

**MARYLAND STATE RETIREMENT AND PENSION SYSTEM**  
**ACTUARIAL VALUATION REPORT**  
**AS OF JUNE 30, 2012**

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October 25, 2012

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, 2012, 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, Employees’ Combined System and State Police are not equal to the GASB No. 25 Annual Required Contribution, due to the statutorily required corridor funding method for TCS and ECS and an effective period for amortization of the unfunded liability of more than 30 years for State Police. 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 (based on an underlying general wage growth assumption of 3.50%) were adopted by the Board for first use in the actuarial valuation as of June 30, 2012. In addition, an assumption change for capped COLAs was adopted at the Board meeting on September 15, 2009, and first implemented in the valuations as of June 30, 2009. The General Assembly passed pension reforms which were effective July 1, 2011, and required additional changes to the COLA assumptions for current members.

The benefit provisions valued in the actuarial valuation as of June 30, 2012, are the same as the provisions from the last actuarial valuation as of June 30, 2011, for all Systems except the Judges Retirement System. However, this valuation was the first valuation that included members hired on or after July 1, 2011, that are subject to different benefit provisions under the 2011 General Assembly pension reforms. There was an increase in the employee contribution rate effective July 1, 2012, for the Judges Retirement System that is reflected in this valuation and in the development of the fiscal year 2014 contribution.

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.

GRS conducted a Funding Methodology review of MSRPS and recommended combined changes in the asset valuation method and amortization method of amortizing unfunded liabilities and elimination of the corridor funding method. These changes are not reflected in this valuation. Certain changes require legislative action and the changes may be implemented in a future valuation.

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.

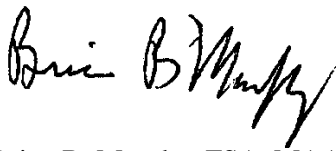
This report should not be relied on for any purpose other than the purposes previously described.

The signing actuaries are independent of the plan sponsor.

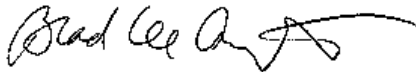
This is one of multiple documents comprising the actuarial report. The other documents comprising the actuarial report are the PowerPoint presentation presented to the Board on September 20, 2012, and subsequent PowerPoint presentations to be presented at the November Board meeting.

The signing actuaries 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



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**SECTION I**  
BOARD SUMMARY

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## INTRODUCTION

This report presents the results of the June 30, 2012 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, 2012 is presented on the following page.

**SUMMARY OF VALUATION RESULTS**  
**JUNE 30, 2012**  
**(\$ IN MILLIONS)**  
**(STATE AND MUNICIPAL)**

|  | 2012                      |               |                 |               |               |                   | 2011           |               | %<br>Change |
|--|---------------------------|---------------|-----------------|---------------|---------------|-------------------|----------------|---------------|-------------|
|  | TCS                       | ECS           | State<br>Police | Judges        | LEOPS         | CORS <sup>^</sup> | Total          | Total         |             |
| <b>A. Demographic Information</b>            |                           |               |                 |               |               |                   |                |               |             |
| 1. Active Number Counts                      | 103,694                   | 85,174        | 1,332           | 294           | 2,410         | 90                | 192,994        | 195,059       | -1.1%       |
| 2. Active Payroll                            | \$ 6,081                  | \$ 3,998      | \$ 78           | \$ 40         | \$ 135        | \$ 5              | \$ 10,337      | \$ 10,479     | -1.4%       |
| 3. Retired Number Counts                     | 63,699                    | 64,636        | 2,387           | 365           | 1,396         | 10                | 132,493        | 127,171       | 4.2%        |
| 4. Annual Benefits for Retired Members       | \$ 1,658                  | \$ 979        | \$ 106          | \$ 25         | \$ 45         | \$ 0              | \$ 2,812       | \$ 2,607      | 7.9%        |
| 5. Deferred / Inactive Number Counts         | 23,033                    | 27,875        | 85              | 10            | 227           | 0                 | 51,230         | 50,911        | 0.6%        |
| 6. Total Number Counts                       | 190,426                   | 177,685       | 3,804           | 669           | 4,033         | 100               | 376,717        | 373,141       | 1.0%        |
| <b>B. Assets</b>                             |                           |               |                 |               |               |                   |                |               |             |
| 1. Market Value (MV)                         | \$ 22,502                 | \$ 12,631     | \$ 1,127        | \$ 329        | \$ 578        | \$ 11             | \$ 37,179      | \$ 37,593     | -1.1%       |
| 2. Rate of Return on MV                      |                           |               |                 |               |               |                   | 0.28 % #       | 19.84 % #     |             |
| 3. Funding Value (FV)                        | \$ 22,524                 | \$ 12,668     | \$ 1,135        | \$ 330        | \$ 581        | \$ 11             | \$ 37,248      | \$ 36,178     | 3.0%        |
| 4. Rate of Return on FV                      |                           |               |                 |               |               |                   | 4.42 %         | 6.09 %        |             |
| 5. Ratio of FV to MV                         |                           |               |                 |               |               |                   | 100.2%         | 96.2%         |             |
| <b>C. Actuarial Results</b>                  |                           |               |                 |               |               |                   |                |               |             |
| 1. Normal Cost as a % of Payroll             | 12.81%                    | 11.26%        | 33.40%          | 36.15%        | 22.05%        | 14.68%            | 12.58%         | 11.52%        |             |
| 2. Actuarial Accrued Liability (AAL)         |                           |               |                 |               |               |                   |                |               |             |
| a. Active                                    | \$ 14,355                 | \$ 8,436      | \$ 320          | \$ 148        | \$ 391        | \$ 10             | \$ 23,661      | \$ 24,016     | -1.5%       |
| b. Retired                                   | 19,248                    | 11,100        | 1,496           | 271           | 659           | 6                 | 32,779         | 30,522        | 7.4%        |
| c. Deferred/Inactive                         | 650                       | 748           | 10              | 2             | 20            | 0                 | 1,429          | 1,379         | 3.7%        |
| d. Total                                     | \$ 34,253                 | \$ 20,283     | \$ 1,827        | \$ 421        | \$ 1,070      | \$ 15             | \$ 57,869      | \$ 55,918     | 3.5%        |
| 3. Unfunded AAL (UAAL)                       | \$ 11,729                 | \$ 7,615      | \$ 692          | \$ 91         | \$ 489        | \$ 4              | \$ 20,621      | \$ 19,740     | 4.5%        |
| 4. Funded Ratio                              | 65.8 %                    | 62.5 %        | 62.1 %          | 78.4 %        | 54.3 %        | 73.2 %            | 64.4 %         | 64.7 %        |             |
| <b>D. Contribution Rates*</b>                |                           |               |                 |               |               |                   |                |               |             |
|  | <b>STATE PORTION ONLY</b> |               |                 |               |               |                   |                |               |             |
|  | <b>FY 2014</b>            |               |                 |               |               |                   | <b>FY 2013</b> |               |             |
| 1. Pension Contributions                     |                           |               |                 |               |               |                   |                |               |             |
| a. Employer Normal Cost                      | 5.83%                     | 4.90%         | 25.40%          | 29.91%        | 15.39%        |                   | 5.89%          | 4.79%         |             |
| b. Member Contribution Rate                  | 6.98%                     | 6.72%         | 8.00%           | 6.24%         | 7.00%         |                   | 6.69%          | 6.73%         |             |
| c. UAAL Contribution Rate                    | <u>14.54%</u>             | <u>16.20%</u> | <u>41.31%</u>   | <u>21.01%</u> | <u>37.08%</u> |                   | <u>15.53%</u>  | <u>14.26%</u> |             |
| d. Total                                     | 27.35%                    | 27.82%        | 74.71%          | 57.16%        | 59.47%        |                   | 28.11%         | 25.78%        |             |
| 2. Total Actuarial Employer Rate (1.a + 1.c) | 20.37%                    | 21.10%        | 66.71%          | 50.92%        | 52.47%        |                   | 21.42%         | 19.05%        |             |
| 3. Total Employer Budgeted Rate              |                           |               |                 |               |               |                   |                |               |             |
| a. Prior Year Budgeted Rate                  | 13.29%                    | 12.29%        |                 |               |               |                   |                |               |             |
| b. 20% * (2 - 3a.)                           | <u>1.42%</u>              | <u>1.76%</u>  |                 |               |               |                   |                |               |             |
| c. Employer Budgeted Rate                    | 14.71%                    | 14.05%        | 66.71%          | 50.92%        | 52.47%        |                   | 15.43%         | 13.85%        |             |
| e. Reinvested Savings Rate                   | <u>3.23%</u>              | <u>2.79%</u>  | <u>5.14%</u>    | <u>0.00%</u>  | <u>5.25%</u>  |                   | <u>3.11%</u>   | <u>1.95%</u>  |             |
| f. Total Employer Budgeted Rate              | 17.94%                    | 16.84%        | 71.85%          | 50.92%        | 57.72%        |                   | 18.54%         | 15.80%        |             |

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

# Actuarial calculations may differ from figures reported by State Street.

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

Totals may not add due to rounding.



## ACTUARY'S COMMENTS

The System's assets earned **0.28%**<sup>1</sup> for the year ended June 30, 2012, which is less than the 7.75% assumed rate of investment return. After applying the asset valuation method and the phase in of prior investment experience, the net result was an actuarial loss on assets. Recognized asset losses from fiscal years 2008, 2009, and 2012 offset recognized asset gains from fiscal years 2010 and 2011 in the actuarial value of assets as of June 30, 2012, under the asset smoothing method, resulting in the loss.

### UAAL and Actuarial Gain/(Loss) State and Municipal (\$ in Millions)

|   |    |         |
|---|----|---------|
| Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2011 | \$ | 19,740  |
| Expected UAAL as of June 30, 2012 before changes                |    | 20,191  |
| Changes in benefit provisions:                                  |    | (2)     |
| Changes in methods and assumptions:                             |    | 333     |
| Expected UAAL as of June 30, 2012 after changes                 |    | 20,522  |
| Actual UAAL as of June 30, 2012                                 |    | 20,621  |
| Net actuarial gain/(loss)                                       |    | (99)    |
| Actuarial gain/(loss) by source:                                |    |         |
| Actuarial investment experience                                 |    | (1,195) |
| Actuarial accrued liability experience                          |    | 1,097   |
| Increase in UAAL  |    | 881     |

There was an addition of \$74 million in assets during fiscal year 2012 in total for the State Police, LEOPS and Judges Systems due to the recent Milliman settlement.

In relative terms, the overall System funding ratio of actuarial value of assets to liabilities decreased from 64.70% in 2011, to **64.37%** this year. If market value of assets were the basis for the measurements, the plan would be 64.25% funded. The market value of assets exceeds the retiree liabilities by about 13% in total. This is referred to as a short condition test. 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 the smaller systems. For State Police and LEOPS, the market value of assets is less than the retiree liabilities.

|                               | (\$ in Millions) |           |                 |        |        |       | Total     |
|-------------------------------|------------------|-----------|-----------------|--------|--------|-------|-----------|
|                               | TCS              | ECS       | State<br>Police | Judges | LEOPS  | CORS  |           |
| Market Value of Assets (MVA)  | \$ 22,502        | \$ 12,631 | \$ 1,127        | \$ 329 | \$ 578 | \$ 11 | \$ 37,179 |
| Retiree Liability             | 19,248           | 11,100    | 1,496           | 271    | 659    | 6     | 32,779    |
| MVA as % of Retiree Liability | 117%             | 114%      | 75%             | 122%   | 88%    | 198%  | 113%      |

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

In the 2001 legislative session, the Legislature changed the method used to fund the two largest Systems of the MSRPS, the Teachers Combined System and the State portion of the Employees Combined System, to a corridor method. Under this funding approach, the State appropriation is fixed at the prior fiscal year's rate, but adjusted to reflect the cost of any legislative 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 one-fifth of the way toward the underlying actuarially calculated rate, with the exception of the cost of/or the savings from legislative 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 for the preceding calendar year was higher or lower than the investment return assumption used in the valuation (currently 7.75%). 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 sum of amortization payments resulting from separate unfunded liability bases amortized as a level percentage of pay. The unfunded liability base as of July 1, 2000, is being amortized over a 20-year closed period (with 8 years remaining as of July 1, 2012) plus 25-year closed period amortization of the unfunded liability that emerges in each subsequent year.

The GASB ARC rate is equal to the actuarially determined contribution rate 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 72% (76% if with the addition of reinvested savings) of the actuarially determined rate and the GASB ARC rate, and the budgeted rate for ECS is about 67% (70% with the addition of reinvested savings) of the actuarially determined rate and the GASB ARC rate. Although the budgeted contribution rate for State Police is equal to the actuarially determined rate, it is only about 88% of the GASB ARC (i.e., the rate which amortizes the unfunded liability over 30 years). The single equivalent amortization period for State Police is 50.8 years.

**FY2014 Contribution Rates (State Portion Only)**

|  | <b>TCS</b> | <b>ECS</b> | <b>State<br/>Police</b> | <b>Judges</b> | <b>LEOPS</b> | <b>Total</b> |
|--|------------|------------|-------------------------|---------------|--------------|--------------|
| Budgeted Contribution Rate <sup>1</sup>  | 14.71%     | 14.05%     | 66.71%                  | 50.92%        | 52.47%       | 15.43%       |
| Actuarially Determined Rate <sup>1</sup>   | 20.37%     | 21.10%     | 66.71%                  | 50.92%        | 52.47%       | 21.42%       |
| Budgeted / Actuarially Determined Rate   | 72.21%     | 66.59%     | 100.00%                 | 100.00%       | 100.00%      | 72.04%       |
| Budgeted Contribution Rate with<br>Reinvested Savings                                    | 17.94%     | 16.84%     | 71.85%                  | 50.92%        | 57.72%       | 18.54%       |
| GASB Annual Required Contribution<br>Budgeted with Reinvested Savings /<br>GASB ARC Rate | 23.60%     | 23.89%     | 81.68%                  | 50.92%        | 57.72%       | 24.59%       |
|  | 76.02%     | 70.49%     | 87.96%                  | 100.00%       | 100.00%      | 75.39%       |

<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 2014.

Beginning in fiscal year 2013, local employers will contribute 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. We recommend a return to actuarial funding at the earliest possible time. In addition, based on the amortization payments resulting from the separate amortization bases under the current funding policy, the actuarially determined contribution for State Police is not enough to make sufficient funding progress until the July 1, 2000, base is fully amortized. We recommend that the changes recommended by the Ad Hoc Funding Methodology Committee be adopted at the earliest possible time and the contribution be set at least to the GASB Annual Required Contribution.

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%, 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 of 7.75%. 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, 2012, the System's assets earned **0.28%**<sup>1</sup> on a market value basis and **4.42%** on a smoothed or actuarial basis. The System experienced an investment loss of **\$2,790** million on a market value basis and a loss of **\$1,195** 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, 2011 Value                                | \$ 37,593           | \$ 36,178              |
| June 30, 2011 Municipal Withdrawals / New Entrants | -                   | -                      |
| Employer Contributions and Settlement Assets       | 1,596               | 1,596                  |
| Member Contributions                               | 703                 | 703                    |
| Benefit Payments and Other Disbursements           | (2,817)             | (2,817)                |
| Expected Investment Earnings (7.75%)               | 2,894               | 2,784                  |
| Expected Value June 30, 2012                       | \$ 39,968           | \$ 38,444              |
| <b>Investment Gain (Loss)</b>                      | <b>(2,790)</b>      | <b>(1,195)</b>         |
| June 30, 2012 Value                                | \$ 37,179           | \$ 37,248              |

Figures may not add correctly 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 2012, 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

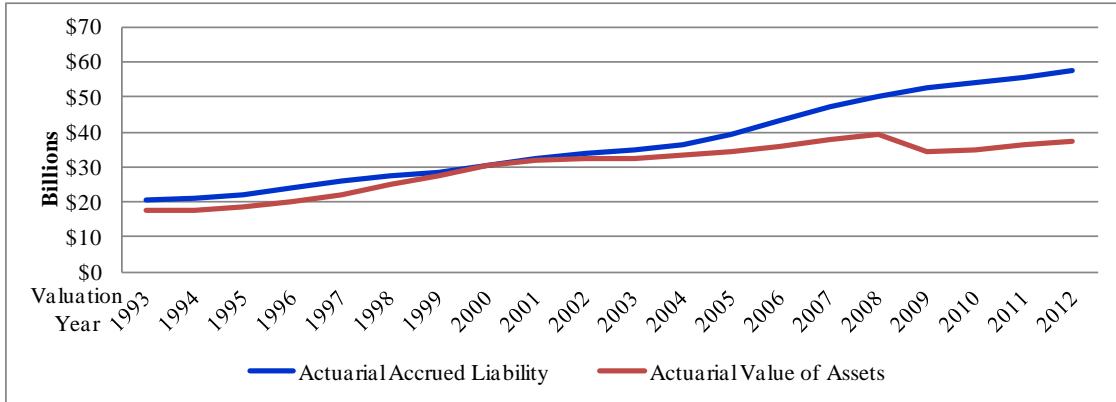


Chart B: Benefits vs. Contributions

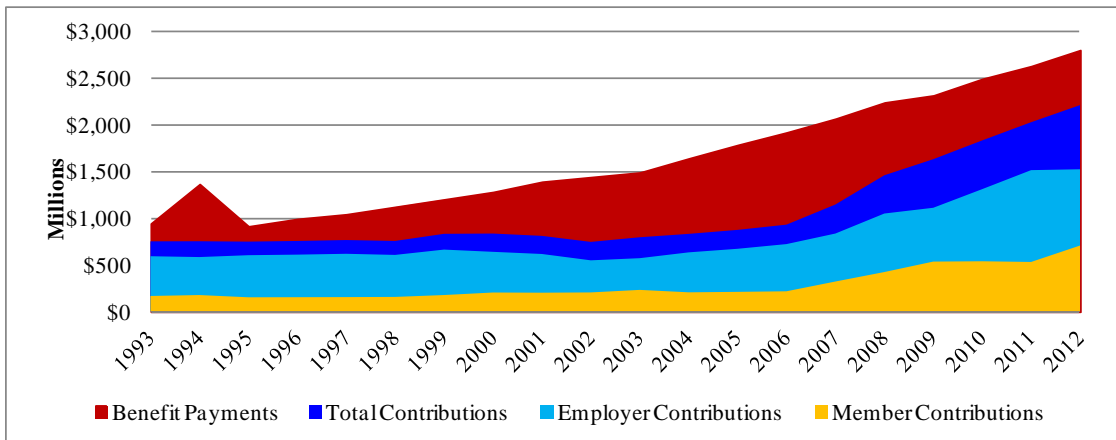
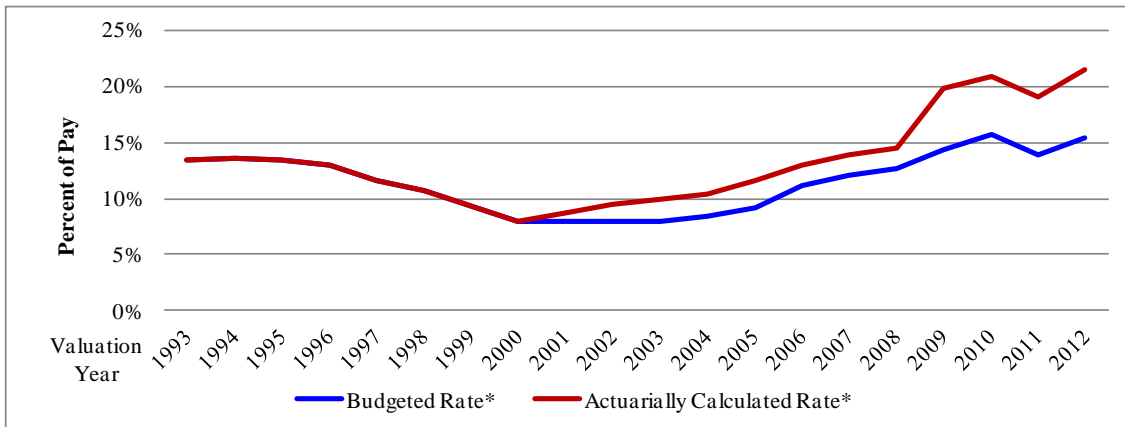


Chart C: State Contribution Rate



\* Excludes reinvested savings in valuation years 2011 and 2012. 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, 2012, the actuarial value of assets under the 5-year asset smoothing method is about equal to the market value of assets, compared with 96% as of June 30, 2011. However, it could take another 10 years for the asset losses from fiscal year 2008 and 2009 to be fully reflected in the contribution rates under the current corridor funding policy in the absence of significant future gains.

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 ECS contribution rate started to be reduced in FY 2006 and the TCS contribution rate in FY 2007 under the corridor method to levels below the actuarial rate. 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 2014 would be 5.99% of payroll higher than the amount to be budgeted under the corridor method. The actual contribution rate for FY 2014 is therefore 28% less than the actuarially determined rate.

Chart C further indicates that since inception, the corridor method had consistently acted to reduce the State's contribution. We recommend that action be taken to raise contributions to actuarial levels as soon as possible.

