 Development of Actuarial Value of Assets (All Programs) as of June 30, 2012</b>		
1.	Actuarial Value of Assets at June 30, 2011	\$ 10,914,716,016
2.	Amount in (1) with Interest to June 30, 2012	11,706,032,927
3.	Employer and Member Contributions for the Plan Year Ended June 30, 2012	429,358,446
4.	Interest on Contributions Assuming Received Uniformly Throughout the Year to June 30, 2012	15,291,927
5.	Disbursements from Trust Except Investment Expenses, July 1, 2011 through June 30, 2012	(780,249,274)
6.	Interest on Disbursements Assuming Payments Made Uniformly throughout the Year to June 30, 2012	<u>(27,789,170)</u>
7.	Expected Value of Assets at June 30, 2012 = (2) + (3) + (4) + (5) + (6)	\$ 11,342,644,856
8.	Actual Market Value of Assets at June 30, 2012	10,544,032,959
9.	Excess of (8) Over (7)	<u>(798,611,897)</u>
10.	Actuarial Value of Assets at June 30, 2012 = (7) + 33 $\frac{1}{3}$ % of (9)	\$ 11,076,440,890

### 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, 2012 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 1.05049 (\$11,076,440,890 ÷ \$10,544,032,959). The allocation of actuarial value of assets to each of the System’s retirement programs is shown in the following chart.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION II  
ASSETS**

<b>Table II-3 Allocation of Actuarial Value of Assets as of June 30, 2012</b>		
	<b>Market Value</b>	<b>Actuarial Value</b>
Teachers	\$ 5,583,544,012	\$ 5,865,478,176
State (Regular & Special)	2,870,318,742	3,015,251,944
Judges	47,344,407	49,735,004
Legislators	8,874,321	9,322,419
Participating Local Districts (Consolidated & Non-Consolidated)	<u>2,033,951,477</u>	<u>2,136,653,347</u>
<b>Total Fund</b>	<b>\$ 10,544,032,959</b>	<b>\$ 11,076,440,890</b>

### **Investment Performance**

The market value of assets returned a positive 0.50% during FY 2012. This is significantly lower than the assumed return of 7.25%. The returns in FY 2011 and FY 2010 were positive 22.11% and positive 11.28%, respectively.

On an actuarial value of assets basis, the return for FY 2012 was a positive 4.77%. This return is lower than the return on a market value basis and does not meet the 7.25% assumption; therefore, this return gives rise to an investment loss this year.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION II  
ASSETS**

<b>Table II-4 Projection of State and Teacher Program Benefit Payments and Contributions</b>				
<b>FY Ending June 30</b>	<b>Expected Benefit Payments</b>	<b>Expected State Contributions</b>	<b>Expected Member Contributions</b>	<b>Total Expected Contribution</b>
2013	\$ 655,186,000	\$ 288,184,000	\$ 132,321,000	\$ 420,505,000
2014	683,744,000	298,270,000	136,952,000	435,222,000
2015	712,593,000	308,710,000	141,745,000	450,455,000
2016	751,559,000	319,515,000	146,706,000	466,221,000
2017	789,462,000	330,698,000	151,841,000	482,539,000
2018	827,066,000	342,272,000	157,155,000	499,427,000
2019	863,333,000	354,252,000	162,656,000	516,908,000
2020	898,366,000	366,650,000	168,349,000	534,999,000
2021	931,962,000	378,483,000	174,241,000	553,724,000
2022	963,855,000	392,765,000	180,339,000	573,104,000

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 16.77% of payroll. We have assumed that payroll will increase by 3.50% per year in the projection period and that the contribution rate will remain constant.

The projection of member contributions is similarly based on a 3.50% per year increase in covered payroll multiplied by the average aggregate member contribution rate of 7.70%.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION III  
LIABILITIES**

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

- **Disclosure** of liabilities at June 30, 2011 and June 30, 2012;
- 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.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION III  
LIABILITIES**

