

**MARYLAND STATE RETIREMENT AND PENSION SYSTEM**  
ACTUARIAL VALUATION REPORT  
AS OF JUNE 30, 2013



# OUTLINE OF CONTENTS

<b>Section</b>	<b>Page</b>
<b>Letter of Transmittal</b>	
<b>I. Board Summary</b>	<b>1-8</b>
<b>II. Valuation Results</b>	<b>1-13</b>
<b>III. Assets</b>	<b>1-10</b>
<b>IV. Accounting Statement Information</b>	<b>1-14</b>

## APPENDICES

<b>A. Actuarial Assumptions and Methods</b>	<b>A-1 – A-20</b>
<b>B. Membership Information</b>	<b>B-1 – B-14</b>
<b>C. Summary of Plan Provisions</b>	<b>C-1 – C-38</b>

October 28, 2013

Board of Trustees  
Maryland State Retirement and Pension System  
120 East Baltimore Street  
Baltimore, MD 21202

Dear Members of the Board:

The results of the ***June 30, 2013 annual actuarial valuation*** of the Maryland State Retirement and Pension System (“MSRPS”) are presented in this report.

This report was prepared at your request and is intended for use by the Maryland State Retirement Agency (SRA) and the Board of Trustees of the MSRPS and those designated or approved by the SRA or the Board. This report may be provided to other parties only in its entirety and only with the permission of the SRA or the Board.

The purposes of the valuation are as follows:

- Measure the financial position of MSRPS,
- Assist the Board in determining employer contribution rates (including reinvested savings) necessary to fund the benefits provided by MSRPS, as well as establishing statutory employer contribution rates,
- Indicate trends in the financial progress of the fund,
- Provide actuarial reporting and disclosure information for the System’s financial report, and
- Analyze the experience of the System over the past year.

The individual member data required for the valuations was furnished by the Maryland State Retirement Agency (“MSRA”), together with pertinent data on financial operations (unaudited). The cooperation and collaboration of MSRA staff in furnishing these materials is acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by MSRA.

Actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rates of investment return and payroll growth, eligibility for the various classes of benefits, and longevity among retired lives. The Board adopts these assumptions after considering the advice of the actuary and other professionals. The assumptions and the methods comply with the requirements of Statement No. 25 of the Governmental Accounting Standards Board (“GASB”). The budgeted contribution rates for Teachers’ Combined System and Employees’ Combined System are not equal to the GASB No. 25 Annual Required Contribution, due to the statutorily required corridor funding method for TCS and ECS. Additional calculations are performed for these Systems to develop GASB Annual Required Contribution rates that meet the State of Maryland’s reporting requirements.

Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed. GRS performed an experience study of MSRPS for the period 2006-2010 after completion of the June 30, 2010 valuations. Certain assumptions from the experience study including mortality rates, retirement rates, withdrawal rates, and rates of salary increase were adopted by the Board for first use in the actuarial valuation as of June 30, 2012. The Board adopted new economic assumptions for the June 30, 2013 valuation, in particular, an investment return assumption of 7.70% and an inflation assumption of 2.95%. The ultimate assumptions of a 7.55% investment return and 2.80% inflation assumption are being phased in over a four-year period, but do not impact results shown in this report. The COLA, salary increase and payroll growth assumptions have also changed as a result of the change in the inflation assumption.

The new funding methodology set forth by legislation is reflected in this valuation. The legislation requires amortizing unfunded liabilities over a single 25-year closed period and the phase-out of the corridor funding method over a 10-year period.

The benefit provisions valued in the actuarial valuation as of June 30, 2013, are the same as the provisions from the last actuarial valuation as of June 30, 2012.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The actuary did not perform an analysis of the potential range of such future measurements in this actuarial valuation report.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. We certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with Maryland's Annotated Code and generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice as promulgated by the Actuarial Standards Board. The actuarial assumptions used for the valuation produce results which, individually and in the aggregate, are reasonable.

This report should not be relied on for any purpose other than the purposes previously described.

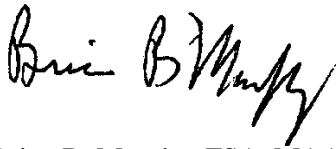
The signing actuaries are independent of the plan sponsor.

Board of Trustees  
Maryland State Retirement and Pension System  
October 28, 2013  
Page 3

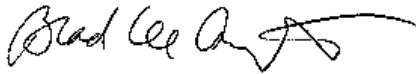
This is one of multiple documents comprising the actuarial report. The other documents comprising the actuarial report are the PowerPoint presentation presented to the Board on September 17, 2013, and subsequent PowerPoint presentations to be presented at the October Board meeting.

Brian B. Murphy, Brad L. Armstrong and Amy Williams are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

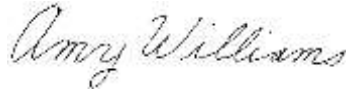
Respectfully submitted,



Brian B. Murphy, FSA, MAAA



Brad L. Armstrong, ASA, MAAA



Amy Williams, ASA, MAAA

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**SECTION I**  
BOARD SUMMARY

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## INTRODUCTION

This report presents the results of the June 30, 2013 annual actuarial valuation of the Maryland State Retirement and Pension System (MSRPS). The purposes of the annual valuations are as follows:

- Measure the financial position of MSRPS,
- Assist the Board in determining employer contribution rates (including reinvested savings) necessary to fund the benefits provided by MSRPS, as well as establishing statutory employer contribution rates,
- Indicate trends in the financial progress of the fund,
- Provide actuarial reporting and disclosure information for the System's financial report, and
- Analyze the experience of the System over the past year.

A summary of the primary valuation results as of June 30, 2013 is presented on the following page.

**SUMMARY OF VALUATION RESULTS**  
**JUNE 30, 2013**  
**(\$ IN MILLIONS)**  
**(STATE AND MUNICIPAL)**

	2013						2012		% Change
	TCS	ECS	State Police	Judges	LEOPS	CORS <sup>1</sup>	Total	Total	
<b>A. Demographic Information</b>									
1. Active Number Counts	104,028	84,677	1,320	288	2,407	90	192,810	192,994	-0.1%
2. Active Payroll	\$ 6,185	\$ 4,030	\$ 80	\$ 40	\$ 138	\$ 5	\$ 10,478	\$ 10,337	1.4%
3. Retired Number Counts	66,390	67,193	2,428	378	1,518	18	137,925	132,493	4.1%
4. Annual Benefits for Retired Members <sup>2</sup>	\$ 1,759	\$ 1,043	\$ 110	\$ 27	\$ 50	\$ 1	\$ 2,989	\$ 2,812	6.3%
5. Deferred / Inactive Number Counts	23,555	27,651	84	10	251	1	51,552	51,230	0.6%
6. Total Number Counts	193,973	179,521	3,832	676	4,176	109	382,287	376,717	1.5%
<b>B. Assets</b>									
1. Market Value (MV)	\$ 24,470	\$ 13,670	\$ 1,189	\$ 362	\$ 656	\$ 17	\$ 40,363	\$ 37,179	8.6%
2. Rate of Return on MV <sup>3</sup>							10.44 %	0.28 %	
3. Funding Value (FV)	\$ 23,846	\$ 13,327	\$ 1,164	\$ 355	\$ 643	\$ 17	\$ 39,351	\$ 37,248	5.6%
4. Rate of Return on FV							7.49 %	4.42 %	
5. Ratio of FV to MV							97.5%	100.2%	
<b>C. Actuarial Results</b>									
1. Normal Cost as a % of Payroll	12.62%	11.12%	33.28%	36.18%	21.89%	14.60%	12.42%	12.58%	
2. Actuarial Accrued Liability (AAL)									
a. Active	\$ 14,626	\$ 8,539	\$ 339	\$ 152	\$ 393	\$ 9	\$ 24,058	\$ 23,661	1.7%
b. Retired	20,216	11,728	1,532	284	728	9	34,498	32,779	5.2%
c. Deferred/Inactive	688	780	11	2	22	0	1,504	1,429	5.2%
d. Total	\$ 35,530	\$ 21,047	\$ 1,883	\$ 439	\$ 1,143	\$ 18	\$ 60,060	\$ 57,869	3.8%
3. Unfunded AAL (UAAL)	\$ 11,685	\$ 7,720	\$ 718	\$ 84	\$ 500	\$ 1	\$ 20,709	\$ 20,621	0.4%
4. Funded Ratio	67.11 %	63.32 %	61.84 %	80.87 %	56.22 %	92.10 %	65.52 %	64.37 %	
<b>D. Contribution Rates<sup>4</sup></b>									
	<b>STATE PORTION ONLY</b>								
	<b>FY 2015</b>						<b>FY 2014</b>		
1. Pension Contributions									
a. Employer Normal Cost	5.64%	4.77%	25.28%	29.93%	15.25%		5.72%	5.89%	
b. Member Contribution Rate	6.98%	6.72%	8.00%	6.25%	7.00%		6.70%	6.69%	
c. UAAL Contribution Rate	<u>11.78%</u>	<u>14.55%</u>	<u>57.78%</u>	<u>12.81%</u>	<u>26.12%</u>		<u>13.19%</u>	<u>15.53%</u>	
d. Total	24.40%	26.04%	91.06%	48.99%	48.37%		25.61%	28.11%	
2. Total Actuarial Employer Rate (1.a + 1.c)	17.42%	19.32%	83.06%	42.74%	41.37%		18.91%	21.42%	
3. Total Employer Budgeted Rate									
a. Prior Year Budgeted Rate	14.71%	14.05%							
b. 28% * (2 - 3a.)	<u>0.76%</u>	<u>1.48%</u>							
c. Employer Budgeted Rate	15.47%	15.53%	83.06%	42.74%	41.37%		16.41%	15.43%	
d. Reinvested Savings Rate	<u>3.17%</u>	<u>2.77%</u>	<u>5.00%</u>	<u>0.00%</u>	<u>5.19%</u>		<u>3.07%</u>	<u>3.11%</u>	
e. Total Employer Budgeted Rate	18.64%	18.30%	88.06%	42.74%	46.56%		19.48%	18.54%	

<sup>1</sup>Includes CORS Municipal only. State CORS included in ECS.

<sup>2</sup>Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013 and July 1, 2012, respectively.

<sup>3</sup>Actuarial calculations may differ from figures reported by State Street.

<sup>4</sup>Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes. Totals may not add due to rounding.



## ACTUARY'S COMMENTS

The System's assets earned **10.44%**<sup>1</sup> for the year ended June 30, 2013, which is more than the 7.75% assumed rate of investment return. Recognized asset losses from fiscal years 2009 and 2012 offset recognized asset gains from fiscal years 2010, 2011, and 2013 in the actuarial value of assets as of June 30, 2013. This resulted in a loss under the asset smoothing method.

### UAAL and Actuarial Gain/(Loss)

State and Municipal (\$ in Millions)

Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2012	\$	20,621
Expected UAAL as of June 30, 2013 before changes		21,144
Changes in benefit provisions:		-
Changes in methods and assumptions:		57
Expected UAAL as of June 30, 2013 after changes		21,201
Actual UAAL as of June 30, 2013		20,709
Net actuarial gain/(loss)		492
Actuarial gain/(loss) by source:		
Actuarial investment experience		(98)
Actuarial accrued liability experience		590

In relative terms, the overall System funding ratio of actuarial value of assets to liabilities increased from 64.37% in 2012, to **65.52%** this year. If market value of assets were the basis for the measurements, the plan would have increased from 64.25% to 67.20% funded. The market value of assets exceeds the retiree liabilities by about 17% in total, an increase from 13% last year. This is referred to as a short condition test and is demonstrated in the chart at the bottom of the page. It is looking at the current retiree liabilities as the benefits that will be paid the soonest since these benefits are already in pay status. Active liabilities and deferred vested liabilities do not have associated immediate cash flow requirements. Although the market value of assets exceeds the current retiree liabilities in total, this is not true for two of the smaller systems. For State Police and LEOPS, the market value of assets is less than the retiree liabilities.

Short Condition Test	(\$ in Millions)						Total
	TCS	ECS	State Police	Judges	LEOPS	CORS	
Market Value of Assets (MVA)	\$ 24,470	\$ 13,670	\$ 1,189	\$ 362	\$ 656	\$ 17	\$ 40,363
Retiree Liability	20,216	11,728	1,532	284	728	9	34,498
MVA as % of Retiree Liability	121%	117%	78%	128%	90%	191%	117%

<sup>1</sup>Actuarial calculations may differ from figures reported by State Street.

In the 2013 legislative session, the Legislature changed the method used to fund the State Systems of the MSRPS. The unfunded liability for each System is being amortized over a single closed 25-year period beginning July 1, 2014 and ending June 30, 2039. In addition, the corridor method used by the Teachers' Combined System and the State portion of the Employees' Combined System, which was established in 2001, is being phased-out over a ten-year period beginning in fiscal year 2015. Under the corridor funding method, the State appropriation is fixed at the prior fiscal year's rate, but adjusted to reflect the cost of any legislative benefit changes, as long as the actuarial funded status of these Systems remains in a corridor of 90% funded to 110% funded. Once the ratio falls outside this corridor, the appropriated or budgeted rate will be adjusted 28% in fiscal year 2015 (36% in fiscal year 2016, etc.) of the way toward the underlying actuarially calculated rate, with the exception of the cost of/or the savings from legislative benefit changes, which are fully recognized regardless of whether the Systems are within or outside of the corridor. The Teachers' Combined System (TCS) has remained out of the corridor since the June 30, 2005 valuation and the State portion of the Employees Combined System (ECS) remained out of the corridor since the June 30, 2004 valuation resulting in contribution rates for TCS and ECS that are less than actuarial rates.

In 2011, the General Assembly enacted pension reforms which were effective July 1, 2011, and affect both current actives and new hires. The member contribution rate was increased for members of the Teachers' Pension System and Employees' Pension System from 5% to 7%, and from 4% to 6% in fiscal year 2012 and 7% in fiscal year 2013 and beyond for LEOPS. In addition, the benefit attributable to service on or after July 1, 2011, is subject to different cost-of-living adjustments (COLA) that is based on the increase in the Consumer Price Index and capped at 2.5% or 1.0% based on whether the market value investment return from the preceding calendar year was higher or lower than the investment return assumption used in the valuation (currently 7.70%). There were also changes to the provisions for members hired on or after July 1, 2011. The valuation as of June 30, 2012, was the first valuation which included members covered under the Reformed Benefit Plans applicable to members hired on or after July 1, 2011.

In addition to the benefit provision changes, a portion of the savings from the pension reforms is to be reinvested in the State Systems. This amount is equal to \$300 million for fiscal years 2014 and after. The allocation of reinvested savings by System is in proportion to the savings from the pension reforms as measured in the actuarial valuation as of June 30, 2011.

On the following page is a summary by State System of the budgeted contribution rates, the actuarially determined contribution rates, and the GASB Annual Required Contribution (ARC) rates. The budgeted contribution rates use the corridor funding method for TCS and ECS.

The actuarially determined rates exclude the corridor funding method and are equal to the employer normal cost plus the unfunded actuarial accrued liability contribution rate. The unfunded actuarial contribution rate is equal to the payment resulting from amortizing the unfunded liability as a level percentage of pay over a single 25-year closed period as of June 30, 2013.

The GASB ARC rate is equal to the actuarially determined contribution rate plus the reinvested savings if the single equivalent amortization period for the unfunded liability is less than or equal to 30 years. If the single equivalent amortization period is more than 30 years, which is the maximum period under GASB 27, then the GASB ARC is equal to the employer normal cost plus 30-year open period amortization of the unfunded liability.

The budgeted rate for TCS is about 89% (91% with the addition of reinvested savings) of the actuarially determined rate and the GASB ARC rate, and the budgeted rate for ECS is about 80% (83% with the addition of reinvested savings) of the actuarially determined rate and the GASB ARC rate.

**FY2015 Contribution Rates (State Portion Only)**

	<b>TCS</b>	<b>ECS</b>	<b>State Police</b>	<b>Judges</b>	<b>LEOPS</b>	<b>Total</b>
Budgeted Contribution Rate <sup>1</sup>	15.47%	15.53%	83.06%	42.74%	41.37%	16.41%
Actuarially Determined Rate <sup>1</sup>	17.42%	19.32%	83.06%	42.74%	41.37%	18.91%
Budgeted / Actuarially Determined Rate	88.81%	80.38%	100.00%	100.00%	100.00%	86.78%
Budgeted Contribution Rate with Reinvested Savings	18.64%	18.30%	88.06%	42.74%	46.56%	19.48%
GASB Annual Required Contribution Budgeted with Reinvested Savings / GASB ARC Rate	20.59%	22.09%	88.06%	42.74%	46.56%	21.96%
	90.53%	82.84%	100.00%	100.00%	100.00%	88.72%

<sup>1</sup>Excludes reinvested savings.

The budgeted rates with reinvested savings are based on a projection of payroll. It is our understanding that the Retirement Agency will monitor contributions to ensure that the System receives the proper amount of reinvested savings during fiscal year 2015.

Beginning in fiscal year 2013, local employers contributed a portion of the statutory normal cost contribution for the Teachers Combined System. Normal cost contribution amounts for local employers for fiscal years 2013 through 2016 are defined by the statutes. Beginning in fiscal year 2017, local employers will contribute the full normal cost contribution on behalf of their employees.

Under the present circumstances, the corridor method results in contributions that are less than those determined actuarially and those needed to make sufficient progress toward funding the current unfunded liability. However, with the phasing out of the corridor method and the inclusion of reinvested savings, the return to actuarial funding is on the horizon.

The results of this valuation report disclose the actuarially determined rates which will be used for purposes of disclosing the Annual Required Contribution rate under Government Accounting Standards Board Statement (GASB) No. 25 unless the equivalent amortization period for amortizing unfunded actuarial liability is greater than 30 years. We recommend that the contribution rate be set at least equal to the GASB Annual Required Contribution. The analysis in this report will focus on the actuarially determined rate but will footnote the appropriated or budgeted rate where applicable.

## PRIOR YEAR EXPERIENCE

### ASSETS (STATE AND MUNICIPAL)

Plan assets for this System are measured on both a market value and an actuarial or smoothed value basis. The actuarial smoothing method, described in detail in Appendix A, annually recognizes 20% of the difference between (a) the expected investment return if the market value of assets had earned the assumed rate of 7.75% during FY 2013, and (b) the actual investment return. In addition, there is a market value collar that constrains the actuarial value to be within 20% of the market value of assets. In periods of high returns, this method defers the amount of asset gains above the assumed return (7.75% for FY 2013 and 7.70% for FY 2014). Conversely, in periods of returns below the assumed rate, recognition of the losses is deferred. The primary advantage of this smoothing technique is contribution stability. The System does not immediately feel the full impact of lower (or higher) costs when asset values fluctuate dramatically. In the Teachers' and Employees' Systems, the impact is further reduced by the corridor method. In Systems where both the corridor method and the asset collar are in effect, it can take 15 or more years to recognize a single year's gain or loss.

For the plan year ending June 30, 2013, the System's assets earned **10.44%**<sup>1</sup> on a market value basis and **7.49%** on a smoothed or actuarial basis. The System experienced an investment gain of **\$990** million on a market value basis and a loss of **\$98** million on an actuarial basis. A reconciliation of market value and actuarial value of assets are presented below.

### (STATE AND MUNICIPAL)

<b>Item (In Millions)</b>	<b>Market Value</b>	<b>Actuarial Value</b>
June 30, 2012 Value	\$ 37,179	\$ 37,248
June 30, 2012 Municipal Withdrawals / New Entrants	-	-
Employer Contributions	1,643	1,643
Member Contributions	711	711
Benefit Payments and Other Disbursements	(3,015)	(3,015)
Expected Investment Earnings (7.75% in FY2013)	2,856	2,862
Expected Value June 30, 2013	\$ 39,374	\$ 39,449
<b>Investment Gain (Loss)</b>	<b>990</b>	<b>(98)</b>
June 30, 2013 Value	\$ 40,363	\$ 39,351

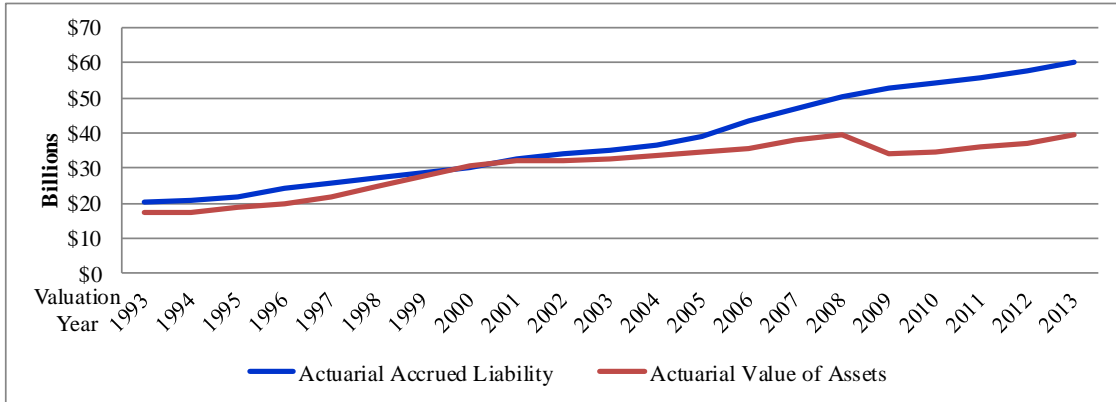
Figures may not add exactly due to rounding

<sup>1</sup>Actuarial calculations may differ from figures reported by State Street.

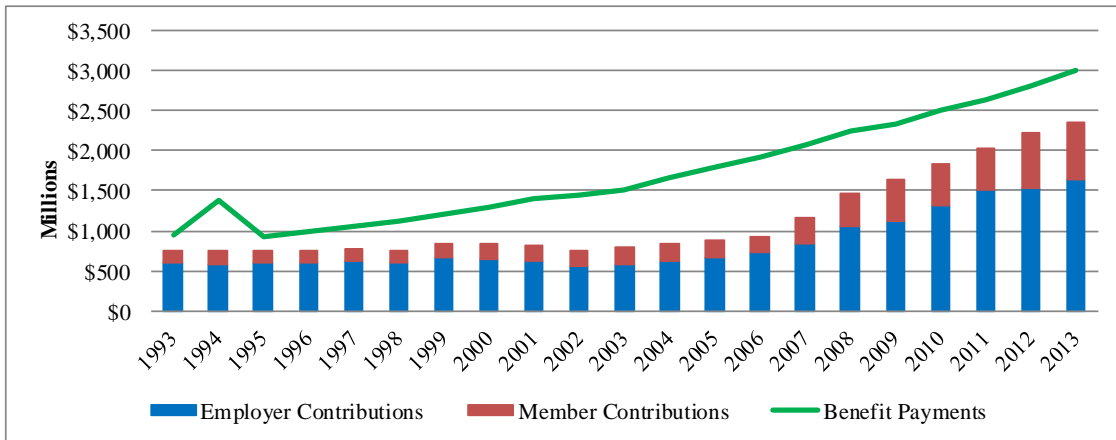
## TRENDS (STATE AND MUNICIPAL)

One of the best ways to measure or evaluate the financial condition of a pension plan is to examine the historical trends that are evolving. Below, we present three charts which present trend information from 1993 through the end of 2013, on the System's assets and liabilities, annual cash flows in and out of the fund, and the State contribution rate. Our comments on each follow.

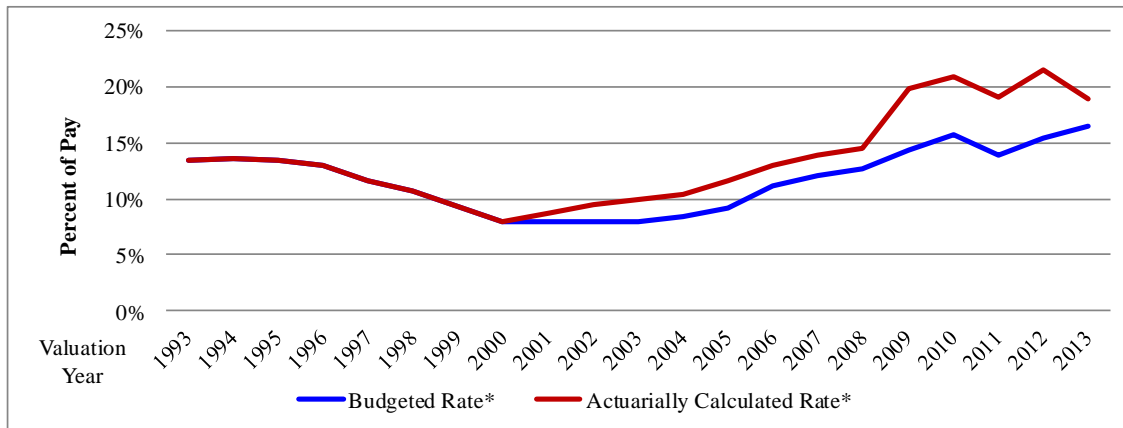
**Chart A: Assets/Liabilities**



**Chart B: Benefits vs. Contributions**



**Chart C: State Contribution Rate**



\* Excludes reinvested savings in valuation years 2011- 2013. 2010 rates are prior to the 2011 GA Reforms.

## COMMENTS

Chart A displays a comparison of the actuarial value of assets and the actuarial accrued liability. As of June 30, 2013, the actuarial value of assets under the 5-year asset smoothing method are 97% of the market value of assets, compared with 100% as of June 30, 2012.

Chart B presents non-investment cash flow trend information that can have investment implications. Many statewide retirement systems, with the aging and retirements of the baby boom generation, are seeing payments to retirees on the increase. This is expected for mature retirement systems. Benefit payments, which is the total amount below the red line exceeds the total contributions, which is the total amount below the dark blue line. The amount needed to pay excess benefit payments over total contributions comes from investment return or current assets. If the difference between the total benefit payments and total contributions increases, a larger portion of investment return will be needed to pay benefits and may require a change in asset allocation. As long as cash into the fund, from employer and employee contributions, is increasing in a similar manner to benefit payments, the financial objectives of the System will continue to be met. The budgeted rates under the corridor funding method first became less than the actuarial rates in FY 2006 for ECS and in FY 2007 for TCS. The corridor method increased the extent of negative cash flows, which could affect the manner in which the assets are invested.

Finally, Chart C, looks at the composite actuarially determined and budgeted State contribution rates. The budgeted contribution rates by System determine the fiscal year State appropriation. It shows the impact of the 1990's decade's sustained investment gains, a continuous lowering of the rate until 2000. Effective with the 2001 valuation, the State appropriations were performed under a corridor funding method for the two largest plans. The appropriation remained essentially level for a few years before increasing with the 2004 valuation. In the absence of significant favorable investment and/or demographic experience, the contribution rates can be expected to increase to the level indicated if the corridor method had not been adopted. Without the corridor method, the State contribution in FY 2015 would be 2.50% of payroll higher than the amount to be budgeted under the corridor method. The actual contribution rate for FY 2015 is therefore 13% less than the actuarially determined rate.

Legislation enacted in 2013 is phasing out the corridor funding method for TCS and ECS over a 10-year period beginning with the valuation as of June 30, 2013. The budgeted rate is expected to increase and will converge with the actuarial rate for TCS and ECS at the end of the 10-year period.

Chart C further indicates that since inception, the corridor method had consistently acted to reduce the State's contribution. The new amortization method and the phasing out of the corridor will result in budgeted contribution rates that are equal to the actuarially determined ones within the next 10 years.

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**SECTION II**  
VALUATION RESULTS

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## STATE SYSTEMS (EXCLUDES MUNICIPALITIES) VALUATION RESULTS

The combined State System's (excluding PGU's) unfunded actuarial accrued liability increased by \$98 million, from \$19,618 million as of June 30, 2012, to \$19,716 million as of June 30, 2013. There was an expected increase in the unfunded actuarial accrued liability of \$505 million. The expected increase reflects the actual contributions made. There was an additional increase of \$52 million from assumption and method changes.