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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 \$847 million, from \$18,771 million as of June 30, 2011, to \$19,618 million as of June 30, 2012. There was an expected increase in the unfunded actuarial accrued liability of \$466 million. The expected increase reflects the actual contributions and the additional Milliman settlement assets allocated to State Police, Judges and LEOPS Systems. There was an additional increase of \$294 million from assumption and method changes, and a decrease of \$2 million due to plan provision changes for the Judges System. Effective July 1, 2012, the member contribution rate for Judges is increased from 6% of pay to 8% of pay. This change slightly affected the calculation of the liabilities and decreased the employer normal cost.

In addition to the expected increase in the unfunded actuarial accrued liability, there was an additional increase of \$88 million due to plan experience. The expected increase in the unfunded liability is attributable to faster 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 loss due to plan experience of \$88 million is comprised of an asset loss of \$1,103 million which is partially offset by demographic gains on the liabilities of \$1,015 million.

The combined State System's market value of assets earned 0.28%<sup>1</sup> for the year ended June 30, 2012, which is less than the 7.75% assumed rate of investment return. The actuarial, or smoothed, rate of return measured from this past year was 4.40%, less than the assumed rate of investment return, which resulted in an actuarial loss on assets. Partial recognition of asset losses from FY2008, FY2009, and FY2012 compared to the actuarial assumption of 7.75%, were recognized in the actuarial value of assets as of June 30, 2012, under the asset smoothing method, resulting in an overall asset loss of \$1,103 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. The salary gains were partially offset by higher COLA increases than assumed. COLA increases of 3.00% were granted to eligible retirees who have a COLA cap of 3.00%, compared to the actuarial assumption of 2.75%, and 3.157% for retirees who have a COLA cap of 5.00% or no COLA cap, compared to the actuarial assumption of 2.95% and 3.00%, respectively. All of the COLAs granted were for benefits attributable to pre-July 1, 2011 service.

The combined State System funded ratio decreased from 63.9% at June 30, 2011, to 63.5% at June 30, 2012.

The contribution rates increased for each System from those calculated in the June 30, 2011, valuation to those calculated in the June 30, 2012, valuation which determines the FY2013 and FY2014 contributions, respectively, for all Systems except for Judges.

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



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

(STATE ONLY)

|  | <b>Teachers'<br/>Combined<br/>System</b> | <b>Employees'<br/>Combined<br/>System</b> | <b>State<br/>Police</b> | <b>Judges</b> | <b>LEOPS</b> | <b>Total</b> |
|--|--|---|-------------------------|---------------|--------------|--------------|
| <b>Actuarially Determined Calculations</b> |  |   |                         |               |              |              |
| FY2013 Contribution Rate                   | 17.76%                                   | 19.32%                                    | 61.21%                  | 61.18%        | 46.81%       | 19.05%       |
| Change due to Investment Return            | 0.74%                                    | 0.71%                                     | 3.36%                   | 1.61%         | 0.94%        | 0.81%        |
| Change due to Demographic Experience       | 0.42%                                    | 0.38%                                     | 1.65%                   | -3.93%        | 2.21%        | 0.33%        |
| Change due to Corridor                     | 0.32%                                    | 0.46%                                     | 0.00%                   | 0.00%         | 0.00%        | 0.36%        |
| Change due to Legislation                  | 0.00%                                    | 0.00%                                     | 0.00%                   | -1.59%        | 0.00%        | 0.00%        |
| Change due to Settlement Assets            | 0.00%                                    | 0.00%                                     | -4.14%                  | -3.54%        | -0.29%       | -0.05%       |
| Change Due to Assumption Changes           | <u>1.13%</u>                             | <u>0.23%</u>                              | <u>4.63%</u>            | <u>-2.81%</u> | <u>2.80%</u> | <u>0.92%</u> |
| FY2014 Contribution Rate                   | 20.37%                                   | 21.10%                                    | 66.71%                  | 50.92%        | 52.47%       | 21.42%       |

In addition to the increased unfunded liability, the contribution rates increased as a result of total payroll that was lower than expected under the actuarial assumptions. Total payroll is expected to increase by 3.5% each year, and the total payroll increased by less than 3.5% for each System from June 30, 2011. Total payroll decreased by 1.9% for TCS, 0.6% for ECS, and 0.4% for LEOPS. Total payroll increased by 2.8% for State Police and 3.0% for Judges. The unfunded liability contribution increased and the total payroll increased by less than assumed, putting upward pressure on the contribution rates.

The Judges contribution rate decreased for the following reasons: no salary or COLA increases provided to active and retired members which resulted in liability gains, an increase in the member contribution rate effective July 1, 2012, which decreases the employer contribution rate, a decrease in the liabilities and normal cost from assumption changes, and additional assets from the Milliman settlement in addition to the certified employer contributions.

The funded ratios are expected to decrease and the contribution rates are expected to increase as the deferred investment losses from FY2008, FY2009 and FY2012 are recognized in the actuarial value of assets.

**DERIVATION OF EXPERIENCE GAIN (LOSS)**  
**YEAR ENDED JUNE 30, 2012**  
**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>2012</b>                       | <b>2011</b> |
| (1) UAAL* at start of year  | \$18,771                          | \$18,417    |
| (2) Normal cost from last valuation   | 1,085                             | 1,165       |
| (3) Actual contributions  | 2,039                             | 1,863       |
| (4) Interest accrual: $[(1) \times .0775 + \{(2)-(3)\} \times \{[1.0775^{.5}]-1\}]$ | 1,419                             | 1,401       |
| (5) Expected UAAL before changes: (1) + (2) - (3) + (4)                             | 19,237                            | 19,119      |
| (6) Change in benefit provisions  | (2)                               | (433)       |
| (7) Changes in methods and assumptions  | 294                               | 522         |
| (8) Expected UAAL after changes: (5) + (6) + (7)                                    | 19,529                            | 19,208      |
| (9) Actual UAAL at end of year  | 19,618                            | 18,771      |
| (10) Gain/(loss): (8) - (9)   | \$ (88)                           | \$437       |
| (10a) Portion of gain/(loss) due to Assets  | (1,103)                           | (531)       |
| (10b) Portion of gain/(loss) due to Liabilities                                     | 1,015                             | 967         |
| (10c) Actuarial accrued liabilities at beginning of year                            | 51,934                            | 50,280      |
| (11) Gain (loss) as a percent of beginning accrued liabilities                      | (0.2%)                            | 0.9%        |

\* *Unfunded actuarial accrued liability.*

**SUMMARY OF VALUATION RESULTS BY SYSTEM  
AS OF JUNE 30, 2012  
(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                      | \$ 14,355,416,921     | \$ 6,649,920,142      | \$ 319,993,570       | \$ 148,452,650     | \$ 244,922,181     | \$ 21,718,705,464     |                        |
| Actuarial Liability - Retirees, Term. Vested, & Inactives | <u>19,897,298,027</u> | <u>9,763,648,009</u>  | <u>1,506,552,330</u> | <u>272,833,397</u> | <u>548,040,040</u> | <u>31,988,371,803</u> |                        |
| Total Actuarial Liability                                 | \$ 34,252,714,948     | \$ 16,413,568,151     | \$ 1,826,545,900     | \$ 421,286,047     | \$ 792,962,221     | \$ 53,707,077,267     |                        |
| Actuarial Value of Assets                                 | <u>22,523,977,712</u> | <u>9,664,964,253</u>  | <u>1,134,510,589</u> | <u>330,153,704</u> | <u>435,857,803</u> | <u>34,089,464,061</u> |                        |
| Unfunded Actuarial Accrued Liability (UAAL)               | 11,728,737,236        | 6,748,603,898         | 692,035,311          | 91,132,343         | 357,104,418        | 19,617,613,206        |                        |
| Funded Ratio  | 65.8%                 | 58.9%                 | 62.1%                | 78.4%              | 55.0%              | 63.5%                 |                        |
| Active Member Payroll                                     | \$ 6,080,603,312      | \$ 3,001,198,400      | \$ 77,689,914        | \$ 39,955,368      | \$ 83,671,522      | \$ 9,283,118,516      |                        |
| UAAL as a Percent of Payroll                              | 192.9%                | 224.9%                | 890.8%               | 228.1%             | 426.8%             | 211.3%                |                        |
| <i>Before Reinvested Savings</i>                          |                       |                       |                      |                    |                    |                       |                        |
| Employer Normal Cost Contribution                         | 5.83%                 | 4.90%                 | 25.40%               | 29.91%             | 15.39%             | 5.89%                 |                        |
| UAAL Contribution   | <u>14.54%</u>         | <u>16.20%</u>         | <u>41.31%</u>        | <u>21.01%</u>      | <u>37.08%</u>      | <u>15.53%</u>         |                        |
| Total Employer Contribution Without Reinvested Savings    | 20.37%                | 21.10%                | 66.71%               | 50.92%             | 52.47%             | 21.42%                |                        |
| Employer Corridor Contribution                            | 14.71%                | 14.05%                | NA                   | NA                 | NA                 | 15.43%                |                        |
| <i>After Reinvested Savings</i>                           |                       |                       |                      |                    |                    |                       |                        |
| Total Employer Contribution Without Reinvested Savings    | 14.71%                | 14.05%                | 66.71%               | 50.92%             | 52.47%             | 15.43%                |                        |
| Reinvested Savings Rate                                   | <u>3.23%</u>          | <u>2.79%</u>          | <u>5.14%</u>         | <u>0.00%</u>       | <u>5.25%</u>       | <u>3.11%</u>          |                        |
| Total Employer Contribution With Reinvested Savings       | 17.94%                | 16.84%                | 71.85%               | 50.92%             | 57.72%             | 18.54%                |                        |
| <br>  |                       |                       |                      |                    |                    |                       |                        |
| <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                      |                       | \$ 1,785,862,658      |                      |                    | \$ 146,540,661     | \$ 9,846,499          | \$ 1,942,249,818       |
| Actuarial Liability - Retirees, Term. Vested, & Inactives |                       | <u>2,083,597,224</u>  |                      |                    | <u>130,584,539</u> | <u>5,636,624</u>      | <u>2,219,818,387</u>   |
| Total Actuarial Liability                                 |                       | \$ 3,869,459,882      |                      |                    | \$ 277,125,200     | \$ 15,483,123         | \$ 4,162,068,205       |
| Actuarial Value of Assets                                 |                       | <u>3,002,627,609</u>  |                      |                    | <u>144,968,552</u> | <u>11,340,558</u>     | <u>3,158,936,719</u>   |
| Unfunded Actuarial Accrued Liability (UAAL)               |                       | 866,832,273           |                      |                    | 132,156,648        | 4,142,565             | 1,003,131,486          |
| Funded Ratio  |                       | 77.6%                 |                      |                    | 52.3%              | 73.2%                 | 75.9%                  |
| Active Member Payroll                                     |                       | \$ 997,276,476        |                      |                    | \$ 51,513,814      | \$ 4,628,029          | \$ 1,053,418,318       |
| UAAL as a Percent of Payroll                              |                       | 86.9%                 |                      |                    | 256.5%             | 89.5%                 | 95.2%                  |
| <br>  |                       |                       |                      |                    |                    |                       |                        |
| <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                      | \$ 14,355,416,921     | \$ 8,435,782,800      | \$ 319,993,570       | \$ 148,452,650     | \$ 391,462,842     | \$ 9,846,499          | \$ 23,660,955,282      |
| Actuarial Liability - Retirees, Term. Vested, & Inactives | <u>19,897,298,027</u> | <u>11,847,245,233</u> | <u>1,506,552,330</u> | <u>272,833,397</u> | <u>678,624,579</u> | <u>5,636,624</u>      | <u>34,208,190,190</u>  |
| Total Actuarial Liability                                 | \$ 34,252,714,948     | \$ 20,283,028,033     | \$ 1,826,545,900     | \$ 421,286,047     | \$ 1,070,087,421   | \$ 15,483,123         | \$ 57,869,145,472      |
| Actuarial Value of Assets                                 | <u>22,523,977,712</u> | <u>12,667,591,862</u> | <u>1,134,510,589</u> | <u>330,153,704</u> | <u>580,826,355</u> | <u>11,340,558</u>     | <u>37,248,400,780</u>  |
| Unfunded Actuarial Accrued Liability (UAAL)               | 11,728,737,236        | 7,615,436,171         | 692,035,311          | 91,132,343         | 489,261,066        | 4,142,565             | 20,620,744,692         |
| Funded Ratio  | 65.8%                 | 62.5%                 | 62.1%                | 78.4%              | 54.3%              | 73.2%                 | 64.4%                  |
| Active Member Payroll                                     | \$ 6,080,603,312      | \$ 3,998,474,876      | \$ 77,689,914        | \$ 39,955,368      | \$ 135,185,336     | \$ 4,628,029          | \$ 10,336,536,835      |
| UAAL as a Percent of Payroll                              | 192.9%                | 190.5%                | 890.8%               | 228.1%             | 361.9%             | 89.5%                 | 199.5%                 |

\* 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<br>(State) | State Police  | Judges        | LEOPS<br>(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 2014 Contributions</b>                                  |                  |                      |               |               |                  |                  |
| Employer Normal Cost Contribution                             | 5.83%            | 4.90%                | 25.40%        | 29.91%        | 15.39%           | 5.89%            |
| UAAL Contribution   | 14.54%           | 16.20%               | 41.31%        | 21.01%        | 37.08%           | 15.53%           |
| Total Actuarial Employer Contribution                         | 20.37%           | 21.10%               | 66.71%        | 50.92%        | 52.47%           | 21.42%           |
| Employer Corridor Contribution                                | 14.71%           | 14.05%               | NA            | NA            | NA               | 15.43%           |
| Total Employer Contribution                                   | 14.71%           | 14.05%               | 66.71%        | 50.92%        | 52.47%           | 15.43%           |
| Reinvested Saving Rate  | 3.23%            | 2.79%                | 5.14%         | 0.00%         | 5.25%            | 3.11%            |
| Estimated Total Employer Contribution <sup>1</sup>            | 17.94%           | 16.84%               | 71.85%        | 50.92%        | 57.72%           | 18.54%           |
| Illustrated Contribution Dollars                              | \$ 925,762,733   | \$ 443,998,553       | \$ 54,571,527 | \$ 21,422,693 | \$ 46,227,378    | \$ 1,491,982,884 |
| 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>           | \$ 1,128,853,003 | \$ 532,077,766       | \$ 58,772,354 | \$ 21,422,693 | \$ 50,857,069    | \$ 1,791,982,884 |

<sup>1</sup> Includes reinvestment of savings.

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

|   |  | Corridor Rates        |                        |                |                |                |                   |  |
|---|--|-----------------------|------------------------|----------------|----------------|----------------|-------------------|--|
|   |  | Teachers’<br>Combined | Employees’<br>Combined | State Police   | Judges         | LEOPS          | Total State#      |  |
| 7/1/2012 Valuation<br>Results (FY 2014) | Unfunded Actuarial<br>Liability                          | \$ 11,728,737,236     | \$ 6,748,603,898       | \$ 692,035,311 | \$ 91,132,343  | \$ 357,104,418 | \$ 19,617,613,206 |  |
|   | Illustrated Contribution<br>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<br>as Percentage of<br>Payroll**     | 17.94%                | 16.84%                 | 71.85%         | 50.92%         | 57.72%         | 18.54%            |  |
|   | Corridor Percentage of<br>Actuarially Determined<br>Rate | 76.02%                | 70.49%                 | NA             | NA             | NA             | NA                |  |
| 7/1/2011 Valuation<br>Results (FY 2013) | Unfunded Actuarial<br>Liability                          | \$ 11,116,269,805     | \$ 6,500,969,937       | \$ 669,293,295 | \$ 139,439,002 | \$ 345,378,540 | \$ 18,771,350,579 |  |
|   | Illustrated Contribution<br>Dollars                      | \$ 981,542,255        | \$ 446,711,284         | \$ 51,365,097  | \$ 25,001,529  | \$ 44,362,553  | \$ 1,548,982,718  |  |
|   | Projected Payroll  | \$ 6,413,870,627      | \$ 3,179,043,328       | \$ 79,552,232  | \$ 40,865,526  | \$ 88,482,536  | \$ 9,801,814,249  |  |
|   | Total Contributions<br>as Percentage of<br>Payroll*      | 15.30%                | 14.05%                 | 64.57%         | 61.18%         | 50.14%         | 15.80%            |  |
|   | Corridor Percentage of<br>Actuarially Determined<br>Rate | 77.39%                | 66.65%                 | NA             | NA             | NA             | NA                |  |

\*\* 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.

\* The FY 2013 contribution rate would be 19.77% for Teachers, 21.08% for Employees, and 21.00% 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 2014  
(STATE PORTION ONLY)**

| Valuation Date<br>June 30, | Fiscal Year | Teachers'<br>Combined | Employees'<br>Combined | State<br>Police | Judges          | LEOPS           | Total<br>State* |
|----------------------------|-------------|-----------------------|------------------------|-----------------|-----------------|-----------------|-----------------|
| <b>2012</b>                | <b>2014</b> | <b>17.94% @</b>       | <b>16.84% @</b>        | <b>71.85% @</b> | <b>50.92% @</b> | <b>57.72% @</b> | <b>18.54% @</b> |
| <b>2012</b>                | <b>2014</b> | <b>14.71% #</b>       | <b>14.05% #</b>        | <b>66.71% #</b> | <b>50.92% #</b> | <b>52.47% #</b> | <b>15.43% #</b> |
| 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, 2012</u><br><u>(for FY 2014)</u> | <u>June 30, 2011</u><br><u>(for FY 2013)</u> |                 |
| <b>A. Demographic Information</b>   |  |  |                 |
| 1. Active Number Count  | 103,694                                      | 105,528                                      | -1.7%           |
| 2. Retired Member and Beneficiary Count   | 63,699                                       | 60,565                                       | 5.2%            |
| 3. Vested Former Member Count   | 23,033                                       | 22,617                                       | 1.8%            |
| 4. Total Number Count   | 190,426                                      | 188,710                                      | 0.9%            |
| 5. Active Payroll   | \$ 6,080,603,312                             | \$ 6,196,976,452                             | -1.9%           |
| 6. Annual Benefits for Retired Members  | \$ 1,657,508,543                             | \$ 1,524,849,860                             | 8.7%            |
| <b>B. Actuarial Results</b>   |  |  |                 |
| 1. Present Value of Projected Benefits Attributable to:   |  |  |                 |
| a. Retired and Disabled Members, and Beneficiaries  | \$ 19,247,670,642                            | \$ 17,774,310,806                            | 8.3%            |
| b. Terminated Vested Members  | 649,627,385                                  | 621,504,075                                  | 4.5%            |
| c. Active Members   | 22,445,432,252                               | 21,368,583,747                               | 5.0%            |
| d. Total Present Value  | \$ 42,342,730,279                            | \$ 39,764,398,628                            | 6.5%            |
| 2. Less Present Value Total Future Normal Costs   | 8,090,015,331                                | 6,779,253,808                                | 19.3%           |
| 3. Actuarial Accrued Liability (1d - 2)   | \$ 34,252,714,948                            | \$ 32,985,144,820                            | 3.8%            |
| 4. Less Actuarial Value of Assets   | 22,523,977,712                               | 21,868,875,015                               | 3.0%            |
| 5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)  | \$ 11,728,737,236                            | \$ 11,116,269,805                            | 5.5%            |
| 6. Funded Ratio   | 65.8%  | 66.3%  |                 |
| 7. Amortization Payments  | \$ 897,697,232                               | \$ 829,194,768                               | 8.3%            |
| 8. Employer Normal Cost   | \$ 366,906,644                               | \$ 296,320,823                               | 23.8%           |
| 9. Total Projected Payroll  | \$ 6,293,424,428                             | \$ 6,413,870,627                             | -1.9%           |
| 10. Total Normal Cost Rate  | 12.81%                                       | 11.60%                                       |                 |
| 11. Employee Contribution Rate  | 6.98%  | 6.98%  |                 |
| 12. Employer Normal Cost Rate   | 5.83%  | 4.62%  |                 |
| 13. UAAL Amortization Rate*   | 14.54%                                       | 13.14%                                       |                 |
| 14. Total Actuarial Employer Contribution Rate  | 20.37%                                       | 17.76%                                       |                 |
| 14b. Total Actuarial Employer Contribution Rate (Before Reforms)  | NA   | 21.04%                                       |                 |
| <b>C. Corridor Results</b>  |  |  |                 |
| 15. Prior Year Corridor Rate  | 13.29%                                       | 15.45%                                       |                 |
| 16. 20% of Difference between Preliminary Funding Rate (Before Reforms) and Prior year Corridor Rate (14b - 15) x 20% | 1.42%  | 1.12%  |                 |
| 16b. Change Due to Pension Reforms (14 - 14b)   | NA   | -3.28%                                       |                 |
| 17. Employer Corridor Contribution Rate   | 14.71%                                       | 13.29%                                       |                 |
| 18. Estimated Employer Rate after Reinvestment of Savings   | 17.94%                                       | 15.30%                                       |                 |

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

**UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AMORTIZATION BASES AND PAYMENTS**

**TEACHERS' COMBINED SYSTEM**

| <b>Base<br/>Year</b> | <b>Current<br/>Balance</b> | <b>Remaining<br/>Financing<br/>Period</b> | <b>Amortization<br/>Factor</b> | <b>Dollar<br/>Contribution</b> |
|----------------------|----------------------------|---|--------------------------------|--------------------------------|
| 2000                 | \$ 445,977,401             | 8 yrs.                                    | 6.722900                       | \$ 66,337,055                  |
| 2001                 | 348,153,763                | 14  | 10.520070                      | 33,094,244                     |
| 2002                 | 731,943,759                | 15  | 11.068491                      | 66,128,594                     |
| 2003                 | (202,933,985)              | 16  | 11.595281                      | (17,501,429)                   |
| 2004                 | 33,106,070                 | 17  | 12.101293                      | 2,735,747                      |
| 2005                 | 969,266,297                | 18  | 12.587346                      | 77,003,232                     |
| 2006                 | 1,649,838,633              | 19  | 13.054227                      | 126,383,478                    |
| 2007                 | 1,286,856,530              | 20  | 13.502693                      | 95,303,692                     |
| 2008                 | 782,228,328                | 21  | 13.933471                      | 56,140,236                     |
| 2009                 | 4,588,205,169              | 22  | 14.347257                      | 319,796,689                    |
| 2010                 | 450,403,320                | 23  | 14.744722                      | 30,546,750                     |
| 2011                 | 34,008,894                 | 24  | 15.126509                      | 2,248,298                      |
| 2012                 | 611,683,057                | 25  | 15.493238                      | 39,480,646                     |
| Unfunded Liability   | \$ 11,728,737,236          | 19.0                                      | 13.065360                      | \$ 897,697,232                 |

The average remaining financing period associated with the average amortization factor is 19.0 years.