<b>Table III-1 Disclosure of Liabilities</b>		
	<b>June 30, 2011</b>	<b>June 30, 2012</b>
<b>Present Value of Future Benefits (PVB)</b>		
Active Participant Benefits	\$ 6,018,900,898	\$ 6,142,608,139
Retiree Benefits	5,968,859,934	6,208,801,279
Terminated Vested and Inactive Members	<u>484,524,796</u>	<u>448,058,912</u>
<b>Total PVB</b>	<b>\$ 12,472,285,628</b>	<b>\$ 12,799,468,330</b>
Market Value of Assets (MVA)	\$ 8,677,947,874	\$ 8,453,862,754
Future Employee Contributions	861,613,785	890,728,877
Future State Contributions Assuming No Further Gains or Losses or New Hires	2,873,786,722	3,097,214,407
Projected (Surplus)/Shortfall	<u>58,937,247</u>	<u>357,662,292</u>
<b>Total Resources</b>	<b>\$ 12,472,285,628</b>	<b>\$ 12,799,468,330</b>
<b>Actuarial Liability</b>		
Present Value of Future Benefits (PVB)	\$ 12,472,285,628	\$ 12,799,468,330
Present Value of Future Normal Costs (PVFNC)		
Employer Portion	329,006,657	355,443,172
Employee Portion	<u>861,613,785</u>	<u>890,728,877</u>
<b>Actuarial Liability (AL = PVB – PVFNC)</b>	<b>\$ 11,281,665,186</b>	<b>\$ 11,553,306,281</b>
Actuarial Value of Assets (AVA)	8,736,885,121	8,880,730,120
<b>Net (Surplus)/Unfunded (AL – AVA)</b>	<b>\$ 2,544,780,065</b>	<b>\$ 2,672,576,161</b>
<b>Present Value of Accrued Benefits</b>		
Present Value of Future Benefits (PVB)	\$ 12,472,285,628	\$ 12,799,468,330
Present Value of Future Benefit Accruals (PVFBA)	<u>2,138,187,534</u>	<u>2,260,443,055</u>
<b>Accrued Liability (PVAB = PVB – PVFBA)</b>	<b>\$ 10,334,098,094</b>	<b>\$ 10,539,025,275</b>
Market Value of Assets (MVA)	8,677,947,874	8,453,862,754
<b>Net (Surplus)/Unfunded (PVAB – MVA)</b>	<b>\$ 1,656,150,220</b>	<b>\$ 2,085,162,521</b>

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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 changing 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.

	<b>Table III-2 Present Value of Future Benefits</b>	<b>Actuarial Liability</b>	<b>Present Value of Accrued Benefits</b>
Liabilities 6/30/2011	\$ 12,472,285,628	\$ 11,281,665,186	\$ 10,334,098,094
Liabilities 6/30/2012	<u>12,799,468,330</u>	<u>11,553,306,281</u>	<u>10,539,025,275</u>
Liability Increase (Decrease)	\$ 327,182,702	\$ 271,641,095	\$ 204,927,181
Change Due to:			
Program/Plan Amendment	\$ --	\$ --	\$ --
Method Change	--	(15,629,192)	--
Actuarial (Gain)/Loss	N/C	(57,603,161)	N/C
Benefits Accumulated and Other	\$ 327,182,702	\$ 344,873,448	\$ 204,927,181
Sources			

N/C = Not calculated

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION III  
LIABILITIES**

<b>Table III-3</b>				
<b>Allocation of Actuarial Liability as of June 30, 2012</b>				
	<b>Total Program</b>	<b>Teachers</b>	<b>State Regular</b>	<b>Special Plans</b>
1. Actuarial Liabilities for:				
a. Active Members	\$ 4,896,446,090	\$3,449,522,415	\$ 1,202,539,393	\$ 244,384,282
b. Retired, Disabled and Beneficiary Members	6,208,801,279	3,771,255,603	2,063,854,273	373,691,403
c. Vested Deferred and Inactive Status Members	<u>448,058,912</u>	<u>334,393,725</u>	<u>113,665,187</u>	<u>0</u>
2. Total Actuarial Liability (1(a) + 1(b) + 1(c))	\$ 11,553,306,281	\$7,555,171,743	\$ 3,380,058,853	\$ 618,075,685
3. Actuarial Value of Assets	<u>8,880,730,120</u>	<u>5,865,478,176</u>	<u>2,569,122,137</u>	<u>446,129,807</u>
4. Unfunded Actuarial Liability (2 – 3)	\$ 2,672,576,161	\$1,689,693,567	\$ 810,936,716	\$ 171,945,878

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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 each active member’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 16 years from June 30, 2012. Net losses that arise are amortized over a fixed 10 year period from the date they are first measured.

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

<b>Table IV-1</b>		
<b>Composite State Rate</b>		
	<b>June 30, 2011</b>	<b>June 30, 2012</b>
Normal Cost Rate	2.93%	3.67%
UAL Rate	<u>12.58%</u>	<u>13.10%</u>
Total State Rate	15.51%*	16.77%

\* 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 the 2011 valuation report was \$5.9 million. Had that surplus not been allocated to the MainePERS the composite State rate would have been 15.54% 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.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION IV  
CONTRIBUTIONS**

<b>Table IV-2 State Employer Contribution Rates</b>			
<b>Valuation Date June 30, 2012</b>	<b>Normal Cost Contributions*</b>	<b>Unfunded Actuarial Liability Contributions*</b>	<b>Total Contributions*</b>
Total State	3.67%	13.10%	16.77%
Teacher	2.97	12.55	15.52
State Regular	4.86	13.83	18.69
State Police (Closed)	11.83	22.64	34.47
Marine Resources (Closed)	12.14	22.98	35.12
Inland Fish & Wildlife (Closed)	12.28	23.13	35.41
Prison Employees (Closed)	5.21	15.32	20.53
Forest Rangers (Closed)	2.40	12.21	14.61
25 & Out Plan	4.37	14.39	18.76
1998 Special Plan	6.57	16.82	23.39

\*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.