In addition to the expected increase in the unfunded actuarial accrued liability, there was a decrease of \$459 million due to plan experience. The decrease in the unfunded liability is attributable to slower growth in the actuarial liabilities than in the assets assuming all actuarial assumptions are met and the budgeted contributions are made. The unfunded liability is expected to grow if the total contributions are less than the total normal cost plus interest on the unfunded liability. The member contributions plus the state budgeted contributions are less than the normal cost plus interest on the unfunded liability due to the corridor funding method for Teachers' and Employees' Combined Systems and the current funding policy.

The net gain due to plan experience of \$459 million is comprised of demographic gains on the liabilities of \$547 million, which were partially offset by an asset loss (on the actuarial value of assets) of \$88 million.

The combined State System's market value of assets earned 10.43%%<sup>1</sup> for the year ended June 30, 2013, which is more than the 7.75% assumed rate of investment return. The actuarial, or smoothed, rate of return measured from this past year was 7.49%, less than the assumed rate of investment return, which resulted in an actuarial loss on assets. Partial recognition of asset losses from FY2009, and FY2011 compared to the actuarial assumption of 7.75%, were recognized in the actuarial value of assets as of June 30, 2013, under the asset smoothing method, resulting in an overall asset loss of \$88 million.

All of the Systems experienced gains on the liabilities due to lower salary increases than assumed. Salaries stayed flat or increased by less than the assumption which resulted in gains. Gains were also experienced due to lower COLA increases on average than assumed. COLA increases of 2.07% were granted to eligible retirees who have a COLA cap of 3.00%, 5.00%, or no COLA cap compared to the actuarial assumptions of 2.75%, 2.95% and 3.00%, respectively.

The combined State System funded ratio increased from 63.5% at June 30, 2012, to 64.6% at June 30, 2013.

The actuarially determined contribution rates decreased for each System from those calculated in the June 30, 2012, valuation to those calculated in the June 30, 2013, valuation which determines the FY2014 and FY2015 contributions, respectively, for all Systems except for State Police.

The adoption of the single 25-year closed amortization period as of June 30, 2013, led to a decrease in the actuarially determined contribution rates for all Systems except State Police, although budgeted rates increased. The single equivalent amortization periods under the prior amortization method (separate layered amortization bases) were less than 25 years for the other State Systems and over 50 years for State Police. The reduction of the single equivalent amortization period from 50 to 25 years for State Police resulted in a large contribution increase. However, without the change, the State Police rate was projected to be on the order of 120% of payroll in fiscal year 2022.

<sup>1</sup> *The actuarially computed rate of return, excluding municipalities.*



The budgeted contribution rates increased for the Teachers' and Employees' Combined Systems as a result of the corridor funding method and are expected to increase during the corridor phase out period until the budgeted rates reach the actuarial rates.

A reconciliation of the actuarial contribution rate (excluding reinvested savings) is shown below:

**(STATE ONLY)**

	<b>Teachers' Combined System</b>	<b>Employees' Combined System</b>	<b>State Police</b>	<b>Judges</b>	<b>LEOPS</b>	<b>Total</b>
<b>Actuarially Determined Calculations</b>						
FY2014 Contribution Rate	20.37%	21.10%	66.71%	50.92%	52.47%	21.42%
Change due to Investment Return	0.05%	0.07%	0.35%	0.21%	0.07%	0.06%
Change due to Demographic Experience	-0.41%	-0.34%	-0.01%	-0.54%	0.35%	-0.38%
Change due to Corridor	0.29%	0.45%	0.00%	0.00%	0.00%	0.34%
Change due to Other	-0.08%	0.10%	-0.28%	0.73%	0.50%	-0.02%
Change due to Method Changes	-2.88%	-2.30%	16.11%	-8.60%	-12.15%	-2.63%
Change due to Assumption Changes	<u>0.08%</u>	<u>0.24%</u>	<u>0.18%</u>	<u>0.01%</u>	<u>0.13%</u>	<u>0.12%</u>
<b>FY2015 Contribution Rate</b>	<b>17.42%</b>	<b>19.32%</b>	<b>83.06%</b>	<b>42.74%</b>	<b>41.37%</b>	<b>18.91%</b>

The increase in total payroll was lower than expected under the actuarial assumptions. Total payroll was expected to increase by 3.5% in FY2013, and the total payroll increased by less than 3.5% for each System from June 30, 2012. Total payroll increased by 1.7% for TCS, 0.8% for ECS, 2.8% for State Police, 0.1% for Judges, and 1.3% for LEOPS. Total payroll growth that was less than assumed put upward pressure on the contribution rates.

Since investment losses have been fully recognized from FY2009, funded ratios are expected to progress toward 100% at a slightly faster rate for the next two years as the deferred investment gains from FY2010, FY2011 and FY2013 are recognized in the actuarial value of assets. Budgeted contribution rates are expected to increase for TCS and ECS as the corridor funding method is phased out.

**DERIVATION OF EXPERIENCE GAIN (LOSS)**  
**YEAR ENDED JUNE 30, 2013**  
**STATE ONLY**  
**(IN MILLIONS)**

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses often offset one another over a period of years, but sizable year-to-year fluctuations are common.

	<b>Fiscal Year Ended June 30,</b>	
	<b>2013</b>	<b>2012</b>
(1) UAAL* at start of year	\$19,618	\$18,771
(2) Normal cost from last valuation	1,204	1,085
(3) Actual contributions	2,182	2,039
(4) Interest accrual: $[(1) \times .0775 + \{(2)-(3)\} \times \{[1.0775^{.5}]-1\}]$	1,483	1,419
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	20,123	19,237
(6) Change in benefit provisions	0	(2)
(7) Changes in methods and assumptions	52	294
(8) Expected UAAL after changes: (5) + (6) + (7)	20,175	19,529
(9) Actual UAAL at end of year	19,716	19,618
(10) Gain/(loss): (8) - (9)	\$459	\$ (88)
(10a) Portion of gain/(loss) due to Assets	(88)	(1,103)
(10b) Portion of gain/(loss) due to Liabilities	547	1,015
(10c) Actuarial accrued liabilities at beginning of year	53,707	51,934
(11) Gain (loss) as a percent of beginning accrued liabilities	0.9%	(0.2%)

\* *Unfunded actuarial accrued liability.*  
*Numbers may not add due to rounding.*

**SUMMARY OF VALUATION RESULTS BY SYSTEM  
AS OF JUNE 30, 2013  
(STATE AND MUNICIPAL)**

<u>State Sponsored Plans</u>	<u>Employees</u>				<u>LEOPS</u>	<u>Total State*</u>	
	<u>Teachers</u>	<u>(State)</u>	<u>State Police</u>	<u>Judges</u>	<u>(State)</u>		
Actuarial Liability - Active Members	\$ 14,625,822,181	\$ 6,746,108,161	\$ 339,103,703	\$ 152,359,880	\$ 245,081,280	\$ 22,108,475,205	
Actuarial Liability - Retirees, Term. Vested, & Inactives	<u>20,904,618,595</u>	<u>10,269,166,951</u>	<u>1,543,397,648</u>	<u>286,476,497</u>	<u>595,315,919</u>	<u>33,598,975,610</u>	
Total Actuarial Liability	\$ 35,530,440,776	\$ 17,015,275,112	\$ 1,882,501,351	\$ 438,836,377	\$ 840,397,199	\$ 55,707,450,815	
Actuarial Value of Assets	23,845,618,271	10,149,146,082	1,164,217,327	354,899,502	478,028,132	35,991,909,314	
Unfunded Actuarial Accrued Liability (UAAL)	11,684,822,505	6,866,129,030	718,284,024	83,936,875	362,369,067	19,715,541,501	
Funded Ratio	67.11%	59.65%	61.84%	80.87%	56.88%	64.61%	
Active Member Payroll	\$ 6,185,175,794	\$ 3,026,068,623	\$ 79,848,029	\$ 40,000,518	\$ 84,734,305	\$ 9,415,827,269	
UAAL as a Percent of Payroll	188.9%	226.9%	899.6%	209.8%	427.7%	209.4%	
<i>Before Reinvested Savings</i>							
Employer Normal Cost Contribution	5.64%	4.77%	25.28%	29.93%	15.25%	5.72%	
UAAL Contribution	<u>11.78%</u>	<u>14.55%</u>	<u>57.78%</u>	<u>12.81%</u>	<u>26.12%</u>	<u>13.19%</u>	
Total Employer Contribution Without Reinvested Savings	17.42%	19.32%	83.06%	42.74%	41.37%	18.91%	
Employer Corridor Contribution	15.47%	15.53%	NA	NA	NA	16.41%	
<i>After Reinvested Savings</i>							
Total Employer Contribution Without Reinvested Savings	15.47%	15.53%	83.06%	42.74%	41.37%	16.41%	
Reinvested Savings Rate	<u>3.17%</u>	<u>2.77%</u>	<u>5.00%</u>	<u>0.00%</u>	<u>5.19%</u>	<u>3.07%</u>	
Total Employer Contribution With Reinvested Savings	18.64%	18.30%	88.06%	42.74%	46.56%	19.48%	
<u>Municipal Plans</u>		<u>Employees</u>			<u>LEOPS</u>	<u>CORS</u>	<u>Total Municipal</u>
		<u>(Municipal)</u>			<u>(Municipal)</u>	<u>(Municipal)</u>	
Actuarial Liability - Active Members		\$ 1,792,652,527			\$ 148,002,117	\$ 9,072,971	\$ 1,949,727,615
Actuarial Liability - Retirees, Term. Vested, & Inactives		<u>2,238,804,994</u>			<u>154,754,681</u>	<u>9,353,273</u>	<u>2,402,912,948</u>
Total Actuarial Liability		\$ 4,031,457,521			\$ 302,756,798	\$ 18,426,244	\$ 4,352,640,563
Actuarial Value of Assets		<u>3,177,439,781</u>			<u>164,649,564</u>	<u>16,970,694</u>	<u>3,359,060,039</u>
Unfunded Actuarial Accrued Liability (UAAL)		854,017,740			138,107,234	1,455,550	993,580,524
Funded Ratio		78.82%			54.38%	92.10%	77.17%
Active Member Payroll		\$ 1,004,192,298			\$ 52,878,667	\$ 4,646,007	\$ 1,061,716,972
UAAL as a Percent of Payroll		85.0%			261.2%	31.3%	93.6%
<u>State and Municipal Sponsored Plans</u>	<u>Teachers</u>	<u>Employees</u>	<u>State Police</u>	<u>Judges</u>	<u>LEOPS</u>	<u>CORS</u>	<u>Total SRPS</u>
Actuarial Liability - Active Members	\$ 14,625,822,181	\$ 8,538,760,688	\$ 339,103,703	\$ 152,359,880	\$ 393,083,397	\$ 9,072,971	\$ 24,058,202,820
Actuarial Liability - Retirees, Term. Vested, & Inactives	<u>20,904,618,595</u>	<u>12,507,971,945</u>	<u>1,543,397,648</u>	<u>286,476,497</u>	<u>750,070,600</u>	<u>9,353,273</u>	<u>36,001,888,558</u>
Total Actuarial Liability	\$ 35,530,440,776	\$ 21,046,732,633	\$ 1,882,501,351	\$ 438,836,377	\$ 1,143,153,997	\$ 18,426,244	\$ 60,060,091,378
Actuarial Value of Assets	23,845,618,271	13,326,585,863	1,164,217,327	354,899,502	642,677,696	16,970,694	39,350,969,353
Unfunded Actuarial Accrued Liability (UAAL)	11,684,822,505	7,720,146,770	718,284,024	83,936,875	500,476,301	1,455,550	20,709,122,025
Funded Ratio	67.11%	63.32%	61.84%	80.87%	56.22%	92.10%	65.52%
Active Member Payroll	\$ 6,185,175,794	\$ 4,030,260,921	\$ 79,848,029	\$ 40,000,518	\$ 137,612,972	\$ 4,646,007	\$ 10,477,544,241
UAAL as a Percent of Payroll	188.9%	191.6%	899.6%	209.8%	363.7%	31.3%	197.7%

\* Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.

## CALCULATION OF CONTRIBUTION RATE ATTRIBUTABLE TO REINVESTMENT AMOUNTS (STATE ONLY)

	Teachers	Employees (State)	State Police	Judges	LEOPS (State)	Total State
Percentage of Total Pension Reform Savings Reinvested Savings	67.7%	29.4%	1.4%	0.0%	1.5%	100.0%
	\$ 203,090,270	\$ 88,079,213	\$ 4,200,827	\$ -	\$ 4,629,691	\$ 300,000,000
<b>FY 2015 Contributions</b>						
Employer Normal Cost Contribution	5.64%	4.77%	25.28%	29.93%	15.25%	5.72%
UAAL Contribution	11.78%	14.55%	57.78%	12.81%	26.12%	13.19%
Total Actuarial Employer Contribution	17.42%	19.32%	83.06%	42.74%	41.37%	18.91%
Employer Corridor Contribution	15.47%	15.53%	NA	NA	NA	16.41%
Total Employer Contribution	15.47%	15.53%	83.06%	42.74%	41.37%	16.41%
Reinvested Saving Rate	3.17%	2.77%	5.00%	0.00%	5.19%	3.07%
Estimated Total Employer Contribution <sup>1</sup>	18.64%	18.30%	88.06%	42.74%	46.56%	19.48%
Illustrated Contribution Dollars	\$ 989,857,906	\$ 494,476,858	\$ 69,783,359	\$ 17,988,538	\$ 36,884,214	\$ 1,608,990,875
Dollar Reinvested Savings	\$ 203,090,270	\$ 88,079,213	\$ 4,200,827	\$ -	\$ 4,629,691	\$ 300,000,000
Total Illustrated Contribution Dollars <sup>1</sup>	\$ 1,192,948,176	\$ 582,556,071	\$ 73,984,186	\$ 17,988,538	\$ 41,513,905	\$ 1,908,990,875

<sup>1</sup> Includes reinvestment of savings and \$221,578,201 attributable to TCS local employers.

## SUMMARY OF STATE CONTRIBUTIONS – INCLUDING REINVESTED SAVINGS (STATE PORTION ONLY)

		Corridor Rates					
		Teachers' Combined	Employees' Combined	State Police	Judges	LEOPS	Total State#
7/1/2013 Valuation Results (FY 2015)	Unfunded Actuarial Liability	\$ 11,684,822,505	\$ 6,866,129,030	\$ 718,284,024	\$ 83,936,875	\$ 362,369,067	\$ 19,715,541,501
	Illustrated Contribution Dollars	\$ 1,192,948,176	\$ 582,556,071	\$ 73,984,186	\$ 17,988,538	\$ 41,513,905	\$ 1,908,990,875
	Local Employers' Portion	221,578,201	NA	NA	NA	NA	\$ 221,578,201
	State Portion	\$ 971,369,975	\$ 582,556,071	\$ 73,984,186	\$ 17,988,538	\$ 41,513,905	\$ 1,687,412,674
	Projected Payroll	\$ 6,398,564,359	\$ 3,184,010,674	\$ 84,015,602	\$ 42,088,297	\$ 89,156,911	\$ 9,797,835,843
	Total Contributions as Percentage of Payroll**	18.64%	18.30%	88.06%	42.74%	46.56%	19.48%
	Corridor Percentage of Actuarially Determined Rate	90.53%	82.84%	NA	NA	NA	NA
7/1/2012 Valuation Results (FY 2014)	Unfunded Actuarial Liability	\$ 11,728,737,236	\$ 6,748,603,898	\$ 692,035,311	\$ 91,132,343	\$ 357,104,418	\$ 19,617,613,206
	Illustrated Contribution Dollars	\$ 1,128,853,003	\$ 532,077,766	\$ 58,772,354	\$ 21,422,693	\$ 50,857,069	\$ 1,791,982,884
	Projected Payroll	\$ 6,293,424,428	\$ 3,160,132,053	\$ 81,804,118	\$ 42,071,274	\$ 88,102,492	\$ 9,665,534,365
	Total Contributions as Percentage of Payroll*	17.94%	16.84%	71.85%	50.92%	57.72%	18.54%
	Corridor Percentage of Actuarially Determined Rate	76.02%	70.49%	NA	NA	NA	NA

\*\* The FY 2015 contribution rate would be 20.59% for Teachers, 22.09% for Employees, and 21.96% for the Total State if the corridor method were not in effect.

\* The FY 2014 contribution rate would be 23.60% for Teachers, 23.89% for Employees, and 24.53% for the Total State if the corridor method were not in effect.

# Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.

**STATE BUDGETED CONTRIBUTION RATES BY SYSTEM  
FOR THE FISCAL YEARS 1994 TO 2015  
(STATE PORTION ONLY)**

Valuation Date June 30,	Fiscal Year	Teachers' Combined	Employees' Combined	State Police	Judges	LEOPS	Total State*
<b>2013</b>	<b>2015 @</b>	<b>18.64%</b>	<b>18.30%</b>	<b>88.06%</b>	<b>42.74%</b>	<b>46.56%</b>	<b>19.48%</b>
<b>2013</b>	<b>2015 #</b>	<b>15.47%</b>	<b>15.53%</b>	<b>83.06%</b>	<b>42.74%</b>	<b>41.37%</b>	<b>16.41%</b>
2012	2014 @	17.94%	16.84%	71.85%	50.92%	57.72%	18.54%
2012	2014 #	14.71%	14.05%	66.71%	50.92%	52.47%	15.43%
2011	2013 @	15.30%	14.05%	64.57%	61.18%	50.14%	15.80%
2011	2013 #	13.29%	12.29%	61.21%	61.18%	46.81%	13.85%
2010	2012	15.45	13.40	61.01	60.37	49.26	15.67
2009	2011	14.34	11.69	57.03	59.07	47.67	14.33
2008	2010	13.15	9.93	30.79	48.89	38.63	12.62
2007	2009	11.70	8.73	20.53	43.61	36.99	11.14
2006	2008	11.60	8.86	15.44	44.12	41.74	11.10
2005	2007	9.71	6.83	13.83	42.43	40.60	9.18
2004	2006	9.35	5.76	8.22	41.12	38.47	8.46
2003	2005	9.35	4.73	0.00	36.72	37.73	7.97
2002	2004	9.35	4.73	7.58	43.74	35.13	7.98
2001	2003	9.35	4.73	5.78	43.92	36.10	7.98
2000	2002	9.35	4.73	5.83	42.66	32.41	7.98
1999	2001	10.95	5.71	8.44	46.75	23.38	9.31
1998	2000	12.54	7.15	1.26	48.18	22.96	10.70
1997	1999	13.99	7.13	10.91	52.12	25.60	11.67
1996	1998	15.48	8.21	13.08	52.49	26.27	12.90
1995	1997	16.09	8.54	17.65	52.56	35.15	13.50
1994	1996	16.22	8.61	19.13	52.51	35.68	13.61
1993	1995	15.92	8.70	19.36	52.84	34.07	13.43
1992	1994	15.76	8.70	25.74	54.25	32.56	13.40

\* Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.

@ Includes effect of reinvested savings.

# Excludes effect of reinvested savings.

# DETAILED ACTUARIAL INFORMATION

## TEACHERS' COMBINED SYSTEM

	<u>Actuarial Valuation Performed</u>		<u>% Change</u>
	<u>June 30, 2013</u> <u>(for FY 2015)</u>	<u>June 30, 2012</u> <u>(for FY 2014)</u>	
<b>A. Demographic Information</b>			
1. Active Number Count	104,028	103,694	0.3%
2. Retired Member and Beneficiary Count	66,390	63,699	4.2%
3. Vested Former Member Count	23,555	23,033	2.3%
4. Total Number Count	193,973	190,426	1.9%
5. Active Payroll	\$ 6,185,175,794	\$ 6,080,603,312	1.7%
6. Annual Benefits for Retired Members <sup>#</sup>	\$ 1,758,581,907	\$ 1,657,508,543	6.1%
<b>B. Actuarial Results</b>			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 20,216,264,802	\$ 19,247,670,642	5.0%
b. Terminated Vested Members	688,353,793	649,627,385	6.0%
c. Active Members	22,759,260,163	22,445,432,252	1.4%
d. Total Present Value	\$ 43,663,878,758	\$ 42,342,730,279	3.1%
2. Less Present Value Total Future Normal Costs	8,133,437,982	8,090,015,331	0.5%
3. Actuarial Accrued Liability (1d - 2)	\$ 35,530,440,776	\$ 34,252,714,948	3.7%
4. Less Actuarial Value of Assets	23,845,618,271	22,523,977,712	5.9%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 11,684,822,505	\$ 11,728,737,236	-0.4%
6. Funded Ratio	67.11%	65.76%	
7. Amortization Payments	\$ 754,156,433	\$ 897,697,232	-16.0%
8. Employer Normal Cost	\$ 360,879,030	\$ 366,906,644	-1.6%
9. Total Projected Payroll	\$ 6,398,564,359	\$ 6,293,424,428	1.7%
10. Total Normal Cost Rate	12.62%	12.81%	
11. Employee Contribution Rate	6.98%	6.98%	
12. Employers <sup>@</sup> Normal Cost Rate	5.64%	5.83%	
13. UAAL Amortization Rate*	11.78%	14.54%	
14. Total Actuarial Employer Contribution Rate	17.42%	20.37%	
<b>C. Corridor Results</b>			
15. Prior Year Corridor Rate	14.71%	13.29%	
16. 28% of Difference between Preliminary Funding Rate and Prior year Corridor Rate (14b - 15) x 28%	0.76%	1.42%	
17. Employer Corridor Contribution Rate	15.47%	14.71%	
18. Estimated Employer Rate after Reinvestment of Savings	18.64%	17.94%	

<sup>#</sup>Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013 and July 1, 2012, respectively.

<sup>@</sup>Employers include the State and local Boards of Education.

\*Includes the effects of the two year lag between the valuation date and the contribution period.

# DETAILED ACTUARIAL INFORMATION

## EMPLOYEES' COMBINED SYSTEM (STATE)

	<u>Actuarial Valuation Performed</u>		% Change
	<u>June 30, 2013</u> <u>(for FY 2015)</u>	<u>June 30, 2012</u> <u>(for FY 2014)</u>	
<b>A. Demographic Information</b>			
1. Active Number Count	60,129	60,719	-1.0%
2. Retired Member and Beneficiary Count	51,798	49,955	3.7%
3. Vested Former Member Count	21,078	21,335	-1.2%
4. Total Number Count	133,005	132,009	0.8%
5. Active Payroll	\$ 3,026,068,623	\$ 3,001,198,400	0.8%
6. Annual Benefits for Retired Members <sup>#</sup>	\$ 851,247,252	\$ 801,055,708	6.3%
<b>B. Actuarial Results</b>			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 9,638,752,678	\$ 9,154,778,280	5.3%
b. Terminated Vested Members	630,414,273	608,869,729	3.5%
c. Active Members	9,367,289,759	9,293,732,254	0.8%
d. Total Present Value	\$ 19,636,456,710	\$ 19,057,380,263	3.0%
2. Less Present Value Total Future Normal Costs	2,621,181,598	2,643,812,112	-0.9%
3. Actuarial Accrued Liability (1d - 2)	\$ 17,015,275,112	\$ 16,413,568,151	3.7%
4. Less Actuarial Value of Assets	10,149,146,082	9,664,964,253	5.0%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 6,866,129,030	\$ 6,748,603,898	1.7%
a. Less Special Liability Payments**	35,825,553	39,792,107	-10.0%
b. State Portion of UAAL (5 - 6)	6,830,303,477	6,708,811,791	1.8%
6. Funded Ratio	59.65%	58.88%	
7. Amortization Payments	\$ 440,838,302	\$ 479,439,267	-8.1%
8. Employer Normal Cost	\$ 146,812,285	\$ 149,610,117	-1.9%
9. Total Projected Payroll	\$ 3,077,825,687	\$ 3,053,267,684	0.8%
10. Total Normal Cost Rate	11.49%	11.62%	
11. Employee Contribution Rate	6.72%	6.72%	
12. Employer Normal Cost Rate	4.77%	4.90%	
13. UAAL Amortization Rate*	14.55%	16.20%	
14. Total Employer Contribution Rate	19.32%	21.10%	
<b>C. Corridor Results</b>			
15. Prior Year Corridor Rate	14.05%	12.29%	
16. 28% of Difference between Preliminary Funding Rate and Prior year Corridor Rate (14b - 15) x 28%	1.48%	1.76%	
17. Employer Corridor Contribution Rate	15.53%	14.05%	
18. Estimated Employer Rate after Reinvestment of Savings	18.30%	16.84%	

\*\*For Municipalities that withdrew prior to 1996, and thus are part of the State pool.

\*Includes the effects of the two year lag between the valuation date and the contribution period.

<sup>#</sup>Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013 and July 1, 2012, respectively.



## SPECIAL LIABILITY PAYMENTS

### EMPLOYEES' COMBINED SYSTEM (STATE)

**Schedule of Special Payments as of June 30, 2013 for December 2014 Billing**  
**(Unless noted, amounts are amortized over 25 years with payments increasing 5% per year)**

LOC Number	Municipal Corporation	Outstanding Balance as of 6/30/2013*	December 2014 Payment	Last Payment Year
7012	Caroline County Roads Board	\$ 145,318	\$ 26,620 **	2019
7716	Harford County Liquor Board	56,621	10,372 **	2019
8006	Montgomery County Public Library	20,493	3,754 **	2019
8028	Interstate Comm. on Potomac River Basin	24,505	4,489 **	2019
8031	Bethesda Fire Department	11,917	2,183 **	2019
8032	Chevy Chase Fire Department	24,402	4,470 **	2019
8712	Wicomico County Roads Board	25,177	4,612 **	2019
6529	Health Systems Agency of Western MD	223,614	37,516	2019
6611	Anne Arundel County Government	11,053,048	1,854,388	2019
6735	Lexington Market Authority	449,258	75,373	2019
6740	Univ of MD Medical Systems Corp	3,584,253	799,995 ***	2019
8002	Montgomery County Board of Education	3,348,140	561,723	2019
8011	Montgomery County Government	7,437,781	1,247,849	2019
8026	MD Nat. Capital Parks and Planning Comm.	2,506,077	420,449	2019
8128	Washington Suburban Sanitary Commission	5,150,703	864,142	2019
8325	St. Mary's Nursing Home	589,116	98,837	2019
8611	Washington County Commission	438,266	73,529	2019
8612	Washington County Roads Board	353,650	59,332	2019
8614	Washington County License Commission	2,657	446	2019
8626	Washington County Sanitary District	106,744	17,909	2019
8726	Wicomico Co. Dept. Recreation & Parks	273,813	45,938	2019
	TOTAL	\$ 35,825,553	\$ 6,213,926	

\* *The outstanding balance is based on the 7.70% valuation interest rate in order to determine what portion of the total unfunded liability is attributable to the State liability and the special payment liability. The special payment liability is based on the present value of the contributions based on the payment schedule established at entry or withdrawal discounted at the current investment return assumption. Actual payoff amounts will be based on the interest rate in effect when the balance was first established.*

\*\* *Level dollar payments or credits.*

\*\*\* *Dollar payments decrease each year.*

# DETAILED ACTUARIAL INFORMATION

## STATE POLICE

	<u>Actuarial Valuation Performed</u>		
	<u>June 30, 2013</u> <u>(for FY 2015)</u>	<u>June 30, 2012</u> <u>(for FY 2014)</u>	<u>% Change</u>
<b>A. Demographic Information</b>			
1. Active Number Count	1,320	1,332	-0.9%
2. Retired Member and Beneficiary Count	2,428	2,387	1.7%
3. Vested Former Member Count	84	85	-1.2%
4. Total Number Count	3,832	3,804	0.7%
5. Active Payroll	\$ 79,848,029	\$ 77,689,914	2.8%
6. Annual Benefits for Retired Members <sup>#</sup>	\$ 109,850,900	\$ 105,974,605	3.7%
<b>B. Actuarial Results</b>			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 1,532,406,924	\$ 1,496,360,825	2.4%
b. Terminated Vested Members	10,990,724	10,191,505	7.8%
c. Active Members	526,042,950	506,224,595	3.9%
d. Total Present Value	\$ 2,069,440,598	\$ 2,012,776,925	2.8%
2. Less Present Value Total Future Normal Costs	186,939,247	186,231,025	0.4%
3. Actuarial Accrued Liability (1d – 2)	\$ 1,882,501,351	\$ 1,826,545,900	3.1%
4. Less Actuarial Value of Assets	1,164,217,327	1,134,510,589	2.6%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 718,284,024	\$ 692,035,311	3.8%
6. Funded Ratio	61.84%	62.11%	
7. Amortization Payments	\$ 46,359,157	\$ 32,552,188	42.4%
8. Employer Normal Cost	\$ 20,530,830	\$ 20,075,600	2.3%
9. Total Projected Payroll	\$ 81,213,728	\$ 79,037,795	2.8%
10. Total Normal Cost Rate	33.28%	33.40%	
11. Employee Contribution Rate	8.00%	8.00%	
12. Employer Normal Cost Rate	25.28%	25.40%	
13. UAAL Amortization Rate*	57.78%	41.31%	
14. Total Employer Contribution Rate	83.06%	66.71%	
15. Estimated Employer Rate after Reinvestment of Savings	88.06%	71.85%	

\*Includes the effects of the two year lag between the valuation date and the contribution period.