# DETAILED ACTUARIAL INFORMATION

## EMPLOYEES' COMBINED SYSTEM (STATE)

|   | Actuarial Valuation Performed  |                                | % Change |
|---|--------------------------------|--------------------------------|----------|
|   | June 30, 2012<br>(for FY 2014) | June 30, 2011<br>(for FY 2013) |          |
| <b>A. Demographic Information</b>   |                                |                                |          |
| 1. Active Number Count  | 60,719                         | 60,834                         | -0.2%    |
| 2. Retired Member and Beneficiary Count   | 49,955                         | 48,508                         | 3.0%     |
| 3. Vested Former Member Count   | 21,335                         | 21,482                         | -0.7%    |
| 4. Total Number Count   | 132,009                        | 130,824                        | 0.9%     |
| 5. Active Payroll   | \$ 3,001,198,400               | \$ 3,019,158,563               | -0.6%    |
| 6. Annual Benefits for Retired Members  | \$ 801,055,708                 | \$ 750,910,221                 | 6.7%     |
| <b>B. Actuarial Results</b>   |                                |                                |          |
| 1. Present Value of Projected Benefits Attributable to:   |                                |                                |          |
| a. Retired and Disabled Members, and Beneficiaries  | \$ 9,154,778,280               | \$ 8,669,515,153               | 5.6%     |
| b. Terminated Vested Members  | 608,869,729                    | 589,048,547                    | 3.4%     |
| c. Active Members   | 9,293,732,254                  | 9,168,153,087                  | 1.4%     |
| d. Total Present Value  | \$ 19,057,380,263              | \$ 18,426,716,787              | 3.4%     |
| 2. Less Present Value Total Future Normal Costs   | 2,643,812,112                  | 2,417,076,802                  | 9.4%     |
| 3. Actuarial Accrued Liability (1d - 2)   | \$ 16,413,568,151              | \$ 16,009,639,985              | 2.5%     |
| 4. Less Actuarial Value of Assets   | 9,664,964,253                  | 9,508,670,048                  | 1.6%     |
| 5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)  | \$ 6,748,603,898               | \$ 6,500,969,937               | 3.8%     |
| a. Less Special Liability Payments*   | 39,792,107                     | 43,439,800                     | -8.4%    |
| b. State Portion of UAAL (5 - 6)  | 6,708,811,791                  | 6,457,530,137                  | 3.9%     |
| 6. Funded Ratio   | 58.9%                          | 59.4%                          |          |
| 7. Amortization Payments  | \$ 479,439,267                 | \$ 449,657,709                 | 6.6%     |
| 8. Employer Normal Cost   | \$ 149,610,117                 | \$ 128,083,195                 | 16.8%    |
| 9. Total Projected Payroll  | \$ 3,053,267,684               | \$ 3,071,539,447               | -0.6%    |
| 10. Total Normal Cost Rate  | 11.62%                         | 10.88%                         |          |
| 11. Employee Contribution Rate  | 6.72%                          | 6.71%                          |          |
| 12. Employer Normal Cost Rate   | 4.90%                          | 4.17%                          |          |
| 13. UAAL Amortization Rate#   | 16.20%                         | 15.15%                         |          |
| 14. Total Employer Contribution Rate  | 21.10%                         | 19.32%                         |          |
| 14b. Total Actuarial Employer Contribution Rate (Before Reforms)  | NA                             | 22.19%                         |          |
| <b>C. Corridor Results</b>  |                                |                                |          |
| 15. Prior Year Corridor Rate  | 12.29%                         | 13.40%                         |          |
| 16. 20% of Difference between Preliminary Funding Rate (Before Reforms) and Prior year Corridor Rate (14b - 15) x 20% | 1.76%                          | 1.76%                          |          |
| 16b. Change Due to Pension Reforms (14 - 14b)   | NA                             | -2.87%                         |          |
| 17. Employer Corridor Contribution Rate   | 14.05%                         | 12.29%                         |          |
| 18. Estimated Employer Rate after Reinvestment of Savings   | 16.84%                         | 14.05%                         |          |

\* 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.

**UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AMORTIZATION BASES AND PAYMENTS**

**EMPLOYEES' COMBINED SYSTEM (STATE)**

| <b>Base<br/>Year</b> | <b>Current<br/>Balance*</b> | <b>Remaining<br/>Financing<br/>Period</b> | <b>Amortization<br/>Factor</b> | <b>Dollar<br/>Contribution</b> |
|----------------------|-----------------------------|---|--------------------------------|--------------------------------|
| 2000                 | \$ (385,550,853)            | 8 yrs.                                    | 6.722900                       | \$ (57,348,888)                |
| 2001                 | 428,946,615                 | 14  | 10.520070                      | 40,774,122                     |
| 2002                 | 399,800,974                 | 15  | 11.068491                      | 36,120,639                     |
| 2003                 | 470,072,297                 | 16  | 11.595281                      | 40,539,966                     |
| 2004                 | 282,768,817                 | 17  | 12.101293                      | 23,366,827                     |
| 2005                 | 576,592,528                 | 18  | 12.587346                      | 45,807,317                     |
| 2006                 | 703,692,318                 | 19  | 13.054227                      | 53,905,322                     |
| 2007                 | 605,319,775                 | 20  | 13.502693                      | 44,829,558                     |
| 2008                 | 596,350,386                 | 21  | 13.933471                      | 42,799,845                     |
| 2009                 | 2,240,444,730               | 22  | 14.347257                      | 156,158,406                    |
| 2010                 | 336,314,689                 | 23  | 14.744722                      | 22,809,158                     |
| 2011                 | 236,479,614                 | 24  | 15.126509                      | 15,633,456                     |
| 2012                 | 217,579,901                 | 25  | 15.493238                      | 14,043,539                     |
| Unfunded Liability   | \$ 6,708,811,791            | 21.1                                      | 13.993038                      | \$ 479,439,267                 |

\* Does not include \$39,792,107 of Special Liability Payments.

The average remaining financing period associated with the average amortization factor is 21.1 years.

# DETAILED ACTUARIAL INFORMATION

## STATE POLICE

|   | <u>Actuarial Valuation Performed</u>         |  |                 |
|---|--|--|-----------------|
|   | <u>June 30, 2012</u><br><u>(for FY 2014)</u> | <u>June 30, 2011</u><br><u>(for FY 2013)</u> | <u>% Change</u> |
| <b>A. Demographic Information</b>                         |  |  |                 |
| 1. Active Number Count                                    | 1,332  | 1,295  | 2.9%            |
| 2. Retired Member and Beneficiary Count                   | 2,387  | 2,371  | 0.7%            |
| 3. Vested Former Member Count                             | 85   | 91   | -6.6%           |
| 4. Total Number Count                                     | <u>3,804</u>                                 | <u>3,757</u>                                 | 1.3%            |
| 5. Active Payroll   | \$ 77,689,914                                | \$ 75,551,283                                | 2.8%            |
| 6. Annual Benefits for Retired Members                    | \$ 105,974,605                               | \$ 102,466,376                               | 3.4%            |
| <b>B. Actuarial Results</b>                               |  |  |                 |
| 1. Present Value of Projected Benefits Attributable to:   |  |  |                 |
| a. Retired and Disabled Members, and Beneficiaries        | \$ 1,496,360,825                             | \$ 1,430,466,974                             | 4.6%            |
| b. Terminated Vested Members                              | 10,191,505                                   | 13,061,538                                   | -22.0%          |
| c. Active Members   | <u>506,224,595</u>                           | <u>461,401,698</u>                           | 9.7%            |
| d. Total Present Value                                    | \$ 2,012,776,925                             | \$ 1,904,930,210                             | 5.7%            |
| 2. Less Present Value Total Future Normal Costs           | <u>186,231,025</u>                           | <u>145,254,314</u>                           | 28.2%           |
| 3. Actuarial Accrued Liability (1d – 2)                   | \$ 1,826,545,900                             | \$ 1,759,675,896                             | 3.8%            |
| 4. Less Actuarial Value of Assets                         | <u>1,134,510,589</u>                         | <u>1,090,382,601</u>                         | 4.0%            |
| 5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)    | \$ 692,035,311                               | \$ 669,293,295                               | 3.4%            |
| 6. Funded Ratio   | 62.1%  | 62.0%  |                 |
| 7. Amortization Payments                                  | \$ 32,552,188                                | \$ 31,245,270                                | 4.2%            |
| 8. Employer Normal Cost                                   | \$ 20,075,600                                | \$ 15,710,605                                | 27.8%           |
| 9. Total Projected Payroll                                | \$ 79,037,795                                | \$ 76,862,060                                | 2.8%            |
| 10. Total Normal Cost Rate                                | 33.40%                                       | 28.44%                                       |                 |
| 11. Employee Contribution Rate                            | <u>8.00%</u>                                 | <u>8.00%</u>                                 |                 |
| 12. Employer Normal Cost Rate                             | 25.40%                                       | 20.44%                                       |                 |
| 13. UAAL Amortization Rate*                               | 41.31%                                       | 40.77%                                       |                 |
| 14. Total Employer Contribution Rate                      | 66.71%                                       | 61.21%                                       |                 |
| 15. Estimated Employer Rate after Reinvestment of Savings | 71.85%                                       | 64.57%                                       |                 |

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

**UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AMORTIZATION BASES AND PAYMENTS**

**STATE POLICE**

| <b>Base<br/>Year</b> | <b>Current<br/>Balance</b> | <b>Remaining<br/>Financing<br/>Period</b> | <b>Amortization<br/>Factor</b> | <b>Dollar<br/>Contribution</b> |
|----------------------|----------------------------|---|--------------------------------|--------------------------------|
| 2000                 | \$ (277,900,489)           | 8 yrs.                                    | 6.722900                       | \$ (41,336,400)                |
| 2001                 | 48,027,333                 | 14  | 10.520070                      | 4,565,306                      |
| 2002                 | 44,004,151                 | 15  | 11.068491                      | 3,975,623                      |
| 2003                 | 45,809,400                 | 16  | 11.595281                      | 3,950,693                      |
| 2004                 | 135,981,055                | 17  | 12.101293                      | 11,236,903                     |
| 2005                 | 82,176,681                 | 18  | 12.587346                      | 6,528,515                      |
| 2006                 | 22,194,377                 | 19  | 13.054227                      | 1,700,168                      |
| 2007                 | 153,878,000                | 20  | 13.502693                      | 11,396,097                     |
| 2008                 | 65,451,239                 | 21  | 13.933471                      | 4,697,411                      |
| 2009                 | 326,774,454                | 22  | 14.347257                      | 22,776,093                     |
| 2010                 | 29,087,067                 | 23  | 14.744722                      | 1,972,710                      |
| 2011                 | 13,246,822                 | 24  | 15.126509                      | 875,736                        |
| 2012                 | 3,305,221                  | 25  | 15.493238                      | 213,333                        |
| Unfunded Liability   | \$ 692,035,311             | 50.8                                      | 21.259256                      | \$ 32,552,188                  |

The average remaining financing period associated with the average amortization factor is 50.8 years. This is outside of GASB parameters, and hence the GASB ARC differs from the actuarial contribution.

# DETAILED ACTUARIAL INFORMATION

## JUDGES

|   | <u>Actuarial Valuation Performed</u>         |  |                 |
|---|--|--|-----------------|
|   | <u>June 30, 2012</u><br><u>(for FY 2014)</u> | <u>June 30, 2011</u><br><u>(for FY 2013)</u> | <u>% Change</u> |
| <b>A. Demographic Information</b>                       |  |  |                 |
| 1. Active Number Count                                  | 294  | 286  | 2.8%            |
| 2. Retired Member and Beneficiary Count                 | 365  | 358  | 2.0%            |
| 3. Vested Former Member Count                           | 10   | 11   | -9.1%           |
| 4. Total Number Count                                   | <u>669</u>                                   | <u>655</u>                                   | 2.1%            |
| 5. Active Payroll                                       | \$ 39,955,368                                | \$ 38,810,261                                | 3.0%            |
| 6. Annual Benefits for Retired Members                  | \$ 25,150,702                                | \$ 24,597,570                                | 2.2%            |
| <b>B. Actuarial Results</b>                             |  |  |                 |
| 1. Present Value of Projected Benefits Attributable to: |  |  |                 |
| a. Retired and Disabled Members, and Beneficiaries      | \$ 270,805,698                               | \$ 267,351,134                               | 1.3%            |
| b. Terminated Vested Members                            | 2,027,699                                    | 5,911,024                                    | -65.7%          |
| c. Active Members                                       | <u>235,643,610</u>                           | <u>241,972,249</u>                           | -2.6%           |
| d. Total Present Value                                  | \$ 508,477,007                               | \$ 515,234,407                               | -1.3%           |
| 2. Less Present Value Total Future Normal Costs         | <u>87,190,960</u>                            | <u>81,994,830</u>                            | 6.3%            |
| 3. Actuarial Accrued Liability (1d – 2)                 | \$ 421,286,047                               | \$ 433,239,577                               | -2.8%           |
| 4. Less Actuarial Value of Assets                       | <u>330,153,704</u>                           | <u>293,800,575</u>                           | 12.4%           |
| 5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)  | \$ 91,132,343                                | \$ 139,439,002                               | -34.6%          |
| 6. Funded Ratio   | 78.4%  | 67.8%  |                 |
| 7. Amortization Payments                                | \$ 8,725,497                                 | \$ 11,380,154                                | -23.3%          |
| 8. Employer Normal Cost                                 | \$ 12,157,988                                | \$ 12,757,151                                | -4.7%           |
| 9. Total Projected Payroll                              | \$ 40,648,574                                | \$ 39,483,600                                | 3.0%            |
| 10. Total Normal Cost Rate                              | 36.15%                                       | 38.31%                                       |                 |
| 11. Employee Contribution Rate                          | <u>6.24%</u>                                 | <u>6.00%</u>                                 |                 |
| 12. Employer Normal Cost Rate                           | 29.91%                                       | 32.31%                                       |                 |
| 13. UAAL Amortization Rate*                             | 21.01%                                       | 28.87%                                       |                 |
| 14. Total Employer Contribution Rate                    | 50.92%                                       | 61.18%                                       |                 |

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

**UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AMORTIZATION BASES AND PAYMENTS**

**JUDGES**

| <b>Base<br/>Year</b> | <b>Current<br/>Balance</b> | <b>Remaining<br/>Financing<br/>Period</b> | <b>Amortization<br/>Factor</b> | <b>Dollar<br/>Contribution</b> |
|----------------------|----------------------------|---|--------------------------------|--------------------------------|
| 2000                 | \$ 15,574,787              | 8 yrs.                                    | 6.722900                       | \$ 2,316,677                   |
| 2001                 | 5,374,429                  | 14  | 10.520070                      | 510,874                        |
| 2002                 | 6,821,221                  | 15  | 11.068491                      | 616,274                        |
| 2003                 | 5,373,568                  | 16  | 11.595281                      | 463,427                        |
| 2004                 | 23,791,428                 | 17  | 12.101293                      | 1,966,024                      |
| 2005                 | 6,282,391                  | 18  | 12.587346                      | 499,104                        |
| 2006                 | 11,891,998                 | 19  | 13.054227                      | 910,969                        |
| 2007                 | (79,829)                   | 20  | 13.502693                      | (5,912)                        |
| 2008                 | 22,056,619                 | 21  | 13.933471                      | 1,582,995                      |
| 2009                 | 51,708,965                 | 22  | 14.347257                      | 3,604,101                      |
| 2010                 | (577,136)                  | 23  | 14.744722                      | (39,142)                       |
| 2011                 | (9,785,824)                | 24  | 15.126509                      | (646,932)                      |
| 2012                 | (47,300,274)               | 25  | 15.493238                      | (3,052,962)                    |
| Unfunded Liability   | \$ 91,132,343              | 13.9                                      | 10.444373                      | \$ 8,725,497                   |

The average remaining financing period associated with the average amortization factor is 13.9 years.

# DETAILED ACTUARIAL INFORMATION

## LEOPS (STATE)

|   | Actuarial Valuation Performed  |                                |          |
|---|--------------------------------|--------------------------------|----------|
|   | June 30, 2012<br>(for FY 2014) | June 30, 2011<br>(for FY 2013) | % Change |
| <b>A. Demographic Information</b>                         |                                |                                |          |
| 1. Active Number Count                                    | 1,473                          | 1,483                          | -0.7%    |
| 2. Retired Member and Beneficiary Count                   | 1,161                          | 1,094                          | 6.1%     |
| 3. Vested Former Member Count                             | 162                            | 158                            | 2.5%     |
| 4. Total Number Count                                     | 2,796                          | 2,735                          | 2.2%     |
| 5. Active Payroll   | \$ 83,671,522                  | \$ 84,032,452                  | -0.4%    |
| 6. Annual Benefits for Retired Members                    | \$ 36,886,466                  | \$ 33,861,735                  | 8.9%     |
| <b>B. Actuarial Results</b>                               |                                |                                |          |
| 1. Present Value of Projected Benefits Attributable to:   |                                |                                |          |
| a. Retired and Disabled Members, and Beneficiaries        | \$ 533,532,877                 | \$ 485,396,059                 | 9.9%     |
| b. Terminated Vested Members                              | 14,507,163                     | 15,010,824                     | -3.4%    |
| c. Active Members   | 373,464,761                    | 353,743,215                    | 5.6%     |
| d. Total Present Value                                    | \$ 921,504,801                 | \$ 854,150,098                 | 7.9%     |
| 2. Less Present Value Total Future Normal Costs           | 128,542,580                    | 107,400,003                    | 19.7%    |
| 3. Actuarial Accrued Liability (1d – 2)                   | \$ 792,962,221                 | \$ 746,750,095                 | 6.2%     |
| 4. Less Actuarial Value of Assets                         | 435,857,803                    | 401,371,555                    | 8.6%     |
| 5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)    | \$ 357,104,418                 | \$ 345,378,540                 | 3.4%     |
| 6. Funded Ratio   | 55.0%                          | 53.7%                          |          |
| 7. Amortization Payments                                  | \$ 31,459,475                  | \$ 29,428,605                  | 6.9%     |
| 8. Employer Normal Cost                                   | \$ 13,100,458                  | \$ 10,558,061                  | 24.1%    |
| 9. Total Projected Payroll                                | \$ 85,123,181                  | \$ 85,490,373                  | -0.4%    |
| 10. Total Normal Cost Rate                                | 22.39%                         | 19.35%                         |          |
| 11. Employee Contribution Rate                            | 7.00%                          | 7.00%                          |          |
| 12. Employer Normal Cost Rate                             | 15.39%                         | 12.35%                         |          |
| 13. UAAL Amortization Rate*                               | 37.08%                         | 34.46%                         |          |
| 14. Total Employer Contribution Rate                      | 52.47%                         | 46.81%                         |          |
| 15. Estimated Employer Rate after Reinvestment of Savings | 57.72%                         | 50.14%                         |          |

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

**UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AMORTIZATION BASES AND PAYMENTS**

**LEOPS (STATE)**

| <b>Base<br/>Year</b> | <b>Current<br/>Balance</b> | <b>Remaining<br/>Financing<br/>Period</b> | <b>Amortization<br/>Factor</b> | <b>Dollar<br/>Contribution</b> |
|----------------------|----------------------------|---|--------------------------------|--------------------------------|
| 2000                 | \$ 58,031,733              | 8 yrs.                                    | 6.722900                       | \$ 8,631,949                   |
| 2001                 | 43,876,960                 | 14  | 10.520070                      | 4,170,786                      |
| 2002                 | (5,437,448)                | 15  | 11.068491                      | (491,255)                      |
| 2003                 | 23,539,502                 | 16  | 11.595281                      | 2,030,093                      |
| 2004                 | 5,572,144                  | 17  | 12.101293                      | 460,459                        |
| 2005                 | 43,642,564                 | 18  | 12.587346                      | 3,467,178                      |
| 2006                 | 2,021,659                  | 19  | 13.054227                      | 154,866                        |
| 2007                 | 53,807,376                 | 20  | 13.502693                      | 3,984,937                      |
| 2008                 | (16,824,718)               | 21  | 13.933471                      | (1,207,504)                    |
| 2009                 | 113,090,789                | 22  | 14.347257                      | 7,882,398                      |
| 2010                 | 19,975,907                 | 23  | 14.744722                      | 1,354,784                      |
| 2011                 | 301,226                    | 24  | 15.126509                      | 19,914                         |
| 2012                 | 15,506,724                 | 25  | 15.493238                      | 1,000,870                      |
| Unfunded Liability   | \$ 357,104,418             | 15.5                                      | 11.351252                      | \$ 31,459,475                  |

The average remaining financing period associated with the average amortization factor is 15.5 years.