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**SECTION IV  
CONTRIBUTIONS**

<b>Table IV-3 Derivation of Unfunded Actuarial Liability Rates</b>									
<b>Valuation Date June 30, 2012</b>	<b>Teachers</b>	<b>State Regular</b>	<b>State Police (Closed)</b>	<b>Marine Resources (Closed)</b>	<b>Inland F&amp;W (Closed)</b>	<b>Prison Employees (Closed)</b>	<b>Forest Rangers (Closed)</b>	<b>25 &amp; Out Plan</b>	<b>1998 Special Plan</b>
1. Actuarial Liability	\$ 7,555,171,743	\$ 3,380,058,853	\$ 145,008,913	\$ 16,093,597	\$ 50,831,772	\$ 46,983,086	\$ 23,145,917	\$ 103,106,507	\$ 232,905,893
2. Actuarial Value of Assets	\$ 5,865,478,176	\$ 2,569,122,137	\$ 143,928,613	\$ 15,919,689	\$ 50,185,228	\$ 46,542,609	\$ 22,629,541	\$ 53,108,863	\$ 113,815,265
3. Unfunded Actuarial Liability (1) – (2)	\$ 1,689,693,567	\$ 810,936,716	\$ 1,080,300	\$ 173,908	\$ 646,544	\$ 440,477	\$ 516,376	\$ 49,997,644	\$ 119,090,628
4. UAL to amortize over 10 years	\$ 31,457,567	\$ 23,122,840	\$ 30,803	\$ 4,959	\$ 18,435	\$ 12,560	\$ 14,724	\$ 1,425,621	\$ 3,395,719
5. UAL to amortize over 16 years	\$ 1,658,236,000	\$ 787,813,876	\$ 1,049,497	\$ 168,949	\$ 628,109	\$ 427,917	\$ 501,652	\$ 48,572,024	\$ 115,694,909
6. 10 year Amortization Factor	11.9901	11.9901	11.9901	11.9901	11.9901	11.9901	11.9901	11.9901	11.9901
7. 16 year Amortization Factor	8.2701	8.2701	8.2701	8.2701	8.2701	8.2701	8.2701	8.2701	8.2701
8. Estimated Payroll	\$ 1,132,474,064	\$ 496,671,281	\$ 398,024	\$ 63,119	\$ 233,090	\$ 239,803	\$ 352,613	\$ 28,975,651	\$ 59,041,527
9. Unfunded Actuarial Liability Rate [(4) / (6) + (5) / (7)] / 8	12.55%	13.83%	22.64%	22.98%	23.13%	15.32%	12.21%	14.39%	16.82%

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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 7.25% 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, 2011 and June 30, 2012 are exhibited in Table V-1. Table V-2 reconciles the FASB ASC Topic 960 liabilities determined as of the prior valuation, June 30, 2011 to the liabilities as of June 30, 2012.

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. 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.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

<b>Table V-1</b>		
<b>Accounting Statement Information</b>		
	<b>June 30, 2011</b>	<b>June 30, 2012</b>
<b>A. FASB ASC Topic 960 Basis</b>		
1. Present Value of Benefits Accrued to Date		
a. Members Currently Receiving Payments	\$ 5,968,859,934	\$ 6,208,801,279
b. Vested Terminated	484,524,796	448,058,912
c. Active Members	<u>3,880,713,364</u>	<u>3,882,165,084</u>
d. Total PVAB	\$ 10,334,098,094	\$ 10,539,025,275
2. Assets at Market Value	<u>8,677,947,874</u>	<u>8,453,862,754</u>
3. Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	\$ 1,656,150,220	\$ 2,085,162,521
4. Ratio of Assets to Value of Benefits (2) / (1)(d)	83.97%	80.21%
<b>B. GASB No. 25 Basis</b>		
1. Actuarial Liabilities		
a. Members Currently Receiving Payments	\$ 5,968,859,934	\$ 6,208,801,279
b. Vested Deferred and Inactive Status Members	484,524,796	448,058,912
c. Active Members	<u>4,828,280,456</u>	<u>4,896,446,090</u>
d. Total	\$ 11,281,665,186	\$ 11,553,306,281
2. Actuarial Value of Assets	<u>8,736,885,121</u>	<u>8,880,730,120</u>
3. Unfunded Actuarial Liability	\$ 2,544,780,065	\$ 2,672,576,161
4. Ratio of Actuarial Value of Assets to Actuarial Liability (2) / (1)(d)	77.44%	76.87%

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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, 2011	\$ 10,334,098,094
Increase (Decrease) During Years Attributable to:	
Passage of Time	726,263,161
Benefits Paid – FY 2012	(633,350,369)
Assumption Change	0
Plan Changes	0
Benefits Accrued, Other Gains/Losses	112,014,389
Net Increase (Decrease)	\$ 204,927,181
Actuarial Present Value of Accrued Benefits as of June 30, 2012	\$ 10,539,025,275

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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, 2012
Actuarial cost method	Entry age
Amortization method	Level percent closed
Remaining amortization period	16 years
Asset valuation method	3-Year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.25%
Projected salary increases*	3.50%
*Includes inflation at	3.50%
Cost-of-living adjustments	2.55%

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 2011.