<sup>#</sup>Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013 and July 1, 2012, respectively.

# DETAILED ACTUARIAL INFORMATION

## JUDGES

	<u>Actuarial Valuation Performed</u>		
	<u>June 30, 2013</u> <u>(for FY 2015)</u>	<u>June 30, 2012</u> <u>(for FY 2014)</u>	<u>% Change</u>
<b>A. Demographic Information</b>			
1. Active Number Count	288	294	-2.0%
2. Retired Member and Beneficiary Count	378	365	3.6%
3. Vested Former Member Count	10	10	0.0%
4. Total Number Count	<u>676</u>	<u>669</u>	1.0%
5. Active Payroll	\$ 40,000,518	\$ 39,955,368	0.1%
6. Annual Benefits for Retired Members <sup>#</sup>	\$ 26,520,948	\$ 25,150,702	5.4%
<b>B. Actuarial Results</b>			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 284,123,388	\$ 270,805,698	4.9%
b. Terminated Vested Members	2,353,109	2,027,699	16.0%
c. Active Members	<u>237,913,106</u>	<u>235,643,610</u>	1.0%
d. Total Present Value	\$ 524,389,603	\$ 508,477,007	3.1%
2. Less Present Value Total Future Normal Costs	<u>85,553,226</u>	<u>87,190,960</u>	-1.9%
3. Actuarial Accrued Liability (1d – 2)	\$ 438,836,377	\$ 421,286,047	4.2%
4. Less Actuarial Value of Assets	<u>354,899,502</u>	<u>330,153,704</u>	7.5%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 83,936,875	\$ 91,132,343	-7.9%
6. Funded Ratio	80.87%	78.37%	
7. Amortization Payments	\$ 5,417,415	\$ 8,725,497	-37.9%
8. Employer Normal Cost	\$ 12,176,924	\$ 12,157,988	0.2%
9. Total Projected Payroll	\$ 40,684,676	\$ 40,648,574	0.1%
10. Total Normal Cost Rate	36.18%	36.15%	
11. Employee Contribution Rate	<u>6.25%</u>	<u>6.24%</u>	
12. Employer Normal Cost Rate	29.93%	29.91%	
13. UAAL Amortization Rate*	12.81%	21.01%	
14. Total Employer Contribution Rate	42.74%	50.92%	

\*Includes the effects of the two year lag between the valuation date and the contribution period.

<sup>#</sup>Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013 and July 1, 2012, respectively.

## DETAILED ACTUARIAL INFORMATION

### LEOPS (STATE)

	<u>Actuarial Valuation Performed</u>		
	<u>June 30, 2013</u> <u>(for FY 2015)</u>	<u>June 30, 2012</u> <u>(for FY 2014)</u>	<u>% Change</u>
<b>A. Demographic Information</b>			
1. Active Number Count	1,459	1,473	-1.0%
2. Retired Member and Beneficiary Count	1,246	1,161	7.3%
3. Vested Former Member Count	172	162	6.2%
4. Total Number Count	<u>2,877</u>	<u>2,796</u>	2.9%
5. Active Payroll	\$ 84,734,305	\$ 83,671,522	1.3%
6. Annual Benefits for Retired Members <sup>#</sup>	\$ 40,433,959	\$ 36,886,466	9.6%
<b>B. Actuarial Results</b>			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 579,516,790	\$ 533,532,877	8.6%
b. Terminated Vested Members	15,799,129	14,507,163	8.9%
c. Active Members	<u>373,489,669</u>	<u>373,464,761</u>	0.0%
d. Total Present Value	\$ 968,805,588	\$ 921,504,801	5.1%
2. Less Present Value Total Future Normal Costs	<u>128,408,389</u>	<u>128,542,580</u>	-0.1%
3. Actuarial Accrued Liability (1d - 2)	\$ 840,397,199	\$ 792,962,221	6.0%
4. Less Actuarial Value of Assets	<u>478,028,132</u>	<u>435,857,803</u>	9.7%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 362,369,067	\$ 357,104,418	1.5%
6. Funded Ratio	56.88%	54.97%	
7. Amortization Payments	\$ 23,387,857	\$ 31,459,475	-25.7%
8. Employer Normal Cost	\$ 13,142,996	\$ 13,100,458	0.3%
9. Total Projected Payroll	\$ 86,183,578	\$ 85,123,181	1.2%
10. Total Normal Cost Rate	22.25%	22.39%	
11. Employee Contribution Rate	<u>7.00%</u>	<u>7.00%</u>	
12. Employer Normal Cost Rate	15.25%	15.39%	
13. UAAL Amortization Rate*	26.12%	37.08%	
14. Total Employer Contribution Rate	41.37%	52.47%	
15. Estimated Employer Rate after Reinvestment of Savings	46.56%	57.72%	

\*Includes the effects of the two year lag between the valuation date and the contribution period.

<sup>#</sup>Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013 and July 1, 2012, respectively.

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**SECTION III**  
ASSETS

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## ASSETS

Pension plan assets play a key role in the financial operation of the plan and in the decisions the Trustees may 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, negotiated contributions, and the ultimate security of participants' benefits.

In this section we present detailed information on plan assets including:

- **Disclosure** of plan assets at June 30, 2013 and June 30, 2012;
- Statement of the **changes** in market values during the year;
- Development of the Actuarial Value of Assets; and
- An assessment of **investment performance**.

## DISCLOSURE

Market values represent "snapshot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate. As a result, actuaries have traditionally smoothed market fluctuations when developing long range contribution rates.

Current methods employed by this Fund set the actuarial value equal to the expected adjusted market value plus one-fifth of the difference between the actual market value and the expected adjusted market value. In addition, there is a 20% collar limitation which restricts the actuarial value of assets from differing outside the range of 80% to 120% of the market value of assets.

**DISCLOSURE OF PLAN MARKET VALUE OF ASSETS  
(STATE AND MUNICIPAL)  
(IN THOUSANDS)**

	<b>June 30,</b>	
	<b>2013</b>	<b>2012</b>
<b>Assets:</b>		
Cash & Cash Equivalents	\$ 2,085,086	\$ 2,171,007
<i>Receivables</i>		
Contributions		
Employers	23,126	21,894
Employers - Long Term	38,040	41,828
Members	11,016	12,773
Accrued Investment Income	195,152	152,166
Investment Sales Proceeds	1,187,822	811,898
Total Receivables	1,455,156	1,040,559
<i>Investments</i>		
U.S. Government Obligations	3,556,575	3,231,434
Domestic Corporate Obligations	2,771,786	2,808,267
International Obligations	1,603,739	1,306,528
Domestic Stocks	8,255,430	7,988,328
International Stocks	7,827,082	8,147,718
Mortgages & Mortgage Related Securities	2,079,512	2,491,766
Real Estate	-	5,009
Alternative Investments	12,227,172	9,614,379
Collateral For Loaned Securities	2,876,448	3,452,109
Total Investments	41,197,744	39,045,538
<b>Total Assets</b>	<b>44,737,986</b>	<b>42,257,104</b>
<b>Liabilities:</b>		
Accounts Payable & Accrued Expenses	57,112	55,055
Investment Commitments Payable	1,438,653	1,568,720
Obligation For Collateral For Loaned Securities	2,876,448	3,452,109
Other Liabilities	2,556	2,494
<b>Total Liabilities</b>	<b>4,374,769</b>	<b>5,078,378</b>
<b>Net Assets Held in Trust for Pension Benefits</b>	<b>\$ 40,363,217</b>	<b>\$ 37,178,726</b>

## CHANGES IN MARKET VALUES (STATE AND MUNICIPAL)

	Teachers	Employees (State)	State Police	Judges	LEOPS (State)	Total State	
<b>State Sponsored Plans</b>							
Market Value of Assets as of 6/30/2012	\$ 22,501,533,438	\$ 9,638,646,493	\$ 1,127,384,096	\$ 329,322,119	\$ 434,547,280	\$ 34,031,433,425	
Employer Contributions	981,004,329	433,662,206	51,329,711	24,061,981	41,047,529	1,531,105,756	
Member Contributions	432,214,860	204,078,661	6,429,415	2,451,935	5,655,011	650,829,882	
Investment Returns	2,329,791,208	998,054,652	113,068,079	32,528,035	44,794,854	3,518,236,828	
Disbursements from the Trust	(1,776,068,710)	(860,060,170)	(109,649,756)	(26,030,705)	(37,899,246)	(2,809,708,587)	
Net Transfers	1,150,199	(1,322,761)	1,064	(907)	172,405	-	
Market Value of Assets as of 6/30/2013	\$ 24,469,625,324	\$ 10,413,059,081	\$ 1,188,562,609	\$ 362,332,458	\$ 488,317,833	\$ 36,921,897,304	
		Employees (Municipal)			LEOPS (Municipal)	CORS (Municipal)	Total Municipal
<b>Municipal Plans</b>							
Market Value of Assets as of 6/30/2012		\$ 2,992,430,829			\$ 143,696,204	\$ 11,165,622	\$ 3,147,292,655
Employer Contributions		92,870,241			14,224,469	4,900,630	111,995,340
Member Contributions		55,890,361			3,903,711	232,063	60,026,135
Investment Returns		311,036,667			15,105,347	1,415,555	327,557,569
Disbursements from the Trust		(195,686,833)			(9,425,056)	(439,871)	(205,551,760)
Net Transfers		-			-	-	-
Market Value of Assets as of 6/30/2013		\$ 3,256,541,265			\$ 167,504,675	\$ 17,273,999	\$ 3,441,319,939
	Teachers	Employees (State & Municipal)	State Police	Judges	LEOPS (State & Municipal)	CORS (Municipal)	Total State & Municipal
<b>State and Municipal Sponsored Plans</b>							
Market Value of Assets as of 6/30/2012	\$ 22,501,533,438	\$ 12,631,077,322	\$ 1,127,384,096	\$ 329,322,119	\$ 578,243,484	\$ 11,165,622	\$ 37,178,726,080
Employer Contributions	981,004,329	526,532,447	51,329,711	24,061,981	55,271,998	4,900,630	1,643,101,096
Member Contributions	432,214,860	259,969,022	6,429,415	2,451,935	9,558,722	232,063	710,856,017
Investment Returns	2,329,791,208	1,309,091,319	113,068,079	32,528,035	59,900,201	1,415,555	3,845,794,397
Disbursements from the Trust	(1,776,068,710)	(1,055,747,003)	(109,649,756)	(26,030,705)	(47,324,302)	(439,871)	(3,015,260,347)
Net Transfers	1,150,199	(1,322,761)	1,064	(907)	172,405	-	-
Market Value of Assets as of 6/30/2013	\$ 24,469,625,324	\$ 13,669,600,346	\$ 1,188,562,609	\$ 362,332,458	\$ 655,822,508	\$ 17,273,999	\$ 40,363,217,243



## SUMMARY OF THE DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS JUNE 30, 2013

	Total State	Total Municipal	Total MSRPS
Beginning of Year:			
(1) Market Value of Assets	\$34,031,433,426	\$3,147,292,655	\$37,178,726,081
(2) Actuarial Value of Assets	34,089,464,061	3,158,936,719	37,248,400,780
End of Year:			
(3) Market Value of Assets	36,921,897,305	3,441,319,939	40,363,217,244
(4) Net Cash Flow with Adjustment	(627,772,949)	(33,530,285)	(661,303,234)
(5) Total Investment Income			
=(3)-(1)-(4)	\$ 3,518,236,828	\$ 327,557,569	\$ 3,845,794,397
(6) Projected Rate of Return	7.75%	7.75%	7.75%
(7) Projected Investment Income			
=(1)x(6)+([1+(6)]^.5-1)x(4)	\$ 2,613,563,784	\$ 242,640,126	\$ 2,856,203,910
(8) Beginning of Year Asset Adjustment	0	0	0
(9) Investment Income in Excess of Projected Income	\$ 904,673,044	\$ 84,917,443	\$ 989,590,487
(10) Excess Investment Income Recognized			
This Year (5 year recognition)			
(10a) From This Year	180,934,609	16,983,489	197,918,098
(10b) From One Year Ago	(510,957,970)	(46,972,266)	(557,930,236)
(10c) From Two Years Ago	701,322,392	63,123,989	764,446,381
(10d) From Three Years Ago	336,478,675	28,994,760	365,473,435
(10e) From Four Years Ago	(791,123,288)	(71,116,493)	(862,239,781)
(10f) Total Recognized Investment Gain/(Loss)	(83,345,582)	(8,986,521)	(92,332,103)
(11) Change in Actuarial Value of Assets			
=(4)+(7)+(8)+(10f)	1,902,445,253	200,123,320	2,102,568,573
End of Year:			
<b>(3) Market Value of Assets as of 6/30</b>	<b>36,921,897,305</b>	<b>3,441,319,939</b>	<b>40,363,217,244</b>
(12) Preliminary Actuarial Value of Assets = (2)+(11)	35,991,909,314	3,359,060,039	39,350,969,353
(12a) Upper Collar Limit 120% x (3)	44,306,276,767	4,129,583,927	48,435,860,694
(12b) Lower Collar Limit 80% x (3)	29,537,517,843	2,753,055,951	32,290,573,794
(13) Adjustment to Remain within 20% Collar	0	0	0
<b>(14) Final Actuarial Value of Assets as of 6/30</b>	<b>35,991,909,314</b>	<b>3,359,060,039</b>	<b>39,350,969,353</b>
(15) Difference Between Market & Actuarial Values	929,987,991	82,259,900	1,012,247,891
(16) Actuarial Value Rate of Return	7.49%	7.44%	7.49%
(17) Market Value Rate of Return	10.43%	10.46%	10.44%
(18) Ratio of Actuarial Value to Market Value	97%	98%	97%

## SUMMARY OF THE DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS (STATE PORTION ONLY)

### JUNE 30, 2013

	TCS	ECS	State Police	Judges	LEOPS	Total State
Beginning of Year:						
(1) Market Value of Assets	\$22,501,533,438	\$9,638,646,493	\$ 1,127,384,096	\$329,322,119	\$434,547,280	\$34,031,433,426
(2) Actuarial Value of Assets	22,523,977,712	9,664,964,253	1,134,510,589	330,153,704	435,857,803	34,089,464,061
End of Year:						
(3) Market Value of Assets	24,469,625,324	10,413,059,081	1,188,562,609	362,332,458	488,317,833	36,921,897,305
(4) Net Cash Flow with Adjustment	(361,699,322)	(223,642,064)	(51,889,566)	482,304	8,975,699	(627,772,949)
(5) Total Investment Income						
=(3)-(1)-(4)	\$ 2,329,791,208	\$998,054,652	\$ 113,068,079	\$ 32,528,035	\$ 44,794,854	\$ 3,518,236,828
(6) Projected Rate of Return	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] <sup>.5</sup> -1)x(4)	\$ 1,730,114,510	\$ 738,490,672	\$ 85,399,064	\$ 25,540,805	\$ 34,018,733	\$ 2,613,563,784
(8) Beginning of Year Asset Adjustment	0	0	0	0	0	0
(9) Investment Income in Excess of Projected Income	\$ 599,676,698	\$ 259,563,980	\$ 27,669,015	\$ 6,987,230	\$ 10,776,121	\$ 904,673,044
(10) Excess Investment Income Recognized						
This Year (5 year recognition)						
(10a) From This Year	119,935,340	51,912,796	5,533,803	1,397,446	2,155,224	180,934,609
(10b) From One Year Ago	(339,438,345)	(146,265,821)	(15,331,928)	(4,051,944)	(5,869,932)	(510,957,970)
(10c) From Two Years Ago	469,855,870	199,152,245	18,565,176	5,794,379	7,954,722	701,322,392
(10d) From Three Years Ago	222,868,993	96,754,785	11,075,505	2,410,242	3,369,150	336,478,675
(10e) From Four Years Ago	(519,996,487)	(232,220,784)	(23,645,316)	(6,827,434)	(8,433,267)	(791,123,288)
(10f) Total Recognized Investment Gain/(Loss)	(46,774,629)	(30,666,779)	(3,802,760)	(1,277,311)	(824,103)	(83,345,582)
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	1,321,640,559	484,181,829	29,706,738	24,745,798	42,170,329	1,902,445,253
End of Year:						
<b>(3) Market Value of Assets as of 6/30</b>	<b>24,469,625,324</b>	<b>10,413,059,081</b>	<b>1,188,562,609</b>	<b>362,332,458</b>	<b>488,317,833</b>	<b>36,921,897,305</b>
(12) Preliminary Actuarial Value of Assets = (2)+(11)	23,845,618,271	10,149,146,082	1,164,217,327	354,899,502	478,028,132	35,991,909,314
(12a) Upper Collar Limit 120% x (3)	29,363,550,389	12,495,670,897	1,426,275,131	434,798,950	585,981,400	44,306,276,767
(12b) Lower Collar Limit 80% x (3)	19,575,700,259	8,330,447,265	950,850,087	289,865,966	390,654,266	29,537,517,843
(13) Adjustment to Remain within 20% Collar	0	0	0	0	0	0
<b>(14) Final Actuarial Value of Assets as of 6/30</b>	<b>23,845,618,271</b>	<b>10,149,146,082</b>	<b>1,164,217,327</b>	<b>354,899,502</b>	<b>478,028,132</b>	<b>35,991,909,314</b>
(15) Difference Between Market & Actuarial Values	624,007,052	263,912,999	24,345,282	7,432,956	10,289,701	929,987,991
(16) Actuarial Value Rate of Return	7.53%	7.41%	7.36%	7.34%	7.54%	7.49%
(17) Market Value Rate of Return	10.44%	10.48%	10.27%	9.87%	10.20%	10.43%
(18) Ratio of Actuarial Value to Market Value	97%	97%	98%	98%	98%	97%

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS TEACHERS' COMBINED SYSTEM

	2012	2013	2014	2015	2016	2017
Beginning of Year:						
(1) Market Value of Assets	\$22,764,944,690	\$22,501,533,438				
(2) Actuarial Value of Assets	21,868,875,015	22,523,977,712				
End of Year:						
(3) Market Value of Assets	22,501,533,438	24,469,625,324				
(4) Net of Contributions and Disbursements	(318,395,137)	(361,699,322)				
(5) Total Investment Income						
=(3)-(1)-(4)	54,983,885	2,329,791,208				
(6) Projected Rate of Return	7.75%	7.75%				
(7) Projected Investment Income						
=(1)x(6)+[(1+(6)) <sup>5</sup> -1]x(4)	1,752,175,610	1,730,114,510				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(1,697,191,725)	599,676,698				
(10) Excess Investment Income Recognized						
This Year (5 year recognition)						
(10a) From This Year	(339,438,345)	119,935,340				
(10b) From One Year Ago	469,855,870	(339,438,345)	\$ 119,935,340			
(10c) From Two Years Ago	222,868,993	469,855,870	(339,438,345)	\$ 119,935,340		
(10d) From Three Years Ago	(519,996,485)	222,868,993	469,855,870	(339,438,345)	\$ 119,935,340	
(10e) From Four Years Ago	(611,967,809)	(519,996,487)	222,868,991	469,855,868	(339,438,345)	\$ 119,935,338
(10f) Total Recognized Investment Gain/(Loss)	(778,677,776)	(46,774,629)	473,221,856	250,352,863	(219,503,005)	119,935,338
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	655,102,697	1,321,640,559				
End of Year:						
<b>(3) Market Value of Assets</b>	<b>22,501,533,438</b>	<b>24,469,625,324</b>				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	22,523,977,712	23,845,618,271				
(12a) Upper Collar Limit 120% x (3)	27,001,840,125	29,363,550,389				
(12b) Lower Collar Limit 80% x (3)	18,001,226,750	19,575,700,259				
(13) Adjustment to Remain within 20% Collar	0	0				
<b>(14) Final Actuarial Value of Assets as of 6/30</b>	<b>22,523,977,712</b>	<b>23,845,618,271</b>				
(15) Difference Between Market & Actuarial Values	(22,444,275)	624,007,052				
(16) Actuarial Value Rate of Return	4.48%	7.53%				
(17) Market Value Rate of Return	0.24%	10.44%				
(18) Ratio of Actuarial Value to Market Value	100%	97%				

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS EMPLOYEES' COMBINED SYSTEM (STATE)

	2012	2013	2014	2015	2016	2017
Beginning of Year:						
(1) Market Value of Assets	\$9,855,234,882	\$9,638,646,493				
(2) Actuarial Value of Assets	9,508,670,048	9,664,964,253				
End of Year:						
(3) Market Value of Assets	9,638,646,493	10,413,059,081				
(4) Net of Contributions and Disbursements	(239,916,684)	(223,642,064)				
(5) Total Investment Income						
=(3)-(1)-(4)	23,328,295	998,054,652				
(6) Projected Rate of Return	7.75%	7.75%				
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] <sup>5</sup> -1)x(4)	754,657,398	738,490,672				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(731,329,103)	259,563,980				
(10) Excess Investment Income Recognized						
This Year (5 year recognition)						
(10a) From This Year	(146,265,821)	51,912,796				
(10b) From One Year Ago	199,152,245	(146,265,821)	\$ 51,912,796			
(10c) From Two Years Ago	96,754,785	199,152,245	(146,265,821)	\$ 51,912,796		
(10d) From Three Years Ago	(232,220,784)	96,754,785	199,152,245	(146,265,821)	\$ 51,912,796	
(10e) From Four Years Ago	(275,866,934)	(232,220,784)	96,754,787	199,152,244	(146,265,819)	\$ 51,912,796
(10f) Total Recognized Investment Gain/(Loss)	(358,446,509)	(30,666,779)	201,554,007	104,799,219	(94,353,023)	51,912,796
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	156,294,205	484,181,829				
End of Year:						
<b>(3) Market Value of Assets</b>	<b>9,638,646,493</b>	<b>10,413,059,081</b>				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	9,664,964,253	10,149,146,082				
(12a) Upper Collar Limit 120% x (3)	11,566,375,792	12,495,670,897				
(12b) Lower Collar Limit 80% x (3)	7,710,917,194	8,330,447,265				
(13) Adjustment to Remain within 20% Collar	0	0				
<b>(14) Final Actuarial Value of Assets as of 6/30</b>	<b>9,664,964,253</b>	<b>10,149,146,082</b>				
(15) Difference Between Market & Actuarial Values	(26,317,760)	263,912,999				
(16) Actuarial Value Rate of Return	4.22%	7.41%				
(17) Market Value Rate of Return	0.24%	10.48%				
(18) Ratio of Actuarial Value to Market Value	100%	97%				

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS STATE POLICE

	2012	2013	2014	2015	2016	2017
Beginning of Year:						
(1) Market Value of Assets	\$ 1,116,528,839	\$ 1,127,384,096				
(2) Actuarial Value of Assets	1,090,382,601	1,134,510,589				
End of Year:						
(3) Market Value of Assets	1,127,384,096	1,188,562,609				
(4) Net of Contributions and Disbursements	947,867	(51,889,566)				
(5) Total Investment Income						
=(3)-(1)-(4)	9,907,390	113,068,079				
(6) Projected Rate of Return	7.75%	7.75%				
(7) Projected Investment Income						
=(1)x(6)+[(1+(6)) <sup>.5</sup> -1]x(4)	86,567,030	85,399,064				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(76,659,640)	27,669,015				
(10) Excess Investment Income Recognized						
This Year (5 year recognition)						
(10a) From This Year	(15,331,928)	5,533,803				
(10b) From One Year Ago	18,565,176	(15,331,928)	\$ 5,533,803			
(10c) From Two Years Ago	11,075,505	18,565,176	(15,331,928)	\$ 5,533,803		
(10d) From Three Years Ago	(23,645,315)	11,075,505	18,565,176	(15,331,928)	\$ 5,533,803	
(10e) From Four Years Ago	(34,050,347)	(23,645,316)	11,075,504	18,565,174	(15,331,928)	\$ 5,533,803
(10f) Total Recognized Investment Gain/(Loss)	(43,386,909)	(3,802,760)	19,842,555	8,767,049	(9,798,125)	5,533,803
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	44,127,988	29,706,738				
End of Year:						
<b>(3) Market Value of Assets</b>	<b>1,127,384,096</b>	<b>1,188,562,609</b>				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	1,134,510,589	1,164,217,327				
(12a) Upper Collar Limit 120% x (3)	1,352,860,915	1,426,275,131				
(12b) Lower Collar Limit 80% x (3)	901,907,277	950,850,087				
(13) Adjustment to Remain within 20% Collar	0	0				
<b>(14) Final Actuarial Value of Assets as of 6/30</b>	<b>1,134,510,589</b>	<b>1,164,217,327</b>				
(15) Difference Between Market & Actuarial Values	(7,126,493)	24,345,282				
(16) Actuarial Value Rate of Return	3.96%	7.36%				
(17) Market Value Rate of Return	0.89%	10.27%				
(18) Ratio of Actuarial Value to Market Value	101%	98%				

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS JUDGES

	2012	2013	2014	2015	2016	2017
Beginning of Year:						
(1) Market Value of Assets	\$302,960,936	\$329,322,119				
(2) Actuarial Value of Assets	293,800,575	330,153,704				
End of Year:						
(3) Market Value of Assets	329,322,119	362,332,458				
(4) Net of Contributions and Disbursements	22,293,668	482,304				
(5) Total Investment Income						
=(3)-(1)-(4)	4,067,515	32,528,035				
(6) Projected Rate of Return	7.75%	7.75%				
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] <sup>.5</sup> -1)x(4)	24,327,233	25,540,805				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(20,259,718)	6,987,230				
(10) Excess Investment Income Recognized						
This Year (5 year recognition)						
(10a) From This Year	(4,051,944)	1,397,446				
(10b) From One Year Ago	5,794,379	(4,051,944)	\$ 1,397,446			
(10c) From Two Years Ago	2,410,242	5,794,379	(4,051,944)	\$ 1,397,446		
(10d) From Three Years Ago	(6,827,436)	2,410,242	5,794,379	(4,051,944)	\$ 1,397,446	
(10e) From Four Years Ago	(7,593,013)	(6,827,434)	2,410,244	5,794,379	(4,051,942)	\$ 1,397,446
(10f) Total Recognized Investment Gain/(Loss)	(10,267,772)	(1,277,311)	5,550,125	3,139,881	(2,654,496)	1,397,446
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	36,353,129	24,745,798				
End of Year:						
<b>(3) Market Value of Assets</b>	<b>329,322,119</b>	<b>362,332,458</b>				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	330,153,704	354,899,502				
(12a) Upper Collar Limit 120% x (3)	395,186,543	434,798,950				
(12b) Lower Collar Limit 80% x (3)	263,457,695	289,865,966				
(13) Adjustment to Remain within 20% Collar	0	0				
<b>(14) Final Actuarial Value of Assets as of 6/30</b>	<b>330,153,704</b>	<b>354,899,502</b>				
(15) Difference Between Market & Actuarial Values	(831,585)	7,432,956				
(16) Actuarial Value Rate of Return	4.61%	7.34%				
(17) Market Value Rate of Return	1.29%	9.87%				
(18) Ratio of Actuarial Value to Market Value	100%	98%				

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS LEOPS (STATE)

	2012	2013	2014	2015	2016	2017
Beginning of Year:						
(1) Market Value of Assets	\$416,516,466	\$434,547,280				
(2) Actuarial Value of Assets	401,371,555	435,857,803				
End of Year:						
(3) Market Value of Assets	434,547,280	488,317,833				
(4) Net of Contributions and Disbursements	14,547,258	8,975,699				
(5) Total Investment Income						
=(3)-(1)-(4)	3,483,556	44,794,854				
(6) Projected Rate of Return	7.75%	7.75%				
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] <sup>5</sup> -1)x(4)	32,833,214	34,018,733				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(29,349,658)	10,776,121				
(10) Excess Investment Income Recognized						
This Year (5 year recognition)						
(10a) From This Year	(5,869,932)	2,155,224				
(10b) From One Year Ago	7,954,722	(5,869,932)	\$ 2,155,224			
(10c) From Two Years Ago	3,369,150	7,954,722	(5,869,932)	\$ 2,155,224		
(10d) From Three Years Ago	(8,433,265)	3,369,150	7,954,722	(5,869,932)	\$ 2,155,224	
(10e) From Four Years Ago	(9,914,899)	(8,433,267)	3,369,152	7,954,724	(5,869,930)	\$ 2,155,225
(10f) Total Recognized Investment Gain/(Loss)	(12,894,224)	(824,103)	7,609,166	4,240,016	(3,714,706)	2,155,225
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	34,486,248	42,170,329				
End of Year:						
<b>(3) Market Value of Assets</b>	<b>434,547,280</b>	<b>488,317,833</b>				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	435,857,803	478,028,132				
(12a) Upper Collar Limit 120% x (3)	521,456,736	585,981,400				
(12b) Lower Collar Limit 80% x (3)	347,637,824	390,654,266				
(13) Adjustment to Remain within 20% Collar	0	0				
<b>(14) Final Actuarial Value of Assets as of 6/30</b>	<b>435,857,803</b>	<b>478,028,132</b>				
(15) Difference Between Market & Actuarial Values	(1,310,523)	10,289,701				
(16) Actuarial Value Rate of Return	4.88%	7.54%				
(17) Market Value Rate of Return	0.82%	10.20%				
(18) Ratio of Actuarial Value to Market Value	100%	98%				

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## **SECTION IV**

### **ACCOUNTING STATEMENT INFORMATION**

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**This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the Plan's financial statements.**



## **GASB STATEMENT NO. 25**

Statement No. 25 of the Governmental 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 GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

The actuarial accrued liability (GASB-25) is determined assuming that the plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.70% per annum as of June 30, 2013.

GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets for funding purposes.

GASB Statement No. 67 and 68 are new accounting standards which are replacing Statement No. 25 and 27. GASB Statement No. 67 is first effective for fiscal year 2014 and GASB Statement No. 68 is first effective for fiscal year 2015.

The significant provisions of GASB Statement No. 67 and 68 include:

1. Recognizing the entire Net Pension Liability (similar to the unfunded liability) on the balance sheet (compared with the Net Pension Obligation which is currently shown as a footnote).
2. Possible use of a blended discount rate to calculate liabilities for accounting purposes (to the extent that current and future assets attributable to current members are not sufficient to pay all current members' benefit payments).
3. Use of market value of assets to calculate the Net Pension Liability.
4. Elimination of the Annual Required Contribution (ARC) and having a pension expense that requires a much shorter amortization period than 30 years.

Illustrations of the impact of GASB Statements No. 67 have been performed outside of this report.

**ACCOUNTING STATEMENT INFORMATION – GASB STATEMENT NO. 25**  
**AS OF JUNE 30, 2013**  
**(STATE AND MUNICIPAL)**

	Teachers' Combined System	Employees' Combined System	State Police	Judges	LEOPS	CORS	Total MSRPS*
1. Actuarial Accrued Liability:							
a. Employee Contributions	\$ 2,881,445,431	\$ 1,774,121,814	\$ 73,770,082	\$ 27,212,316	\$ 60,690,190	\$ 1,434,384	\$ 4,818,674,217
b. Retirees, Term. Vesteds & Inactives	20,904,618,595	12,507,971,945	1,543,397,648	286,476,497	750,070,600	9,353,273	36,001,888,558
c. Active Members	11,744,376,750	6,764,638,874	265,333,621	125,147,564	332,393,208	7,638,587	19,239,528,603
2. Total Actuarial Accrued Liability (1(a) + 1(b) + 1(c))	\$35,530,440,776	\$21,046,732,633	\$1,882,501,351	\$438,836,377	\$1,143,153,997	\$18,426,244	\$60,060,091,378
3. Actuarial Value of Assets	<u>23,845,618,271</u>	<u>13,326,585,863</u>	<u>1,164,217,327</u>	<u>354,899,502</u>	<u>642,677,696</u>	<u>16,970,694</u>	<u>39,350,969,353</u>
4. Unfunded Actuarial Accrued Liability: (2-3)	<u>\$11,684,822,505</u>	<u>\$ 7,720,146,770</u>	<u>\$ 718,284,024</u>	<u>\$83,936,875</u>	<u>\$500,476,301</u>	<u>\$ 1,455,550</u>	<u>\$20,709,122,025</u>
5. Funded Ratio	67.11%	63.32%	61.84%	80.87%	56.22%	92.10%	65.52%
6. Annual Payroll	\$ 6,185,175,794	\$ 4,030,260,921	\$ 79,848,029	\$ 40,000,518	\$137,612,972	\$ 4,646,007	\$10,477,544,241
7. UAAL as % of Payroll	189%	192%	900%	210%	364%	31%	198%
8. Annual Required Contribution (ARC) STATE ONLY	20.59%	22.09%	88.06%	42.74%	46.56%		21.96%
9. Illustrated ARC Contribution Dollars STATE ONLY for FY 2015	\$ 1,317,464,402	\$ 703,347,958	\$ 73,984,139	\$ 17,988,538	\$ 41,511,458		\$ 2,154,296,495
10. Equivalent Single Amortization Period in Years - STATE ONLY for FY 2015@	25.000	25.000	25.000	25.000	25.000		25.000

\* Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.

@ Reinvested savings are not reflected in the equivalent single amortization period.

**SCHEDULE OF FUNDING PROGRESS**  
**(STATE AND MUNICIPAL)**  
**(IN THOUSANDS)**

<b>Actuarial Valuation Date June 30,</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b - a)</b>	<b>Funded Ratio (a / b)</b>	<b>Payroll (c)</b>	<b>UAAL as a Percentage of Payroll [(b - a) / c ]</b>
2001	\$ 31,914,778	\$ 32,469,942	\$ 555,164	98.29%	\$7,255,036	8%
2002	32,323,263	34,131,284	1,808,021	94.70%	7,867,794	23%
2003	32,631,465	34,974,601	2,343,136	93.30%	8,134,419	29%
2004	33,484,657	36,325,704	2,841,047	92.18%	8,069,481	35%
2005	34,519,500	39,133,450	4,613,949	88.21%	8,603,761	54%
2006	35,795,025	43,243,492	7,448,467	82.78%	9,287,576	80%
2007	37,886,936	47,144,354	9,257,418	80.36%	9,971,012	93%
2008	39,504,284	50,244,047	10,739,763	78.62%	10,542,806	102%
2009	34,284,569	52,729,171	18,444,603	65.02%	10,714,241	172%
2010	34,688,346	54,085,081	19,396,735	64.14%	10,657,944	182%
2011	36,177,656	55,917,543	19,739,887	64.70%	10,478,800	188%
2012	37,248,401	57,869,145	20,620,745	64.37%	10,336,537	199%
2013	39,350,969	60,060,091	20,709,122	65.52%	10,477,544	198%

**SCHEDULE OF FUNDING PROGRESS  
(IN THOUSANDS)**

**TEACHERS' COMBINED SYSTEM**

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c ]
2001	\$ 19,182,749	\$ 20,126,943	\$ 944,194	95.31%	\$ 3,994,201	24%
2002	19,424,000	21,117,047	1,693,047	91.98%	4,323,054	39%
2003	19,626,676	21,152,063	1,525,387	92.79%	4,522,202	34%
2004	20,155,415	21,724,178	1,568,764	92.78%	4,543,444	35%
2005	20,801,529	23,305,198	2,503,669	89.26%	4,867,396	51%
2006	21,575,451	25,617,484	4,042,033	84.22%	5,269,185	77%
2007	22,814,760	28,122,575	5,307,815	81.13%	5,709,765	93%
2008	23,784,404	29,868,705	6,084,301	79.63%	6,117,590	99%
2009	20,605,618	31,172,917	10,567,299	66.10%	6,194,734	171%
2010	20,908,149	31,963,421	11,055,272	65.41%	6,254,648	177%
2011	21,868,875	32,985,145	11,116,270	66.30%	6,196,976	179%
2012	22,523,978	34,252,715	11,728,737	65.76%	6,080,603	193%
2013	23,845,618	35,530,441	11,684,823	67.11%	6,185,176	189%

**SCHEDULE OF FUNDING PROGRESS**  
**(IN THOUSANDS)**

**EMPLOYEES' COMBINED SYSTEM**

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c ]
2001	\$ 11,021,958	\$ 10,789,907	\$ (232,051)	102.15%	\$ 3,084,859	-8%
2002	11,162,265	11,385,749	223,484	98.04%	3,356,671	7%
2003	11,244,008	12,083,197	839,189	93.05%	3,424,054	25%
2004	11,514,655	12,621,578	1,106,923	91.23%	3,337,543	33%
2005	11,855,673	13,671,756	1,816,083	86.72%	3,537,602	51%
2006	12,287,942	15,291,091	3,003,149	80.36%	3,793,125	79%
2007	13,026,321	16,385,823	3,359,502	79.50%	4,016,221	84%
2008	13,599,717	17,609,769	4,010,052	77.23%	4,165,013	96%
2009	11,839,115	18,517,486	6,678,371	63.93%	4,249,536	157%
2010	11,937,944	19,009,788	7,071,844	62.80%	4,137,474	171%
2011	12,387,810	19,722,264	7,334,453	62.81%	4,027,810	182%
2012	12,667,592	20,283,028	7,615,436	62.45%	3,998,475	190%
2013	13,326,586	21,046,733	7,720,147	63.32%	4,030,261	192%

**SCHEDULE OF FUNDING PROGRESS**  
**(IN THOUSANDS)**

**STATE POLICE**

<b>Actuarial Valuation Date June 30,</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b - a)</b>	<b>Funded Ratio (a / b)</b>	<b>Payroll (c)</b>	<b>UAAL as a Percentage of Payroll [(b - a) / c ]</b>
2001	\$ 1,305,556	\$ 993,847	\$ (311,710)	131.36%	\$ 79,383	-393%
2002	1,300,402	1,030,575	(269,827)	126.18%	83,142	-325%
2003	1,285,201	1,062,383	(222,818)	120.97%	80,839	-276%
2004	1,287,981	1,200,605	(87,376)	107.28%	76,445	-114%
2005	1,289,345	1,284,950	(4,395)	100.34%	76,463	-6%
2006	1,301,877	1,325,875	23,998	98.19%	80,649	30%
2007	1,334,375	1,516,935	182,560	87.97%	83,191	219%
2008	1,343,208	1,601,576	258,367	83.87%	86,464	299%
2009	1,119,766	1,710,356	590,591	65.47%	85,586	690%
2010	1,085,281	1,722,564	637,283	63.00%	81,705	780%
2011	1,090,383	1,759,676	669,293	61.96%	75,551	886%
2012	1,134,511	1,826,546	692,035	62.11%	77,690	891%
2013	1,164,217	1,882,501	718,284	61.84%	79,848	900%

**SCHEDULE OF FUNDING PROGRESS**  
**(IN THOUSANDS)**

**JUDGES**

<b>Actuarial Valuation Date June 30,</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b - a)</b>	<b>Funded Ratio (a / b)</b>	<b>Payroll (c)</b>	<b>UAAL as a Percentage of Payroll [(b - a) / c ]</b>
2001	\$ 229,022	\$ 254,913	\$ 25,891	89.84%	\$ 30,554	85%
2002	234,558	267,532	32,974	87.67%	31,824	104%
2003	240,208	279,008	38,801	86.09%	33,169	117%
2004	250,272	312,285	62,013	80.14%	32,937	188%
2005	260,125	328,033	67,908	79.30%	33,074	205%
2006	273,679	352,537	78,858	77.63%	35,939	219%
2007	293,052	371,987	78,936	78.78%	37,638	210%
2008	306,716	406,782	100,066	75.40%	37,943	264%
2009	270,870	421,039	150,169	64.33%	40,266	373%
2010	276,643	426,215	149,572	64.91%	39,961	374%
2011	293,801	433,240	139,439	67.81%	38,810	359%
2012	330,154	421,286	91,132	78.37%	39,955	228%
2013	354,900	438,836	83,937	80.87%	40,001	210%

**SCHEDULE OF FUNDING PROGRESS**  
(IN THOUSANDS)

**LEOPS**

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c ]
2001	\$ 165,478	\$ 290,504	\$ 125,026	56.96%	\$ 60,438	207%
2002	191,100	312,058	120,958	61.24%	65,916	184%
2003	225,111	382,287	157,176	58.89%	69,470	226%
2004	271,587	454,815	183,228	59.71%	77,369	237%
2005	310,087	537,736	227,648	57.67%	87,220	261%
2006	352,416	649,826	297,410	54.23%	106,669	279%
2007	414,153	738,549	324,396	56.08%	122,015	266%
2008	465,386	748,005	282,619	62.22%	133,445	212%
2009	441,827	895,099	453,273	49.36%	140,071	324%
2010	471,728	950,236	478,508	49.64%	140,199	341%
2011	526,807	1,002,708	475,900	52.54%	135,177	352%
2012	580,826	1,070,087	489,261	54.28%	135,185	362%
2013	642,678	1,143,154	500,476	56.22%	137,613	364%



**SCHEDULE OF FUNDING PROGRESS**  
(IN THOUSANDS)

**CORS**

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c ]
2009	\$ 7,373	\$ 12,273	\$ 4,900	60.08%	\$ 4,048	121%
2010	8,601	12,858	4,257	66.89%	3,956	108%
2011	9,980	14,511	4,531	68.78%	4,475	101%
2012	11,341	15,483	4,143	73.24%	4,628	90%
2013	16,971	18,426	1,456	92.10%	4,646	31%

**SCHEDULE OF EMPLOYER CONTRIBUTIONS  
(STATE AND MUNICIPAL)  
(IN THOUSANDS)**

<b>Fiscal Year Ended June 30,</b>	<b>Annual Required Contributions</b>	<b>Actual Contributions</b>	<b>Percentage Contributed</b>
2001	\$ 634,309	\$ 634,309	100%
2002	574,019	574,019	100%
2003	654,578	602,212	92%
2004	710,632	632,462	89%
2005	805,564	668,618	83%
2006	874,079	716,745	82%
2007	1,025,972	831,037	81%
2008	1,183,765	1,053,551	89%
2009	1,313,560	1,109,564	84%
2010	1,519,980	1,308,920	86%
2011	2,035,401	1,512,473	74%
2012	2,146,624	1,521,761	71%
2013	2,149,985	1,643,101	76%

**SCHEDULE OF EMPLOYER CONTRIBUTIONS BY SYSTEM  
(STATE AND MUNICIPAL)  
(IN THOUSANDS)**

	Fiscal Year Ended June 30,	Annual Required Contributions	Actual Contributions	Percentage Contributed
<b>Teachers' Combined System</b>	2009	\$ 753,475	\$ 673,256	89%
	2010	889,605	820,867	92%
	2011	1,224,606	919,313	75%
	2012	1,288,886	917,564	71%
	2013	1,265,418	981,004	78%
<b>Employees' Combined System</b>	2009	464,633	354,682	76%
	2010	524,797	394,125	75%
	2011	677,783	466,525	69%
	2012	721,776	475,403	66%
	2013	741,003	526,532	71%
<b>State Police</b>	2009	31,040	17,214	55%
	2010	37,114	25,465	69%
	2011	51,292	44,915	88%
	2012	54,452	47,283	87%
	2013	59,329	51,330	87%
<b>Judges</b>	2009	17,520	17,520	100%
	2010	19,955	19,955	100%
	2011	23,854	23,854	100%
	2012	24,077	24,077	100%
	2013	24,062	24,062	100%
<b>LEOPS</b>	2009	46,140	46,140	100%
	2010	47,756	47,756	100%
	2011	57,070	57,070	100%
	2012	56,624	56,624	100%
	2013	55,272	55,272	100%
<b>CORS (Muni)</b>	2009	752	752	100%
	2010	753	753	100%
	2011	796	796	100%
	2012	809	809	100%
	2013	4,901	4,901	100%
<b>Total State</b>	2009	1,207,471	1,003,474	83%
	2010	1,417,209	1,206,149	85%
	2011	1,901,320	1,378,392	72%
	2012	2,019,096	1,394,232	69%
	2013	2,037,989	1,531,106	75%
<b>Total Municipal</b>	2009	106,089	106,089	100%
	2010	102,771	102,771	100%
	2011	134,080	134,080	100%
	2012	127,528	127,528	100%
	2013	111,995	111,995	100%
<b>Total MSRPS</b>	2009	1,313,560	1,109,563	84%
	2010	1,519,980	1,308,920	86%
	2011	2,035,401	1,512,473	74%
	2012	2,146,624	1,521,761	71%
	2013	2,149,985	1,643,101	76%

## REQUIRED SUPPLEMENTARY INFORMATION FOR COMPLIANCE WITH GASB STATEMENT NO. 25

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

Valuation date	June 30, 2013
Actuarial cost method	Individual entry age
Amortization method for unfunded actuarial accrued liabilities (UAAL)	Level percent closed
Amorization Period	25 year closed
Asset valuation method	5-year smoothed market (max. 120% and min. 80% of market value)
Actuarial assumptions:	
Investment rate of return	7.70%
Projected salary increases including wage inflation at 3.5%	3.45% - 11.95%
Cost-of-living adjustments	2.70% - 3.45% for service prior to July 1, 2011.* 1.69% - 3.45% for service after June 30, 2011.*
	*Based on System and provisions. See page C-1 for details.

Membership consisted of the following at June 30, 2013:

Retirees and beneficiaries receiving benefits	137,925
Terminated plan members entitled to but not yet receiving benefits	51,552
Active plan members	<u>192,810</u>
Total	382,287

**REQUIRED SUPPLEMENTARY INFORMATION  
FOR COMPLIANCE WITH GASB STATEMENT NO. 27  
(STATE AND MUNICIPAL)  
(IN THOUSANDS)**

	<b>Fiscal Year Ending June 30,</b>	
	<b>2013</b>	<b>2012</b>
Annual Required Contribution (ARC)	\$2,149,985	\$2,146,624
Interest on NPO	185,575	136,097
Adjustment to ARC	(171,684)	(122,528)
Annual Pension Cost	<u>\$2,163,876</u>	<u>\$2,160,193</u>
Contributions Made	<u>1,643,101</u>	<u>1,521,761</u>
Increase in NPO	\$ 520,775	\$ 638,432
NPO Beginning of Year	<u>2,394,516</u>	<u>1,756,084</u>
NPO End of Year	\$2,915,291	\$2,394,516
Percent of ARC Contributed	76.4%	70.9%
Amortization Period (Years)	21.033	21.963

**SUMMARY OF NET PENSION OBLIGATION BY SYSTEM  
(STATE PORTION ONLY)  
(IN THOUSANDS)**

**FISCAL YEAR ENDING JUNE 30, 2013**

	<u>TCS</u>	<u>ECS (State)</u>	<u>State Police</u>	<u>Judges</u>	<u>LEOPS (State)</u>	<u>Total State</u>
Annual Required Contribution (ARC)	\$1,265,418	\$648,133	\$59,329	\$24,062	\$41,048	\$2,037,989
Interest on NPO	84,972	98,067	3,906	-	-	186,945
Adjustment to ARC	(82,429)	(88,176)	(2,962)	-	-	(173,567)
Annual Pension Cost (APC)	<u>\$1,267,961</u>	<u>\$658,024</u>	<u>\$60,273</u>	<u>\$24,062</u>	<u>\$41,048</u>	<u>\$2,051,367</u>
Contributions Made	<u>981,004</u>	<u>433,662</u>	<u>51,330</u>	<u>24,062</u>	<u>41,048</u>	<u>1,531,106</u>
Increase in NPO	\$ 286,956	\$224,362	\$8,944	\$ 0	\$ 0	\$ 520,262
NPO Beginning of Year	<u>1,096,418</u>	<u>1,265,385</u>	<u>50,404</u>	<u>-</u>	<u>-</u>	<u>1,772,601</u>
NPO End of Year	<u>\$1,383,374</u>	<u>\$1,489,746</u>	<u>\$59,348</u>	\$ 0	\$ 0	<u>\$2,932,469</u>
Percent of ARC Contributed	77.5%	66.9%	86.5%	100.0%	100.0%	75.1%
Percent of APC Contributed	77.4%	65.9%	85.2%	100.0%	100.0%	74.6%
Amortization Period (Years)	19.781	22.274	30.000	17.307	16.274	20.721

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## **APPENDIX A**

### **ACTUARIAL ASSUMPTIONS AND METHODS**

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## ACTUARIAL ASSUMPTIONS AND METHODS

### A. ACTUARIAL ASSUMPTIONS

	1. Valuation Interest Rate	2. Annual Rate of Increase in Cost of Living			3. Aggregate Payroll Growth
		Service Before 7/1/11	Service After 7/1/11		
Teachers' Retirement	7.70%	2.95%	2.95%	#	3.45%
Teachers' Pension	7.70%	2.70%	1.69%	***	3.45%
Employees' Retirement					
Regular	7.70%	2.95%	2.95%	#	3.45%
Correctional	7.70%	2.95%	1.69%	***	3.45%
Legislative	7.70%	3.45%	3.45%		3.45%
Employees' Pension	7.70%	2.70%	1.69%	*,***	3.45%
State Police Retirement	7.70%	2.95%	1.69%	***	3.45%
Judges Pension	7.70%	3.45%	3.45%		3.45%
LEOPS	7.70%	2.70%	1.69%	**,***,#	3.45%
CORS Municipal	7.70%	2.95%	1.69%	***	3.45%

\* A 2.95% simple rate is applicable for municipal members of these Systems, who do not elect to be covered under the improved plan.

\*\* A 2.95% simple rate is applicable for former EPS members.

\*\*\* The increase is capped at the lesser of 2.5% and increase in CPI if the most recent calendar year market value rate of return was greater than or equal to the assumed rate (currently 7.70% as approved by the Board of Trustees). The increase is capped at the lesser of 1% and increase in CPI if the market value return was less than the assumed rate of 7.70%.

# For groups whose COLA is capped at 5% a 2.92% COLA was assumed. A 2.95% COLA was assumed for groups with an unlimited COLA, 2.70% is assumed for groups that are capped at 3%.



# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Salary Increases

Years of Service	Annual Rates of Salary Increases for First 10 Years of Service							
	Teachers' Retirement & Pension	Employees' Retirement			Employees' Pension	State Police	Judges	LEOPS
		Regular	Correctional	Legislative				
0	8.95%	6.95%	9.20%	3.45%	6.95%	9.70%	3.45%	7.45%
1	7.95%	6.95%	7.70%	3.45%	6.95%	10.70%	3.45%	7.95%
2	7.20%	6.20%	4.95%	3.45%	6.20%	9.70%	3.45%	6.95%
3	7.20%	5.45%	4.95%	3.45%	5.45%	9.20%	3.45%	6.20%
4	7.20%	5.45%	4.95%	3.45%	5.45%	6.20%	3.45%	6.20%
5	7.20%	5.20%	4.95%	3.45%	5.20%	5.70%	3.45%	5.70%
6	7.20%	5.20%	4.95%	3.45%	5.20%	5.45%	3.45%	5.70%
7	7.20%	5.20%	4.45%	3.45%	5.20%	4.70%	3.45%	5.20%
8	7.20%	4.95%	4.45%	3.45%	4.95%	4.70%	3.45%	5.20%
9	7.20%	4.95%	4.45%	3.45%	4.95%	4.70%	3.45%	5.20%

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.

## ACTUARIAL ASSUMPTIONS AND METHODS

### A. ACTUARIAL ASSUMPTIONS

#### Rates of Salary Increases

Sample Ages	Annual Rates of Salary Increases for Sample Ages with 10 or More Years of Service							
	Teachers' Retirement & Pension	Employees' Retirement			Employees' Pension	State Police	Judges	LEOPS
		Regular	Correctional	Legislative				
25	7.20%	4.95%	4.45%	3.45%	4.95%	4.70%	3.45%	4.95%
30	7.20%	4.95%	4.45%	3.45%	4.95%	4.70%	3.45%	4.95%
35	6.70%	4.70%	4.45%	3.45%	4.70%	4.45%	3.45%	4.95%
40	5.70%	4.45%	4.20%	3.45%	4.45%	3.95%	3.45%	4.95%
45	5.20%	4.20%	3.95%	3.45%	4.20%	3.70%	3.45%	4.45%
50	4.95%	3.95%	3.45%	3.45%	3.95%	3.45%	3.45%	3.45%
55	4.45%	3.70%	3.45%	3.45%	3.70%	3.45%	3.45%	3.45%
60	3.95%	3.70%	3.45%	3.45%	3.70%	3.45%	3.45%	3.45%
65	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Withdrawal

Sample Ages	Years of Service	Annual Rates of Withdrawal from Active Service													
		Teachers' Retirement & Pension		Employees' Retirement					Employees' Pension		State Police		Judges	LEOPS	
		Male	Female	Regular		Correctional		Legislative	Male	Female	Male	Female		Male	Female
				Male	Female	Male	Female						Male		
All	0	18.00%	14.00%	21.00%	20.00%	18.20%	21.00%	*	21.00%	20.00%	14.00%	14.00%	0.00%	17.00%	17.00%
	1	15.00%	12.50%	15.00%	14.00%	15.00%	18.00%	*	15.00%	14.00%	9.00%	9.00%	0.00%	10.00%	10.00%
	2	14.00%	12.00%	12.25%	11.00%	11.50%	12.00%	*	12.25%	11.00%	6.50%	6.50%	0.00%	9.00%	9.00%
	3	11.00%	9.00%	9.50%	9.00%	10.50%	11.50%	*	9.50%	9.00%	4.00%	4.00%	0.00%	8.00%	8.00%
	4	8.50%	7.75%	8.50%	7.00%	7.00%	10.50%	*	8.50%	7.00%	4.00%	4.00%	0.00%	8.00%	8.00%
	5	6.50%	6.50%	7.25%	6.50%	7.00%	9.00%	*	7.25%	6.50%	2.80%	2.80%	0.00%	6.00%	6.00%
	6	5.75%	5.50%	6.00%	6.00%	5.50%	8.50%	*	6.00%	6.00%	2.50%	2.50%	0.00%	5.00%	5.00%
	7	5.00%	5.00%	5.50%	5.50%	5.00%	8.50%	*	5.50%	5.50%	2.00%	2.00%	0.00%	3.50%	3.50%
	8	4.50%	4.25%	5.00%	4.75%	5.00%	7.00%	*	5.00%	4.75%	2.00%	2.00%	0.00%	3.50%	3.50%
	9	3.75%	4.00%	5.00%	4.00%	4.00%	6.50%	*	5.00%	4.00%	1.50%	1.50%	0.00%	2.50%	2.50%
25	10	4.00%	4.00%	5.00%	4.00%	4.00%	4.50%	*	5.00%	4.00%	1.00%	1.00%	0.00%	2.50%	2.50%
30	& Over	3.75%	4.00%	5.00%	4.00%	4.00%	4.50%	*	5.00%	4.00%	1.00%	1.00%	0.00%	2.50%	2.50%
35		3.00%	3.50%	3.50%	4.00%	4.00%	4.50%	*	3.50%	4.00%	1.00%	1.00%	0.00%	2.50%	2.50%
40		1.50%	2.50%	2.50%	2.50%	4.00%	4.50%	*	2.50%	2.50%	1.00%	1.00%	0.00%	1.50%	1.50%
45		1.00%	2.00%	2.00%	2.00%	4.00%	4.50%	*	2.00%	2.00%	1.00%	1.00%	0.00%	1.50%	1.50%
50		1.00%	1.00%	2.00%	2.00%	4.00%	4.50%	*	2.00%	2.00%	1.00%	1.00%	0.00%	1.50%	1.50%
55		1.00%	1.00%	2.00%	2.00%	4.00%	4.50%	*	2.00%	2.00%	1.00%	1.00%	0.00%	1.50%	1.50%
60		1.00%	1.00%	2.00%	2.00%	4.00%	4.50%	*	2.00%	2.00%	1.00%	1.00%	0.00%	1.50%	1.50%
65	1.00%	1.00%	2.00%	2.00%	4.00%	4.50%	*	2.00%	2.00%	1.00%	1.00%	0.00%	1.50%	1.50%	

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.