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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, 2012 and June 30, 2011;
- Statement of the **changes** in market values during the year;
- Development of the Actuarial Value of Assets; and
- An assessment of **investment performance**.

There were additional assets of \$74 million in total for the State Police, Judges and LEOPS Systems from the recent Milliman settlement. These amounts were allocated among the Systems by the State Retirement Agency.

### 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)**

|  | June 30,      |               |
|--|---------------|---------------|
|  | 2012          | 2011          |
| <b>Assets:</b>                                       |               |               |
| Cash & Cash Equivalents                              | \$ 2,171,007  | \$ 2,002,722  |
| <i>Receivables</i>                                   |               |               |
| Contributions  |               |               |
| Employers  | 21,894        | 18,569        |
| Employers - Long Term                                | 41,828        | 45,311        |
| Members  | 12,773        | 9,293         |
| Accrued Investment Income                            | 152,166       | (11,901)      |
| Investment Sales Proceeds                            | 811,898       | 717,709       |
| Total Receivables                                    | 1,040,559     | 778,981       |
| <i>Investments</i>                                   |               |               |
| U.S. Government Obligations                          | 3,231,434     | 3,298,771     |
| Domestic Corporate Obligations                       | 2,808,267     | 3,133,131     |
| International Obligations                            | 1,306,528     | 1,078,016     |
| Domestic Stocks                                      | 7,988,328     | 8,409,004     |
| International Stocks                                 | 8,147,718     | 9,226,097     |
| Mortgages & Mortgage Related Securities              | 2,491,766     | 2,582,992     |
| Real Estate  | 5,009         | 166,376       |
| Alternative Investments                              | 9,614,379     | 8,379,900     |
| Collateral For Loaned Securities                     | 3,452,109     | 4,244,956     |
| Total Investments                                    | 39,045,538    | 40,519,243    |
| <b>Total Assets</b>                                  | 42,257,104    | 43,300,946    |
| <b>Liabilities:</b>                                  |               |               |
| Accounts Payable & Accrued Expenses                  | 55,055        | 60,012        |
| Investment Commitments Payable                       | 1,568,720     | 1,400,909     |
| Obligation For Collateral For Loaned Securities      | 3,452,109     | 4,244,956     |
| Other Liabilities                                    | 2,494         | 2,318         |
| <b>Total Liabilities</b>                             | 5,078,378     | 5,708,195     |
| <b>Net Assets Held in Trust for Pension Benefits</b> | \$ 37,178,726 | \$ 37,592,751 |

## CHANGES IN MARKET VALUES (STATE AND MUNICIPAL)

|  | Teachers          | Employees<br>(State)             | State Police     | Judges         | LEOPS<br>(State)             | Total State         |                            |
|--|-------------------|----------------------------------|------------------|----------------|------------------------------|---------------------|----------------------------|
| <b>State Sponsored Plans</b>               |                   |                                  |                  |                |                              |                     |                            |
| Market Value of Assets as of 6/30/2011     | \$ 22,764,944,690 | \$ 9,855,234,882                 | \$ 1,116,528,839 | \$ 302,960,936 | \$ 416,516,466               | \$ 34,456,185,812   |                            |
| Employer Contributions                     | 917,564,357       | 363,439,810                      | 47,283,353       | 24,076,595     | 41,868,087                   | 1,394,232,202       |                            |
| Settlement                                 | -                 | -                                | 48,840,000       | 21,460,000     | 3,700,000                    | 74,000,000          |                            |
| Member Contributions                       | 428,726,691       | 202,453,406                      | 6,233,692        | 1,817,604      | 5,227,076                    | 644,458,469         |                            |
| Investment Returns                         | 54,983,885        | 23,328,295                       | 9,907,390        | 4,067,515      | 3,483,556                    | 95,770,641          |                            |
| Disbursements from the Trust               | (1,664,429,583)   | (805,936,835)                    | (101,445,688)    | (25,060,531)   | (36,341,062)                 | (2,633,213,699)     |                            |
| Net Transfers                              | (256,602)         | 126,935                          | 36,510           | -              | 93,157                       | -                   |                            |
| 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   |                            |
|  |                   | Employees<br>(Municipal)         |                  |                | LEOPS<br>(Municipal)         | CORS<br>(Municipal) | Total Municipal            |
| <b>Municipal Plans</b>                     |                   |                                  |                  |                |                              |                     |                            |
| Market Value of Assets as of 6/30/2011     |                   | \$ 2,995,482,358                 |                  |                | \$ 130,649,161               | \$ 10,434,027       | \$ 3,136,565,546           |
| Employer Contributions                     |                   | 111,963,083                      |                  |                | 14,756,084                   | 809,191             | 127,528,358                |
| Settlement                                 |                   | -                                |                  |                | -                            | -                   | -                          |
| Member Contributions                       |                   | 55,564,295                       |                  |                | 3,007,235                    | 225,614             | 58,797,144                 |
| Investment Returns                         |                   | 7,165,466                        |                  |                | 1,122,944                    | 25,847              | 8,314,257                  |
| Disbursements from the Trust               |                   | (177,744,373)                    |                  |                | (5,839,220)                  | (329,057)           | (183,912,650)              |
| Net Transfers                              |                   | -                                |                  |                | -                            | -                   | -                          |
| Market Value of Assets as of 6/30/2012     |                   | \$ 2,992,430,829                 |                  |                | \$ 143,696,204               | \$ 11,165,622       | \$ 3,147,292,655           |
|  | Teachers          | Employees<br>(State & Municipal) | State Police     | Judges         | LEOPS<br>(State & Municipal) | CORS<br>(Municipal) | Total State<br>& Municipal |
| <b>State and Municipal Sponsored Plans</b> |                   |                                  |                  |                |                              |                     |                            |
| Market Value of Assets as of 6/30/2011     | \$ 22,764,944,690 | \$ 12,850,717,240                | \$ 1,116,528,839 | \$ 302,960,936 | \$ 547,165,627               | \$ 10,434,027       | \$ 37,592,751,358          |
| Employer Contributions                     | 917,564,357       | 475,402,893                      | 47,283,353       | 24,076,595     | 56,624,171                   | 809,191             | 1,521,760,560              |
| Settlement                                 | -                 | -                                | 48,840,000       | 21,460,000     | 3,700,000                    | -                   | 74,000,000                 |
| Member Contributions                       | 428,726,691       | 258,017,701                      | 6,233,692        | 1,817,604      | 8,234,311                    | 225,614             | 703,255,613                |
| Investment Returns                         | 54,983,885        | 30,493,761                       | 9,907,390        | 4,067,515      | 4,606,500                    | 25,847              | 104,084,898                |
| Disbursements from the Trust               | (1,664,429,583)   | (983,681,208)                    | (101,445,688)    | (25,060,531)   | (42,180,282)                 | (329,057)           | (2,817,126,349)            |
| Net Transfers                              | (256,602)         | 126,935                          | 36,510           | -              | 93,157                       | -                   | -                          |
| 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          |

## SUMMARY OF THE DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS JUNE 30, 2012

|  | Total State           | Total Municipal      | Total MSRPS           |
|--|-----------------------|----------------------|-----------------------|
| Beginning of Year:                                     |                       |                      |                       |
| (1) Market Value of Assets                             | \$34,456,185,813      | \$3,136,565,546      | \$37,592,751,359      |
| (2) Actuarial Value of Assets                          | 33,163,099,794        | 3,014,556,199        | 36,177,655,993        |
| End of Year:   |                       |                      |                       |
| (3) Market Value of Assets                             | 34,031,433,426        | 3,147,292,655        | 37,178,726,081        |
| (4) Net Cash Flow with Adjustment                      | (520,523,028)         | 2,412,852            | (518,110,176)         |
| (5) Total Investment Income                            |                       |                      |                       |
| =(3)-(1)-(4)   | \$ 95,770,641         | \$ 8,314,257         | \$ 104,084,898        |
| (6) Projected Rate of Return                           | 7.75%                 | 7.75%                | 7.75%                 |
| (7) Projected Investment Income                        |                       |                      |                       |
| =(1)x(6)+([1+(6)] <sup>.5</sup> -1)x(4)                | \$ 2,650,560,485      | \$ 243,175,583       | \$ 2,893,736,068      |
| (8) Beginning of Year Asset Adjustment                 | 0                     | 0                    | 0                     |
| (9) Investment Income in Excess of Projected Income    | (\$2,554,789,844)     | (\$234,861,326)      | (\$2,789,651,170)     |
| (10) Excess Investment Income Recognized               |                       |                      |                       |
| This Year (5 year recognition)                         |                       |                      |                       |
| (10a) From This Year                                   | (510,957,970)         | (46,972,266)         | (557,930,236)         |
| (10b) From One Year Ago                                | 701,322,392           | 63,123,989           | 764,446,381           |
| (10c) From Two Years Ago                               | 336,478,675           | 28,994,760           | 365,473,435           |
| (10d) From Three Years Ago                             | (791,123,285)         | (71,116,494)         | (862,239,779)         |
| (10e) From Four Years Ago                              | (939,393,002)         | (75,237,904)         | (1,014,630,906)       |
| (10f) Total Recognized Investment Gain/(Loss)          | (1,203,673,190)       | (101,207,915)        | (1,304,881,105)       |
| (11) Change in Actuarial Value of Assets               |                       |                      |                       |
| =(4)+(7)+(8)+(10f)                                     | 926,364,267           | 144,380,520          | 1,070,744,787         |
| End of Year:   |                       |                      |                       |
| <b>(3) Market Value of Assets as of 6/30</b>           | <b>34,031,433,426</b> | <b>3,147,292,655</b> | <b>37,178,726,081</b> |
| (12) Preliminary Actuarial Value of Assets = (2)+(11)  | 34,089,464,061        | 3,158,936,719        | 37,248,400,780        |
| (12a) Upper Collar Limit 120% x (3)                    | 40,837,720,111        | 3,776,751,186        | 44,614,471,297        |
| (12b) Lower Collar Limit 80% x (3)                     | 27,225,146,740        | 2,517,834,124        | 29,742,980,864        |
| (13) Adjustment to Remain within 20% Collar            | 0                     | 0                    | 0                     |
| <b>(14) Final Actuarial Value of Assets as of 6/30</b> | <b>34,089,464,061</b> | <b>3,158,936,719</b> | <b>37,248,400,780</b> |
| (15) Difference Between Market & Actuarial Values      | (58,030,635)          | (11,644,064)         | (69,674,699)          |
| (16) Actuarial Value Rate of Return                    | 4.40%                 | 4.71%                | 4.42%                 |
| (17) Market Value Rate of Return                       | 0.28%                 | 0.26%                | 0.28%                 |
| (18) Ratio of Actuarial Value to Market Value          | 100%                  | 100%                 | 100%                  |

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

## JUNE 30, 2012

|   | TCS                   | ECS                  | State Police         | Judges             | LEOPS              | Total State           |
|---|-----------------------|----------------------|----------------------|--------------------|--------------------|-----------------------|
| Beginning of Year:  |                       |                      |                      |                    |                    |                       |
| (1) Market Value of Assets  | \$22,764,944,690      | \$9,855,234,882      | \$ 1,116,528,839     | \$302,960,936      | \$416,516,466      | \$34,456,185,813      |
| (2) Actuarial Value of Assets   | 21,868,875,015        | 9,508,670,048        | 1,090,382,601        | 293,800,575        | 401,371,555        | 33,163,099,794        |
| End of Year:  |                       |                      |                      |                    |                    |                       |
| (3) 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        |
| (4) Net Cash Flow with Adjustment                                       | (318,395,137)         | (239,916,684)        | 947,867              | 22,293,668         | 14,547,258         | (520,523,028)         |
| (5) Total Investment Income   |                       |                      |                      |                    |                    |                       |
| =(3)-(1)-(4)  | \$ 54,983,885         | \$23,328,295         | \$ 9,907,390         | \$ 4,067,515       | \$ 3,483,556       | \$ 95,770,641         |
| (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)                                 | \$ 1,752,175,610      | \$ 754,657,398       | \$ 86,567,030        | \$ 24,327,233      | \$ 32,833,214      | \$ 2,650,560,485      |
| (8) Beginning of Year Asset Adjustment                                  | 0                     | 0                    | 0                    | 0                  | 0                  | 0                     |
| (9) Investment Income in Excess of Projected Income                     | (\$1,697,191,725)     | (\$731,329,103)      | (\$76,659,640)       | (\$20,259,718)     | (\$29,349,658)     | (\$2,554,789,844)     |
| (10) Excess Investment Income Recognized This Year (5 year recognition) |                       |                      |                      |                    |                    |                       |
| (10a) From This Year  | (339,438,345)         | (146,265,821)        | (15,331,928)         | (4,051,944)        | (5,869,932)        | (510,957,970)         |
| (10b) From One Year Ago   | 469,855,870           | 199,152,245          | 18,565,176           | 5,794,379          | 7,954,722          | 701,322,392           |
| (10c) From Two Years Ago  | 222,868,993           | 96,754,785           | 11,075,505           | 2,410,242          | 3,369,150          | 336,478,675           |
| (10d) From Three Years Ago  | (519,996,485)         | (232,220,784)        | (23,645,315)         | (6,827,436)        | (8,433,265)        | (791,123,285)         |
| (10e) From Four Years Ago   | (611,967,809)         | (275,866,934)        | (34,050,347)         | (7,593,013)        | (9,914,899)        | (939,393,002)         |
| (10f) Total Recognized Investment Gain/(Loss)                           | (778,677,776)         | (358,446,509)        | (43,386,909)         | (10,267,772)       | (12,894,224)       | (1,203,673,190)       |
| (11) Change in Actuarial Value of Assets = (4)+(7)+(8)+(10f)            | 655,102,697           | 156,294,205          | 44,127,988           | 36,353,129         | 34,486,248         | 926,364,267           |
| End of Year:  |                       |                      |                      |                    |                    |                       |
| <b>(3) Market Value of Assets as of 6/30</b>                            | <b>22,501,533,438</b> | <b>9,638,646,493</b> | <b>1,127,384,096</b> | <b>329,322,119</b> | <b>434,547,280</b> | <b>34,031,433,426</b> |
| (12) Preliminary Actuarial Value of Assets = (2)+(11)                   | 22,523,977,712        | 9,664,964,253        | 1,134,510,589        | 330,153,704        | 435,857,803        | 34,089,464,061        |
| (12a) Upper Collar Limit 120% x (3)                                     | 27,001,840,125        | 11,566,375,792       | 1,352,860,915        | 395,186,543        | 521,456,736        | 40,837,720,111        |
| (12b) Lower Collar Limit 80% x (3)                                      | 18,001,226,750        | 7,710,917,194        | 901,907,277          | 263,457,695        | 347,637,824        | 27,225,146,740        |
| (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>22,523,977,712</b> | <b>9,664,964,253</b> | <b>1,134,510,589</b> | <b>330,153,704</b> | <b>435,857,803</b> | <b>34,089,464,061</b> |
| (15) Difference Between Market & Actuarial Values                       | (22,444,275)          | (26,317,760)         | (7,126,493)          | (831,585)          | (1,310,523)        | (58,030,635)          |
| (16) Actuarial Value Rate of Return                                     | 4.48%                 | 4.22%                | 3.96%                | 4.61%              | 4.88%              | 4.40%                 |
| (17) Market Value Rate of Return  | 0.24%                 | 0.24%                | 0.89%                | 1.29%              | 0.82%              | 0.28%                 |
| (18) Ratio of Actuarial Value to Market Value                           | 100%                  | 100%                 | 101%                 | 100%               | 100%               | 100%                  |

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

|  | 2011                  | 2012                  | 2013             | 2014             | 2015             | 2016             |
|--|-----------------------|-----------------------|------------------|------------------|------------------|------------------|
| Beginning of Year:                                     |                       |                       |                  |                  |                  |                  |
| (1) Market Value of Assets                             | \$19,256,510,005      | \$22,764,944,690      |                  |                  |                  |                  |
| (2) Actuarial Value of Assets                          | 20,908,149,284        | 21,868,875,015        |                  |                  |                  |                  |
| End of Year:   |                       |                       |                  |                  |                  |                  |
| (3) Market Value of Assets                             | 22,764,944,690        | 22,501,533,438        |                  |                  |                  |                  |
| (4) Net of Contributions and Disbursements             | (321,016,887)         | (318,395,137)         |                  |                  |                  |                  |
| (5) Total Investment Income                            |                       |                       |                  |                  |                  |                  |
| =(3)-(1)-(4)   | 3,829,451,572         | 54,983,885            |                  |                  |                  |                  |
| (6) Projected Rate of Return                           | 7.75%                 | 7.75%                 |                  |                  |                  |                  |
| (7) Projected Investment Income                        |                       |                       |                  |                  |                  |                  |
| =(1)x(6)+([1+(6)] <sup>.5-1</sup> )x(4)                | 1,480,172,224         | 1,752,175,610         |                  |                  |                  |                  |
| (8) Beginning of Year Asset Adjustment                 | 0                     | 0                     |                  |                  |                  |                  |
| (9) Investment Income in                               |                       |                       |                  |                  |                  |                  |
| Excess of Projected Income                             | 2,349,279,348         | (1,697,191,725)       |                  |                  |                  |                  |
| (10) Excess Investment Income Recognized               |                       |                       |                  |                  |                  |                  |
| This Year (5 year recognition)                         |                       |                       |                  |                  |                  |                  |
| (10a) From This Year                                   | 469,855,870           | (339,438,345)         |                  |                  |                  |                  |
| (10b) From One Year Ago                                | 222,868,993           | 469,855,870           | \$ (339,438,345) |                  |                  |                  |
| (10c) From Two Years Ago                               | (519,996,485)         | 222,868,993           | 469,855,870      | \$ (339,438,345) |                  |                  |
| (10d) From Three Years Ago                             | (611,967,809)         | (519,996,485)         | 222,868,993      | 469,855,870      | \$ (339,438,345) |                  |
| (10e) From Four Years Ago                              | 240,809,826           | (611,967,809)         | (519,996,487)    | 222,868,991      | 469,855,868      | \$ (339,438,345) |
| (10f) Total Recognized Investment Gain/(Loss)          | (198,429,605)         | (778,677,776)         | (166,709,969)    | 353,286,516      | 130,417,523      | (339,438,345)    |
| (11) Change in Actuarial Value of Assets               |                       |                       |                  |                  |                  |                  |
| =(4)+(7)+(8)+(10f)                                     | 960,725,732           | 655,102,697           |                  |                  |                  |                  |
| End of Year:   |                       |                       |                  |                  |                  |                  |
| <b>(3) Market Value of Assets</b>                      | <b>22,764,944,690</b> | <b>22,501,533,438</b> |                  |                  |                  |                  |
| (12) Preliminary Actuarial Value of Assets = (2)+(11)  | 21,868,875,015        | 22,523,977,712        |                  |                  |                  |                  |
| (12a) Upper Collar Limit 120% x (3)                    | 27,317,933,628        | 27,001,840,125        |                  |                  |                  |                  |
| (12b) Lower Collar Limit 80% x (3)                     | 18,211,955,752        | 18,001,226,750        |                  |                  |                  |                  |
| (13) Adjustment to Remain within 20% Collar            | 0                     | 0                     |                  |                  |                  |                  |
| <b>(14) Final Actuarial Value of Assets as of 6/30</b> | <b>21,868,875,015</b> | <b>22,523,977,712</b> |                  |                  |                  |                  |
| (15) Difference Between Market & Actuarial Values      | 896,069,674           | (22,444,275)          |                  |                  |                  |                  |
| (16) Actuarial Value Rate of Return                    | 6.18%                 | 4.48%                 |                  |                  |                  |                  |
| (17) Market Value Rate of Return                       | 20.05%                | 0.24%                 |                  |                  |                  |                  |
| (18) Ratio of Actuarial Value to Market Value          | 96%                   | 100%                  |                  |                  |                  |                  |