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 each individual 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.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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**

	<i>Gain (or Loss) for Year ended June 30, 2007</i>	<i>Gain (or Loss) for Year ended June 30, 2008</i>	<i>Gain (or Loss) for Year ended June 30, 2009</i>	<i>Gain (or Loss) for Year ended June 30, 2010</i>	<i>Gain (or Loss) for Year ended June 30, 2011</i>	<i>Gain (or Loss) for Year ended June 30, 2012</i>
<b>Type of Activity</b>						
Investment Income	\$209,910,525	\$(160,831,089)	\$(843,411,410)	\$(534,019,417)	\$ (29,110,015)	\$ (220,050,211)
Combined Liability Experience	<u>(39,346,019)</u>	<u>68,570,730</u>	<u>(91,293,558)</u>	<u>248,398,931</u>	<u>(91,222,335)</u>	<u>57,603,161</u>
Gain (or Loss) During Year from Financial Experience	\$170,564,505	\$ (92,260,359)	\$(934,704,968)	\$(285,620,486)	\$(285,620,486)	\$ (162,447,050)
Non-Recurring Items	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,822,058,877</u>	<u>15,629,192</u>
Composite Gain (or Loss) During Year	<b>\$170,564,505</b>	<b>\$ (92,260,359)</b>	<b>\$ (934,704,968)</b>	<b>\$ (285,620,486)</b>	<b>\$ (285,620,486)</b>	<b>\$ (146,817,858)</b>

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**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)
2012	\$ 2,271,164,594	\$ 6,656,860,191	\$ 2,625,281,496	\$ 8,880,730,120	100%	99%	0%
2011	2,229,984,968	6,453,384,730	2,598,295,489	8,736,885,121	100%	100%	2%
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%

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Active Member Data as of June 30, 2012</b>	
<b><u>Teachers</u></b>	
Count	26,417
Average Current Age	46.5
Average Service	15.3
Average Valuation Pay	\$ 42,869
<b><u>State Employee Regular Plan</u></b>	
Count	11,228
Average Current Age	48.4
Average Service	13.4
Average Valuation Pay	\$ 44,235
<b><u>Forest Rangers Special Plan (Closed Plan)</u></b>	
Count	6
Average Current Age	54.4
Average Service	33.2
Average Valuation Pay	\$ 58,769
<b><u>Inland Fisheries &amp; Wildlife Officers Special Plan (Closed Plan)</u></b>	
Count	4
Average Current Age	57.5
Average Service	33.3
Average Valuation Pay	\$ 58,273
<b><u>Prison Employees Special Plan (Closed Plan)</u></b>	
Count	4
Average Current Age	53.4
Average Service	29.7
Average Valuation Pay	\$ 59,951

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Active Member Data as of June 30, 2012</b>	
<b><u>State Police Special Plan (Closed Plan)</u></b>	
Count	5
Average Current Age	55.7
Average Service	30.9
Average Valuation Pay	\$ 79,605
<b><u>Marine Resource Officers Special Plan (Closed Plan)</u></b>	
Count	1
Average Current Age	55.7
Average Service	33.2
Average Valuation Pay	\$ 63,119
<b><u>State Employee Special 25 &amp; Out Plan</u></b>	
Count	451
Average Current Age	40.5
Average Service	13.9
Average Valuation Pay	\$ 64,248
<b><u>State Employee 1998 Special Plan</u></b>	
Count	1,244
Average Current Age	45.2
Average Service	12.7
Average Valuation Pay	\$ 47,461
<b><u>State Employee Totals (Excludes Teachers)</u></b>	
Count	12,943
Average Current Age	47.8
Average Service	13.3
Average Valuation Pay	\$ 45,274

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Non-Active Member Data as of June 30, 2012</b>			
<b>Teachers</b>			
	<b>Count</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>
Retired	12,961	\$ 315,686,071	\$ 24,357
Retired – Concurrent Beneficiaries	1,432	8,038,503	5,613
Disabilities / 1122	1	23,985	23,985
Disabilities / 3 and 3A	726	19,850,790	27,343
Beneficiaries	1,235	19,021,020	15,402
Pre-Retirement Death Benefits	264	1,497,405	5,672
Terminated Vested	4,556	35,773,762	7,852