\* 20% of legislative members are assumed to withdraw after 8 years and each fourth year thereafter.

*For active members of the Teachers Retirement and Pension Systems and Employees' Retirement (Regular) and Pension Systems, the probability of electing a refund upon withdrawal (if eligible for a vested benefit) is 15% upon first becoming vested, grading down to 0% upon reaching first eligibility for retirement. Active members that terminate from the other Systems that are eligible for a deferred vested benefit are assumed to leave their contributions in the plan and 100% are assumed to elect a deferred benefit.*

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

Rates of Mortality  
(Multipliers by System Applicable to Base Mortality Tables)

### Mortality Assumptions

	Pre-Retirement Mortality	Non-Disabled Retiree Mortality		Disabled Mortality	
	RP-2000 Combined Healthy Mortality, projected to the year 2025	RP-2000 Disabled Mortality		RP-2000 Disabled Mortality	
	Multiplier*	Multiplier	Future Life Expectancy Age 65	Multiplier	Future Life Expectancy Age 65
<b>Teachers' Combined System</b>					
Male	0.62250	0.830	20.98	0.665	15.35
Female	0.57375	0.765	23.57	0.830	17.43
<b>Employees' Combined System</b>					
Male	0.87750	1.170	18.44	0.700	14.87
Female	0.76500	1.020	21.11	1.000	15.70
<b>State Police</b>					
Male	0.75000	1.000	19.58	0.850	13.14
Female	0.75000	1.000	21.28	1.000	15.70
<b>Judges</b>					
Male	0.62250	0.830	20.98	0.665	15.35
Female	0.57375	0.765	23.57	0.830	17.43
<b>LEOPS</b>					
Male	0.75000	1.000	19.58	0.850	13.14
Female	0.75000	1.000	21.28	1.000	15.70

\* Pre-retirement mortality assumption is 75% of the non-disabled retiree mortality assumption.

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Healthy Retired Mortality

Sample	Actuarial Present Value of \$1 Monthly for Life (Without COLA)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Ages	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
50	\$145.51	\$147.51	\$142.08	\$144.80	\$142.08	\$144.80	\$143.71	\$145.00	\$145.51	\$147.51	\$143.71	\$145.00
55	139.11	141.80	134.55	138.16	134.55	138.16	136.71	138.42	139.11	141.80	136.71	138.42
60	130.72	134.48	124.84	129.77	124.84	129.77	127.62	130.11	130.72	134.48	127.62	130.11
65	120.30	125.48	113.06	119.63	113.06	119.63	116.46	120.05	120.30	125.48	116.46	120.05
70	107.89	114.83	99.45	107.91	99.45	107.91	103.38	108.41	107.89	114.83	103.38	108.41
75	92.87	102.35	83.34	94.50	83.34	94.50	87.73	95.05	92.87	102.35	87.73	95.05
80	76.11	87.89	65.89	79.27	65.89	79.27	70.54	79.87	76.11	87.89	70.54	79.87

Sample	Future Life Expectancy (Years)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Ages	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
50	34.83	37.44	31.98	34.75	31.98	34.75	33.27	34.93	34.83	37.44	33.27	34.93
55	30.04	32.63	27.26	29.98	27.26	29.98	28.52	30.16	30.04	32.63	28.52	30.16
60	25.40	27.98	22.71	25.41	22.71	25.41	23.92	25.58	25.40	27.98	23.92	25.58
65	20.98	23.57	18.44	21.11	18.44	21.11	19.58	21.28	20.98	23.57	19.58	21.28
70	16.88	19.45	14.54	17.16	14.54	17.16	15.58	17.31	16.88	19.45	15.58	17.31
75	13.05	15.64	10.94	13.55	10.94	13.55	11.87	13.69	13.05	15.64	11.87	13.69
80	9.66	12.16	7.83	10.29	7.83	10.29	8.63	10.41	9.66	12.16	8.63	10.41

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Disabled Retired Mortality

Sample Ages	Actuarial Present Value of \$1 Monthly for Life (Without COLA)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
50	\$116.97	\$128.19	\$115.51	\$123.95	\$115.51	\$123.95	\$109.71	\$123.95	\$116.97	\$128.19	\$109.71	\$123.95
55	111.08	121.22	109.53	116.43	109.53	116.43	103.42	116.43	111.08	121.22	103.42	116.43
60	104.62	113.71	103.00	108.47	103.00	108.47	96.67	108.47	104.62	113.71	96.67	108.47
65	97.11	105.13	95.43	99.49	95.43	99.49	88.91	99.49	97.11	105.13	88.91	99.49
70	88.38	95.30	86.63	89.30	86.63	89.30	79.97	89.30	88.38	95.30	79.97	89.30
75	78.84	84.71	77.07	78.47	77.07	78.47	70.34	78.47	78.84	84.71	70.34	78.47
80	69.30	73.84	67.53	67.55	67.53	67.55	60.92	67.55	69.30	73.84	60.92	67.55

Sample Ages	Future Life Expectancy (Years)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
50	23.11	27.37	22.46	25.15	22.46	25.15	20.12	25.15	23.11	27.37	20.12	25.15
55	20.40	23.80	19.81	21.73	19.81	21.73	17.67	21.73	20.40	23.80	17.67	21.73
60	17.84	20.52	17.31	18.62	17.31	18.62	15.37	18.62	17.84	20.52	15.37	18.62
65	15.35	17.43	14.87	15.70	14.87	15.70	13.14	15.70	15.35	17.43	13.14	15.70
70	12.96	14.53	12.53	12.98	12.53	12.98	10.99	12.98	12.96	14.53	10.99	12.98
75	10.75	11.91	10.37	10.53	10.37	10.53	9.02	10.53	10.75	11.91	9.02	10.53
80	8.81	9.62	8.48	8.42	8.48	8.42	7.32	8.42	8.81	9.62	7.32	8.42

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.

## ACTUARIAL ASSUMPTIONS AND METHODS

### A. ACTUARIAL ASSUMPTIONS

<b>Accidental Death Mortality Rates</b>	
<b>State Police and LEOPS</b>	
<b>Sample Ages</b>	<b>Male and Female</b>
20	0.0079%
25	0.0230%
30	0.0300%
35	0.0300%
40	0.0300%
45	0.0380%
50	0.0600%
55	0.0150%
60	0.0079%
65	0.0079%
70	0.0079%
75	0.0079%
80	0.0079%

Based on the experience study for the period July 1, 2006 through June 30, 2010, we estimate that the current mortality assumption contains the following estimated margin for future improvements:

<b><u>System</u></b>	<b>Margin for Improvement*</b>					
	<b>Non-Disabled Retired Mortality</b>			<b>Disabled Retired Mortality</b>		
	<b><u>Males</u></b>	<b><u>Females</u></b>	<b><u>Total</u></b>	<b><u>Males</u></b>	<b><u>Females</u></b>	<b><u>Total</u></b>
Teachers Combined System, Judges	15%	15%	15%	15%	15%	15%
Employees Combined System (Includes CORS)	15%	15%	15%	15%	15%	15%
State Police, LEOPS	15%	201%	24%	-74%	-47%	-71%

*\*Margin for future mortality improvement based on the ratio of actual to expected deaths based on the current assumptions. The experience for some of the groups has very limited credibility due to small sample sizes.*

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Disability

Sample Ages	Annual Rates of Disability															
	Teachers' Retirement				Teachers' Pension				Employees' Retirement							
	Ordinary		Accidental		Ordinary		Accidental		Ordinary				Accidental			
	Male	Female	Male	Female	Male	Female	Male	Female	Regular		Correctional		Regular		Correctional	
25	0.00525%	0.00962%	0.00070%	0.00148%	0.02763%	0.02382%	0.00184%	0.00111%	0.02665%	0.02451%	0.17850%	0.45900%	0.00960%	0.00880%	0.10413%	0.16065%
30	0.00525%	0.00962%	0.00070%	0.00148%	0.02763%	0.02382%	0.00184%	0.00111%	0.02633%	0.02425%	0.21420%	0.45900%	0.01000%	0.00920%	0.12495%	0.16065%
35	0.00525%	0.02256%	0.00070%	0.00347%	0.02763%	0.05452%	0.00184%	0.00254%	0.04550%	0.04225%	0.27030%	0.45900%	0.01400%	0.01300%	0.15768%	0.16065%
40	0.01673%	0.04505%	0.00223%	0.00693%	0.09180%	0.10982%	0.00612%	0.00511%	0.08619%	0.07794%	0.34170%	0.51000%	0.01840%	0.01670%	0.19933%	0.17850%
45	0.03345%	0.07722%	0.00446%	0.01188%	0.18351%	0.18817%	0.01223%	0.00875%	0.10933%	0.11557%	0.42840%	0.58650%	0.01630%	0.01730%	0.24990%	0.20528%
50	0.05018%	0.11265%	0.00669%	0.01733%	0.27531%	0.27417%	0.01835%	0.01275%	0.13195%	0.16562%	0.60690%	0.76500%	0.01450%	0.01820%	0.35403%	0.26775%
55	0.06683%	0.19305%	0.00891%	0.02970%	0.36711%	0.46999%	0.02447%	0.02186%	0.17635%	0.22926%	0.78540%	1.17300%	0.01370%	0.01780%	0.45815%	0.41055%
60	0.08355%	0.19305%	0.01114%	0.02970%	0.45882%	0.46999%	0.03059%	0.02186%	0.23043%	0.31701%	0.96390%	2.06550%	0.01400%	0.01930%	0.56228%	0.72293%

Sample Ages	Annual Rates of Disability													
	Employees' Pension				State Police				Judges		LEOPS			
	Ordinary		Accidental		Ordinary		Accidental				Ordinary		Accidental	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
25	0.11088%	0.08854%	0.04608%	0.02323%	0.35235%	1.09350%	0.65250%	2.02500%	0.00595%	0.01110%	0.19992%	0.60996%	0.28560%	0.62560%
30	0.10962%	0.08752%	0.04832%	0.02438%	0.44915%	1.17158%	0.69300%	1.80813%	0.00595%	0.01110%	0.25627%	0.65351%	0.30510%	0.55860%
35	0.18972%	0.15127%	0.06752%	0.03416%	0.56489%	1.18220%	0.84963%	1.77863%	0.00595%	0.02603%	0.32032%	0.65949%	0.37185%	0.54940%
40	0.35964%	0.27948%	0.08864%	0.04370%	0.74966%	1.37547%	0.98325%	1.80425%	0.01896%	0.05198%	0.42434%	0.77324%	0.42945%	0.56160%
45	0.45612%	0.41371%	0.07872%	0.04531%	1.00481%	1.67459%	1.09013%	1.81713%	0.03791%	0.08910%	0.56910%	0.93756%	0.47640%	0.56360%
50	0.55188%	0.59313%	0.07008%	0.04773%	1.43613%	2.19825%	1.52325%	2.33125%	0.05687%	0.12998%	0.81382%	1.23149%	0.66585%	0.72340%
55	0.73593%	0.82151%	0.06608%	0.04669%	1.84622%	3.35673%	1.98738%	3.61325%	0.07574%	0.22275%	1.04636%	1.87954%	0.86880%	1.12040%
60	0.91863%	1.07447%	0.06752%	0.05060%	2.26458%	5.89811%	2.45650%	6.39763%	0.09469%	0.22275%	1.28373%	3.29797%	1.07415%	1.98120%

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.



# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Normal Retirement

Ages	Annual Rates of Normal Retirement													
	Teachers' Retirement		Teachers' Pension				Employees' Retirement		Legislators		Employees' Pension			
	All Years of Service		At Least 30 Years		Less Than 30 Years		All Years of Service		All Years of Service		At Least 30 Years		Less Than 30 Years	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
45	17.0%	15.0%	10.0%	9.0%			17.0%	16.0%			9.0%	12.0%		
46	17.0%	15.0%	10.0%	9.0%			17.0%	16.0%			9.0%	12.0%		
47	17.0%	15.0%	10.0%	9.0%			17.0%	16.0%			9.0%	12.0%		
48	17.0%	15.0%	10.0%	9.0%			17.0%	16.0%			9.0%	12.0%		
49	17.0%	15.0%	10.0%	9.0%			17.0%	16.0%			9.0%	12.0%		
50	17.0%	15.0%	10.0%	9.0%			12.5%	14.0%			8.5%	12.0%		
51	17.0%	15.0%	10.0%	9.0%			12.5%	14.0%			8.5%	12.0%		
52	17.0%	15.0%	10.0%	9.0%			12.5%	14.0%			8.5%	12.0%		
53	17.0%	15.0%	10.0%	9.0%			12.5%	14.0%			8.5%	12.0%		
54	17.0%	15.0%	10.0%	9.0%			12.5%	14.0%			8.5%	12.0%		
55	15.0%	15.0%	10.0%	10.0%			11.5%	14.0%			8.5%	11.0%		
56	15.0%	15.0%	10.0%	10.0%			11.5%	14.0%			8.5%	11.0%		
57	15.0%	15.0%	10.0%	10.0%			11.5%	14.0%			8.5%	11.0%		
58	15.0%	15.0%	10.0%	10.0%			11.5%	14.0%			8.5%	11.0%		
59	15.0%	15.0%	10.0%	11.0%			11.5%	14.0%			8.5%	11.0%		
60	15.0%	18.0%	13.0%	12.0%			13.0%	14.0%	25.0%	30.0%	10.0%	14.0%		
61	15.0%	18.0%	15.0%	16.0%			18.0%	18.0%	25.0%	30.0%	15.0%	14.0%		
62	25.0%	25.0%	22.0%	23.0%	14.0%	21.0%	25.0%	25.0%	25.0%	30.0%	25.0%	30.0%	18.0%	20.0%
63	16.0%	20.0%	18.0%	20.0%	14.0%	16.0%	25.0%	22.0%	25.0%	30.0%	20.0%	22.0%	14.0%	16.0%
64	16.0%	20.0%	18.0%	18.0%	14.0%	16.0%	19.0%	22.0%	25.0%	30.0%	17.0%	20.0%	14.0%	16.0%
65	18.0%	25.0%	20.0%	20.0%	16.0%	16.0%	19.0%	22.0%	25.0%	30.0%	17.0%	20.0%	14.0%	16.0%
66	18.0%	25.0%	22.0%	22.0%	16.0%	19.0%	25.0%	25.0%	40.0%	40.0%	25.0%	25.0%	18.0%	18.0%
67	18.0%	20.0%	18.0%	15.0%	16.0%	15.0%	19.0%	20.0%	25.0%	30.0%	20.0%	25.0%	14.0%	15.0%
68	18.0%	18.0%	18.0%	15.0%	16.0%	15.0%	19.0%	15.0%	25.0%	30.0%	16.0%	18.0%	14.0%	15.0%
69	18.0%	18.0%	18.0%	15.0%	16.0%	15.0%	19.0%	15.0%	25.0%	30.0%	16.0%	18.0%	14.0%	15.0%
70	21.0%	18.0%	18.0%	20.0%	16.0%	15.0%	15.0%	22.0%	25.0%	30.0%	20.0%	18.0%	16.0%	16.0%
71	14.0%	18.0%	18.0%	20.0%	16.0%	15.0%	15.0%	22.0%	25.0%	30.0%	20.0%	18.0%	12.0%	14.0%
72	14.0%	18.0%	18.0%	20.0%	16.0%	15.0%	15.0%	22.0%	25.0%	30.0%	20.0%	18.0%	12.0%	14.0%
73	14.0%	18.0%	18.0%	20.0%	16.0%	15.0%	15.0%	22.0%	25.0%	30.0%	20.0%	18.0%	12.0%	14.0%
74	14.0%	18.0%	18.0%	20.0%	16.0%	15.0%	15.0%	22.0%	25.0%	30.0%	20.0%	18.0%	12.0%	14.0%
75 & Over	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

\* 100% of Legislative members are assumed to retire at first eligibility.

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Normal Retirement

Ages	Annual Rates of Normal Retirement													
	Correctional Officers				State Police *				Judges		LEOPS			
	At Least 20 Years		Less Than 20 Years		At Least 22 Years		Less Than 22 Years		All Years of Service		At Least 25 Years		Less Than 25 Years	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
40	25.0%	25.0%			20.0%	20.0%					45.0%	45.0%		
41	18.0%	18.0%			25.0%	25.0%					45.0%	45.0%		
42	18.0%	18.0%			30.0%	30.0%					45.0%	45.0%		
43	18.0%	18.0%			32.0%	32.0%					45.0%	45.0%		
44	18.0%	18.0%			32.0%	32.0%					45.0%	45.0%		
45	18.0%	18.0%			32.0%	32.0%					35.0%	35.0%		
46	16.0%	16.0%			30.0%	30.0%					32.0%	32.0%		
47	16.0%	16.0%			30.0%	30.0%					32.0%	32.0%		
48	16.0%	16.0%			32.0%	32.0%					32.0%	32.0%		
49	15.0%	15.0%			32.0%	32.0%					32.0%	32.0%		
50	13.0%	13.0%			30.0%	30.0%	15.0%	15.0%			30.0%	30.0%	12.0%	12.0%
51	13.0%	13.0%			30.0%	30.0%	15.0%	15.0%			25.0%	25.0%	12.0%	12.0%
52	13.0%	13.0%			30.0%	30.0%	15.0%	15.0%			20.0%	20.0%	12.0%	12.0%
53	13.0%	13.0%			30.0%	30.0%	15.0%	15.0%			20.0%	20.0%	12.0%	12.0%
54	13.0%	13.0%			30.0%	30.0%	15.0%	15.0%			23.0%	23.0%	12.0%	12.0%
55	11.0%	11.0%	8.0%	8.0%	50.0%	50.0%	25.0%	25.0%			23.0%	23.0%	12.0%	12.0%
56	11.0%	11.0%	8.0%	8.0%	50.0%	50.0%	25.0%	25.0%			23.0%	23.0%	12.0%	12.0%
57	11.0%	11.0%	8.0%	8.0%	50.0%	50.0%	25.0%	25.0%			23.0%	23.0%	12.0%	12.0%
58	11.0%	11.0%	8.0%	8.0%	50.0%	50.0%	25.0%	25.0%			23.0%	23.0%	12.0%	12.0%
59	11.0%	11.0%	8.0%	8.0%	50.0%	50.0%	25.0%	25.0%			18.0%	18.0%	12.0%	12.0%
60	12.5%	12.5%	8.0%	8.0%	100.0%	100.0%	100.0%	100.0%	10.0%	25.0%	23.0%	23.0%	12.0%	12.0%
61	12.5%	12.5%	8.0%	8.0%					10.0%	10.0%	23.0%	23.0%	12.0%	12.0%
62	30.0%	30.0%	18.0%	18.0%					10.0%	10.0%	35.0%	35.0%	35.0%	35.0%
63	30.0%	30.0%	18.0%	18.0%					10.0%	10.0%	35.0%	35.0%	35.0%	35.0%
64	20.0%	20.0%	18.0%	18.0%					10.0%	10.0%	35.0%	35.0%	35.0%	35.0%
65	20.0%	20.0%	18.0%	18.0%					10.0%	10.0%	100.0%	100.0%	100.0%	100.0%
66	35.0%	35.0%	25.0%	25.0%					10.0%	10.0%				
67	25.0%	25.0%	25.0%	25.0%					10.0%	10.0%				
68	25.0%	25.0%	25.0%	25.0%					10.0%	10.0%				
69	25.0%	25.0%	25.0%	25.0%					10.0%	10.0%				
70 & Over	100.0%	100.0%	100.0%	100.0%					100.0%	100.0%				

\* 50% of participants are expected to elect DROP participation.

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Normal Retirement

Ages	Additional Rates to Add to Annual Rates of Normal Retirement at Age of First Eligibility							
	Teachers' Pension Reformed				Employees' Pension Reformed			
	At Least 30 Years		Less Than 30 Years		At Least 30 Years		Less Than 30 Years	
	Male	Female	Male	Female	Male	Female	Male	Female
55 and Under	35.0%	35.0%			35.0%	35.0%		
56	28.0%	28.0%			28.0%	28.0%		
57	21.0%	21.0%			21.0%	21.0%		
58	14.0%	14.0%			14.0%	14.0%		
59	7.0%	7.0%			7.0%	7.0%		
60	0.0%	0.0%			0.0%	0.0%		
61	0.0%	0.0%			0.0%	0.0%		
62	0.0%	0.0%			0.0%	0.0%		
63	0.0%	0.0%			0.0%	0.0%		
64	0.0%	0.0%			0.0%	0.0%		
65+	0.0%	0.0%	25.0%	25.0%	0.0%	0.0%	25.0%	25.0%

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Early Retirement

Ages	Annual Rates of Early Retirement *											
	Teachers' Retirement		Teachers' Pension				Employees' Retirement		Employees' Pension			
			Non-Reformed		Reformed				Non-Reformed		Reformed	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
40	1.0%	1.0%					1.0%	1.0%				
41	1.0%	1.0%					1.0%	1.0%				
42	1.0%	1.0%					1.0%	1.0%				
43	1.0%	1.0%					1.0%	1.0%				
44	1.0%	1.0%					1.0%	1.0%				
45	1.0%	1.0%					1.0%	1.0%				
46	1.0%	1.0%					1.0%	1.0%				
47	1.0%	1.0%					1.0%	1.0%				
48	1.0%	1.0%					1.0%	1.0%				
49	1.5%	1.5%					1.0%	1.0%				
50	1.5%	1.5%					1.0%	1.0%				
51	1.5%	1.5%					4.0%	3.0%				
52	2.0%	1.5%					4.0%	3.0%				
53	2.0%	1.5%					4.0%	3.0%				
54	2.0%	1.5%					4.0%	3.0%				
55	2.0%	3.0%	2.0%	3.5%			6.0%	2.5%	2.0%	2.5%		
56	2.0%	3.0%	1.5%	3.0%			6.0%	2.5%	2.0%	2.5%		
57	3.0%	3.0%	2.0%	3.5%			6.0%	5.0%	2.0%	2.5%		
58	3.0%	4.0%	2.0%	3.5%			6.0%	5.0%	2.0%	3.0%		
59	3.0%	5.0%	3.5%	4.5%			6.0%	5.0%	3.5%	4.5%		
60			4.5%	5.5%	10.0%	15.0%			4.0%	5.0%	10.0%	15.0%
61			6.5%	7.0%	6.5%	7.0%			8.0%	9.0%	8.0%	9.0%
62					6.5%	7.0%					8.0%	9.0%
63					6.5%	7.0%					8.0%	9.0%
64					6.5%	7.0%					8.0%	9.0%

\* Divisions without early retirement eligibility are not shown.

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Social Security Covered Compensation

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Teachers' Retirement	Not applicable
Teachers' Pension	Future covered compensation levels, used to estimate member contributions and retirement allowances, were calculated using a 3.45% per annum compounded increase in the 2013 Social Security Maximum Taxable Wage Base.
Employees' Retirement	Not applicable
Employees' Pension	Future covered compensation levels, used to estimate member contributions and retirement allowances, were calculated using a 3.45% per annum compounded increase in the 2013 Social Security Maximum Taxable Wage Base.
State Police Retirement	Not applicable
Judges' Pension	Not applicable
LEOPS	Future covered compensation levels, used to estimate member contributions and retirement allowances, were calculated using a 3.45% per annum compounded increase in the 2013 Social Security Maximum Taxable Wage Base.
Correctional Officers' Retirement System	Not applicable

# ACTUARIAL ASSUMPTIONS AND METHODS

## B. ACTUARIAL PROCEDURES

### 1. Asset Valuation Method

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All six Systems use a method based on the principle that the difference between actual and expected investment returns should be subject to partial recognition to smooth out fluctuations in the total return achieved by the fund from year to year. Under this method, the actuarial value of assets reflects annually one-fifth of the market value gains or losses for the five prior years. The resulting value is restricted to be not less than 80% of market value nor greater than 120% of market value. As of June 30, 2007, the calculation of market gains or losses included the difference between market and actuarial assets as of June 30, 2006.

For the Employees' Retirement & Pension System and for LEOPS, assets must be allocated between State and Municipal Corporation members. Beginning July 1, 1984, this allocation is based upon actual cash flows and shared investment results.

# ACTUARIAL ASSUMPTIONS AND METHODS

## B. ACTUARIAL PROCEDURES

### 2. Funding Method

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All six Systems use the individual entry age normal method 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.

The individual Entry Age Normal cost rate is determined as the value, as of age at entry into the plan, of the member's projected future benefits, and divided by the value, also as of the member's entry age, of the member's expected future salary. For purposes of calculating the normal cost rate, the benefit accrual rate for future service is assumed. The benefit provisions applicable to each member are used in developing his/her individual normal cost rate.

In addition to contributions required to meet the System's normal cost, contributions will be required to fund the System's unfunded actuarial liability. Actuarial liability is defined as the present value of future benefits less the present value of future normal costs. The unfunded actuarial liability for all members is the actuarial liability less the actuarial value of the System's assets.

The System's unfunded actuarial liability is funded over a 25-year closed amortization period as of June 30, 2013.

There is an additional component in the unfunded actuarial accrued liability amortization contribution rate that accounts for the effects of the lag between the valuation date and when the contribution is made. This calculation assumes the contributions that would be received in fiscal year 2014 are equal to the budgeted contributions developed in the valuation as of June 30, 2012, plus the proportionate share of reinvested savings allocated to each System for fiscal year 2014 under the pension reforms.

Actuarial contributions for the Teachers and Employees Systems are based on a corridor method as described elsewhere.