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

|  | 2011                 | 2012                 | 2013             | 2014             | 2015             | 2016             |
|--|----------------------|----------------------|------------------|------------------|------------------|------------------|
| Beginning of Year:                                     |                      |                      |                  |                  |                  |                  |
| (1) Market Value of Assets                             | \$8,472,450,649      | \$9,855,234,882      |                  |                  |                  |                  |
| (2) Actuarial Value of Assets                          | 9,224,784,189        | 9,508,670,048        |                  |                  |                  |                  |
| End of Year:   |                      |                      |                  |                  |                  |                  |
| (3) Market Value of Assets                             | 9,855,234,882        | 9,638,646,493        |                  |                  |                  |                  |
| (4) Net of Contributions and Disbursements             | (259,715,713)        | (239,916,684)        |                  |                  |                  |                  |
| (5) Total Investment Income                            |                      |                      |                  |                  |                  |                  |
| =(3)-(1)-(4)   | 1,642,499,946        | 23,328,295           |                  |                  |                  |                  |
| (6) Projected Rate of Return                           | 7.75%                | 7.75%                |                  |                  |                  |                  |
| (7) Projected Investment Income                        |                      |                      |                  |                  |                  |                  |
| =(1)x(6)+([1+(6)]^.5-1)x(4)                            | 646,738,722          | 754,657,398          |                  |                  |                  |                  |
| (8) Beginning of Year Asset Adjustment                 | 0                    | 0                    |                  |                  |                  |                  |
| (9) Investment Income in Excess of Projected Income    | 995,761,224          | (731,329,103)        |                  |                  |                  |                  |
| (10) Excess Investment Income Recognized               |                      |                      |                  |                  |                  |                  |
| This Year (5 year recognition)                         |                      |                      |                  |                  |                  |                  |
| (10a) From This Year                                   | 199,152,245          | (146,265,821)        |                  |                  |                  |                  |
| (10b) From One Year Ago                                | 96,754,785           | 199,152,245          | \$ (146,265,821) |                  |                  |                  |
| (10c) From Two Years Ago                               | (232,220,784)        | 96,754,785           | 199,152,245      | \$ (146,265,821) |                  |                  |
| (10d) From Three Years Ago                             | (275,866,936)        | (232,220,784)        | 96,754,785       | 199,152,245      | \$ (146,265,821) |                  |
| (10e) From Four Years Ago                              | 109,043,540          | (275,866,934)        | (232,220,784)    | 96,754,787       | 199,152,244      | \$ (146,265,819) |
| (10f) Total Recognized Investment Gain/(Loss)          | (103,137,150)        | (358,446,509)        | (82,579,575)     | 149,641,211      | 52,886,423       | (146,265,819)    |
| (11) Change in Actuarial Value of Assets               |                      |                      |                  |                  |                  |                  |
| =(4)+(7)+(8)+(10f)                                     | 283,885,859          | 156,294,205          |                  |                  |                  |                  |
| End of Year:   |                      |                      |                  |                  |                  |                  |
| <b>(3) Market Value of Assets</b>                      | <b>9,855,234,882</b> | <b>9,638,646,493</b> |                  |                  |                  |                  |
| (12) Preliminary Actuarial Value of Assets = (2)+(11)  | 9,508,670,048        | 9,664,964,253        |                  |                  |                  |                  |
| (12a) Upper Collar Limit 120% x (3)                    | 11,826,281,858       | 11,566,375,792       |                  |                  |                  |                  |
| (12b) Lower Collar Limit 80% x (3)                     | 7,884,187,906        | 7,710,917,194        |                  |                  |                  |                  |
| (13) Adjustment to Remain within 20% Collar            | 0                    | 0                    |                  |                  |                  |                  |
| <b>(14) Final Actuarial Value of Assets as of 6/30</b> | <b>9,508,670,048</b> | <b>9,664,964,253</b> |                  |                  |                  |                  |
| (15) Difference Between Market & Actuarial Values      | 346,564,834          | (26,317,760)         |                  |                  |                  |                  |
| (16) Actuarial Value Rate of Return                    | 5.98%                | 4.22%                |                  |                  |                  |                  |
| (17) Market Value Rate of Return                       | 19.69%               | 0.24%                |                  |                  |                  |                  |
| (18) Ratio of Actuarial Value to Market Value          | 96%                  | 100%                 |                  |                  |                  |                  |



## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS STATE POLICE

|  | 2011                 | 2012                 | 2013            | 2014            | 2015            | 2016            |
|--|----------------------|----------------------|-----------------|-----------------|-----------------|-----------------|
| Beginning of Year:                                     |                      |                      |                 |                 |                 |                 |
| (1) Market Value of Assets                             | \$ 995,598,766       | \$ 1,116,528,839     |                 |                 |                 |                 |
| (2) Actuarial Value of Assets                          | 1,085,281,042        | 1,090,382,601        |                 |                 |                 |                 |
| End of Year:   |                      |                      |                 |                 |                 |                 |
| (3) Market Value of Assets                             | 1,116,528,839        | 1,127,384,096        |                 |                 |                 |                 |
| (4) Net of Contributions and Disbursements             | (47,257,644)         | 947,867              |                 |                 |                 |                 |
| (5) Total Investment Income                            |                      |                      |                 |                 |                 |                 |
| =(3)-(1)-(4)   | 168,187,717          | 9,907,390            |                 |                 |                 |                 |
| (6) Projected Rate of Return                           | 7.75%                | 7.75%                |                 |                 |                 |                 |
| (7) Projected Investment Income                        |                      |                      |                 |                 |                 |                 |
| =(1)x(6)+[(1+(6))^5-1]x(4)                             | 75,361,839           | 86,567,030           |                 |                 |                 |                 |
| (8) Beginning of Year Asset Adjustment                 | 0                    | 0                    |                 |                 |                 |                 |
| (9) Investment Income in Excess of Projected Income    | 92,825,878           | (76,659,640)         |                 |                 |                 |                 |
| (10) Excess Investment Income Recognized               |                      |                      |                 |                 |                 |                 |
| This Year (5 year recognition)                         |                      |                      |                 |                 |                 |                 |
| (10a) From This Year                                   | 18,565,176           | (15,331,928)         |                 |                 |                 |                 |
| (10b) From One Year Ago                                | 11,075,505           | 18,565,176           | \$ (15,331,928) |                 |                 |                 |
| (10c) From Two Years Ago                               | (23,645,315)         | 11,075,505           | 18,565,176      | \$ (15,331,928) |                 |                 |
| (10d) From Three Years Ago                             | (34,050,347)         | (23,645,315)         | 11,075,505      | 18,565,176      | \$ (15,331,928) |                 |
| (10e) From Four Years Ago                              | 5,052,345            | (34,050,347)         | (23,645,316)    | 11,075,504      | 18,565,174      | \$ (15,331,928) |
| (10f) Total Recognized Investment Gain/(Loss)          | (23,002,636)         | (43,386,909)         | (9,336,563)     | 14,308,752      | 3,233,246       | (15,331,928)    |
| (11) Change in Actuarial Value of Assets               |                      |                      |                 |                 |                 |                 |
| =(4)+(7)+(8)+(10f)                                     | 5,101,559            | 44,127,988           |                 |                 |                 |                 |
| End of Year:   |                      |                      |                 |                 |                 |                 |
| <b>(3) Market Value of Assets</b>                      | <b>1,116,528,839</b> | <b>1,127,384,096</b> |                 |                 |                 |                 |
| (12) Preliminary Actuarial Value of Assets = (2)+(11)  | 1,090,382,601        | 1,134,510,589        |                 |                 |                 |                 |
| (12a) Upper Collar Limit 120% x (3)                    | 1,339,834,607        | 1,352,860,915        |                 |                 |                 |                 |
| (12b) Lower Collar Limit 80% x (3)                     | 893,223,071          | 901,907,277          |                 |                 |                 |                 |
| (13) Adjustment to Remain within 20% Collar            | 0                    | 0                    |                 |                 |                 |                 |
| <b>(14) Final Actuarial Value of Assets as of 6/30</b> | <b>1,090,382,601</b> | <b>1,134,510,589</b> |                 |                 |                 |                 |
| (15) Difference Between Market & Actuarial Values      | 26,146,238           | (7,126,493)          |                 |                 |                 |                 |
| (16) Actuarial Value Rate of Return                    | 4.93%                | 3.96%                |                 |                 |                 |                 |
| (17) Market Value Rate of Return                       | 17.30%               | 0.89%                |                 |                 |                 |                 |
| (18) Ratio of Actuarial Value to Market Value          | 98%                  | 101%                 |                 |                 |                 |                 |

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS JUDGES

|  | 2011               | 2012               | 2013           | 2014           | 2015           | 2016           |
|--|--------------------|--------------------|----------------|----------------|----------------|----------------|
| Beginning of Year:                                     |                    |                    |                |                |                |                |
| (1) Market Value of Assets                             | \$253,087,525      | \$302,960,936      |                |                |                |                |
| (2) Actuarial Value of Assets                          | 276,642,958        | 293,800,575        |                |                |                |                |
| End of Year:   |                    |                    |                |                |                |                |
| (3) Market Value of Assets                             | 302,960,936        | 329,322,119        |                |                |                |                |
| (4) Net of Contributions and Disbursements             | 1,240,076          | 22,293,668         |                |                |                |                |
| (5) Total Investment Income                            |                    |                    |                |                |                |                |
| =(3)-(1)-(4)   | 48,633,335         | 4,067,515          |                |                |                |                |
| (6) Projected Rate of Return                           | 7.75%              | 7.75%              |                |                |                |                |
| (7) Projected Investment Income                        |                    |                    |                |                |                |                |
| =(1)x(6)+([1+(6)] <sup>.5</sup> -1)x(4)                | 19,661,440         | 24,327,233         |                |                |                |                |
| (8) Beginning of Year Asset Adjustment                 | 0                  | 0                  |                |                |                |                |
| (9) Investment Income in Excess of Projected Income    | 28,971,895         | (20,259,718)       |                |                |                |                |
| (10) Excess Investment Income Recognized               |                    |                    |                |                |                |                |
| This Year (5 year recognition)                         |                    |                    |                |                |                |                |
| (10a) From This Year                                   | 5,794,379          | (4,051,944)        |                |                |                |                |
| (10b) From One Year Ago                                | 2,410,242          | 5,794,379          | \$ (4,051,944) |                |                |                |
| (10c) From Two Years Ago                               | (6,827,436)        | 2,410,242          | 5,794,379      | \$ (4,051,944) |                |                |
| (10d) From Three Years Ago                             | (7,593,012)        | (6,827,436)        | 2,410,242      | 5,794,379      | \$ (4,051,944) |                |
| (10e) From Four Years Ago                              | 2,471,928          | (7,593,013)        | (6,827,434)    | 2,410,244      | 5,794,379      | \$ (4,051,942) |
| (10f) Total Recognized Investment Gain/(Loss)          | (3,743,899)        | (10,267,772)       | (2,674,757)    | 4,152,679      | 1,742,435      | (4,051,942)    |
| (11) Change in Actuarial Value of Assets               |                    |                    |                |                |                |                |
| =(4)+(7)+(8)+(10f)                                     | 17,157,617         | 36,353,129         |                |                |                |                |
| End of Year:   |                    |                    |                |                |                |                |
| <b>(3) Market Value of Assets</b>                      | <b>302,960,936</b> | <b>329,322,119</b> |                |                |                |                |
| (12) Preliminary Actuarial Value of Assets = (2)+(11)  | 293,800,575        | 330,153,704        |                |                |                |                |
| (12a) Upper Collar Limit 120% x (3)                    | 363,553,123        | 395,186,543        |                |                |                |                |
| (12b) Lower Collar Limit 80% x (3)                     | 242,368,749        | 263,457,695        |                |                |                |                |
| (13) Adjustment to Remain within 20% Collar            | 0                  | 0                  |                |                |                |                |
| <b>(14) Final Actuarial Value of Assets as of 6/30</b> | <b>293,800,575</b> | <b>330,153,704</b> |                |                |                |                |
| (15) Difference Between Market & Actuarial Values      | 9,160,361          | (831,585)          |                |                |                |                |
| (16) Actuarial Value Rate of Return                    | 5.74%              | 4.61%              |                |                |                |                |
| (17) Market Value Rate of Return                       | 19.17%             | 1.29%              |                |                |                |                |
| (18) Ratio of Actuarial Value to Market Value          | 97%                | 100%               |                |                |                |                |

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

|  | 2011               | 2012               | 2013           | 2014           | 2015           | 2016           |
|--|--------------------|--------------------|----------------|----------------|----------------|----------------|
| Beginning of Year:                                     |                    |                    |                |                |                |                |
| (1) Market Value of Assets                             | \$338,461,190      | \$416,516,466      |                |                |                |                |
| (2) Actuarial Value of Assets                          | 367,934,236        | 401,371,555        |                |                |                |                |
| End of Year:   |                    |                    |                |                |                |                |
| (3) Market Value of Assets                             | 416,516,466        | 434,547,280        |                |                |                |                |
| (4) Net of Contributions and Disbursements             | 11,609,450         | 14,547,258         |                |                |                |                |
| (5) Total Investment Income                            |                    |                    |                |                |                |                |
| =(3)-(1)-(4)   | 66,445,826         | 3,483,556          |                |                |                |                |
| (6) Projected Rate of Return                           | 7.75%              | 7.75%              |                |                |                |                |
| (7) Projected Investment Income                        |                    |                    |                |                |                |                |
| =(1)x(6)+([1+(6)]^5-1)x(4)                             | 26,672,214         | 32,833,214         |                |                |                |                |
| (8) Beginning of Year Asset Adjustment                 | 0                  | 0                  |                |                |                |                |
| (9) Investment Income in Excess of Projected Income    | 39,773,612         | (29,349,658)       |                |                |                |                |
| (10) Excess Investment Income Recognized               |                    |                    |                |                |                |                |
| This Year (5 year recognition)                         |                    |                    |                |                |                |                |
| (10a) From This Year                                   | 7,954,722          | (5,869,932)        |                |                |                |                |
| (10b) From One Year Ago                                | 3,369,150          | 7,954,722          | \$ (5,869,932) |                |                |                |
| (10c) From Two Years Ago                               | (8,433,265)        | 3,369,150          | 7,954,722      | \$ (5,869,932) |                |                |
| (10d) From Three Years Ago                             | (9,914,898)        | (8,433,265)        | 3,369,150      | 7,954,722      | \$ (5,869,932) |                |
| (10e) From Four Years Ago                              | 2,179,946          | (9,914,899)        | (8,433,267)    | 3,369,152      | 7,954,724      | \$ (5,869,930) |
| (10f) Total Recognized Investment Gain/(Loss)          | (4,844,345)        | (12,894,224)       | (2,979,327)    | 5,453,942      | 2,084,792      | (5,869,930)    |
| (11) Change in Actuarial Value of Assets               |                    |                    |                |                |                |                |
| =(4)+(7)+(8)+(10f)                                     | 33,437,319         | 34,486,248         |                |                |                |                |
| End of Year:   |                    |                    |                |                |                |                |
| <b>(3) Market Value of Assets</b>                      | <b>416,516,466</b> | <b>434,547,280</b> |                |                |                |                |
| (12) Preliminary Actuarial Value of Assets = (2)+(11)  | 401,371,555        | 435,857,803        |                |                |                |                |
| (12a) Upper Collar Limit 120% x (3)                    | 499,819,759        | 521,456,736        |                |                |                |                |
| (12b) Lower Collar Limit 80% x (3)                     | 333,213,173        | 347,637,824        |                |                |                |                |
| (13) Adjustment to Remain within 20% Collar            | 0                  | 0                  |                |                |                |                |
| <b>(14) Final Actuarial Value of Assets as of 6/30</b> | <b>401,371,555</b> | <b>435,857,803</b> |                |                |                |                |
| (15) Difference Between Market & Actuarial Values      | 15,144,911         | (1,310,523)        |                |                |                |                |
| (16) Actuarial Value Rate of Return                    | 5.84%              | 4.88%              |                |                |                |                |
| (17) Market Value Rate of Return                       | 19.30%             | 0.82%              |                |                |                |                |
| (18) Ratio of Actuarial Value to Market Value          | 96%                | 100%               |                |                |                |                |

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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 7.75% per annum.

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 recognized).
2. Use of a blended discount rate to calculate liabilities for accounting purposes.
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 Nos. 67 and 68 have been performed outside of this report.

**ACCOUNTING STATEMENT INFORMATION – GASB STATEMENT NO. 25**  
**AS OF JUNE 30, 2012**  
**(STATE AND MUNICIPAL)**

|   | Teachers'<br>Combined<br>System | Employees'<br>Combined<br>System | State Police          | Judges              | LEOPS                | CORS                | Total MSRPS*            |
|---|---------------------------------|----------------------------------|-----------------------|---------------------|----------------------|---------------------|-------------------------|
| 1. Actuarial Accrued Liability:   |                                 |                                  |                       |                     |                      |                     |                         |
| a. Employee Contributions   | \$ 2,543,352,974                | \$ 1,578,939,263                 | \$ 70,670,205         | \$ 26,078,614       | \$ 53,902,184        | \$ 1,325,787        | \$ 4,274,269,025        |
| b. Retirees, Term. Vesteds & Inactives  | 19,897,298,027                  | 11,847,245,233                   | 1,506,552,330         | 272,833,397         | 678,624,579          | 5,636,624           | 34,208,190,190          |
| c. Active Members   | 11,812,063,947                  | 6,856,843,537                    | 249,323,365           | 122,374,036         | 337,560,658          | 8,520,712           | 19,386,686,257          |
| 2. Total Actuarial Accrued Liability<br>(1(a) + 1(b) + 1(c))                    | \$34,252,714,948                | \$20,283,028,033                 | \$1,826,545,900       | \$421,286,047       | \$1,070,087,421      | \$15,483,123        | \$57,869,145,472        |
| 3. Actuarial Value of Assets  | <u>22,523,977,712</u>           | <u>12,667,591,862</u>            | <u>1,134,510,589</u>  | <u>330,153,704</u>  | <u>580,826,355</u>   | <u>11,340,558</u>   | <u>37,248,400,780</u>   |
| 4. Unfunded Actuarial Accrued<br>Liability: (2-3)                               | <u>\$11,728,737,236</u>         | <u>\$ 7,615,436,171</u>          | <u>\$ 692,035,311</u> | <u>\$91,132,343</u> | <u>\$489,261,066</u> | <u>\$ 4,142,565</u> | <u>\$20,620,744,692</u> |
| 5. Funded Ratio   | 65.76%                          | 62.45%                           | 62.11%                | 78.37%              | 54.28%               | 73.24%              | 64.37%                  |
| 6. Annual Payroll   | \$ 6,080,603,312                | \$ 3,998,474,876                 | \$ 77,689,914         | \$ 39,955,368       | \$135,185,336        | \$ 4,628,029        | \$10,336,536,835        |
| 7. UAAL as % of Payroll   | 193%                            | 190%                             | 891%                  | 228%                | 362%                 | 90%                 | 199%                    |
| 8. Annual Required Contribution (ARC)<br>STATE ONLY                             | 23.60%                          | 23.89%                           | 81.68%                | 50.92%              | 57.72%               |                     | 24.59%                  |
| 9. Illustrated ARC Contribution Dollars<br>STATE ONLY for FY 2014               | \$ 1,485,248,165                | \$ 754,955,547                   | \$ 66,817,981         | \$ 21,422,693       | \$ 50,852,758        |                     | \$ 2,379,297,144        |
| 10. Equivalent Single Amortization Period in<br>Years - STATE ONLY for FY 2014@ | 19.024                          | 21.142                           | 30.000                | 13.865              | 15.532               |                     | 20.064                  |

\* 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)**

| Actuarial<br>Valuation Date<br>June 30, | Actuarial Value<br>of Assets<br>(a) | Actuarial<br>Accrued Liability<br>(AAL)<br>(b) | Unfunded<br>AAL (UAAL)<br>(b - a) | Funded Ratio<br>(a / b) | Payroll<br>(c) | UAAL as a<br>Percentage of<br>Payroll<br>[(b - a) / c ] |
|---|-------------------------------------|--|-----------------------------------|-------------------------|----------------|---|
| 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%  |

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

**TEACHERS' COMBINED SYSTEM**

| <b>Actuarial<br/>Valuation Date<br/>June 30,</b> | <b>Actuarial Value<br/>of Assets<br/>(a)</b> | <b>Actuarial<br/>Accrued Liability<br/>(AAL)<br/>(b)</b> | <b>Unfunded<br/>AAL (UAAL)<br/>(b - a)</b> | <b>Funded Ratio<br/>(a / b)</b> | <b>Payroll<br/>(c)</b> | <b>UAAL as a<br/>Percentage of<br/>Payroll<br/>[(b - a) / c ]</b> |
|--|--|--|--|---------------------------------|------------------------|---|
| 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%  |



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

**EMPLOYEES' COMBINED SYSTEM**

| Actuarial<br>Valuation Date<br>June 30, | Actuarial Value<br>of Assets<br>(a) | Actuarial<br>Accrued Liability<br>(AAL)<br>(b) | Unfunded<br>AAL (UAAL)<br>(b - a) | Funded Ratio<br>(a / b) | Payroll<br>(c) | UAAL as a<br>Percentage of<br>Payroll<br>[(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%  |

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

**STATE POLICE**

| <b>Actuarial<br/>Valuation Date<br/>June 30,</b> | <b>Actuarial Value<br/>of Assets<br/>(a)</b> | <b>Actuarial<br/>Accrued Liability<br/>(AAL)<br/>(b)</b> | <b>Unfunded<br/>AAL (UAAL)<br/>(b - a)</b> | <b>Funded Ratio<br/>(a / b)</b> | <b>Payroll<br/>(c)</b> | <b>UAAL as a<br/>Percentage of<br/>Payroll<br/>[(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%  |