<b>Non-Active Member Data as of June 30, 2012</b>			
<b>State Regular</b>			
	<b>Count</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>
Retired	8,228	\$ 163,974,511	\$ 19,929
Retired – Concurrent Beneficiaries	1,082	5,433,738	5,022
Disabilities / 1122	3	47,708	15,903
Disabilities / 3 and 3A	936	20,605,166	22,014
Beneficiaries	1,811	22,642,359	12,503
Pre-Retirement Death Benefits	364	2,037,163	5,597
Terminated Vested	1,735	14,580,985	8,404

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Non-Active Member Data as of June 30, 2012</b>			
<b>Special Plans</b>			
	<b>Count</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>
Retired	956	\$ 28,815,195	\$ 30,141
Retired – Concurrent Beneficiaries	168	982,762	5,850
Disabilities / 1122	2	38,434	19,217
Disabilities / 3 and 3A	86	2,272,572	26,425
Beneficiaries	220	3,285,571	14,934
Pre-Retirement Death Benefits	10	50,970	5,097
Terminated Vested	0	0	0

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

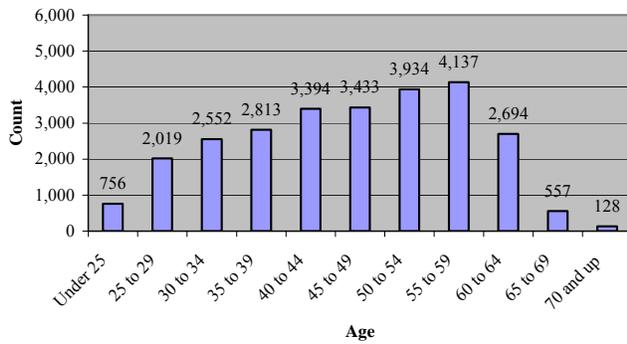
**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Active Members  
As of June 30, 2012**

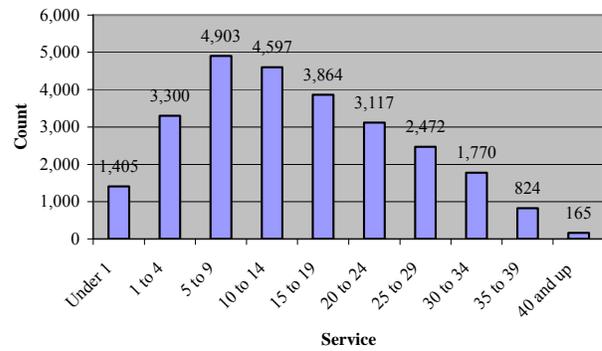
**Teachers**

	Years of Service											Totals
	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		
Under 25	356	365	35	0	0	0	0	0	0	0	0	756
25 to 29	290	819	856	54	0	0	0	0	0	0	0	2,019
30 to 34	156	443	1,064	849	40	0	0	0	0	0	0	2,552
35 to 39	155	400	596	899	739	24	0	0	0	0	0	2,813
40 to 44	152	396	630	619	1,014	569	14	0	0	0	0	3,394
45 to 49	97	315	597	618	506	759	532	9	0	0	0	3,433
50 to 54	82	233	476	696	558	533	879	474	3	0	0	3,934
55 to 59	51	172	351	478	590	643	542	924	383	3	0	4,137
60 to 64	45	102	198	298	347	500	408	291	399	106	0	2,694
65 to 69	15	36	81	66	60	74	83	60	37	45	0	557
70 and up	6	19	19	20	10	15	14	12	2	11	0	128
<b>Total</b>	<b>1,405</b>	<b>3,300</b>	<b>4,903</b>	<b>4,597</b>	<b>3,864</b>	<b>3,117</b>	<b>2,472</b>	<b>1,770</b>	<b>824</b>	<b>165</b>		<b>26,417</b>

**Age Distribution**



**Service Distribution**



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

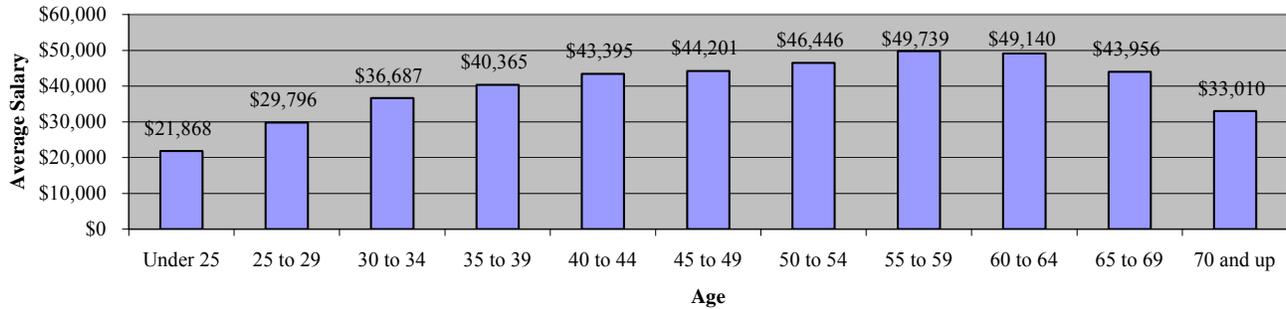
**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Active Members  
As of June 30, 2012**