A portion of the savings from the 2011 pension reforms passed by the General Assembly are to be reinvested as additional contributions into the Systems. In fiscal year 2012, \$120 million will be reduced from the rates that were certified by the Board from the 2010 valuation. In fiscal year 2013, additional contributions will be made equal to the total savings from the pension reforms less \$120 million. In fiscal years 2014 and later, additional contributions will be made equal to the total savings from the pension reforms, capped at \$300 million. In statute, the actual additional contributions in fiscal years 2014 and later have been set at \$300 million.

**SUMMARY OF ASSUMPTIONS USED**  
**JUNE 30, 2013**  
**MISCELLANEOUS AND TECHNICAL ASSUMPTIONS**

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<b>Marriage Assumption:</b>	75% of males and females are assumed to be married for purposes of death-in-service benefits.
<b>Pay Increase Timing:</b>	Teachers' Systems assume beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date. All other Systems assume middle of (Fiscal) year. This is equivalent to assuming that reported pays represent the annualized rate of pay at the beginning of the (Fiscal) year.
<b>Decrement Timing:</b>	Decrements of all types are assumed to occur mid-year, except for Teachers' Systems which assumed beginning of year (i.e., July 1) for retirement and termination.
<b>Eligibility Testing:</b>	Eligibility for benefits is determined based upon the age nearest birthday and rounded integer service on the date the decrement is assumed to occur.
<b>Benefit Service:</b>	Exact fractional service is used to determine the amount of benefit payable.
<b>Decrement Operation:</b>	Mortality and disability operate during retirement eligibility.
<b>Incidence of Contributions:</b>	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.
<b>Unused Sick Leave:</b>	Each member is assumed to have an additional 5 months of service at retirement attributable to sick leave.
<b>Unknown Data for Participants:</b>	Average characteristics of the group as a whole are used to fill in the unknown data.
<b>Age of Spouse:</b>	In the absence of complete data, females are assumed to be 4 years younger than males.
<b>Option Elections:</b>	It was assumed optional forms of payment were actuarially equivalent to the normal form of payment.
<b>Reinvested Savings Allocation:</b>	Total savings from the 2011 pension reforms that are to be reinvested in each of the Systems as additional contributions are allocated between the Systems in proportion to the savings as measured in the actuarial valuation as of June 30, 2011.



**SUMMARY OF ASSUMPTIONS USED**  
**JUNE 30, 2013**  
**MISCELLANEOUS AND TECHNICAL ASSUMPTIONS**

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**Vested Deferred Benefit Commencement:**

Active members assumed to terminate and receive a deferred benefit are assumed to commence receiving benefits at the earliest commencement age allowed under the plan. Current vested deferred and inactive members are assumed to commence receiving benefits at the earliest commencement age allowed under the plan.

**Liability Adjustments:**

An additional liability was added to the aggregate results for Teachers' and Employees' Pension Systems to reflect that the past service benefits would be calculated based on the full time salary equivalent for part-time members. The additional liability amounts are \$167,840,000 for TPS and \$44,440,000 for EPS.

For State Police and LEOPS, the value of the DROP interest credits of 4% to 6% vs. the valuation interest rate of 7.70% was accounted for through the use of certain load factors as shown in the table below. The assumed length of time members would stay in the DROP was 4 years for State Police and 4.85 years for LEOPS, based on the average projected DROP period of current DROP members in the data provided by the SRA.

<u>Load Applied to</u>	<u>Load Factor</u>	
	<u>State Police</u>	<u>LEOPS</u>
Active Normal Retirement Decrement	0.9924	0.9892
Liabilities for Members in the DROP	0.9958	0.9942
DROP Account Balances	0.9680	0.9537

## **DEFINITIONS OF TECHNICAL TERMS**

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

**Actuarial Accrued Liability** - The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as "past service liability".

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

**Actuarial Cost Method** - A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefits" between future normal costs and actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

**Actuarial Equivalent** - One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

**Actuarial Gain (Loss)** - The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

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

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

**Normal Cost** - The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as "current service cost".

**Projected Benefit Obligation** - The portion of a member's projected benefit attributable to service before the valuation date - allocated based on the ratio of accrued service to projected total service and based on anticipated future compensation.

**Unfunded Actuarial Accrued Liabilities** - The difference between actuarial accrued liabilities and valuation assets. Sometimes referred to as "unfunded past service liability" or "unfunded supplemental present value".

Most retirement systems have unfunded actuarial accrued liabilities. They arise each time new benefits are added and each time an actuarial loss occurs.

The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in their amount (after due allowance for devaluation of the dollar).

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## **APPENDIX B**

### MEMBERSHIP INFORMATION

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**STATE RETIREMENT AND PENSION SYSTEM**  
**SUMMARY OF MEMBERSHIP DATA AS OF JUNE 30, 2013**  
**(STATE AND MUNICIPAL)**

		Active Members		Retirees and Beneficiaries			Vested Former Members (Includes Inactives)	Total Number
		Number	Salary	Number	Benefits#	Ave. Age		
Teachers' Retirement - STATE	Total	290	\$ 28,980,165					
	Vested	290	\$ 28,980,165					
	Non-vested	0	\$ -	3,929	\$ 133,369,245	77.8	61.9	179
Teachers' Pension - STATE	Total	8,713	\$ 458,130,193					
	Vested	6,288	\$ 351,765,381					
	Non-vested	2,425	\$ 106,364,812	4,475	\$ 67,467,165	71.1	63.0	2,749
Teachers' Retirement - LOCAL	Total	1,340	\$ 116,226,838					
	Vested	1,340	\$ 116,226,838					
	Non-vested	0	\$ -	25,318	\$ 888,852,044	75.0	58.3	345
Teachers' Pension - LOCAL	Total	93,685	\$ 5,581,838,598					
	Vested	74,835	\$ 4,753,474,603					
	Non-vested	18,850	\$ 828,363,995	32,668	\$ 668,893,453	68.4	61.3	20,282
Employees' Retirement	Total	8,976	\$ 417,020,134					
	Vested	6,308	\$ 314,656,922					
	Non-vested	2,668	\$ 102,363,212	22,368	\$ 469,683,303	73.1	57.5	889
Employees' Pension	Total	75,701	\$ 3,613,240,787					
	Vested	57,750	\$ 2,914,940,468					
	Non-vested	17,951	\$ 698,300,319	44,825	\$ 573,412,357	68.3	65.1	26,762
State Police	Total	1,320	\$ 79,848,029					
	Vested	993	\$ 66,131,513					
	Non-vested	327	\$ 13,716,516	2,428	\$ 109,850,900	61.4	48.0	84
Judges	Total	288	\$ 40,000,518					
	Vested	276	\$ 38,366,748					
	Non-vested	12	\$ 1,633,770	378	\$ 26,520,948	76.7	65.1	10
LEOPS	Total	2,407	\$ 137,612,972					
	Vested	1,870	\$ 113,373,378					
	Non-vested	537	\$ 24,239,594	1,518	\$ 49,982,510	57.9	52.4	251
CORS	Total	90	\$ 4,646,007					
	Vested	51	\$ 2,982,895					
	Non-vested	39	\$ 1,663,112	18	\$ 590,551	54.8	55.0	1
Total Systems	Total	192,810	\$ 10,477,544,241					
	Vested	150,001	\$ 8,700,898,911					
	Non-vested	42,809	\$ 1,776,645,330	137,925	\$ 2,988,622,476	70.5	60.1	51,552

\* Includes normal and early service retirees only.

#Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013.

**STATE RETIREMENT AND PENSION SYSTEM**  
**SUMMARY OF MEMBERSHIP DATA AS OF JUNE 30, 2013**  
**(STATE ONLY)**

		<u>Active Members</u>		<u>Retirees and Beneficiaries</u>				<u>Vested Former Members (Includes Inactives)</u>	<u>Total</u>
		<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Benefits#</u>	<u>Ave. Age</u>	<u>Avg. Age at Ret.*</u>	<u>Number</u>	<u>Number</u>
Teachers' Retirement - STATE	Total	290	\$ 28,980,165						
	Vested	290	\$ 28,980,165						
	Non-vested	0	\$ -	3,929	\$ 133,369,245	77.8	61.9	179	4,398
Teachers' Pension - STATE	Total	8,713	\$ 458,130,193						
	Vested	6,288	\$ 351,765,381						
	Non-vested	2,425	\$ 106,364,812	4,475	\$ 67,467,165	71.1	63.0	2,749	15,937
Teachers' Retirement - LOCAL	Total	1,340	\$ 116,226,838						
	Vested	1,340	\$ 116,226,838						
	Non-vested	0	\$ -	25,318	\$ 888,852,044	75.0	58.3	345	27,003
Teachers' Pension - LOCAL	Total	93,685	\$ 5,581,838,598						
	Vested	74,835	\$ 4,753,474,603						
	Non-vested	18,850	\$ 828,363,995	32,668	\$ 668,893,453	68.4	61.3	20,282	146,635
Employees' Retirement	Total	8,833	\$ 408,678,174						
	Vested	6,166	\$ 306,355,127						
	Non-vested	2,667	\$ 102,323,047	18,730	\$ 404,538,976	72.2	57.0	842	28,405
Employees' Pension	Total	51,296	\$ 2,617,390,449						
	Vested	39,535	\$ 2,110,228,220						
	Non-vested	11,761	\$ 507,162,229	33,068	\$ 446,708,276	68.2	61.4	20,236	104,600
State Police	Total	1,320	\$ 79,848,029						
	Vested	993	\$ 66,131,513						
	Non-vested	327	\$ 13,716,516	2,428	\$ 109,850,900	61.4	48.0	84	3,832
Judges	Total	288	\$ 40,000,518						
	Vested	276	\$ 38,366,748						
	Non-vested	12	\$ 1,633,770	378	\$ 26,520,948	76.7	65.1	10	676
LEOPS	Total	1,459	\$ 84,734,305						
	Vested	1,146	\$ 70,196,694						
	Non-vested	313	\$ 14,537,611	1,246	\$ 40,433,959	58.9	52.5	172	2,877
Total Systems	Total	167,224	\$ 9,415,827,269						
	Vested	130,869	\$ 7,841,725,289						
	Non-vested	36,355	\$ 1,574,101,980	122,240	\$ 2,786,634,965	70.5	59.9	44,899	334,363

\* Includes normal and early service retirees only.

# Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013.

**STATE RETIREMENT AND PENSION SYSTEM**  
**SUMMARY OF MEMBERSHIP DATA AS OF JUNE 30, 2013**  
**(MUNICIPAL ONLY)**

		<u>Active Members</u>		<u>Retirees and Beneficiaries</u>				<u>Vested Former Members (Includes Inactives)</u>	<u>Total Number</u>
		<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Benefits#</u>	<u>Avg. Age</u>	<u>Avg. Age at Ret.*</u>	<u>Number</u>	
Employees' Retirement	Total	143	\$ 8,341,960						
	Vested	142	\$ 8,301,795						
	Non-vested	1	\$ 40,165	3,638	\$ 65,144,327	77.3	60.2	47	3,828
Employees' Pension	Total	24,405	\$ 995,850,338						
	Vested	18,215	\$ 804,712,248						
	Non-vested	6,190	\$ 191,138,090	11,757	\$ 126,704,082	68.8	63.2	6,526	42,688
LEOPS	Total	948	\$ 52,878,667						
	Vested	724	\$ 43,176,684						
	Non-vested	224	\$ 9,701,983	272	\$ 9,548,551	53.7	51.8	79	1,299
CORS	Total	90	\$ 4,646,007						
	Vested	51	\$ 2,982,895						
	Non-vested	39	\$ 1,663,112	18	\$ 590,551	54.8	55.0	1	109
Total Systems	Total	25,586	\$ 1,061,716,972						
	Vested	19,132	\$ 859,173,622						
	Non-vested	6,454	\$ 202,543,350	15,685	\$ 201,987,511	70.5	62.3	6,653	47,924

\* Includes normal and early service retirees only.

# Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013.

## ACTIVE MEMBERSHIP INFORMATION

Maryland State Retirement and Pension System Active Membership Statistics June 30, 2013				
System	Number	Average Age	Average Credited Service	Average Salary
Teachers' Retirement	1,630	62.8	37.6	\$ 89,084
Teachers' Pension	102,398	45.0	11.7	58,985
Employees' Retirement – State	786	61.3	37.4	67,120
Employees' Retirement – Municipal	143	60.9	36.7	58,335
Employees' Retirement – Legislators	185	56.5	11.5	43,641
Employees' Retirement – Correctional Officers	7,862	41.5	10.0	44,244
Employees' Retirement – Total	8,976	43.8	12.8	46,459
Employees' Pension – State	51,296	48.3	13.1	51,025
Employees' Pension – Municipal	24,405	49.2	10.9	40,805
Employees' Pension – Total	75,701	48.6	12.4	47,730
State Police	1,320	35.5	11.0	60,491
Judges	288	58.3	9.6	138,891
LEOPS – State	1,459	42.1	11.0	58,077
LEOPS – Municipal	948	38.7	10.4	55,779
LEOPS – Total	2,407	40.8	10.7	57,172
CORS	90	42.2	8.6	51,622
<b>TOTAL SYSTEMS</b>	192,810	46.4	12.2	54,341
	<b>Teachers' Retirement</b>		<b>Employees' Retirement</b>	
	<b>Number</b>	<b>Earnings</b>	<b>Number</b>	<b>Earnings</b>
Unlimited COLA	999	\$ 90,444,207	585	\$ 38,558,080
5% COLA Cap	399	34,545,065	269	17,666,534
Bifurcate	232	20,217,731	75	4,874,022
	<u>1,630</u>	<u>\$ 145,207,003</u>	<u>929</u>	<u>\$ 61,098,636</u>



# ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION JUNE 30, 2013

## TEACHERS' COMBINED SYSTEM

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	8							8	\$ 104,301
20-24	2,010	18						2,028	81,341,664
25-29	6,825	3,204	14					10,043	455,611,293
30-34	3,540	7,889	2,171	9				13,609	710,909,237
35-39	2,070	3,572	4,926	1,266	3			11,837	713,130,440
40-44	2,232	3,021	3,084	3,878	867	9		13,091	826,419,304
45-49	1,927	2,983	2,362	2,169	2,361	682	7	12,491	771,814,168
50-54	1,499	2,864	2,557	1,976	1,395	1,809	456	12,556	754,248,273
55-59	988	2,141	2,366	2,213	1,563	1,520	2,077	12,868	821,260,106
60	165	358	381	417	366	291	613	2,591	173,413,006
61	129	282	365	392	404	318	660	2,550	178,404,154
62	94	291	311	362	336	299	608	2,301	158,465,584
63	93	224	251	260	265	206	453	1,752	122,856,649
64	67	208	209	189	203	185	368	1,429	96,004,810
65	59	143	191	168	152	162	321	1,196	81,548,383
66	41	156	133	147	134	155	263	1,029	70,948,143
67	35	85	113	103	84	84	194	698	46,747,626
68	21	67	69	47	47	57	105	413	26,741,986
69	21	53	60	35	38	45	124	376	25,527,928
70	10	51	39	27	23	28	106	284	18,474,625
71	5	34	46	23	13	24	73	218	13,683,411
72	5	25	29	19	16	17	54	165	10,342,453
73	4	19	18	11	8	12	39	111	6,474,205
74	6	20	14	7	6	5	25	83	5,231,870
75	10	14	10	8	8	4	20	74	3,507,242
76	3	10	12	6	2	2	15	50	2,387,575
77	6	4	7	4	5	4	28	58	3,275,583
78	1	8	6	2	2	4	7	30	1,528,328
79+	1	13	13	9	8	6	39	89	4,773,447
<b>Totals</b>	<b>21,875</b>	<b>27,757</b>	<b>19,757</b>	<b>13,747</b>	<b>8,309</b>	<b>5,928</b>	<b>6,655</b>	<b>104,028</b>	<b>\$6,185,175,794</b>

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2013**

**EMPLOYEES' COMBINED SYSTEM**

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	19							19	\$ 371,487
20-24	1,231	80						1,311	40,497,880
25-29	3,579	1,789	49					5,417	202,306,760
30-34	2,998	2,941	746	20				6,705	280,833,486
35-39	2,626	2,593	1,811	585	21			7,636	338,817,685
40-44	2,249	2,659	2,209	1,676	631	117		9,541	449,707,979
45-49	2,273	2,805	2,208	1,811	1,472	1,262	125	11,956	575,090,535
50-54	2,092	2,800	2,272	1,833	1,584	2,163	1,257	14,001	699,612,493
55-59	1,656	2,207	2,099	1,753	1,426	1,719	2,637	13,497	697,856,552
60	221	378	352	273	267	309	584	2,384	126,900,269
61	205	336	301	272	221	258	487	2,080	108,593,089
62	165	327	276	262	198	255	513	1,996	104,801,158
63	161	276	233	214	135	178	372	1,569	82,247,269
64	124	272	231	160	128	134	280	1,329	68,161,128
65	109	218	187	168	115	104	254	1,155	60,782,110
66	81	178	160	144	112	85	194	954	50,306,537
67	65	138	122	93	79	56	131	684	34,729,303
68	35	104	72	59	57	56	93	476	23,362,806
69	50	75	82	57	44	38	71	417	19,945,855
70	34	61	71	55	29	38	64	352	15,976,798
71	26	49	55	34	31	21	53	269	12,222,089
72	18	37	39	23	19	27	35	198	8,266,530
73	19	32	36	11	17	21	18	154	5,837,316
74	10	17	35	23	7	13	25	130	5,552,038
75	13	20	20	21	10	18	23	125	5,314,656
76	6	14	19	16	9	5	12	81	3,281,281
77	3	10	14	9	8	6	9	59	1,919,999
78	2	9	10	8	10	3	9	51	1,999,948
79+	6	25	32	15	17	12	24	131	4,965,885
<b>Totals</b>	<b>20,076</b>	<b>20,450</b>	<b>13,741</b>	<b>9,595</b>	<b>6,647</b>	<b>6,898</b>	<b>7,270</b>	<b>84,677</b>	<b>\$4,030,260,921</b>

# ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION JUNE 30, 2013

## STATE POLICE

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	6							6	\$ 145,632
20-24	106	16						122	4,800,564
25-29	135	105	19					259	12,321,630
30-34	33	117	94	4				248	13,956,907
35-39	14	42	67	74	14			211	13,761,493
40-44	12	31	41	113	73	8		278	19,827,599
45-49	3	16	15	39	55	12		140	10,663,973
50-54		3	8	3	23	4	2	43	3,321,174
55-59			3	2	2		6	13	1,049,057
<b>Totals</b>	<b>309</b>	<b>330</b>	<b>247</b>	<b>235</b>	<b>167</b>	<b>24</b>	<b>8</b>	<b>1,320</b>	<b>\$79,848,029</b>

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2013**

**JUDGES**

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
35-39	1							1	\$ 129,798
40-44	10	2						12	1,624,386
45-49	12	7	1					20	2,698,878
50-54	13	15	15					43	5,918,526
55-59	17	17	25	18				77	10,643,001
60	1	1	3	9				14	1,946,814
61	4	9	1	5				19	2,656,125
62	2	1	3	4				10	1,476,480
63	2	4	4	8				18	2,492,424
64	1	3	3	11				18	2,492,006
65	1	2	2	8				13	1,795,270
66	3	2	2	9				16	2,258,940
67	1	3	2	3				9	1,284,156
68		3	2	3				8	1,150,380
69				3				3	416,118
70		2	2	3				7	1,017,216
<b>Totals</b>	<b>68</b>	<b>71</b>	<b>65</b>	<b>84</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>288</b>	<b>\$40,000,518</b>

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2013**

**LEOPS**

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	90	5						95	\$ 3,976,182
25-29	186	125	4					315	14,359,390
30-34	64	182	92	4				342	17,295,214
35-39	45	117	118	40	3			323	17,348,379
40-44	36	82	108	159	65	1		451	27,358,430
45-49	53	65	61	84	110	36	2	411	26,344,209
50-54	27	51	20	34	37	33	13	215	14,163,503
55-59	18	40	21	16	25	10	17	147	9,534,223
60	2	6	4	4	3	1	3	23	1,608,237
61		3	3	3	2	1	1	13	755,428
62		4	3	6	2		4	19	1,348,326
63	1	2	3	2	3	1	4	16	1,143,017
64	2	3	1	1	3			10	678,874
65	1	4	2	3			2	12	747,826
66			2	1	2		1	6	409,987
67		1	1		1		1	4	255,297
70		1			2			3	175,936
72			1		1			2	110,514
<b>Totals</b>	<b>525</b>	<b>691</b>	<b>444</b>	<b>357</b>	<b>259</b>	<b>83</b>	<b>48</b>	<b>2,407</b>	<b>\$137,612,972</b>

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2013**

**CORS**

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	3							3	\$ 126,486
25-29	11							11	466,442
30-34	5	7	1					13	602,766
35-39	5	1	4	2				12	638,894
40-44	5	4	2	3				14	709,404
45-49	4	1		1	1			7	341,807
50-54	1	5	2	2	1		3	14	899,276
55-59	3	1	5	1	1		1	12	658,361
62		1	1					2	95,639
63		1						1	48,838
66				1				1	58,094
<b>Totals</b>	<b>37</b>	<b>21</b>	<b>15</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>90</b>	<b>\$4,646,007</b>

**RETIRED MEMBERSHIP STATISTICS**  
**JUNE 30, 2013**  
**(STATE AND MUNICIPAL)**

<b>System</b>	<b>Number</b>	<b>Average Age</b>	<b>Average Credited Service*</b>	<b>Average Final Average Salary*</b>	<b>Average Benefit#</b>
Teachers' Retirement	29,247	75.4	28.3	\$ 48,359	\$ 34,951
Teachers' Pension	37,143	68.7	21.9	53,680	19,825
Employees' Retirement – State	18,730	72.2	24.3	\$ 35,255	\$ 21,598
Employees' Retirement – Municipal	3,638	77.3	22.9	27,782	17,907
Employees' Retirement – Total	22,368	73.1	24.1	34,039	20,998
Employees' Pension – State	33,068	68.2	20.4	\$ 40,854	\$ 13,509
Employees' Pension – Municipal	11,757	68.8	16.5	34,675	10,777
Employees' Pension – Total	44,825	68.3	19.4	39,233	12,792
State Police	2,428	61.4	23.9	\$ 48,398	\$ 45,243
Judges	378	76.7	13.9	\$ 138,448	\$ 70,161
LEOPS – State	1,246	58.9	23.1	\$ 54,734	\$ 32,451
LEOPS – Municipal	272	53.7	22.6	61,276	35,105
LEOPS – Total	1,518	57.9	23.0	55,906	32,927
CORS – Municipal	18	54.8	26.0	\$ 70,197	\$ 32,808
Total - State	122,240	70.5	23.4	\$ 46,282	\$ 22,796
Total - Municipal	15,685	70.5	18.1	33,578	12,878
<b>TOTAL SYSTEMS</b>	<b>137,925</b>	<b>70.5</b>	<b>22.8</b>	<b>44,837</b>	<b>21,668</b>

\*Only non-zero values included in averages.

**RETIRED MEMBERSHIP STATISTICS –BY TYPE**  
**JUNE 30, 2013**  
**(STATE AND MUNICIPAL)**

System	Service Retirees		Disabilities		Beneficiaries	
	Number	Average Age	Number	Average Age	Number	Average Age
Teachers' Retirement	25,983	75.2	885	74.5	2,379	77.9
Teachers' Pension	32,776	69.4	3,342	62.0	1,025	68.9
Employees' Retirement – State	14,448	72.4	1,626	61.5	2,656	78.1
Employees' Retirement – Municipal	2,749	77.2	279	74.1	610	79.3
Employees' Retirement – Total	17,197	73.1	1,905	63.3	3,266	78.3
Employees' Pension – State	26,152	69.4	5,162	61.4	1,754	69.2
Employees' Pension – Municipal	8,813	70.9	2,339	60.8	605	68.9
Employees' Pension – Total	34,965	69.8	7,501	61.2	2,359	69.2
State Police	1,560	62.7	608	53.7	260	71.1
Judges	263	75.2	3	65.6	112	80.6
LEOPS – State	912	61.1	265	51.1	69	59.7
LEOPS – Municipal	194	56.4	71	46.6	7	50.9
LEOPS – Total	1,106	60.3	336	50.1	76	58.9
CORS – Municipal	14	57.1	4	46.7		
Total - State	102,094	71.1	11,891	61.9	8,255	74.7
Total - Municipal	11,770	72.1	2,693	61.8	1,222	74.0
<b>TOTAL SYSTEMS</b>	<b>113,864</b>	<b>71.2</b>	<b>14,584</b>	<b>61.9</b>	<b>9,477</b>	<b>74.6</b>

*#Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013.*



**RETIRED MEMBERSHIP – ATTAINED AGE**  
**JUNE 30, 2013**  
**(STATE AND MUNICIPAL)**

Age At Valuation Date	Teachers'		Employees		State Police		Judges		LEOPS		CORS (Municipal)		Total	
	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits
Under 30	10	\$ 123,107	45	\$ 596,754	5	\$ 190,005	-	-	9	\$ 174,727	-	-	69	\$ 1,084,593
30-34	18	470,389	50	900,746	12	455,554	-	-	21	714,772	-	-	101	2,541,461
35-39	59	1,580,982	128	2,653,836	36	1,457,475	-	-	31	978,799	-	-	254	6,671,091
40-44	125	3,395,787	429	9,269,799	120	5,647,593	-	-	67	2,377,282	-	-	741	20,690,461
45-49	222	5,743,944	1,183	23,899,706	318	14,953,366	-	-	153	5,896,555	5	\$ 89,094	1,881	50,582,666
50-54	458	10,977,740	2,593	53,442,031	291	13,717,437	1	\$ 43,936	272	9,560,420	7	257,003	3,622	87,998,567
55-59	2,589	81,757,008	5,418	110,737,635	331	15,661,078	3	88,797	320	10,758,151	2	59,576	8,663	219,062,246
60-64	11,387	339,557,012	11,149	197,436,680	342	15,667,486	22	1,789,293	304	9,742,420	2	98,069	23,206	564,290,960
65-69	17,678	467,185,472	14,843	231,963,263	376	16,526,127	58	4,401,435	203	5,988,062	1	15,056	33,159	726,079,415
70-74	12,859	324,732,860	11,397	158,576,835	270	11,217,300	90	6,547,708	75	2,177,529	1	71,753	24,692	503,323,984
75-79	8,616	214,004,163	8,421	109,703,894	180	7,208,666	81	5,909,084	48	1,251,471	-	-	17,346	338,077,278
80-84	6,412	162,938,927	5,969	74,574,375	89	3,653,847	50	3,136,645	13	308,499	-	-	12,533	244,612,294
85-89	3,908	96,695,516	3,668	46,639,486	42	2,202,445	47	2,906,135	2	53,823	-	-	7,667	148,497,406
90-94	1,639	38,784,319	1,491	17,729,134	14	1,079,216	20	1,349,573	-	-	-	-	3,164	58,942,241
95-99	346	8,863,763	362	4,479,921	2	213,305	6	348,341	-	-	-	-	716	13,905,329
100-104	60	1,642,629	43	426,994	-	-	-	-	-	-	-	-	103	2,069,623
105-109	4	128,290	4	64,573	-	-	-	-	-	-	-	-	8	192,863
	<b>66,390</b>	<b>\$ 1,758,581,907</b>	<b>67,193</b>	<b>\$ 1,043,095,661</b>	<b>2,428</b>	<b>\$ 109,850,900</b>	<b>378</b>	<b>\$ 26,520,948</b>	<b>1,518</b>	<b>\$ 49,982,510</b>	<b>18</b>	<b>\$ 590,551</b>	<b>137,925</b>	<b>\$ 2,988,622,476</b>

<sup>#</sup>Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013.