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

**JUDGES**

| Actuarial<br>Valuation Date<br>June 30, | Actuarial Value<br>of Assets<br>(a) | Actuarial<br>Accrued Liability<br>(AAL)<br>(b) | Unfunded<br>AAL (UAAL)<br>(b - a) | Funded Ratio<br>(a / b) | Payroll<br>(c) | UAAL as a<br>Percentage of<br>Payroll<br>[(b - a) / c ] |
|---|-------------------------------------|--|-----------------------------------|-------------------------|----------------|---|
| 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%  |

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

**LEOPS**

| Actuarial<br>Valuation Date<br>June 30, | Actuarial Value<br>of Assets<br>(a) | Actuarial<br>Accrued Liability<br>(AAL)<br>(b) | Unfunded<br>AAL (UAAL)<br>(b - a) | Funded Ratio<br>(a / b) | Payroll<br>(c) | UAAL as a<br>Percentage of<br>Payroll<br>[(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%  |

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

**CORS**

| Actuarial<br>Valuation Date<br>June 30, | Actuarial Value<br>of Assets<br>(a) | Actuarial<br>Accrued Liability<br>(AAL)<br>(b) | Unfunded<br>AAL (UAAL)<br>(b - a) | Funded Ratio<br>(a / b) | Payroll<br>(c) | UAAL as a<br>Percentage of<br>Payroll<br>[(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%   |

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

| <b>Fiscal Year<br/>Ended June 30,</b> | <b>Annual Required<br/>Contributions</b> | <b>Actual<br/>Contributions</b> | <b>Percentage<br/>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%                               |

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

|                                   | Fiscal Year<br>Ended June 30, | Annual Required<br>Contributions | Actual<br>Contributions | Percentage<br>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%                       |
| <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%                       |
| <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%                       |
| <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%                      |
| <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%                      |
| <b>CORS (Muni)</b>                | 2009                          | 752                              | 752                     | 100%                      |
|                                   | 2010                          | 753                              | 753                     | 100%                      |
|                                   | 2011                          | 796                              | 796                     | 100%                      |
|                                   | 2012                          | 809                              | 809                     | 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%                       |
| <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%                      |
| <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%                       |

## 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, 2012   |
| Actuarial cost method   | Individual entry age  |
| Amortization method for unfunded actuarial accrued liabilities (UAAL) | Level percent closed  |
| Amorization Period  | 8 years remaining as of June 30, 2012 for prior UAAL existing on June 30, 2000. 25 years from each subsequent valuation date for each year's additional UAAL. 30 years is used wherever the equivalent single amortization period exceeds 30 years. |

|                        |   |
|------------------------|---|
| Asset valuation method | 5-year smoothed market (max. 120% and min. 80% of market value) |
|------------------------|---|

Actuarial assumptions:

|   |  |
|---|--|
| Investment rate of return                                   | 7.75%  |
| Projected salary increases including wage inflation at 3.5% | 3.5% - 12.0%   |
| Cost-of-living adjustments                                  | 2.75% - 3.50% for service prior to July 1, 2011.*<br>1.70% - 3.50% 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, 2012:

|  |                |
|--|----------------|
| Retirees and beneficiaries receiving benefits                      | 132,493        |
| Terminated plan members entitled to but not yet receiving benefits | 51,230         |
| Active plan members  | <u>192,994</u> |
| Total  | 376,717        |



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

|                                    | <b>Fiscal Year Ending June 30,</b> |                    |
|------------------------------------|------------------------------------|--------------------|
|                                    | <b>2012</b>                        | <b>2011</b>        |
| Annual Required Contribution (ARC) | \$2,146,624                        | \$2,035,401        |
| Interest on NPO                    | 136,097                            | 94,686             |
| Adjustment to ARC                  | (122,528)                          | (83,290)           |
| Annual Pension Cost                | <u>\$2,160,193</u>                 | <u>\$2,046,797</u> |
| Contributions Made                 | <u>1,521,761</u>                   | <u>1,512,473</u>   |
| Increase in NPO                    | \$ 638,432                         | \$ 534,324         |
| NPO Beginning of Year              | <u>1,756,084</u>                   | <u>1,221,760</u>   |
| NPO End of Year                    | \$2,394,516                        | \$1,756,084        |
| Percent of ARC Contributed         | 70.9%                              | 74.3%              |
| Amortization Period (Years)        | 21.963                             | 22.806             |

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

**FISCAL YEAR ENDING JUNE 30, 2012**

|                                    | <u>TCS</u>         | <u>ECS (State)</u> | <u>State Police</u> | <u>Judges</u>   | <u>LEOPS<br/>(State)</u> | <u>Total State</u> |
|------------------------------------|--------------------|--------------------|---------------------|-----------------|--------------------------|--------------------|
| Annual Required Contribution (ARC) | \$1,288,886        | \$609,813          | \$54,452            | \$24,077        | \$41,868                 | \$2,019,096        |
| Interest on NPO                    | 55,903             | 78,186             | 3,288               | -               | -                        | 137,377            |
| Adjustment to ARC                  | (52,136)           | (68,021)           | (2,478)             | -               | -                        | (122,635)          |
| Annual Pension Cost (APC)          | <u>\$1,292,653</u> | <u>\$619,978</u>   | <u>\$55,262</u>     | <u>\$24,077</u> | <u>\$41,868</u>          | <u>\$2,033,838</u> |
| Contributions Made                 | <u>917,564</u>     | <u>363,440</u>     | <u>47,283</u>       | <u>24,077</u>   | <u>41,868</u>            | <u>1,394,232</u>   |
| Increase in NPO                    | \$ 375,089         | \$256,539          | \$7,979             | \$ 0            | \$ 0                     | \$ 639,606         |
| NPO Beginning of Year              | <u>721,330</u>     | <u>1,008,846</u>   | <u>42,426</u>       | <u>-</u>        | <u>-</u>                 | <u>1,772,601</u>   |
| NPO End of Year                    | <u>\$1,096,418</u> | <u>\$1,265,385</u> | <u>\$50,404</u>     | <u>\$ 0</u>     | <u>\$ 0</u>              | <u>\$2,412,207</u> |
| Percent of ARC Contributed         | 71.2%              | 59.6%              | 86.8%               | 100.0%          | 100.0%                   | 69.1%              |
| Percent of APC Contributed         | 71.0%              | 58.6%              | 85.6%               | 100.0%          | 100.0%                   | 68.6%              |
| Amortization Period (Years)        | 20.769             | 23.224             | 30.000              | 18.654          | 17.270                   | 21.661             |

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## **APPENDIX A**

### **ACTUARIAL ASSUMPTIONS AND METHODS**

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## ACTUARIAL ASSUMPTIONS AND METHODS

### A. ACTUARIAL ASSUMPTIONS

|                         | 1. Valuation<br>Interest<br>Rate | 2. Annual Rate of Increase in Cost<br>of Living |                         |          | 3. Aggregate<br>Payroll<br>Growth |
|-------------------------|----------------------------------|---|-------------------------|----------|-----------------------------------|
|                         |                                  | Service<br>Before 7/1/11                        | Service After<br>7/1/11 |          |                                   |
| Teachers' Retirement    | 7.75%                            | 3.00%   | 3.00%                   | #        | 3.5%                              |
| Teachers' Pension       | 7.75%                            | 2.75%   | 1.70%                   | ***      | 3.5%                              |
| Employees' Retirement   |                                  |   |                         |          |                                   |
| Regular                 | 7.75%                            | 3.00%   | 3.00%                   | #        | 3.5%                              |
| Correctional            | 7.75%                            | 3.00%   | 1.70%                   | ***      | 3.5%                              |
| Legislative             | 7.75%                            | 3.50%   | 3.50%                   |          | 3.5%                              |
| Employees' Pension      | 7.75%                            | 2.75%   | 1.70%                   | *,***    | 3.5%                              |
| State Police Retirement | 7.75%                            | 3.00%   | 1.70%                   | ***      | 3.5%                              |
| Judges Pension          | 7.75%                            | 3.50%   | 3.50%                   |          | 3.5%                              |
| LEOPS                   | 7.75%                            | 2.75%   | 1.70%                   | **,***,# | 3.5%                              |
| CORS Municipal          | 7.75%                            | 3.00%   | 1.70%                   | ***      | 3.5%                              |

\* A 3% simple rate is applicable for municipal members of these Systems, who do not elect to be covered under the improved plan.

\*\* A 3% 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 7.75% 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 7.75%.

# For groups whose COLA is capped at 5% a 2.95% COLA was assumed. A 3.00% COLA was assumed for groups with an unlimited COLA, 2.75% 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                | 9.00%  | 7.00%                 | 9.25%        | 3.50%       | 7.00%              | 9.75%        | 3.50%  | 7.50% |
| 1                | 8.00%  | 7.00%                 | 7.75%        | 3.50%       | 7.00%              | 10.75%       | 3.50%  | 8.00% |
| 2                | 7.25%  | 6.25%                 | 5.00%        | 3.50%       | 6.25%              | 9.75%        | 3.50%  | 7.00% |
| 3                | 7.25%  | 5.50%                 | 5.00%        | 3.50%       | 5.50%              | 9.25%        | 3.50%  | 6.25% |
| 4                | 7.25%  | 5.50%                 | 5.00%        | 3.50%       | 5.50%              | 6.25%        | 3.50%  | 6.25% |
| 5                | 7.25%  | 5.25%                 | 5.00%        | 3.50%       | 5.25%              | 5.75%        | 3.50%  | 5.75% |
| 6                | 7.25%  | 5.25%                 | 5.00%        | 3.50%       | 5.25%              | 5.50%        | 3.50%  | 5.75% |
| 7                | 7.25%  | 5.25%                 | 4.50%        | 3.50%       | 5.25%              | 4.75%        | 3.50%  | 5.25% |
| 8                | 7.25%  | 5.00%                 | 4.50%        | 3.50%       | 5.00%              | 4.75%        | 3.50%  | 5.25% |
| 9                | 7.25%  | 5.00%                 | 4.50%        | 3.50%       | 5.00%              | 4.75%        | 3.50%  | 5.25% |

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

## ACTUARIAL ASSUMPTIONS AND METHODS

### A. ACTUARIAL ASSUMPTIONS

#### Rates of Salary Increases

| Sample<br>Ages | Annual Rates of Salary Increases for Sample Ages with 10 or More Years of Service |                       |              |             |                       |                 |        |       |
|----------------|---|-----------------------|--------------|-------------|-----------------------|-----------------|--------|-------|
|                | Teachers'<br>Retirement<br>& Pension  | Employees' Retirement |              |             | Employees'<br>Pension | State<br>Police | Judges | LEOPS |
|                |   | Regular               | Correctional | Legislative |                       |                 |        |       |
| 25             | 7.25%   | 5.00%                 | 4.50%        | 3.50%       | 5.00%                 | 4.75%           | 3.50%  | 5.00% |
| 30             | 7.25%   | 5.00%                 | 4.50%        | 3.50%       | 5.00%                 | 4.75%           | 3.50%  | 5.00% |
| 35             | 6.75%   | 4.75%                 | 4.50%        | 3.50%       | 4.75%                 | 4.50%           | 3.50%  | 5.00% |
| 40             | 5.75%   | 4.50%                 | 4.25%        | 3.50%       | 4.50%                 | 4.00%           | 3.50%  | 5.00% |
| 45             | 5.25%   | 4.25%                 | 4.00%        | 3.50%       | 4.25%                 | 3.75%           | 3.50%  | 4.50% |
| 50             | 5.00%   | 4.00%                 | 3.50%        | 3.50%       | 4.00%                 | 3.50%           | 3.50%  | 3.50% |
| 55             | 4.50%   | 3.75%                 | 3.50%        | 3.50%       | 3.75%                 | 3.50%           | 3.50%  | 3.50% |
| 60             | 4.00%   | 3.75%                 | 3.50%        | 3.50%       | 3.75%                 | 3.50%           | 3.50%  | 3.50% |
| 65             | 3.50%   | 3.50%                 | 3.50%        | 3.50%       | 3.50%                 | 3.50%           | 3.50%  | 3.50% |

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

# ACTUARIAL ASSUMPTIONS AND METHODS

## A. ACTUARIAL ASSUMPTIONS

### Rates of Withdrawal

| Sample<br>Ages | Years of<br>Service | Annual Rates of Withdrawal from Active Service |        |                       |        |              |        |             |                       |        |                 |        |        |        |        |
|----------------|---------------------|--|--------|-----------------------|--------|--------------|--------|-------------|-----------------------|--------|-----------------|--------|--------|--------|--------|
|                |                     | Teachers'<br>Retirement<br>& Pension           |        | Employees' Retirement |        |              |        |             | Employees'<br>Pension |        | State<br>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<br>Expectancy Age 65 | Multiplier                 | Future Life<br>Expectancy Age 65 |
| <b>Teachers' Combined System</b>  |  |                                |                                  |                            |                                  |
| <b>Male</b>                       | 0.62250  | 0.830                          | 20.98                            | 0.665                      | 15.35                            |
| <b>Female</b>                     | 0.57375  | 0.765                          | 23.57                            | 0.830                      | 17.43                            |
| <b>Employees' Combined System</b> |  |                                |                                  |                            |                                  |
| <b>Male</b>                       | 0.87750  | 1.170                          | 18.44                            | 0.700                      | 14.87                            |
| <b>Female</b>                     | 0.76500  | 1.020                          | 21.11                            | 1.000                      | 15.70                            |
| <b>State Police</b>               |  |                                |                                  |                            |                                  |
| <b>Male</b>                       | 0.75000  | 1.000                          | 19.58                            | 0.850                      | 13.14                            |
| <b>Female</b>                     | 0.75000  | 1.000                          | 21.28                            | 1.000                      | 15.70                            |
| <b>Judges</b>                     |  |                                |                                  |                            |                                  |
| <b>Male</b>                       | 0.62250  | 0.830                          | 20.98                            | 0.665                      | 15.35                            |
| <b>Female</b>                     | 0.57375  | 0.765                          | 23.57                            | 0.830                      | 17.43                            |
| <b>LEOPS</b>                      |  |                                |                                  |                            |                                  |
| <b>Male</b>                       | 0.75000  | 1.000                          | 19.58                            | 0.850                      | 13.14                            |
| <b>Female</b>                     | 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     | \$144.81   | \$146.77 | \$141.42                        | \$144.10 | \$141.42   | \$144.10 | \$143.03     | \$144.30 | \$144.81 | \$146.77 | \$143.03 | \$144.30 |
| 55     | 138.48   | 141.13   | 133.97                          | 137.54   | 133.97   | 137.54   | 136.11       | 137.80   | 138.48   | 141.13   | 136.11   | 137.80   |
| 60     | 130.17   | 133.90   | 124.36                          | 129.23   | 124.36   | 129.23   | 127.11       | 129.57   | 130.17   | 133.90   | 127.11   | 129.57   |
| 65     | 119.85   | 124.98   | 112.67                          | 119.18   | 112.67   | 119.18   | 116.04       | 119.60   | 119.85   | 124.98   | 116.04   | 119.60   |
| 70     | 107.54   | 114.42   | 99.15                           | 107.55   | 99.15  | 107.55   | 103.06       | 108.04   | 107.54   | 114.42   | 103.06   | 108.04   |
| 75     | 92.62  | 102.03   | 83.13                           | 94.23    | 83.13  | 94.23    | 87.50        | 94.78    | 92.62    | 102.03   | 87.50    | 94.78    |
| 80     | 75.93  | 87.65    | 65.76                           | 79.08    | 65.76  | 79.08    | 70.39        | 79.68    | 75.93    | 87.65    | 70.39    | 79.68    |

| 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<br>Ages | Actuarial Present Value of \$1 Monthly for Life (Without COLA) |          |                                       |          |   |          |                 |          |          |          |          |          |
|----------------|--|----------|---------------------------------------|----------|---|----------|-----------------|----------|----------|----------|----------|----------|
|                | Teachers'<br>Retirement<br>& Pension                           |          | Employees'<br>Retirement<br>& Pension |          | Employees'<br>Retirement<br>Correctional<br>& Legislative |          | State<br>Police |          | Judges   |          | LEOPS    |          |
|                | Male   | Female   | Male                                  | Female   | Male  | Female   | Male            | Female   | Male     | Female   | Male     | Female   |
| 50             | \$116.50   | \$127.64 | \$115.05                              | \$123.44 | \$115.05  | \$123.44 | \$109.30        | \$123.44 | \$116.50 | \$127.64 | \$109.30 | \$123.44 |
| 55             | 110.66   | 120.73   | 109.12                                | 115.98   | 109.12  | 115.98   | 103.06          | 115.98   | 110.66   | 120.73   | 103.06   | 115.98   |
| 60             | 104.26   | 113.29   | 102.65                                | 108.08   | 102.65  | 108.08   | 96.36           | 108.08   | 104.26   | 113.29   | 96.36    | 108.08   |
| 65             | 96.80  | 104.77   | 95.13                                 | 99.17    | 95.13   | 99.17    | 88.65           | 99.17    | 96.80    | 104.77   | 88.65    | 99.17    |
| 70             | 88.12  | 95.01    | 86.39                                 | 89.04    | 86.39   | 89.04    | 79.76           | 89.04    | 88.12    | 95.01    | 79.76    | 89.04    |
| 75             | 78.64  | 84.47    | 76.87                                 | 78.27    | 76.87   | 78.27    | 70.18           | 78.27    | 78.64    | 84.47    | 70.18    | 78.27    |
| 80             | 69.14  | 73.66    | 67.38                                 | 67.40    | 67.38   | 67.40    | 60.80           | 67.40    | 69.14    | 73.66    | 60.80    | 67.40    |

| Sample<br>Ages | Future Life Expectancy (Years)       |        |                                       |        |   |        |                 |        |        |        |       |        |
|----------------|--------------------------------------|--------|---------------------------------------|--------|---|--------|-----------------|--------|--------|--------|-------|--------|
|                | Teachers'<br>Retirement<br>& Pension |        | Employees'<br>Retirement<br>& Pension |        | Employees'<br>Retirement<br>Correctional<br>& Legislative |        | State<br>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:

| <u>System</u>                             | <u>Margin for Improvement*</u>        |                |              |                                   |                |              |
|---|---------------------------------------|----------------|--------------|-----------------------------------|----------------|--------------|
|   | <u>Non-Disabled Retired Mortality</u> |                |              | <u>Disabled Retired Mortality</u> |                |              |
|   | <u>Males</u>                          | <u>Females</u> | <u>Total</u> | <u>Males</u>                      | <u>Females</u> | <u>Total</u> |
| 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<br>Ages | Annual Rates of Disability |          |            |          |                   |          |            |          |                       |          |              |          |            |          |              |          |
|----------------|----------------------------|----------|------------|----------|-------------------|----------|------------|----------|-----------------------|----------|--------------|----------|------------|----------|--------------|----------|
|                | Teachers' Retirement       |          |            |          | Teachers' Pension |          |            |          | Employees' Retirement |          |              |          |            |          |              |          |
|                | Ordinary                   |          | Accidental |          | Ordinary          |          | Accidental |          | Ordinary              |          |              |          | Accidental |          |              |          |
|                |                            |          |            |          |                   |          |            |          | Regular               |          | Correctional |          | Regular    |          | Correctional |          |
|                | Male                       | Female   | Male       | Female   | Male              | Female   | Male       | Female   | Male                  | Female   | Male         | Female   | Male       | Female   | Male         | Female   |
| 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<br>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% |
| 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             | 0.96192%                   | 1.13526% | 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 3.5% per annum compounded increase in the 2012 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 3.5% per annum compounded increase in the 2012 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 3.5% per annum compounded increase in the 2012 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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Teachers' Retirement & Pension

Employees' Retirement & Pension

State Police

Judges

LEOPS

Correctional Officers' Retirement System

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

---

|  |  |
|--|--|
| Teachers' Retirement & Pension           | 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.  |
| Employees' Retirement & Pension          |  |
| State Police                             | 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.   |
| Judges                                   |  |
| LEOPS                                    |  |
| Correctional Officers' Retirement System | 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 less the actuarial value of the System's assets.<br><br>If the System's unfunded actuarial liability is increased by plan changes or actuarial losses or decreased by actuarial gains, these amounts will be included as part of the unfunded actuarial liability and funded over a 25-year amortization period.<br><br>Actuarial contributions for the Teachers and Employees Systems are based on a corridor method as described elsewhere.<br><br>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, 2012**  
**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>           | Disability operates 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>Liability Adjustments:</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.   |

## **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, 2012**  
**(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      | 210            | \$ 23,064,117     |                            |                  |          |  |              |
|                              | Vested     | 210            | \$ 23,064,117     |                            |                  |          |  |              |
|                              | Non-vested | 0              | \$ -              | 2,621                      | \$ 92,519,975    | 77.3     | 62.3                                       | 177          |
| Teachers' Pension - STATE    | Total      | 2,471          | \$ 169,501,909    |                            |                  |          |  |              |
|                              | Vested     | 1,691          | \$ 118,455,487    |                            |                  |          |  |              |
|                              | Non-vested | 780            | \$ 51,046,422     | 1,775                      | \$ 30,933,504    | 71.9     | 63.0                                       | 1,158        |
| Teachers' Retirement - LOCAL | Total      | 1,830          | \$ 155,477,129    |                            |                  |          |  |              |
|                              | Vested     | 1,830          | \$ 155,477,129    |                            |                  |          |  |              |
|                              | Non-vested | 0              | \$ -              | 27,084                     | \$ 911,909,315   | 74.7     | 58.5                                       | 446          |
| Teachers' Pension - LOCAL    | Total      | 99,183         | \$ 5,732,560,157  |                            |                  |          |  |              |
|                              | Vested     | 79,087         | \$ 4,867,455,113  |                            |                  |          |  |              |
|                              | Non-vested | 20,096         | \$ 865,105,044    | 32,219                     | \$ 622,145,750   | 68.1     | 61.3                                       | 21,252       |
| Employees' Retirement        | Total      | 9,113          | \$ 421,320,077    |                            |                  |          |  |              |
|                              | Vested     | 6,248          | \$ 312,620,891    |                            |                  |          |  |              |
|                              | Non-vested | 2,865          | \$ 108,699,186    | 22,796                     | \$ 462,538,404   | 72.9     | 57.6                                       | 898          |
| Employees' Pension           | Total      | 76,061         | \$ 3,577,154,799  |                            |                  |          |  |              |
|                              | Vested     | 58,058         | \$ 2,890,065,045  |                            |                  |          |  |              |
|                              | Non-vested | 18,003         | \$ 687,089,755    | 41,840                     | \$ 515,977,004   | 68.0     | 61.8                                       | 26,977       |
| State Police                 | Total      | 1,332          | \$ 77,689,914     |                            |                  |          |  |              |
|                              | Vested     | 991            | \$ 63,618,746     |                            |                  |          |  |              |
|                              | Non-vested | 341            | \$ 14,071,168     | 2,387                      | \$ 105,974,605   | 60.8     | 48.0                                       | 85           |
| Judges                       | Total      | 294            | \$ 39,955,368     |                            |                  |          |  |              |
|                              | Vested     | 294            | \$ 39,955,368     |                            |                  |          |  |              |
|                              | Non-vested | 0              | \$ -              | 365                        | \$ 25,150,702    | 76.5     | 65.0                                       | 10           |
| LEOPS                        | Total      | 2,410          | \$ 135,185,336    |                            |                  |          |  |              |
|                              | Vested     | 1,849          | \$ 110,393,367    |                            |                  |          |  |              |
|                              | Non-vested | 561            | \$ 24,791,969     | 1,396                      | \$ 44,945,152    | 57.7     | 52.5                                       | 227          |
| CORS                         | Total      | 90             | \$ 4,628,029      |                            |                  |          |  |              |
|                              | Vested     | 51             | \$ 3,038,487      |                            |                  |          |  |              |
|                              | Non-vested | 39             | \$ 1,589,542      | 10                         | \$ 370,305       | 55.7     | 55.3                                       | 0            |
| Total Systems                | Total      | 192,994        | \$ 10,336,536,835 |                            |                  |          |  |              |
|                              | Vested     | 150,309        | \$ 8,584,143,749  |                            |                  |          |  |              |
|                              | Non-vested | 42,685         | \$ 1,752,393,085  | 132,493                    | \$ 2,812,464,714 | 70.3     | 60.0                                       | 51,230       |

\* Includes normal and early service retirees only.