**Teachers**

	Average Salary Years of Service										Average
	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	
Under 25	\$ 18,674	\$ 24,806	\$ 23,719	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 21,868
25 to 29	22,740	29,190	32,450	34,794	0	0	0	0	0	0	29,796
30 to 34	26,340	31,592	37,057	40,519	42,274	0	0	0	0	0	36,687
35 to 39	23,840	30,939	36,794	43,999	47,191	46,518	0	0	0	0	40,365
40 to 44	25,522	30,858	36,645	43,776	49,706	52,493	52,058	0	0	0	43,395
45 to 49	20,995	30,723	33,410	39,902	46,489	55,123	55,655	50,060	0	0	44,201
50 to 54	24,360	29,540	32,792	38,693	45,648	53,511	56,234	58,465	53,960	0	46,446
55 to 59	23,846	32,291	36,260	38,806	43,791	50,835	55,552	60,314	60,473	66,542	49,739
60 to 64	24,260	34,509	36,916	39,998	44,830	49,780	53,089	55,805	60,258	58,065	49,140
65 to 69	19,503	22,956	29,492	34,161	61,486	44,854	47,290	52,257	53,226	59,618	43,956
70 and up	13,242	19,937	25,823	30,071	24,019	40,711	36,930	46,215	40,494	61,050	33,010
Average	\$ 22,520	\$ 29,815	\$ 34,983	\$ 40,863	\$ 46,916	\$ 52,246	\$ 55,008	\$ 58,657	\$ 59,971	\$ 58,842	\$ 42,869

**Average Salary Distribution**



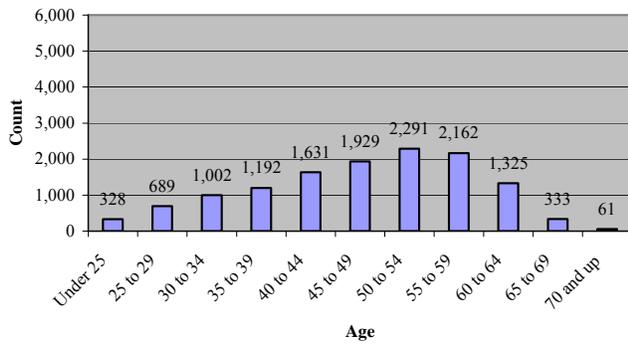
**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX A  
MEMBERSHIP INFORMATION**

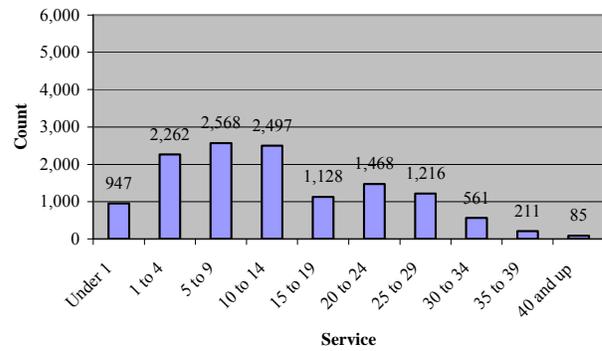
**Distribution of Active Members  
As of June 30, 2012**

	State										Totals
	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	
Under 25	163	162	3	0	0	0	0	0	0	0	328
25 to 29	156	322	200	11	0	0	0	0	0	0	689
30 to 34	119	308	407	162	6	0	0	0	0	0	1,002
35 to 39	95	256	334	417	83	7	0	0	0	0	1,192
40 to 44	91	284	355	422	257	190	32	0	0	0	1,631
45 to 49	97	269	329	399	188	367	260	20	0	0	1,929
50 to 54	101	279	362	394	209	367	372	185	22	0	2,291
55 to 59	84	208	292	404	213	299	309	229	113	11	2,162
60 to 64	32	135	224	206	134	184	203	92	63	52	1,325
65 to 69	6	37	56	65	32	46	33	28	11	19	333
70 and up	3	2	6	17	6	8	7	7	2	3	61
<b>Total</b>	<b>947</b>	<b>2,262</b>	<b>2,568</b>	<b>2,497</b>	<b>1,128</b>	<b>1,468</b>	<b>1,216</b>	<b>561</b>	<b>211</b>	<b>85</b>	<b>12,943</b>