**RETIRED MEMBERSHIP\* – BY CALENDAR YEAR OF RETIREMENT**  
**JUNE 30, 2013**  
**(STATE AND MUNICIPAL)**

Year of Retirement	Teachers'		Employees		State Police		Judges		LEOPS		CORS (Municipal)		Total	
	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits
Before 1983	2,451	\$ 65,682,177	2,069	\$ 29,988,150	207	\$ 9,299,215	22	\$ 814,243	-	-	-	-	4,749	\$ 105,783,785
1983	733	18,704,809	587	8,300,226	39	1,322,641	4	224,280	-	-	-	-	1,363	28,551,956
1984	713	18,638,789	731	10,530,051	46	1,582,582	7	267,233	-	-	-	-	1,497	31,018,656
1985	667	15,801,523	623	8,782,500	57	2,045,739	9	615,482	-	-	-	-	1,356	27,245,243
1986	831	20,543,249	695	9,526,688	49	1,760,374	5	260,134	-	-	-	-	1,580	32,090,444
1987	732	17,857,710	784	11,325,133	47	1,781,483	9	545,691	-	-	-	-	1,572	31,510,017
1988	834	22,132,630	907	13,464,005	44	1,505,004	7	407,100	-	-	-	-	1,792	37,508,740
1989	1,007	26,174,599	920	13,854,853	58	2,374,511	9	414,884	-	-	-	-	1,994	42,818,847
1990	1,020	27,344,400	1,007	14,310,857	49	1,915,064	14	882,668	12	243,105	-	-	2,102	44,696,095
1991	1,247	37,061,823	1,261	18,913,255	47	2,056,283	4	224,695	17	461,174	-	-	2,576	58,717,230
1992	1,835	56,308,606	1,471	21,339,201	99	4,393,314	9	551,046	21	574,656	-	-	3,435	83,166,823
1993	1,467	39,956,301	1,357	18,369,366	62	2,643,452	6	327,005	14	374,700	-	-	2,906	61,670,823
1994	1,555	38,956,389	1,453	19,395,347	72	3,122,863	8	520,434	12	360,977	-	-	3,100	62,356,011
1995	1,713	42,621,013	1,689	23,207,809	60	2,589,547	15	965,605	14	414,436	-	-	3,491	69,798,410
1996	1,917	48,900,824	2,812	44,888,088	82	3,368,591	15	1,004,032	14	411,511	-	-	4,840	98,573,046
1997	2,010	51,602,246	1,934	28,337,800	61	2,459,896	8	651,323	15	328,499	-	-	4,028	83,379,764
1998	2,173	58,403,480	1,768	22,753,093	64	2,619,773	10	578,475	25	553,922	-	-	4,040	84,908,742
1999	2,641	72,144,915	1,906	26,125,639	64	3,093,546	10	870,092	35	769,082	-	-	4,656	103,003,275
2000	2,633	69,527,052	2,030	26,596,017	139	6,863,490	12	1,031,139	78	2,170,405	-	-	4,892	106,188,104
2001	2,572	67,714,832	2,123	29,686,403	96	4,876,409	14	952,456	100	3,346,078	-	-	4,905	106,576,178
2002	2,718	69,977,565	2,418	34,223,180	91	4,884,117	15	1,072,452	92	3,043,672	-	-	5,334	113,200,986
2003	2,724	72,101,563	2,876	44,055,107	106	5,817,457	11	968,727	92	3,453,484	-	-	5,809	126,396,337
2004	3,109	82,696,114	3,226	50,850,618	100	5,042,850	14	1,100,382	84	2,863,447	-	-	6,533	142,553,412
2005	3,127	79,147,119	3,388	54,187,081	117	5,545,400	15	1,202,058	96	3,390,787	-	-	6,743	143,472,445
2006	2,749	70,481,711	3,074	48,518,936	86	4,072,492	17	1,239,086	88	2,930,076	-	-	6,014	127,242,303
2007	3,038	81,787,510	3,373	56,518,787	100	4,400,084	23	1,797,540	95	2,999,771	-	-	6,629	147,503,693
2008	3,121	81,330,694	3,498	57,722,987	83	3,684,998	13	1,073,475	99	3,411,356	-	-	6,814	147,223,510
2009	3,011	73,325,864	3,590	57,420,883	70	3,326,214	17	1,375,722	123	4,226,486	1	13,350	6,812	139,688,518
2010	3,539	96,455,851	4,186	72,891,907	76	4,129,225	16	1,318,788	99	3,544,298	7	184,388	7,923	178,524,457
2011	4,292	122,571,290	4,414	79,009,776	81	3,701,043	16	1,343,011	121	4,174,586	4	214,284	8,928	211,013,990
2012	3,491	95,660,465	3,464	59,322,921	52	2,452,337	14	1,175,773	119	4,051,867	3	95,362	7,143	162,758,727
2013	720	16,968,794	1,559	28,678,999	24	1,120,905	10	745,913	53	1,884,135	3	83,168	2,369	49,481,913
	<b>66,390</b>	<b>\$ 1,758,581,907</b>	<b>67,193</b>	<b>\$ 1,043,095,661</b>	<b>2,428</b>	<b>\$ 109,850,900</b>	<b>378</b>	<b>\$ 26,520,948</b>	<b>1,518</b>	<b>\$ 49,982,510</b>	<b>18</b>	<b>\$ 590,551</b>	<b>137,925</b>	<b>\$ 2,988,622,476</b>

\* Does not include beneficiaries. # Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2013.

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## **APPENDIX C**

### SUMMARY OF PLAN PROVISIONS

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## TABLE OF CONTENTS

	<b><u>Page</u></b>
Teachers' Retirement System	C-2
Teachers' Pension System	C-6
Employees' Retirement System	C-11
Employees' Pension System	C-18
State Police Retirement System	C-26
Judges Retirement System	C-28
Law Enforcement Officers Pension System	C-31

# TEACHERS' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 1. Membership

System closed to new members hired on or after January 1, 1980. Members on December 31, 1979 continue to be members unless they elected to transfer into the Teachers' Pension System (established January 1, 1980) prior to January 1, 2005.

Membership includes any teacher, helping teacher, principal, supervisor, superintendent, or clerk employed in public day school within the State of Maryland, or controlled by the State; any librarian or clerical employee of a library established or operated under the Education Article; any professional or clerical employee of a community college established or operated under the Education Article; or staff employee of the University System of Maryland, Morgan University or St. Mary's College who is a member as of January 1, 1998.

## 2. Member Contributions

Retirement System members participate under one of three elections (effective July 1, 1984):

- Plan A: Generally 7% of earnable compensation to maintain all benefits, including unlimited compounded cost-of-living adjustments.
- Plan B: Generally 5% of earnable compensation to maintain all benefits, except the compounded cost-of-living adjustments which are capped at 5%.
- Plan C: 5% of earnable compensation as determined under the employee contribution for the Teachers' Pension System (Plan C provides a two-part benefit based on benefits of the Teachers' Retirement System and the Teachers' Pension System).

Interest earned on all employee contributions is 4% per year.

## 3. Service Retirement Allowance

Eligibility: 30 years of eligibility service or attainment of age 60.

Allowance:  $1/55^{\text{th}}$  of average final compensation for the three highest years as a member for each year of creditable service. Creditable service is based on a full normal working time for teachers – ten months equals one year.

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Teachers' Retirement System; for creditable service after election date, the amount determined by the service retirement formula for the Teachers' Non-Contributory Pension System.

# TEACHERS' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 4. Early Retirement Allowance

Eligibility: 25 years of eligibility service.

Allowance: Service Retirement allowance reduced by .005 for each month that date of retirement precedes the earlier of age 60 or the date the member would have completed 30 years of eligibility service. The maximum reduction is 30%.

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Teachers' Retirement System with a maximum reduction of 30%; for creditable service after election date, the amount determined by the service retirement formula for the Teachers' Pension System with a .005 reduction for each month retirement occurs prior to age 62 (maximum reduction of 42%).

## 5. Disability Retirement Allowance

### Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is permanent.

Allowance: The benefit is 1/55<sup>th</sup> of average final compensation for the three highest years as a member for each year of creditable service. The minimum benefit is 25% of average final compensation; the maximum benefit can be no greater than 1/55<sup>th</sup> of average final compensation for each year of creditable service the member would have accrued if employment continued to age 60.

Plan C: The benefit is the greater of the Teachers' Retirement System allowance noted above, or the ordinary disability benefit of the Teachers' Pension System.

### Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty.

Allowance: The benefit is 66 2/3% of average final compensation for the three highest years as a member, plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation.

# TEACHERS' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 6. Death Benefits

Eligibility: One year of eligibility service.

Benefit: One time lump sum payment of member's annual earnable compensation at time of death plus accumulated contributions. If member dies prior to accruing one year of service, payment is only the return of accumulated member contributions.

### Spouse Law

Eligibility: Surviving spouse designated as the sole primary beneficiary and the deceased member was eligible to retire or was age 55 with at least 15 years of eligibility service.

Benefit: Surviving spouse may elect a one time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions, or a monthly allowance under Option 2 (100% survivor benefit).

### Special Death Benefit

Eligibility: Killed in line of duty.

Benefit: 66 2/3% of average final compensation for the three highest years as a member payable to a surviving spouse, dependent children or dependent parents. Accumulated member contributions are paid to the designated beneficiary(ies).

Note: Death benefits outlined above are payable upon death of an active member. If member is not active, only accumulated member contributions are payable at time of death.

## 7. Vested Retirement Allowance

Eligibility: Five years of eligibility service.

Allowance: Accrued retirement allowance payable at age 60, provided member does not withdraw accumulated contributions.

## 8. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted based on the Consumer Price Index. The adjustments are effective July 1 for all benefits which have been in payment for one year.

- Plan A: Unlimited and compounded.
- Plan B: Capped at 5% and compounded.
- Plan C: Combination of COLA for Plan A or Plan B - depending on member election prior to electing Plan C - for benefit calculated under the Teachers' Retirement System, plus capped 3% compounded COLA on benefit calculated under the Teachers' Pension System.

## **TEACHERS' RETIREMENT SYSTEM OF THE STATE OF MARYLAND**

In years in which COLAs would be less than zero due to a decline in the Consumer Price Index, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

### **9. Optional Forms of Payment**

Normal service allowance is a single life annuity.

Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.

Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 3: 50% joint and survivor annuity.

Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.

Option 5: 100% "pop-up" joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 6: 50% "pop-up" joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated.

Retirees who are to receive a service retirement, early service retirement, disability benefit, or vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

### **10. Reduction for Benefits Payable under Workers' Compensation**

Disability retirement allowances, excluding annuity reserves, are reduced for workers' compensation benefits payable after retirement from injury occurring during employment by the State if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid for the same period of time for which the retirement benefits are paid.

### **11. Change in Benefits**

Effective July 1, 2013, a retiree of the Teachers' Retirement System may not be employed with the State or any other State Retirement and Pension System participating employer on a permanent, temporary, or contractual basis within 45 days of the individual's retirement.



# TEACHERS' PENSION SYSTEM OF THE STATE OF MARYLAND

## 1. Membership

Membership is a condition of employment for all teachers hired on or after January 1, 1980. Certain eligible higher education employees may elect to join an optional defined contribution program provided by the State. Included in the definition of teacher is any teacher, helping teacher, principal, supervisor, superintendent, or clerk employed in public day school within the State of Maryland, or controlled by the State; any faculty employee of an educational institution supported or controlled by the State; any librarian or clerical employee of a library established or operated under the Education Article; any professional or clerical employee of a community college established or operated under the Education Article.

All individuals who are members of the Teacher's Pension System on or before June 30, 2011, participate in the Alternate Contributory Pension Selection (ACPS) except for the few members who transferred from the Teachers' Retirement System after April 1, 1998 or former vested members who terminated employment prior to July 1, 1998.

All individuals who enroll in the Teachers' Pension System on or after July 1, 2011, participate in the Reformed Contributory Pension Benefit (RCPB).

## 2. Member Contributions

Members of both the ACPS and the RCPB are required to make contributions of 7% of earnable compensation.

Contributions earn interest at 5% per year.

## 3. Service Retirement Allowance

ACPS Eligibility - 30 years of eligibility service or attainment of one of the following:

- Age 62 with 5 years of eligibility service.
- Age 63 with 4 years of eligibility service.
- Age 64 with 3 years of eligibility service.
- Age 65 and older with 2 years of eligibility service.

RCPB Eligibility: Combined age and eligibility service of at least 90 years or age 65 after 10 years of eligibility service.

ACPS Allowance - The greater of (i) or (ii), plus (iii), as described below:

- (i) 1.2% of average final compensation for the three highest consecutive years as an employee for each year of creditable service on or before June 30, 1998;

## **TEACHERS' PENSION SYSTEM OF THE STATE OF MARYLAND**

- (ii) 0.8% of average final compensation for the three highest consecutive years as an employee up to the Social Security integration level plus 1.5% of average final compensation over the integration level for each year of creditable service on or before June 30, 1998;
- (iii) 1.8% of average final compensation for the three highest consecutive years as an employee for each year of creditable service after June 30, 1998.

The Social Security integration level (SSIL) is the average of all Social Security Wage Bases over the thirty –five (35) calendar years prior to your retirement. Eligibility service is given based on a full normal working time in one year equal to ten months.

Note: Members who transferred into the Teachers' Pension System, on or after April, 1, 1998, receive benefits based on the provisions of the NCPS (refer to page C-17) as in effect of January 1, 1980 except for COLA benefits. The COLAs are capped at a maximum of 3% compounded annually.

#### **4. Early Retirement Allowance**

ACPS Eligibility: Attainment of age 55 with at least 15 years of eligibility service.

ACPS Allowance: Service retirement allowance computed as of early retirement date, reduced by .005 for each month that early retirement date precedes age 62 (maximum reduction is 42%).

RCPB Eligibility: Attainment of age 60 with at least 15 years of eligibility service.

RCPB Allowance: Service retirement allowance computed as of early retirement date, reduced by .005 for each month that early retirement date precedes age 65 (maximum reduction is 30%).

#### **5. Disability Retirement Allowance**

##### **Ordinary**

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is permanent.

Allowance: The benefit is the service retirement allowance computed on the basis that service continues until age 62 without any change in rate of earnable compensation. If disability occurs after age 62, the benefit is based on creditable service at time of retirement.

# TEACHERS' PENSION SYSTEM OF THE STATE OF MARYLAND

## **Accidental**

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty.

Allowance: The benefit is 66 2/3% of average final compensation for the three highest consecutive years as a member plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation.

## **6. Death Benefits**

Eligibility: One year of eligibility service.

Benefit: One time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions. If member dies prior to accruing one year of service, payment is only the return of accumulated member contributions.

## **Spouse Law**

Eligibility: Surviving spouse designated as the sole primary beneficiary and the deceased member was eligible to retire or had at least 25 years of eligibility service, or was at least 55 years old with at least 15 years of eligibility service.

Benefit: Surviving spouse may elect one time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions or a monthly allowance under Option 2 (100% survivor benefit).

## **Special Death Benefit**

Eligibility: Killed in line of duty.

Benefit: 66 2/3% of average final compensation for the three highest consecutive years as a member payable to a surviving spouse, dependent children or dependent parents. Accumulated contributions are paid to the designated beneficiary(ies).

Note: Death benefits outlined above are payable upon death of an active member. If member is not active, only accumulated member contributions are payable at time of death.

## **7. Vested Retirement Allowance**

ACPS Eligibility: Five years of eligibility service.

## **TEACHERS' PENSION SYSTEM OF THE STATE OF MARYLAND**

ACPS Allowance: Accrued retirement allowance payable at age 62 provided member does not withdraw accumulated contributions. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 55, reduced by .005 for each month that benefit commencement date precedes age 62.

If member does not commence to receive benefit payments, and dies before attaining age 62, only accumulated member contributions are returned.

RCPB Eligibility: Ten years of eligibility service.

RCPB Allowance: Accrued retirement allowance payable at age 65 provided member does not withdraw accumulated contributions. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 60, reduced by .005 for each month that benefit commencement date precedes age 65.

If member does not commence to receive benefit payments, and dies before attaining age 65, only accumulated member contributions are returned.

### **8. Cost-of-Living Adjustments (COLA)**

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Effective July 1, 1998, the adjustment is capped at a maximum 3% compounded and is applied to all benefits which have been in payment for one year.

For benefits attributable to service on or after July 1, 2011, the Cost-of-living adjustment is capped at the lesser of 2.5% or the increase in CPI if the most recent calendar year market value rate of return was greater than or equal to the assumed rate of investment return from the most recent actuarial valuation. The adjustment is capped at the lesser of 1% or the increase in CPI if the most recent calendar year market value rate of return was less than the assumed rate of investment return from the most recent actuarial valuation.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

Any adjustments are effective July 1.

### **9. Optional Forms of Payment**

Normal service allowance is a single life annuity.

Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.

## **TEACHERS' PENSION SYSTEM OF THE STATE OF MARYLAND**

- Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.
- Option 3: 50% joint and survivor annuity.
- Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.
- Option 5: 100% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.
- Option 6: 50% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated.

Retirees who are to receive a service retirement, early service retirement, disability benefit, or vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

### **10. Reduction for Benefits Payable under Workers' Compensation**

Disability retirement allowances, excluding annuity reserves and COLA, are reduced for workers' compensation benefits payable after retirement from injury occurring during employment by the State, if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid for the same period of time for which the retirement benefits are paid.

### **11. Change in Benefits**

Effective July 1, 2013, a retiree of the Teachers' Pension System may not be employed with the State or any other State Retirement and Pension System participating employer on a permanent, temporary, or contractual basis within 45 days of the individual's retirement.

# EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 1. Membership

System closed to new members hired on or after January 1, 1980. Members on December 31, 1979 continue to be members unless they elected to transfer into the Employees' Pension System (established January 1, 1980) prior to January 1, 2005.

Membership includes employees of the State and approximately 121 participating employers.

## 2. Member Contributions

- Plan A: Generally 7% of earnable compensation to maintain all benefits, including unlimited compounded cost-of-living adjustments.
- Plan B: Generally 5% of earnable compensation to maintain all benefits, except the compounded cost-of-living adjustments which are capped at 5%.
- Plan C: (Plan C provides a two-part benefit based on benefits of the Employees' Retirement System and the Employees' Non-Contributory Pension System). Employee contributions, if any, are based on participation of the employer in one of the three plans under the Employees' Pension System (refer to summary of Employees' Pension System).

Interest earned on all employee contributions is 4% per year.

## 3. Service Retirement Allowance

Eligibility: 30 years of eligibility service or attainment of age 60.

Allowance:  $1/55^{\text{th}}$  of average final compensation for the three highest years as a member for each year of creditable service.

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Employees' Retirement System; for creditable service after election date, the amount determined by the service retirement formula for the Employees' Non-Contributory Pension System under which the employer participates.

# EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 4. Early Retirement Allowance

Eligibility: 25 years of eligibility service.

Allowance: Service retirement allowance reduced by .005 for each month that date of retirement precedes the earlier of age 60 or the date the member would have completed 30 years of eligibility service. The maximum reduction is 30%.

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Employees' Retirement System with a maximum reduction of 30%; for creditable service after election date, the amount determined by the service retirement formula for the Employees' Non-Contributory Pension System under which the employer participates with a .005 reduction for each month retirement occurs prior to age 62 (maximum reduction of 42%).

## 5. Disability Retirement Allowance

### Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is permanent.

Allowance: The benefit is  $1/55^{\text{th}}$  of average final compensation for the three highest years as a member for each year of creditable service. The minimum benefit is 25% of average final compensation; the maximum benefit can be no greater than  $1/55^{\text{th}}$  of average final compensation for each year of creditable service the member would have accrued if employment continued to age 60.

Plan C: The benefit is the greater of the Employees' Retirement System allowance noted above, or the ordinary disability benefit of the Employees' Pension System.

### Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty.

Allowance: The benefit is 66 2/3% of average final compensation for the three highest years as a member, plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation.

# EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 6. Death Benefits

Eligibility: One year of eligibility service.

Benefit: One time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions. If member dies prior to accruing one year of service, payment is only the return of accumulated member contributions.

### Spouse Law

Eligibility: Surviving spouse designated as the sole primary beneficiary and the deceased member was eligible to retire or was at least age 55 with at least 15 years of eligibility service.

Benefit: Surviving spouse may elect a one time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions, or a monthly allowance under Option 2 (100% survivor benefit).

### Special Death Benefit

Eligibility: Killed in line of duty.

Benefit: 66 2/3% of average final compensation for the three highest years as a member payable to a surviving spouse, dependent children or dependent parents. Accumulated member contributions are paid to the designated beneficiary(ies).

Note: Death benefits outlined above are payable upon death of an active member. If member is not active, only accumulated member contributions are payable at time of death.

## 7. Vested Retirement Allowance

Eligibility: Five years of eligibility service.

Allowance: Accrued retirement allowance payable at age 60, provided member does not withdraw accumulated member contributions.



## **EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF MARYLAND**

### **8. Cost-of-Living Adjustments (COLA)**

Retirement allowances may be adjusted based on the Consumer Price Index (CPI). Any adjustments are effective July 1 for all benefits which have been in payment for one year.

- Plan A: Unlimited and compounded.
- Plan B: Capped at 5% and compounded.
- Plan C: Combination of COLA for either Plan A or Plan B - (depending on member selection prior to electing Plan C) - for benefit calculated under the Employees' Retirement System, plus capped at 3% compounded COLA on benefit calculated under the Employees' Non-Contributory Pension System.

In years in which COLAs would be less than zero due to a decline in the Consumer Price Index, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

### **9. Optional Forms of Payment**

Normal service allowance is a single life annuity.

Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.

Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 3: 50% joint and survivor annuity.

Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.

Option 5: 100% "pop-up" joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 6: 50% "pop-up" joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

Retirees who are to receive a service retirement, early service retirement, disability benefit, or vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated.

# EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 10. Reduction for Benefits Payable Under Workers' Compensation

Disability retirement allowances, excluding annuity reserves and COLA, are reduced for workers' compensation benefits payable after retirement from injury occurring during employment by the State, if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid for the same period of time for which the retirement benefits are paid.

## 11. Miscellaneous Provisions

### For Members of the General Assembly

The retirement allowance is equal to 3.00% of current legislative salary for each year of creditable service (maximum 22 years 3 months) upon attainment of age 60 and at least eight years of creditable service. Reduced benefits are payable upon attainment of age 50 and completion of 8 years of creditable service. The benefit is reduced by .005 for each month between ages 50 and 60 that the early retirement date precedes age 60.

A member with eight years of creditable service who has not attained age 60 may leave contributions in the system and receive a retirement allowance at age 60, or a reduced benefit on or after age 50. If termination occurs before the completion of eight years of creditable service, the member may make contributions equal to the member's and the State's required contributions until the member would have completed eight years of eligibility service, (and receive 24% of creditable compensation at age 60 or a reduced benefit on or after age 50).

A member who is certified as disabled by the Medical Board and approved by the Board of Trustees for a disability retirement benefit after attaining at least 8 years of creditable service may resign from the General Assembly and immediately receive a retirement allowance based on their creditable service.

The **member's surviving spouse receives 50% of the member's retirement allowance** if the member i) is retired, ii) is eligible for a deferred vested benefit, or iii) is active and has eight years of creditable service. The surviving spouse of a member who had accrued less than eight years of creditable service and dies in office shall receive a lump sum death benefit of accumulated contributions plus an amount equal to the deceased's annual earnable compensation at the time of death.

Members contribute 5% of their earnable compensation during their first 22 years 3 months of service with contributions earning interest at 4% per year.

All retirement allowances are recalculated each time the salaries for current members of the General Assembly are increased.

# EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## **For Correctional Officers**

Correctional officers serving in the first six job classifications, maximum security attendants at Clifton T. Perkins Hospital Center, a Correctional Dietary, Maintenance or Supply Officer, Maryland Correctional Enterprise Officers and Trainees, Plant Supervisors, Plant Managers, and Regional Managers; and Laundry Officers participate under this System. In addition, effective July 1, 2006, Maryland counties may elect to participate on behalf of their detention center officers.

The retirement allowance for an individual who is a correctional officer on or before June 30, 2011, is 1/55<sup>th</sup> of average final compensation for the three highest years as a member for each year of creditable service. The retirement allowance for an individual who is a correctional officer on or after July 1, 2011, is 1/55<sup>th</sup> of average final compensation for the five highest years as a member for each year of creditable service.

An immediate service retirement allowance is payable to a correctional officer if, on or before the retirement, the officer has completed 20 years of eligibility service and served at least five years in one of the positions noted above immediately preceding retirement. For individuals who are correctional officers on June 30, 2011, the vested retirement allowance of a correctional officer who was in the first six job classifications for at least 5 years preceding retirement commences at age 55; for the security attendant it commences at age 60. For individuals who become correctional officers on or after July 1, 2011, the vested retirement allowance for a correctional officer who was in the first six job classifications for at least 10 years preceding retirement commences at age 55; for the security attendant it commences at age 60.

For benefits attributable to service on or after July 1, 2011, the Cost-of-living adjustment for Correctional Officers is capped at the lesser of 2.5% or the increase in CPI if the most recent calendar year market value rate of return was greater than or equal to the assumed rate of investment return from the most recent actuarial valuation. The adjustment is capped at the lesser of 1% or the increase in CPI if the most recent calendar year market value rate of return was less than the assumed rate of investment return from the most recent actuarial valuation.

## **12. (a) Changes Benefits for Employees' Retirement System and Correctional Officers**

Effective July 1, 2013, a retiree of the Employees' Retirement System or Correctional Officers' Retirement System may not be employed with the State, any other State Retirement and Pension System participating employer, or under certain circumstances, a withdrawn participating governmental unit on a permanent, temporary, or contractual basis within 45 days of the individual's retirement.

## **EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF MARYLAND**

### **(b) Changes in Benefits for Correctional Officers**

Effective July 1, 2013, a member of the Employees' Pension System who (1) was previously a member of the Correctional Officers' Retirement System; (2) was required to join the Employees' Pension System as a result of a change in position with the member's same employer; and (3) did not transfer creditable service from the Correctional Officers' Retirement System to the Employees' Pension System may receive creditable service in the Correctional Officers' Retirement System for the amount of unused sick leave accrued in that system prior to joining the Employees' Pension System.

# EMPLOYEES' PENSION SYSTEM OF THE STATE OF MARYLAND

## 1. Membership

Membership is a condition of employment for all regular employees of the State of Maryland hired on or after January 1, 1980, excluding those eligible for the Teachers' Retirement System, Teachers' Pension System, State Police Retirement System, certain judges, correctional officers, and members of the General Assembly. Certain governmental units also have elected to participate in the System.

There are four plans under the Employees' Pension System.

- Noncontributory Pension System (**NCPS**) - The original pension system established on January 1, 1980 that only applies to certain participating governmental units that did not elect to participate in the Contributory Pension System or the Alternate Contributory Pension Selection.
- Employees' Contributory Pension System (**ECPS**) – The ECPS established July 1, 1998 that only applies to certain participating governmental units that elected the ECPS but did not elect to participate in the Alternate Contributory Pension Selection.
- Alternate Contributory Pension Selection (**ACPS**) - Applies to all State employees and employees of participating governmental units that are members of the ACPS on or before June 30, 2011.
- Reformed Contributory Pension Benefit (**RCPB**) – Applies to all State employees and employees of participating governmental units enrolling in the Employees' Pension System on or after July 1, 2011. It does not apply to employees of participating governmental units participating in the NCPS or ECPS who in enroll in the Employees' Pension System on or after July 1, 2011.

## 2. Member Contributions

NCPS: Members are only required to make contributions of 5% on earnable compensation that exceeds the Social Security Taxable Wage Base.

ECPS: Members are required to make contributions of 2% of earnable compensation.

ACPS: Members are required to make contributions of 7% of earnable compensation.

RCPB: Members are required to make contributions of 7% of earnable compensation.

Contributions earn interest at 5% per year.