**STATE RETIREMENT AND PENSION SYSTEM**  
**SUMMARY OF MEMBERSHIP DATA AS OF JUNE 30, 2012**  
**(STATE 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>Ave. Age</u> | <u>Avg. Age at Ret.*</u> | <u>Number</u>                                     |                     |
| Teachers' Retirement - STATE | Total      | 210                   | \$ 23,064,117    |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 210                   | \$ 23,064,117    |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 0                     | \$ -             | 2,621                             | \$ 92,519,975    | 77.3            | 62.3                     | 177   | 3,008               |
| Teachers' Pension - STATE    | Total      | 2,471                 | \$ 169,501,909   |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 1,691                 | \$ 118,455,487   |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 780                   | \$ 51,046,422    | 1,775                             | \$ 30,933,504    | 71.9            | 63.0                     | 1,158   | 5,404               |
| Teachers' Retirement - LOCAL | Total      | 1,830                 | \$ 155,477,129   |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 1,830                 | \$ 155,477,129   |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 0                     | \$ -             | 27,084                            | \$ 911,909,315   | 74.7            | 58.5                     | 446   | 29,360              |
| Teachers' Pension - LOCAL    | Total      | 99,183                | \$ 5,732,560,157 |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 79,087                | \$ 4,867,455,113 |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 20,096                | \$ 865,105,044   | 32,219                            | \$ 622,145,750   | 68.1            | 61.3                     | 21,252  | 152,654             |
| Employees' Retirement        | Total      | 8,940                 | \$ 411,367,416   |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 6,075                 | \$ 302,668,230   |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 2,865                 | \$ 108,699,186   | 18,993                            | \$ 397,313,031   | 72.1            | 57.1                     | 846   | 28,779              |
| Employees' Pension           | Total      | 51,779                | \$ 2,589,830,984 |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 39,614                | \$ 2,078,668,645 |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 12,165                | \$ 511,162,339   | 30,962                            | \$ 403,742,677   | 67.8            | 61.3                     | 20,489  | 103,230             |
| State Police                 | Total      | 1,332                 | \$ 77,689,914    |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 991                   | \$ 63,618,746    |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 341                   | \$ 14,071,168    | 2,387                             | \$ 105,974,605   | 60.8            | 48.0                     | 85  | 3,804               |
| Judges                       | Total      | 294                   | \$ 39,955,368    |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 294                   | \$ 39,955,368    |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 0                     | \$ -             | 365                               | \$ 25,150,702    | 76.5            | 65.0                     | 10  | 669                 |
| LEOPS                        | Total      | 1,473                 | \$ 83,671,522    |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 1,124                 | \$ 68,054,342    |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 349                   | \$ 15,617,180    | 1,161                             | \$ 36,886,466    | 58.6            | 52.5                     | 162   | 2,796               |
| Total Systems                | Total      | 167,512               | \$ 9,283,118,516 |                                   |                  |                 |                          |   |                     |
|                              | Vested     | 130,916               | \$ 7,717,417,178 |                                   |                  |                 |                          |   |                     |
|                              | Non-vested | 36,596                | \$ 1,565,701,338 | 117,567                           | \$ 2,626,576,024 | 70.2            | 59.7                     | 44,625  | 329,704             |

\* Includes normal and early service retirees only.

**STATE RETIREMENT AND PENSION SYSTEM  
SUMMARY OF MEMBERSHIP DATA AS OF JUNE 30, 2012  
(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      | 173                   | \$ 9,952,661     |                                   |                 |                 |                          |   |                     |
|                       | Vested     | 173                   | \$ 9,952,661     |                                   |                 |                 |                          |   |                     |
|                       | Non-vested | 0                     | \$ -             | 3,803                             | \$ 65,225,372   | 77.0            | 60.3                     | 52  | 4,028               |
| Employees' Pension    | Total      | 24,282                | \$ 987,323,815   |                                   |                 |                 |                          |   |                     |
|                       | Vested     | 18,444                | \$ 811,396,399   |                                   |                 |                 |                          |   |                     |
|                       | Non-vested | 5,838                 | \$ 175,927,416   | 10,878                            | \$ 112,234,326  | 68.5            | 63.1                     | 6,488   | 41,648              |
| LEOPS                 | Total      | 937                   | \$ 51,513,814    |                                   |                 |                 |                          |   |                     |
|                       | Vested     | 725                   | \$ 42,339,025    |                                   |                 |                 |                          |   |                     |
|                       | Non-vested | 212                   | \$ 9,174,789     | 235                               | \$ 8,058,686    | 53.5            | 52.0                     | 65  | 1,237               |
| CORS                  | Total      | 90                    | \$ 4,628,029     |                                   |                 |                 |                          |   |                     |
|                       | Vested     | 51                    | \$ 3,038,487     |                                   |                 |                 |                          |   |                     |
|                       | Non-vested | 39                    | \$ 1,589,542     | 10                                | \$ 370,305      | 55.7            | 55.3                     | 0   | 100                 |
| Total Systems         | Total      | 25,482                | \$ 1,053,418,318 |                                   |                 |                 |                          |   |                     |
|                       | Vested     | 19,393                | \$ 866,726,572   |                                   |                 |                 |                          |   |                     |
|                       | Non-vested | 6,089                 | \$ 186,691,747   | 14,926                            | \$ 185,888,690  | 70.4            | 62.2                     | 6,605   | 47,013              |

\* Includes normal and early service retirees only.

## ACTIVE MEMBERSHIP INFORMATION

| Maryland State Retirement and Pension System<br>Active Membership Statistics<br>June 30, 2012 |                             |                       |                                |                      |
|---|-----------------------------|-----------------------|--------------------------------|----------------------|
| System  | Number                      | Average Age           | Average<br>Credited<br>Service | Average<br>Salary    |
| Teachers' Retirement  | 2,040                       | 62.0                  | 36.7                           | \$ 87,520            |
| Teachers' Pension   | 101,654                     | 44.9                  | 11.6                           | 58,060               |
| Employees' Retirement – State   | 898                         | 60.6                  | 36.6                           | 66,164               |
| Employees' Retirement – Municipal   | 173                         | 61.0                  | 36.2                           | 57,530               |
| Employees' Retirement – Legislators   | 185                         | 55.6                  | 10.9                           | 43,641               |
| Employees' Retirement – Correctional Officers   | 7,857                       | 41.1                  | 9.8                            | 43,767               |
| Employees' Retirement – Total   | <u>9,113</u>                | <u>43.7</u>           | <u>13.0</u>                    | <u>46,233</u>        |
| Employees' Pension – State  | 51,779                      | 48.2                  | 13.0                           | 50,017               |
| Employees' Pension – Municipal  | 24,282                      | 49.2                  | 10.9                           | 40,661               |
| Employees' Pension – Total  | <u>76,061</u>               | <u>48.5</u>           | <u>12.3</u>                    | <u>47,030</u>        |
| State Police  | 1,332                       | 35.3                  | 10.7                           | 58,326               |
| Judges  | 294                         | 58.1                  | 9.4                            | 135,903              |
| LEOPS – State   | 1,473                       | 41.8                  | 11.0                           | 56,803               |
| LEOPS – Municipal   | 937                         | 38.7                  | 10.5                           | 54,977               |
| LEOPS – Total   | <u>2,410</u>                | <u>40.6</u>           | <u>10.8</u>                    | <u>56,094</u>        |
| CORS  | 90                          | 42.7                  | 9.0                            | 51,423               |
| <b>TOTAL SYSTEMS</b>  | <b>192,994</b>              | <b>46.4</b>           | <b>12.2</b>                    | <b>53,559</b>        |
|   | <b>Teachers' Retirement</b> |                       | <b>Employees' Retirement</b>   |                      |
|   | <b>Number</b>               | <b>Earnings</b>       | <b>Number</b>                  | <b>Earnings</b>      |
| Unlimited COLA  | 1,267                       | \$ 112,886,074        | 677                            | \$ 43,927,790        |
| 5% COLA Cap   | 495                         | 41,810,996            | 313                            | 20,275,483           |
| Bifurcate   | 278                         | 23,844,176            | 81                             | 5,164,533            |
|   | <u>2,040</u>                | <u>\$ 178,541,246</u> | <u>1,071</u>                   | <u>\$ 69,367,806</u> |

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2012**

**TEACHERS' COMBINED SYSTEM**

| Age Nearest<br>Birthday | Years of Service at Valuation Date |               |               |               |              |              |              | Totals         |                        |
|-------------------------|------------------------------------|---------------|---------------|---------------|--------------|--------------|--------------|----------------|------------------------|
|                         | 0-4                                | 5-9           | 10-14         | 15-19         | 20-24        | 25-29        | 30 Plus      | No.            | Valuation<br>Payroll   |
| Under 20                | 5                                  |               |               |               |              |              |              | 5              | \$ 44,680              |
| 20-24                   | 1,849                              | 30            |               |               |              |              |              | 1,879          | 73,818,607             |
| 25-29                   | 6,702                              | 3,879         | 16            |               |              |              |              | 10,597         | 476,605,936            |
| 30-34                   | 3,088                              | 7,740         | 2,183         | 7             |              |              |              | 13,018         | 673,918,818            |
| 35-39                   | 1,999                              | 3,518         | 4,897         | 1,201         | 2            |              |              | 11,617         | 684,702,773            |
| 40-44                   | 2,183                              | 3,107         | 3,302         | 3,564         | 912          | 10           |              | 13,078         | 805,261,377            |
| 45-49                   | 1,838                              | 3,018         | 2,487         | 1,882         | 2,215        | 717          | 11           | 12,168         | 730,828,244            |
| 50-54                   | 1,486                              | 2,913         | 2,695         | 1,827         | 1,425        | 1,750        | 548          | 12,644         | 746,035,113            |
| 55-59                   | 967                                | 2,179         | 2,545         | 2,105         | 1,673        | 1,422        | 2,492        | 13,383         | 852,984,614            |
| 60                      | 144                                | 307           | 412           | 402           | 442          | 296          | 730          | 2,733          | 188,954,746            |
| 61                      | 112                                | 317           | 361           | 355           | 378          | 318          | 691          | 2,532          | 173,666,489            |
| 62                      | 104                                | 260           | 338           | 303           | 337          | 266          | 592          | 2,200          | 153,257,305            |
| 63                      | 92                                 | 251           | 245           | 223           | 262          | 221          | 444          | 1,738          | 116,811,296            |
| 64                      | 70                                 | 186           | 209           | 189           | 204          | 181          | 395          | 1,434          | 98,025,312             |
| 65                      | 60                                 | 181           | 166           | 176           | 182          | 179          | 322          | 1,266          | 86,938,230             |
| 66                      | 49                                 | 117           | 139           | 118           | 130          | 103          | 279          | 935            | 63,669,989             |
| 67                      | 31                                 | 80            | 92            | 62            | 59           | 73           | 134          | 531            | 34,638,704             |
| 68                      | 26                                 | 64            | 75            | 43            | 57           | 60           | 140          | 465            | 30,907,873             |
| 69                      | 12                                 | 65            | 56            | 26            | 33           | 38           | 130          | 360            | 23,613,953             |
| 70                      | 7                                  | 49            | 59            | 21            | 21           | 26           | 101          | 284            | 18,056,613             |
| 71                      | 7                                  | 30            | 34            | 19            | 19           | 20           | 70           | 199            | 12,293,270             |
| 72                      | 10                                 | 25            | 21            | 13            | 9            | 13           | 50           | 141            | 8,297,068              |
| 73                      | 7                                  | 28            | 15            | 5             | 9            | 5            | 30           | 99             | 6,314,799              |
| 74                      | 12                                 | 13            | 15            | 10            | 9            | 5            | 29           | 93             | 4,693,092              |
| 75                      | 7                                  | 8             | 11            | 6             | 3            | 4            | 25           | 64             | 3,860,700              |
| 76                      | 7                                  | 6             | 10            | 3             | 5            | 6            | 33           | 70             | 4,030,693              |
| 77                      | 2                                  | 11            | 6             | 2             | 4            | 2            | 13           | 40             | 2,077,484              |
| 78                      | 1                                  | 4             | 5             | 6             | 4            | 5            | 9            | 34             | 1,529,757              |
| 79+                     |                                    | 14            | 13            | 8             | 8            | 4            | 40           | 87             | 4,765,777              |
| <b>Totals</b>           | <b>20,877</b>                      | <b>28,400</b> | <b>20,407</b> | <b>12,576</b> | <b>8,402</b> | <b>5,724</b> | <b>7,308</b> | <b>103,694</b> | <b>\$6,080,603,312</b> |

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2012**

**EMPLOYEES' COMBINED SYSTEM**

| Age Nearest<br>Birthday | Years of Service at Valuation Date |               |               |              |              |              |              | Totals        |                        |
|-------------------------|------------------------------------|---------------|---------------|--------------|--------------|--------------|--------------|---------------|------------------------|
|                         | 0-4                                | 5-9           | 10-14         | 15-19        | 20-24        | 25-29        | 30 Plus      | No.           | Valuation<br>Payroll   |
| Under 20                | 18                                 |               |               |              |              |              |              | 18            | \$ 377,610             |
| 20-24                   | 1,393                              | 78            |               |              |              |              |              | 1,471         | 44,980,177             |
| 25-29                   | 3,805                              | 1,623         | 30            |              |              |              |              | 5,458         | 200,635,150            |
| 30-34                   | 2,852                              | 2,796         | 741           | 17           |              |              |              | 6,406         | 265,355,871            |
| 35-39                   | 2,549                              | 2,500         | 2,005         | 466          | 17           |              |              | 7,537         | 331,135,525            |
| 40-44                   | 2,503                              | 2,618         | 2,447         | 1,592        | 693          | 92           |              | 9,945         | 459,872,902            |
| 45-49                   | 2,439                              | 2,742         | 2,481         | 1,699        | 1,678        | 1,290        | 126          | 12,455        | 593,892,439            |
| 50-54                   | 2,176                              | 2,674         | 2,517         | 1,750        | 1,787        | 2,071        | 1,274        | 14,249        | 703,708,362            |
| 55-59                   | 1,676                              | 2,149         | 2,197         | 1,579        | 1,518        | 1,699        | 2,619        | 13,437        | 687,656,394            |
| 60                      | 250                                | 350           | 341           | 270          | 253          | 257          | 514          | 2,235         | 114,698,375            |
| 61                      | 201                                | 325           | 333           | 260          | 265          | 264          | 537          | 2,185         | 112,732,573            |
| 62                      | 209                                | 318           | 315           | 229          | 217          | 236          | 462          | 1,986         | 102,134,082            |
| 63                      | 157                                | 292           | 265           | 172          | 159          | 146          | 324          | 1,515         | 77,769,062             |
| 64                      | 134                                | 251           | 241           | 166          | 127          | 135          | 279          | 1,333         | 69,545,568             |
| 65                      | 108                                | 209           | 210           | 153          | 131          | 98           | 229          | 1,138         | 59,241,988             |
| 66                      | 77                                 | 176           | 156           | 114          | 100          | 81           | 167          | 871           | 44,628,362             |
| 67                      | 50                                 | 117           | 83            | 73           | 63           | 59           | 110          | 555           | 27,362,145             |
| 68                      | 57                                 | 94            | 98            | 65           | 56           | 42           | 84           | 496           | 23,540,448             |
| 69                      | 47                                 | 74            | 96            | 58           | 35           | 44           | 67           | 421           | 18,926,214             |
| 70                      | 33                                 | 61            | 67            | 39           | 48           | 26           | 67           | 341           | 15,527,728             |
| 71                      | 22                                 | 39            | 48            | 33           | 24           | 22           | 39           | 227           | 9,684,624              |
| 72                      | 25                                 | 41            | 44            | 14           | 22           | 21           | 24           | 191           | 7,569,310              |
| 73                      | 10                                 | 26            | 41            | 19           | 12           | 16           | 26           | 150           | 6,309,620              |
| 74                      | 9                                  | 22            | 31            | 21           | 12           | 15           | 23           | 133           | 5,600,517              |
| 75                      | 10                                 | 19            | 27            | 10           | 13           | 6            | 17           | 102           | 3,980,176              |
| 76                      | 5                                  | 15            | 25            | 5            | 10           | 6            | 9            | 75            | 2,452,722              |
| 77                      | 4                                  | 14            | 13            | 10           | 10           | 7            | 9            | 67            | 2,513,477              |
| 78                      | 2                                  | 12            | 20            | 4            | 3            | 4            | 7            | 52            | 1,812,924              |
| 79+                     | 10                                 | 14            | 27            | 16           | 20           | 16           | 22           | 125           | 4,830,531              |
| <b>Totals</b>           | <b>20,831</b>                      | <b>19,649</b> | <b>14,899</b> | <b>8,834</b> | <b>7,273</b> | <b>6,653</b> | <b>7,035</b> | <b>85,174</b> | <b>\$3,998,474,876</b> |

# ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION JUNE 30, 2012

## STATE POLICE

| Age Nearest<br>Birthday | Years of Service at Valuation Date |            |            |            |            |           |          | Totals       |                      |
|-------------------------|------------------------------------|------------|------------|------------|------------|-----------|----------|--------------|----------------------|
|                         | 0-4                                | 5-9        | 10-14      | 15-19      | 20-24      | 25-29     | 30 Plus  | No.          | Valuation<br>Payroll |
| Under 20                | 9                                  |            |            |            |            |           |          | 9            | \$ 214,164           |
| 20-24                   | 121                                | 12         |            |            |            |           |          | 133          | 5,203,720            |
| 25-29                   | 139                                | 113        | 9          |            |            |           |          | 261          | 12,253,188           |
| 30-34                   | 42                                 | 94         | 92         | 4          |            |           |          | 232          | 12,580,067           |
| 35-39                   | 10                                 | 54         | 84         | 76         | 5          |           |          | 229          | 14,340,643           |
| 40-44                   | 14                                 | 26         | 50         | 118        | 66         | 1         |          | 275          | 19,007,396           |
| 45-49                   | 4                                  | 17         | 19         | 40         | 57         | 6         |          | 143          | 10,393,305           |
| 50-54                   | 1                                  | 1          | 7          | 9          | 14         | 4         | 3        | 39           | 2,831,209            |
| 55-59                   |                                    |            | 5          |            | 2          |           | 4        | 11           | 866,222              |
| <b>Totals</b>           | <b>340</b>                         | <b>317</b> | <b>266</b> | <b>247</b> | <b>144</b> | <b>11</b> | <b>7</b> | <b>1,332</b> | <b>\$77,689,914</b>  |