**Age Distribution**



**Service Distribution**



**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Active Members  
As of June 30, 2012**

	State										
	Average Salary										Average
	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	
Under 25	\$ 25,573	\$ 26,721	\$ 24,523	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 26,130
25 to 29	32,436	35,410	36,470	35,763	0	0	0	0	0	0	35,050
30 to 34	32,630	37,097	42,198	43,840	42,788	0	0	0	0	0	39,763
35 to 39	33,190	36,076	43,286	49,003	52,454	51,869	0	0	0	0	43,622
40 to 44	34,952	37,945	43,623	47,576	54,198	51,229	50,538	0	0	0	45,861
45 to 49	35,632	37,013	42,033	47,776	52,291	52,957	51,094	50,527	0	0	46,586
50 to 54	36,599	37,057	43,196	46,002	53,519	52,689	52,989	51,818	52,185	0	47,475
55 to 59	34,462	40,939	43,293	46,178	50,886	52,681	51,613	57,324	50,753	47,516	48,396
60 to 64	38,885	40,990	43,478	46,184	51,420	50,942	54,887	57,120	50,676	50,596	48,691
65 to 69	30,042	41,282	41,915	46,363	51,738	51,545	53,069	56,903	56,715	61,823	48,764
70 and up	33,668	21,694	37,594	43,046	37,453	39,822	47,100	59,504	44,658	39,775	42,621
Average	\$ 32,754	\$ 36,730	\$ 42,409	\$ 46,900	\$ 52,451	\$ 52,237	\$ 52,455	\$ 55,239	\$ 51,132	\$ 52,325	\$ 45,274

**Average Salary Distribution**



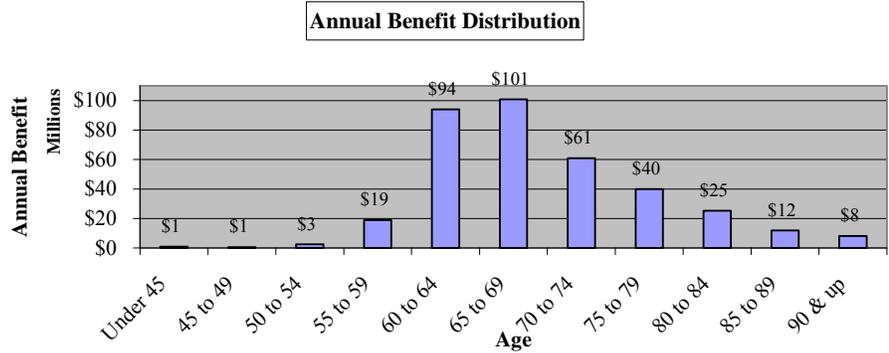
**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Distribution of Retirees, Disabled  
Members, Beneficiaries, and Survivors  
As of June 30, 2012**

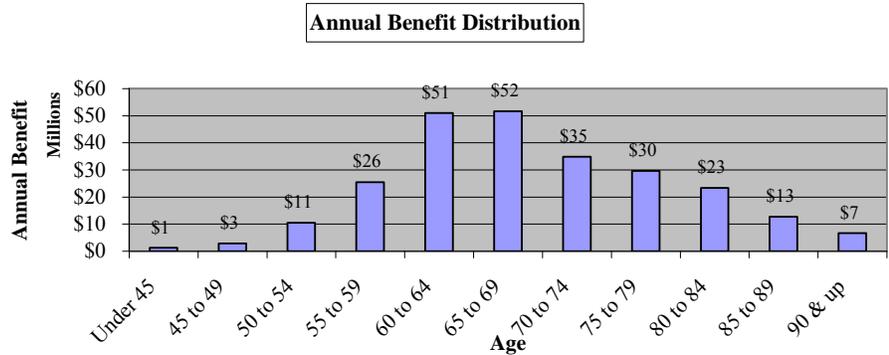
**Teachers**

Age	Count	Annual Benefit
Under 45	142	\$ 899,471
45 to 49	57	692,445
50 to 54	133	2,533,962
55 to 59	767	18,929,647
60 to 64	3,595	94,024,691
65 to 69	4,334	100,705,352
70 to 74	2,822	60,982,502
75 to 79	2,014	40,043,991
80 to 84	1,425	25,274,311
85 to 89	782	11,884,048
90 & up	548	8,147,354
<b>Total</b>	<b>16,619</b>	<b>\$ 364,117,774</b>



**State**

Age	Count	Annual Benefit
Under 45	155	\$ 1,263,936
45 to 49	193	2,860,018
50 to 54	543	10,554,491
55 to 59	1,204	25,527,426
60 to 64	2,376	50,963,979
65 to 69	2,675	51,646,579
70 to 74	1,972	34,849,294
75 to 79	1,796	29,652,219
80 to 84	1,517	23,398,417
85 to 89	906	12,725,064
90 & up	529	6,744,727
<b>Total</b>	<b>13,866</b>	<b>\$ 250,186,149</b>



MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX B**  
**SUMMARY OF PROGRAM AND PLAN PROVISIONS**

**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.

**Contribution Requirements for Special State Employee Groups**

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. Earnable compensation does not include sick and vacation pay for those members who had

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX B**  
**SUMMARY OF PROGRAM AND PLAN PROVISIONS**

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.