## 3. Service Retirement Allowance

NCPS, ECPS, and ACPS Eligibility - 30 years of eligibility service or attainment of one of the following:

- Age 62 with 5 years of eligibility service
- Age 63 with 4 years of eligibility service

## **EMPLOYEES' PENSION SYSTEM OF THE STATE OF MARYLAND**

Age 64 with 3 years of eligibility service

Age 65 or older with 2 years of eligibility service

### NCPS Allowance:

0.8% of average final compensation up to the SSIL for the three highest consecutive years as a member plus 1.5% of average final compensation over the SSIL for each year of creditable service;

### ECPS Allowance: The greater of (i) or (ii), plus (iii), as described below:

- (i) 1.2% of average final compensation for the three highest consecutive years as an employee for each year of creditable service on or before June 30, 1998;
- (ii) 0.8% of average final compensation up to the SSIL for the three highest consecutive years as a member plus 1.5% of average final compensation over the SSIL for each year of creditable service on or before June 30, 1998;
- (iii) 1.4% of average final compensation for the three highest consecutive years as an employee for each year of creditable service after June 30, 1998.

### ACPS Allowance: The greater of (i) or (ii), plus (iii), as described below:

- (i) 1.2% of average final compensation for the three highest consecutive years as an employee for each year of creditable service on or before June 30, 1998;
- (ii) 0.8% of average final compensation up to the SSIL for the three highest consecutive years as a member plus 1.5% of average final compensation over the SSIL for each year of creditable service on or before June 30, 1998;
- (iii) 1.8% of average final compensation for the three highest consecutive years as an employee for each year of creditable service after June 30, 1998.

The Social Security Integration Level (SSIL) is the average of all Social Security Wage Bases over the thirty –five (35) calendar years prior to your retirement.

Note: Members who transferred into the Employees' Pension System, on or after April 1, 1998, receive benefits based on the provisions of the NCPS as in effect on January 1, 1980 except for COLA benefits. The COLAs are capped at a maximum of 3% compounded annually.

RCPB Eligibility - Combined age and eligibility service of at least 90 years or age 65 after 10 years of eligibility service.

RCPB Allowance: 1.5% of average final compensation for the five highest consecutive years as an employee for each year of creditable service on or after July 1, 2011.

# EMPLOYEES' PENSION SYSTEM OF THE STATE OF MARYLAND

## 4. Early Retirement Allowance

NCPS, ECPS, and ACPS Eligibility: Attainment of age 55 and at least 15 years of eligibility service.

NCPS, ECPS, and ACPS Allowance: Service retirement allowance computed as of early retirement date, reduced by .005 for each month that early retirement date precedes age 62 (maximum reduction is 42%).

RCPB Eligibility: Attainment of age 60 with at least 15 years of eligibility service.

RCPB Allowance: Service retirement allowance computed as of early retirement date, reduced by .005 for each month that early retirement date precedes age 65 (maximum reduction is 30%).

## 5. Disability Retirement Allowance

### Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is permanent.

Allowance: The benefit is the service retirement allowance computed on the basis that service continues until age 62 without any change in the rate of earnable compensation. If disability occurs on or after age 62, the benefit is based on creditable service at time of retirement.

### Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty.

Allowance: The benefit is 66 2/3% of average final compensation for the three highest consecutive years as a member, plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation.

## 6. Death Benefits

Eligibility: One year of eligibility service.

Benefit: One time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions. If member dies prior to accruing one year of service, payment is only the return of accumulated member contributions.

# EMPLOYEES' PENSION SYSTEM OF THE STATE OF MARYLAND

## **Spouse Law**

Eligibility: Surviving spouse designated as the sole primary beneficiary and the deceased member was eligible to retire or had at least 25 years of eligibility service, or was at least 55 years old with at least 15 years of eligibility service.

Benefit: Surviving spouse may elect one time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions or a monthly allowance under Option 2 (100% survivor benefit).

## **Special Death Benefit**

Eligibility: Killed in line of duty.

Benefit: 66 2/3% of average final compensation for the three highest consecutive years as a member payable to a surviving spouse, dependent children or dependent parents. Accumulated member contributions are paid to the designated beneficiary(ies).

Note: Death benefits outlined above are payable upon death of an active member. If member is not active, only accumulated member contributions are payable at time of death.

## **7. Vested Retirement Allowance**

NCPS, ECPS, and ACPS Eligibility: Five years of eligibility service.

NCPS, ECPS, and ACPS Allowance: Accrued retirement allowance payable at age 62. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 55, reduced by .005 for each month that benefit commencement date precedes age 62.

If member does not commence to receive benefit payments, and dies before attaining age 62, only accumulated member contributions are returned.

RCPB Eligibility: Ten years of eligibility service.

RCPB Allowance: Accrued retirement allowance payable at age 65 provided member does not withdraw accumulated contributions. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 60, reduced by .005 for each month that benefit commencement date precedes age 65.

If member does not commence to receive benefit payments, and dies before attaining age 65, only accumulated member contributions are returned.



## **EMPLOYEES' PENSION SYSTEM OF THE STATE OF MARYLAND**

### **8. Cost-of-Living Adjustments (COLA)**

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Effective July 1, 1998, the adjustment is capped at a maximum of 3% compounded COLA, and is applied to all benefits which have been in payment for one year. All adjustments are effective July 1.

Retirement allowances of NCPS retirees (retirees of participating employers who did not elect the ECPS or ACPS) have a COLA that is capped at a maximum of 3% of the initial benefit. The COLA is applied to all benefits which have been in payment for one year. All adjustments are effective July 1.

For benefits attributable to service on or after July 1, 2011, the Cost-of-living adjustment is capped at the lesser of 2.5% or the increase in CPI if the most recent calendar year market value rate of return was greater than or equal to the assumed rate of investment return from the most recent actuarial valuation. The adjustment is capped at the lesser of 1% or the increase in CPI if the most recent calendar year market value rate of return was less than the assumed rate of investment return from the most recent actuarial valuation.

### **9. Optional Forms of Payment**

Normal service allowance is in a single life annuity.

Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.

Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 3: 50% joint and survivor annuity.

Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.

Option 5: 100% "pop-up" joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 6: 50% "pop-up" joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated.

## **EMPLOYEES' PENSION SYSTEM OF THE STATE OF MARYLAND**

Retirees who are to receive a service retirement, early service retirement, disability benefit, or vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

### **10. Reduction for Benefits Payable Under Workers' Compensation**

Disability retirement allowances, excluding annuity reserves and COLA, are reduced for workers' compensation benefits payable after retirement from injury occurring during employment by the State, if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid for the same period of time for which the retirement benefits are paid.

### **11. Change in Benefits**

Effective July 1, 2013, a retiree of the Employees' Pension System may not be employed with the State, any other State Retirement and Pension System participating employer, or under certain circumstances, a withdrawn participating governmental unit on a permanent, temporary, or contractual basis within 45 days of the individual's retirement.

Effective July 1, 2013, a member of the Employees' Pension System who (1) was previously a member of the Correctional Officers' Retirement System; (2) was required to join the Employees' Pension System as a result of a change in position with the member's same employer; and (3) did not transfer creditable service from the Correctional Officers' Retirement System to the Employees' Pension System may receive creditable service in the Correctional Officers' Retirement System for the amount of unused sick leave accrued in that system prior to joining the Employees' Pension System.

# STATE POLICE RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 1. Membership

Membership is a condition of employment for all officers of the Maryland State Police. The Superintendent of the Maryland State Police may elect membership in this System or the Employees' Pension System.

## 2. Member Contributions

Members are required to contribute 8% of earnable compensation.

Contributions earn interest at 4% per year.

## 3. Service Retirement Allowance

Eligibility: For individuals who are members on or before June 30, 2011, 22 years of eligibility service or attainment of age 50. For individuals who become members on or after July 1, 2011, 25 years of eligibility service or attainment of age 50. Retirement at age 60 is mandatory for all but the Superintendent.

Allowance: For individuals who are members on or before June 30, 2011, 2.55% of average final compensation for the three highest years as a member for each of the first 28 years of creditable service. For individuals who become members on or after July 1, 2011, 2.55% of average final compensation for the five highest years as a member for each of the first 29 years of creditable service. Maximum benefit is 71.4% of average final compensation.

## 4. Early Retirement Allowance

Not applicable to this System.

## 5. Disability Retirement Allowance

### **Ordinary**

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is permanent.

Allowance: 2.55% of average final compensation for the three highest years as a member for each of the first 28 years of creditable service. Minimum payable is 35% of average final compensation.

### **Special (Accidental)**

Eligibility: Total and permanent disability as certified by the medical board arising out of or in the course of the actual performance of duty.

## **STATE POLICE RETIREMENT SYSTEM OF THE STATE OF MARYLAND**

Allowance: The benefit is 66 2/3% of average final compensation plus the annuity provided by accumulated member contributions with a maximum of average final compensation.

### **6. Death Benefits**

#### **Normal**

Eligibility: 1 through 2 years of eligibility service and not eligible for special death benefit as noted below.

Benefit: One time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions. If member dies prior to accruing one year of service, payment is only the return of accumulated member contributions.

#### **Special Death Benefit**

Eligibility: Two or more years of eligibility service or death in the performance of duty.

Benefit: Accumulated member contributions paid to designated beneficiary plus an allowance of one-half (two-thirds if death arises out of or in the course of the actual performance of duty) of the member's average final compensation. Payment is made to the surviving spouse; however, if there is no surviving spouse or spouse dies before youngest child reaches age 18, one-half of average final compensation continues until the youngest child reaches age 18. If there is no surviving spouse or children under the age of 18, payment is made to dependent parents. If none of the above conditions are met, the normal death benefit is paid to the designated beneficiary (ies).

Note: Death benefits outlined above are payable upon death of an active member. If member is not active, only accumulated member contributions are payable at time of death, unless benefit payment has commenced.

### **7. Vested Retirement Allowance**

Eligibility: For individuals who are members on or before June 30, 2011, 5 years of eligibility service. For individuals who become member on or after July 1, 2011, 10 years of eligibility service

Allowance: Service retirement allowance payable at age 50.

### **8. Cost-of-Living Adjustments (COLA)**

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Unlimited compounded COLAs are effective July 1 and are applied to all benefits which have been in payment for one year.

## STATE POLICE RETIREMENT SYSTEM OF THE STATE OF MARYLAND

For benefits attributable to service on or after July 1, 2011, the Cost-of-living adjustment is capped at the lesser of 2.5% or the increase in CPI if the most recent calendar year market value rate of return was greater than or equal to the assumed rate of investment return from the most recent actuarial valuation. The adjustment is capped at the lesser of 1% or the increase in CPI if the most recent calendar year market value rate of return was less than the assumed rate of investment return from the most recent actuarial valuation.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

Retirees and beneficiaries receiving a retirement allowance on or before June 30, 1999, who receive an annual adjustment to their benefit ranging from \$1,200 to \$2,100 may receive separate COLAs on this adjustment commencing effective July 1, 2000.

### 9. Optional Forms of Payment

**Normal service allowance is 80% joint and survivor annuity with spouse**, if any. If there is no surviving spouse or upon the death of the surviving spouse, payment is made to any children of the deceased retiree under the age of 18 years, until each child becomes age 18. If there is no spouse at time of retirement, member may select an optional allowance.

Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.

Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 3: 50% joint and survivor annuity.

Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.

Option 5: 100% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 6: 50% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated

## **STATE POLICE RETIREMENT SYSTEM OF THE STATE OF MARYLAND**

### **10. Reduction for Benefits Payable Under Workers' Compensation**

Disability retirement allowances, excluding annuity reserves and COLA, are reduced for workers' compensation benefits payable after retirement from injury occurring during employment if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid for the same period of time for which the retirement benefits are paid.

### **11. Deferred Retirement Option Program (DROP)**

For members who are less than 60 years old and who enter DROP on or before June 30, 2011, DROP participation is the lesser of 4 years or the difference between 28 years and the member's creditable service. For members who are less than 60 years old and who enter DROP on or after July 1, 2011, DROP participation is the lesser of 4 years or the difference between 29 years and the member's creditable service. Members who enter DROP are retired and cease making member contributions, and cease accruing service credit and additional benefits. For members who enter DROP on or before June 30, 2011, the service retirement allowance, with COLAs, is credited to an account earning interest at the rate of 6% per year, compounded monthly. For members who enter DROP on or after July 1, 2011, the service retirement allowance, with COLAs, is credited to an account earning interest at the rate of 4% per year, compounded annually. When the DROP period ends, members terminate employment and begin receiving their monthly allowance plus the lump sum payment from their DROP account. During the DROP period, members remain eligible for Special Disability benefits if incapacitated while in DROP.

### **12. Changes in Benefits**

Effective July 1, 2013, a retiree of the State Police Retirement System may not be employed with the State or any other State Retirement and Pension System participating employer on a permanent, temporary, or contractual basis within 45 days of the individual's retirement.

# **JUDGES RETIREMENT SYSTEM OF THE STATE OF MARYLAND\***

## **1. Membership**

Membership is a condition of employment for a judge of the Court of Appeals, Court of Special Appeals, Circuit Court, or District Court of Maryland. Members of the State Workers' Compensation Commission also participate.

## **2. Member Contributions**

Members are required to make contributions of 6% of salary until they have accrued 16 years of service credit. Beginning July 1, 2012, members are required to make contributions of 8% of salary until they have accrued 16 years of service credit.

Contributions earn interest at 4% per year.

## **3. Service Retirement Allowance**

Eligibility: Attainment of age 60, or retired by order of the Court of Appeals.

Allowance: 66 2/3% of current judicial salary for 16 years of service. With less than 16 years, the benefit is prorated based on the ratio of years of service to 16.

## **4. Early Retirement Allowance**

Not applicable to this System.

## **5. Disability Retirement Allowance**

Eligibility: Certification of the medical board designated by the Board of Trustees that member is incapacitated for the performance of duty, and that incapacity is permanent.

Allowance: Same as service allowance payable immediately. However, if a judge has at least three years of service, the pension will not be less than 1/3 of the judge's salary.

*\* This summary includes provisions of the contributory plan only, as all members currently belong to that plan.*

# JUDGES RETIREMENT SYSTEM OF THE STATE OF MARYLAND

## 6. Death Benefits

### Monthly Allowance

Eligibility: Death of a judge or former judge at any age, leaving a surviving spouse or dependent children under the age of 18.

Allowance: 50% of the pension that would have been payable to the judge or former judge at the date of death as if the judge or former judge was eligible to receive a retirement allowance is payable to surviving spouse. If there is no spouse, payment is paid to children until age 18.

### Lump Sum

Eligibility: Termination of service by death of a judge leaving no spouse, or children under age 18.

Allowance: Annual salary at time of death plus return of accumulated member contributions paid to designated beneficiary.

## 7. Deferred Vested Allowance

Eligibility: For individuals who are members before July 1, 2012, termination of service prior to age 60. For individuals who join the Judges' Retirement System on or after July 1, 2012, five years of eligibility service.

Allowance: Same as service allowance payable at age 60.

In lieu of a deferred vested allowance pension, a former judge may elect to withdraw accumulated contributions within six months following the judge's termination of service.

## 8. Cost-of-Living Adjustments

Allowances are recalculated each time the salary for a sitting judge from the Court from which the judge retired increases.

NOTE: Masters who retire from the Judges' Retirement System receive COLA benefits equal to the percentage increase in salary provided to judges of the Circuit Court.



## **JUDGES RETIREMENT SYSTEM OF THE STATE OF MARYLAND**

### **9. Optional Forms of Payment**

**Normal service allowance is 50% joint and survivor annuity with spouse.** However, a judge or former judge, who at the time of retirement, does not have a spouse or eligible minor children, may elect one of the following optional forms of payment:

- Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.
- Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.
- Option 3: 50% joint and survivor annuity.
- Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.
- Option 5: 100% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.
- Option 6: 50% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated

Special note: After retirement neither the option nor designation of beneficiary may be changed.

### **10. Change in Benefits**

Effective July 1, 2013, a retiree of the Judges’ Retirement System may not be employed with the State or any other State Retirement and Pension System participating employer on a permanent, temporary, or contractual basis within 45 days of the individual’s retirement. This limitation does not apply to a retiree who has been recalled to sit temporarily in a court of the State.

**LAW ENFORCEMENT OFFICERS PENSION SYSTEM  
OF THE STATE OF MARYLAND  
(RETIREMENT PLAN)**

**A. Retirement System Provisions**

**1. Membership**

The retirement tier was closed to new participants effective January 1, 2005.

**2. Member Contributions**

Members who transferred from Employees' Retirement System (Plan A) are required to contribute 7% of earnable compensation. Members who transferred from the Employees' Retirement System (Plan B) contribute 5% of earnable compensation.

Contributions earn interest at 4% per year.

**3. Service Retirement Allowance**

Eligibility: 25 years of eligibility service or attainment of age 50.

Allowance: 2.3% of average final compensation for the three highest years as a member for each of the first 30 years of creditable service, plus 1.0% of average final compensation for each additional year.

**4. Early Retirement Allowance**

Not applicable to this System.

**5. Disability Retirement Allowance**

**Ordinary**

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is incapacitated for the performance of duty, and that incapacity is permanent.

Allowance: Service retirement allowance with a minimum of 25% of average final compensation.

**Accidental**

Eligibility: Total and permanent disability as certified by the medical board arising out of or in the course of the actual performance of duty.

**LAW ENFORCEMENT OFFICERS PENSION SYSTEM  
OF THE STATE OF MARYLAND  
(RETIREMENT PLAN)**

Allowance: The benefit is 66 2/3% of average final compensation plus an annuity provided by accumulated contributions with a maximum of average final compensation.

**6. Death Benefits**

**Ordinary**

Eligibility: 1 through 2 years of eligibility service and not eligible for special death benefit.

Benefit: Member's annual earnable compensation at time of death plus accumulated contributions.

Regardless of length of service, members' accumulated contributions are paid.

**Special Benefit**

Eligibility: Two or more years of eligibility service.

Benefit: Accumulated contributions paid to designated beneficiary plus an allowance of 50% of the ordinary disability benefit. Payment is made to the surviving spouse; however if there is no surviving spouse or spouse dies before youngest child reaches age 18, one-half of average final compensation continues until the youngest child reaches age 18. If none of the above conditions are met, the ordinary death benefit is paid to the designated beneficiary(ies).

Eligibility: Death arises out of or in the course of the actual performance of duty.

Benefit: Accumulated contributions paid to designated beneficiary plus an allowance of 66 2/3% of the member's average final compensation. Payment is made to the surviving spouse; however if there is no surviving spouse or spouse dies before youngest child reaches age 18, one-half of average final compensation continues until the youngest child reaches age 18. If none of the above conditions are met, the ordinary death benefit is paid to the designated beneficiary(ies).

Note: Death benefits outlined above are payable upon death of an active member. If member is not active, only member accumulated contributions and interest are payable at time of death, unless benefit payment has commenced.

**LAW ENFORCEMENT OFFICERS PENSION SYSTEM  
OF THE STATE OF MARYLAND  
(RETIREMENT PLAN)**

**7. Vested Retirement Allowance**

Eligibility: Five years of eligibility service.

Allowance: Accrued retirement allowance payable at age 50 if the member does not withdraw the member's accumulated contributions.

**8. Cost-of-Living Adjustments (COLA)**

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). COLAs are effective July 1 and are applied to all benefits which have been in payment for one year. For members contributing 7% of earnable compensation, unlimited COLA is compounded annually. For members contributing 5% of earnable compensation, the cost-of-living adjustment is capped at a maximum 5% compounded annually.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

**9. Optional Forms of Payment**

**The normal service allowance is a 50% joint and survivor annuity with spouse**, if any; or if there is no surviving spouse or upon the death of the surviving spouse, to any children of the deceased under the age of 18 years, until every child dies or becomes 18 years.

Other forms of payment may be elected if there is no spouse at time of retirement.

Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.

Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 3: 50% joint and survivor annuity.

Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.

Option 5: 100% "pop-up" joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

**LAW ENFORCEMENT OFFICERS PENSION SYSTEM  
OF THE STATE OF MARYLAND  
(RETIREMENT PLAN)**

Option 6: 50% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated

**10. Reduction for Benefits Payable under Workers’ Compensation**

Disability retirement allowances, excluding the annuity reserves and COLA, are reduced for workers’ compensation benefits payable after retirement from injury occurring during employment with the State, if the workers’ compensation benefits are for the same injury for which disability retirement was granted and are paid for the same period of time for which the retirement benefits are paid.

**11. Deferred Retirement Option Program (DROP)**

Members with 25 years of eligibility service, but less than 30 years of eligibility service, may elect to enter the DROP program for no more than five years. Members who enter DROP are retired and cease making member contributions, and cease accruing service credit and additional benefits. For members who enter DROP on or before June 30, 2011, the service retirement allowance, with annual COLAs, is credited to an account earning interest at the rate of 6% per year, compounded monthly. For members who enter DROP on or after July 1, 2011, the service retirement allowance, with COLAs, is credited to an account earning interest at the rate of 4% per year, compounded annually. When the DROP period ends, members terminate employment and begin receiving their monthly allowance plus the lump sum payment from their DROP account. During the DROP period, members remain eligible for Accidental Disability benefits if incapacitated while in DROP.

**12. Change in Benefit**

None.

# LAW ENFORCEMENT OFFICERS PENSION SYSTEM OF THE STATE OF MARYLAND

## **B. Pension System Provisions**

### **1. Membership**

Membership is a condition of employment for all law enforcement officers who are employees of the State as provided in the Annotated Code of Maryland, State Personnel and Pensions Article, Title 26, Section 26-201. This includes participating governmental units who elect to have their law enforcement officers or firefighters/paramedics participate in the System.

### **2. Member Contributions**

Beginning July 1, 2011, members are required to make contributions of 6% of earnable compensation. Beginning July 1, 2012, member contributions will increase to 7% of earnable compensation.

Contributions earn interest at 5% per year.

### **3. Service Retirement Allowance**

Eligibility: 25 years of eligibility service or attainment of age 50.

Allowance: For individuals who are members on or before June 30, 2011, 2.0% of average final compensation for the three highest consecutive years as an employee for each of the first 30 years of creditable service. For individuals who are members on or after July 1, 2011, 2.0% of average compensation for the five highest consecutive years as an employee for each of the first 30 years of creditable service. Maximum benefit is 60% of average final compensation.

### **4. Early Retirement Allowance**

Not applicable to this System.

### **5. Disability Retirement Allowance**

#### **Ordinary**

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is incapacitated for the performance of duty, and that incapacity is permanent.

Allowance: Service retirement allowance computed on the basis that service continues until age 50 without any change in rate of earnable compensation. If disability occurs after age 50, the benefit is based on creditable service at time of retirement.

# LAW ENFORCEMENT OFFICERS PENSION SYSTEM OF THE STATE OF MARYLAND

## **Accidental**

Eligibility: Total and permanent disability as certified by the medical board arising out of or in the course of the actual performance of duty.

Allowance: The benefit is 66 2/3% of average final compensation plus an annuity provided by accumulated member contributions with a maximum of average final compensation.

## **6. Death Benefits**

### **Normal**

Eligibility: 1 through 2 years of eligibility service and not eligible for special death benefit as noted below.

Benefit: One time lump sum payment of member's annual earnable compensation at time of death plus accumulated member contributions. If member dies prior to accruing one year of service, payment is only the return of accumulated member contributions.

### **Special Death Benefit**

Eligibility: Two or more years of eligibility service.

Benefit: Accumulated member contributions paid to designated beneficiary plus an allowance of 50% of the ordinary disability benefit. Payment is made to the surviving spouse; however if there is no surviving spouse or spouse dies before youngest child reaches age 18, one-half of average final compensation continues until the youngest child reaches age 18. If none of the above conditions are met, the ordinary death benefit is paid to the designated beneficiary(ies).

Eligibility: Death arises out of or in the course of the actual performance of duty.

Benefit: Accumulated member contributions paid to designated beneficiary plus an allowance of 66 2/3% of the member's average final compensation. Payment is made to the surviving spouse; however if there is no surviving spouse or spouse dies before youngest child reaches age 18, one-half of average final compensation continues until the youngest child reaches age 18. If none of the above conditions are met, the ordinary death benefit is paid to the designated beneficiary(ies).

Note: Death benefits outlined above are payable upon death of an active member. If member is not active, only accumulated member contributions are payable at time of death, unless benefit payment has commenced.

# LAW ENFORCEMENT OFFICERS PENSION SYSTEM OF THE STATE OF MARYLAND

## 7. Vested Retirement Allowance

Eligibility: For individuals who are members on or before June 30, 2011, 5 years of eligibility service. For individuals who become members on or after July 1, 2011, 10 years of eligibility service.

Allowance: Accrued retirement allowance payable at age 50 if the member does not withdraw their accumulated member contributions.

## 8. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Effective July 1, 2000, the adjustment is capped at a maximum 3% compounded and is applied to all benefits which have been in payment for one year. All adjustments are effective July 1.

For benefits attributable to service on or after July 1, 2011, the Cost-of-living adjustment is capped at the lesser of 2.5% or the increase in CPI if the most recent calendar year market value rate of return was greater than or equal to the assumed rate of investment return from the most recent actuarial valuation. The adjustment is capped at the lesser of 1% or the increase in CPI if the most recent calendar year market value rate of return was less than the assumed rate of investment return from the most recent actuarial valuation.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

## 9. Optional Forms of Payment

**The normal service allowance is a 50% joint and survivor annuity with spouse**, if any; or if there is no surviving spouse or upon the death of the surviving spouse, to any children of the deceased under the age of 18 years, until every child attains 18 years of age.

Other forms of payment may be elected if there is no spouse at time of retirement.

Option 1: Cash refund equal to excess of present value of retirement allowance at date of retirement over total amount of payments made to date of death.

Option 2: 100% joint and survivor annuity. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.

Option 3: 50% joint and survivor annuity.

Option 4: This option guarantees a return of accumulated member contributions remaining at date of death.



## **LAW ENFORCEMENT OFFICERS PENSION SYSTEM OF THE STATE OF MARYLAND**

- Option 5: 100% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree. Your named beneficiary cannot be more than 10 years younger than you unless the beneficiary is your spouse or disabled child.
- Option 6: 50% “pop-up” joint and survivor annuity with adjustment to maximum benefit if beneficiary predeceases retiree.

For Option 5 and 6 – If the designated beneficiary predeceases the retiree, a new beneficiary may be named. However, the retirement allowance will be re-calculated.

### **10. Reduction for Benefits Payable under Workers’ Compensation**

Disability retirement allowances, excluding the annuity reserves and COLA, are reduced for workers’ compensation benefits payable after retirement from injury occurring during employment with the State if the workers’ compensation benefits are for the same injury for which disability retirement was granted and are paid for the same period of time for which the retirement benefits are paid.

### **11. Deferred Retirement Option Plan (DROP)**

DROP participation is the lesser of 5 years or the difference between 30 years and the member’s creditable service. Members who enter DROP are retired and cease making member contributions, and cease accruing service credit and additional benefits. For members who enter DROP on or before June 30, 2011, the service retirement allowance, with annual COLAs, is credited to an account earning interest at the rate of 6% per year, compounded monthly. For members who enter DROP on or after July 1, 2011, the service retirement allowance, with annual COLAs, is credited to an account earning interest at the rate of 4% per year, compounded annually. When the DROP period ends, members terminate employment and begin receiving their monthly allowance plus the lump sum payment from their DROP account. During the DROP period, members remain eligible for Accidental Disability benefits if incapacitated while in DROP.

### **12. Changes in Benefits**

Effective July 1, 2013, a retiree of the Law Enforcement Officers’ Pension System may not be employed with the State or any other State Retirement and Pension System participating employer, or under certain circumstances, a withdrawn participating governmental unit on a permanent, temporary, or contractual basis within 45 days of the individual’s retirement.