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

Normal Retirement Age: 62

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX B  
SUMMARY OF PROGRAM AND PLAN PROVISIONS

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.

*iii. Provisions for Members With Less Than Five Years of Creditable Service on July 1, 2011*

Normal Retirement Age: 65

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 65.

Form of Payment: Life annuity.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX B  
SUMMARY OF PROGRAM AND PLAN PROVISIONS

***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.

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.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX B  
SUMMARY OF PROGRAM AND PLAN PROVISIONS

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.

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.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX B**  
**SUMMARY OF PROGRAM AND PLAN PROVISIONS**

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.

Benefit: 66 $\frac{2}{3}$ % 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 66 $\frac{2}{3}$ % 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.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX B**  
**SUMMARY OF PROGRAM AND PLAN PROVISIONS**

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

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX B**  
**SUMMARY OF PROGRAM AND PLAN PROVISIONS**

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 that portion of the benefit which is not in-excess of \$20,000 (indexed) for all benefits which have been in payment for twelve months. The maximum annual increase is 3%. 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.

No cost-of-living adjustments will be made until September 2014.

**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\*.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX B  
SUMMARY OF PROGRAM AND PLAN PROVISIONS

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.

**13. Changes Since Prior Valuation:**

None

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**APPENDIX C**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Actuarial Assumptions**

**1. Rate of Investment Return:**

State Employees	7.25%
Teachers	7.25%

Rate is net of both administrative and investment expense.

**2. Cost-of-Living Increases in Benefits:**

State Employees	2.55%
Teachers	2.55%

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

Service	State Employees	Teachers
0	10.50%	13.50%
5	6.00	6.25
10	4.50	5.00
15	3.95	4.50
20	3.70	3.70
25 and over	3.50	3.50

The above rates include a 3.50% 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	12.00
10	4.40	6.90
15	4.00	5.50
20	4.00	5.50
25	4.00	5.50

Non-vested members are assumed to take a refund of contributions with interest. Once vested, the member is assumed to elect the greater of the deferred vested benefit or a refund.

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX C  
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)\*:**

Age	State Employees		Teachers	
	Male	Female	Male	Female
50	16	13	14	11
55	27	24	22	20
60	53	47	41	36
65	103	90	81	71
70	177	155	142	125
75	306	249	246	204
80	554	413	448	338
85	997	708	807	571
90	1,727	1,259	1,418	1,026
95	2,596	1,888	2,267	1,654

\* 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 RP 2000 Mortality Table for Males and Females projected forward for 2015 using Scale AA. Rates for Teachers are based on the same projected table but with a 2 year set back.

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

Age	State Employees		Teachers	
	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.

**MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX C  
ACTUARIAL ASSUMPTIONS AND METHODS**

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

Age	State Employees			Teachers		
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
45	3	NA	NA	13	NA	NA
50	19	NA	NA	29	NA	NA
55	19	NA	NA	79	NA	NA
59	58	75	75	150	225	225
60	300	100	100	225	225	225
61	300	100	100	230	225	225
62	270	250	125	250	300	225
63	270	250	125	260	300	225
64	250	250	125	270	300	225
65	250	250	250	300	300	300
70	1,000	1,000	1,000	1,000	1,000	1,000

\* 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 ten years of service by July 1, 1993. Tier 2 are those who had not or were hired after that date but had 5 years of service by July 1, 2011. Tier 3 are those who did not have five years of service by July 1, 2011.

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

Age	State	
	Employees	Teachers
25	6.8	3.5
30	7.6	3.8
35	10.2	3.8
40	19.0	5.1
45	27.9	11.6
50	42.7	18.2
55	53.0	24.8
60	63.0	31.3

\* 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.

**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

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX C  
ACTUARIAL ASSUMPTIONS AND METHODS

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 retirement benefits are increased by 0.48% for state (regular) employees and 0.75% 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 2011 and covering the period July 1, 2005 through June 30, 2010.

**12. Changes Since Last Valuation**

The State retirement assumption was lowered before NRA to reflect the closing of the retirement window for early retiree health coverage.

MAINE PUBLIC EMPLOYEES RETIREMENT SYSTEM STATE EMPLOYEE  
AND TEACHER RETIREMENT PROGRAM  
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX C  
ACTUARIAL ASSUMPTIONS AND METHODS

**B. Actuarial Methods**

**1. Funding Method:**

The Individual 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 each active member. 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 3.50% per year. The UAL measured as of June 30, 2012 is amortized over a 16 year period. Net losses to the System are amortized over a 10 year period from the date when they are first measured.

**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.

**3. Changes Since Last Valuation:**

Effective with this 2012 valuation, moved from the new entrant version of the Entry Age Normal method to the Individual version.