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2012**

**JUDGES**

| Age Nearest<br>Birthday | Years of Service at Valuation Date |           |           |           |          |          |          | Totals     |                      |
|-------------------------|------------------------------------|-----------|-----------|-----------|----------|----------|----------|------------|----------------------|
|                         | 0-4                                | 5-9       | 10-14     | 15-19     | 20-24    | 25-29    | 30 Plus  | No.        | Valuation<br>Payroll |
| 40-44                   | 10                                 |           |           |           |          |          |          | 10         | \$ 1,311,820         |
| 45-49                   | 11                                 | 8         | 1         |           |          |          |          | 20         | 2,623,640            |
| 50-54                   | 21                                 | 16        | 15        | 1         |          |          |          | 53         | 7,166,656            |
| 55-59                   | 16                                 | 16        | 22        | 20        |          |          |          | 74         | 10,035,487           |
| 60                      | 5                                  | 8         | 2         | 6         |          |          |          | 21         | 2,884,731            |
| 61                      | 3                                  | 1         | 3         | 5         |          |          |          | 12         | 1,715,124            |
| 62                      | 2                                  | 5         | 4         | 9         |          |          |          | 20         | 2,711,140            |
| 63                      |                                    | 4         | 6         | 8         |          |          |          | 18         | 2,445,658            |
| 64                      | 1                                  | 4         | 3         | 8         |          |          |          | 16         | 2,150,612            |
| 65                      | 4                                  | 2         | 3         | 7         |          |          |          | 16         | 2,214,632            |
| 66                      | 1                                  | 3         | 2         | 3         |          |          |          | 9          | 1,258,968            |
| 67                      | 1                                  | 4         | 1         | 3         |          |          |          | 9          | 1,255,068            |
| 68                      |                                    | 1         |           | 3         |          |          |          | 4          | 535,208              |
| 69                      | 2                                  | 2         | 1         | 5         |          |          |          | 10         | 1,392,120            |
| 70                      |                                    |           | 1         | 1         |          |          |          | 2          | 254,504              |
| <b>Totals</b>           | <b>77</b>                          | <b>74</b> | <b>64</b> | <b>79</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>294</b> | <b>\$39,955,368</b>  |

**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2012**

**LEOPS**

| Age Nearest<br>Birthday | Years of Service at Valuation Date |            |            |            |            |            |           | Totals       |                      |
|-------------------------|------------------------------------|------------|------------|------------|------------|------------|-----------|--------------|----------------------|
|                         | 0-4                                | 5-9        | 10-14      | 15-19      | 20-24      | 25-29      | 30 Plus   | No.          | Valuation<br>Payroll |
| 20-24                   | 77                                 | 12         |            |            |            |            |           | 89           | \$ 3,622,607         |
| 25-29                   | 193                                | 112        | 4          |            |            |            |           | 309          | 13,731,939           |
| 30-34                   | 69                                 | 178        | 86         | 1          |            |            |           | 334          | 16,413,384           |
| 35-39                   | 65                                 | 116        | 105        | 51         | 3          |            |           | 340          | 18,080,639           |
| 40-44                   | 42                                 | 97         | 129        | 155        | 57         | 2          |           | 482          | 28,483,709           |
| 45-49                   | 57                                 | 56         | 55         | 76         | 112        | 47         | 1         | 404          | 25,676,181           |
| 50-54                   | 24                                 | 38         | 26         | 33         | 41         | 36         | 8         | 206          | 13,388,346           |
| 55-59                   | 24                                 | 42         | 18         | 26         | 12         | 12         | 18        | 152          | 9,730,325            |
| 60                      | 2                                  | 3          | 2          | 4          | 2          | 1          | 1         | 15           | 860,185              |
| 61                      | 1                                  | 5          | 4          | 5          |            | 1          | 3         | 19           | 1,309,834            |
| 62                      | 2                                  | 1          | 3          | 3          | 4          |            | 6         | 19           | 1,300,381            |
| 63                      | 1                                  | 3          | 2          | 3          | 1          |            |           | 10           | 678,221              |
| 64                      | 2                                  | 5          | 4          |            |            |            | 2         | 13           | 782,288              |
| 65                      |                                    |            | 2          | 2          | 1          | 1          | 1         | 7            | 455,230              |
| 66                      |                                    | 2          | 1          |            | 1          |            | 1         | 5            | 326,263              |
| 67                      |                                    |            |            | 1          |            |            |           | 1            | 69,224               |
| 68                      |                                    |            |            |            |            |            |           | 0            | 0                    |
| 69                      |                                    | 1          |            | 1          | 1          |            |           | 3            | 171,171              |
| 70                      |                                    |            |            |            |            |            |           | 0            | 0                    |
| 71                      |                                    | 1          |            | 1          |            |            |           | 2            | 105,409              |
| <b>Totals</b>           | <b>559</b>                         | <b>672</b> | <b>441</b> | <b>362</b> | <b>235</b> | <b>100</b> | <b>41</b> | <b>2,410</b> | <b>\$135,185,336</b> |



**ACTIVE MEMBERSHIP – AGE & SERVICE DISTRIBUTION  
JUNE 30, 2012**

**CORS**

| Age Nearest<br>Birthday | Years of Service at Valuation Date |           |           |           |          |          |          | Totals    |                      |
|-------------------------|------------------------------------|-----------|-----------|-----------|----------|----------|----------|-----------|----------------------|
|                         | 0-4                                | 5-9       | 10-14     | 15-19     | 20-24    | 25-29    | 30 Plus  | No.       | Valuation<br>Payroll |
| 20-24                   | 5                                  |           |           |           |          |          |          | 5         | \$ 200,791           |
| 25-29                   | 7                                  | 1         |           |           |          |          |          | 8         | 339,362              |
| 30-34                   | 5                                  | 3         | 2         |           |          |          |          | 10        | 473,591              |
| 35-39                   | 6                                  | 1         | 3         | 2         |          |          |          | 12        | 593,064              |
| 40-44                   | 6                                  | 4         | 1         | 3         |          |          |          | 14        | 697,023              |
| 45-49                   | 4                                  |           | 2         | 2         | 1        |          |          | 9         | 443,678              |
| 50-54                   | 4                                  | 5         | 3         | 5         |          | 2        | 3        | 22        | 1,342,129            |
| 55-59                   | 2                                  |           | 3         |           |          | 1        |          | 6         | 342,068              |
| <b>Totals</b>           | <b>39</b>                          | <b>17</b> | <b>14</b> | <b>13</b> | <b>1</b> | <b>3</b> | <b>3</b> | <b>90</b> | <b>\$4,628,029</b>   |

**RETIRED MEMBERSHIP STATISTICS**  
**JUNE 30, 2012**  
**(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              | 29,705         | 74.9               | 28.1                             | \$ 47,261                            | \$ 33,813              |
| Teachers' Pension                 | 33,994         | 68.3               | 22.0                             | 52,645                               | 19,212                 |
| Employees' Retirement – State     | 18,993         | 72.1               | 24.2                             | \$ 34,357                            | \$ 20,919              |
| Employees' Retirement – Municipal | 3,803          | 77.0               | 23.7                             | 27,018                               | 17,151                 |
| Employees' Retirement – Total     | 22,796         | 72.9               | 24.1                             | 33,133                               | 20,290                 |
| Employees' Pension – State        | 30,962         | 67.8               | 20.3                             | \$ 40,031                            | \$ 13,040              |
| Employees' Pension – Municipal    | 10,878         | 68.5               | 16.9                             | 33,654                               | 10,318                 |
| Employees' Pension – Total        | 41,840         | 68.0               | 19.4                             | 38,373                               | 12,332                 |
| State Police                      | 2,387          | 60.8               | 24.0                             | \$ 47,804                            | \$ 44,397              |
| Judges                            | 365            | 76.5               | 14.0                             | \$ 134,945                           | \$ 68,906              |
| LEOPS – State                     | 1,161          | 58.6               | 23.4                             | \$ 53,980                            | \$ 31,771              |
| LEOPS – Municipal                 | 235            | 53.5               | 22.5                             | 59,922                               | 34,292                 |
| LEOPS – Total                     | 1,396          | 57.7               | 23.2                             | 54,980                               | 32,196                 |
| CORS – Municipal                  | 10             | 55.7               | 29.4                             | \$ 72,640                            | \$ 37,030              |
| Total - State                     | 117,567        | 70.2               | 23.5                             | \$ 45,178                            | \$ 22,341              |
| Total - Municipal                 | 14,926         | 70.4               | 18.7                             | 32,403                               | 12,454                 |
| <b>TOTAL SYSTEMS</b>              | <b>132,493</b> | <b>70.3</b>        | <b>22.9</b>                      | <b>43,739</b>                        | <b>21,227</b>          |

\* Only non-zero values included in averages.

**RETIRED MEMBERSHIP STATISTICS –BY TYPE**  
**JUNE 30, 2012**  
**(STATE AND MUNICIPAL)**

| System                            | Service Retirees |             | Disabilities |             | Beneficiaries |             |
|-----------------------------------|------------------|-------------|--------------|-------------|---------------|-------------|
|                                   | Number           | Average Age | Number       | Average Age | Number        | Average Age |
| Teachers' Retirement              | 26,416           | 74.7        | 932          | 74.0        | 2,357         | 77.6        |
| Teachers' Pension                 | 29,880           | 69.0        | 3,163        | 61.7        | 951           | 68.3        |
| Employees' Retirement – State     | 14,701           | 72.2        | 1,626        | 61.4        | 2,666         | 77.8        |
| Employees' Retirement – Municipal | <u>2,890</u>     | 76.9        | <u>300</u>   | 73.7        | <u>613</u>    | 78.8        |
| Employees' Retirement – Total     | 17,591           | 73.0        | 1,926        | 63.4        | 3,279         | 78.0        |
| Employees' Pension – State        | 24,294           | 69.2        | 5,032        | 60.9        | 1,636         | 68.7        |
| Employees' Pension – Municipal    | <u>8,053</u>     | 70.8        | <u>2,267</u> | 60.3        | <u>558</u>    | 68.3        |
| Employees' Pension – Total        | 32,347           | 69.6        | 7,299        | 60.7        | 2,194         | 68.6        |
| State Police                      | 1,547            | 62.2        | 586          | 53.2        | 254           | 70.3        |
| Judges                            | 259              | 75.2        | 4            | 66.0        | 102           | 80.1        |
| LEOPS – State                     | 860              | 60.7        | 237          | 51.0        | 64            | 58.3        |
| LEOPS – Municipal                 | <u>165</u>       | 56.3        | <u>65</u>    | 46.2        | <u>5</u>      | 55.4        |
| LEOPS – Total                     | 1,025            | 60.0        | 302          | 50.0        | 69            | 58.1        |
| CORS – Municipal                  | 9                | 56.7        | 1            | 46.3        |               |             |
| Total - State                     | 97,957           | 70.9        | 11,580       | 61.7        | 8,030         | 74.4        |
| Total - Municipal                 | <u>11,117</u>    | 72.2        | <u>2,633</u> | 61.5        | <u>1,176</u>  | 73.7        |
| TOTAL SYSTEMS                     | 109,074          | 71.0        | 14,213       | 61.6        | 9,206         | 74.3        |

**RETIRED MEMBERSHIP – ATTAINED AGE**  
**JUNE 30, 2012**  
**(STATE AND MUNICIPAL)**

| Age At<br>Valuation<br>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                    | 22            | \$ 374,571              | 53            | \$ 670,956            | 8            | \$ 201,000            | -          | -                    | 10           | \$ 183,217           | -                | -                 | 93             | \$ 1,429,745            |
| 30-34                       | 19            | 459,131                 | 54            | 926,357               | 11           | 408,541               | -          | -                    | 13           | 412,153              | -                | -                 | 97             | 2,206,182               |
| 35-39                       | 60            | 1,686,438               | 144           | 2,975,592             | 48           | 1,968,381             | -          | -                    | 30           | 1,026,670            | -                | -                 | 282            | 7,657,082               |
| 40-44                       | 109           | 2,684,066               | 456           | 9,362,504             | 122          | 5,750,044             | -          | -                    | 74           | 2,544,301            | -                | -                 | 761            | 20,340,914              |
| 45-49                       | 218           | 5,343,190               | 1,258         | 25,326,197            | 310          | 14,329,699            | -          | -                    | 129          | 4,742,445            | 2                | \$ 56,639         | 1,917          | 49,798,170              |
| 50-54                       | 484           | 12,366,322              | 2,677         | 53,307,371            | 289          | 13,394,709            | 2          | \$ 63,626            | 258          | 8,855,233            | 4                | 124,740           | 3,714          | 88,112,001              |
| 55-59                       | 2,906         | 92,213,430              | 5,474         | 109,107,446           | 336          | 15,652,862            | 2          | 64,591               | 304          | 10,145,674           | 1                | 22,546            | 9,023          | 227,206,549             |
| 60-64                       | 12,095        | 349,972,803             | 11,103        | 191,503,768           | 365          | 16,355,394            | 29         | 2,171,838            | 291          | 9,092,474            | 2                | 96,081            | 23,885         | 569,192,358             |
| 65-69                       | 16,316        | 422,736,362             | 13,703        | 208,647,277           | 356          | 15,199,949            | 51         | 3,677,223            | 168          | 4,728,522            | -                | -                 | 30,594         | 654,989,332             |
| 70-74                       | 11,379        | 278,627,691             | 10,449        | 139,289,152           | 251          | 9,973,347             | 86         | 6,504,003            | 63           | 1,811,739            | 1                | 70,299            | 22,229         | 436,276,231             |
| 75-79                       | 8,277         | 201,722,592             | 8,119         | 101,112,357           | 170          | 6,656,618             | 75         | 5,153,574            | 41           | 1,061,803            | -                | -                 | 16,682         | 315,706,944             |
| 80-84                       | 6,270         | 157,214,073             | 5,831         | 71,821,705            | 75           | 3,112,427             | 51         | 3,134,721            | 12           | 272,198              | -                | -                 | 12,239         | 235,555,124             |
| 85-89                       | 3,632         | 86,591,914              | 3,534         | 43,660,646            | 34           | 2,070,307             | 48         | 3,020,904            | 3            | 68,723               | -                | -                 | 7,251          | 135,412,494             |
| 90-94                       | 1,513         | 34,955,682              | 1,421         | 16,592,797            | 10           | 692,346               | 16         | 1,087,096            | -            | -                    | -                | -                 | 2,960          | 53,327,922              |
| 95-99                       | 345           | 9,143,809               | 319           | 3,604,106             | 2            | 208,981               | 5          | 273,127              | -            | -                    | -                | -                 | 671            | 13,230,023              |
| 100-104                     | 47            | 1,198,940               | 39            | 588,940               | -            | -                     | -          | -                    | -            | -                    | -                | -                 | 86             | 1,787,880               |
| 105-109                     | 7             | 217,528                 | 2             | 18,236                | -            | -                     | -          | -                    | -            | -                    | -                | -                 | 9              | 235,764                 |
|                             | <b>63,699</b> | <b>\$ 1,657,508,543</b> | <b>64,636</b> | <b>\$ 978,515,407</b> | <b>2,387</b> | <b>\$ 105,974,605</b> | <b>365</b> | <b>\$ 25,150,702</b> | <b>1,396</b> | <b>\$ 44,945,152</b> | <b>10</b>        | <b>\$ 370,305</b> | <b>132,493</b> | <b>\$ 2,812,464,714</b> |

**RETIRED MEMBERSHIP\* – BY CALENDAR YEAR OF RETIREMENT**  
**JUNE 30, 2012**  
**(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 1982        | 1,676         | \$ 48,775,249           | 1,092         | \$ 19,070,619         | 86           | \$ 3,226,461         | 2          | \$ 178,403           | -            | -                    | -                | -                 | 2,856          | \$ 71,250,733           |
| 1982               | 447           | 11,046,147              | 290           | 3,942,319             | 21           | 731,104              | -          | -                    | -            | -                    | -                | -                 | 758            | 15,719,570              |
| 1983               | 647           | 16,467,716              | 454           | 6,548,592             | 33           | 1,094,241            | 1          | 93,568               | -            | -                    | -                | -                 | 1,135          | 24,204,117              |
| 1984               | 632           | 16,554,064              | 592           | 8,736,376             | 40           | 1,295,872            | -          | -                    | -            | -                    | -                | -                 | 1,264          | 26,586,312              |
| 1985               | 598           | 14,209,512              | 504           | 7,435,780             | 45           | 1,607,788            | 6          | 486,873              | -            | -                    | -                | -                 | 1,153          | 23,739,952              |
| 1986               | 766           | 18,815,602              | 566           | 7,859,522             | 36           | 1,273,684            | 2          | 178,403              | -            | -                    | -                | -                 | 1,370          | 28,127,211              |
| 1987               | 669           | 16,166,234              | 688           | 9,985,934             | 37           | 1,345,893            | 5          | 426,184              | -            | -                    | -                | -                 | 1,399          | 27,924,245              |
| 1988               | 791           | 20,863,086              | 793           | 11,741,617            | 41           | 1,372,409            | 3          | 271,971              | -            | -                    | -                | -                 | 1,628          | 34,249,082              |
| 1989               | 936           | 24,236,425              | 793           | 12,221,591            | 49           | 2,020,048            | 3          | 151,789              | -            | -                    | -                | -                 | 1,781          | 38,629,853              |
| 1990               | 964           | 25,606,077              | 842           | 12,392,663            | 43           | 1,665,387            | 7          | 626,107              | 11           | \$ 269,835           | -                | -                 | 1,867          | 40,560,070              |
| 1991               | 1,153         | 34,284,939              | 1,061         | 16,094,258            | 41           | 1,756,011            | 2          | 187,136              | 14           | 410,817              | -                | -                 | 2,271          | 52,733,162              |
| 1992               | 1,753         | 53,498,169              | 1,284         | 19,019,052            | 87           | 3,804,588            | 6          | 496,959              | 16           | 489,911              | -                | -                 | 3,146          | 77,308,680              |
| 1993               | 1,382         | 37,285,287              | 1,221         | 16,403,381            | 60           | 2,500,261            | 5          | 351,388              | 12           | 336,243              | -                | -                 | 2,680          | 56,876,560              |
| 1994               | 1,480         | 36,824,660              | 1,316         | 17,622,992            | 66           | 2,841,336            | 5          | 404,547              | 11           | 341,833              | -                | -                 | 2,878          | 58,035,368              |
| 1995               | 1,655         | 40,649,033              | 1,551         | 21,487,806            | 54           | 2,343,770            | 11         | 866,855              | 13           | 396,526              | -                | -                 | 3,284          | 65,743,990              |
| 1996               | 1,831         | 46,258,215              | 2,636         | 42,090,376            | 75           | 3,046,917            | 8          | 712,520              | 13           | 381,654              | -                | -                 | 4,563          | 92,489,682              |
| 1997               | 1,949         | 49,342,094              | 1,833         | 26,868,695            | 58           | 2,313,974            | 7          | 631,441              | 16           | 340,675              | -                | -                 | 3,863          | 79,496,878              |
| 1998               | 2,110         | 55,423,120              | 1,674         | 21,503,083            | 59           | 2,393,253            | 6          | 386,526              | 17           | 464,799              | -                | -                 | 3,866          | 80,170,781              |
| 1999               | 2,565         | 69,074,905              | 1,803         | 24,508,151            | 60           | 2,888,939            | 9          | 798,864              | 32           | 712,144              | -                | -                 | 4,469          | 97,983,003              |
| 2000               | 2,581         | 67,093,870              | 1,965         | 25,517,326            | 135          | 6,596,526            | 10         | 945,355              | 69           | 2,005,173            | -                | -                 | 4,760          | 102,158,251             |
| 2001               | 2,515         | 65,488,608              | 2,034         | 28,235,638            | 95           | 4,738,058            | 10         | 768,179              | 97           | 3,254,820            | -                | -                 | 4,751          | 102,485,303             |
| 2002               | 2,664         | 67,766,523              | 2,297         | 32,412,377            | 89           | 4,699,007            | 10         | 847,769              | 87           | 2,935,562            | -                | -                 | 5,147          | 108,661,238             |
| 2003               | 2,642         | 69,250,911              | 2,750         | 41,754,163            | 102          | 5,554,544            | 11         | 937,025              | 90           | 3,378,896            | -                | -                 | 5,595          | 120,875,540             |
| 2004               | 3,023         | 80,028,653              | 3,072         | 48,502,485            | 95           | 4,808,816            | 14         | 1,065,741            | 81           | 2,757,777            | -                | -                 | 6,285          | 137,163,472             |
| 2005               | 3,058         | 76,319,949              | 3,275         | 51,975,003            | 115          | 5,364,245            | 14         | 1,132,022            | 94           | 3,317,522            | -                | -                 | 6,556          | 138,108,741             |
| 2006               | 2,689         | 68,374,259              | 2,975         | 46,609,149            | 86           | 3,989,940            | 16         | 1,157,132            | 85           | 2,861,977            | -                | -                 | 5,851          | 122,992,457             |
| 2007               | 2,984         | 79,453,521              | 3,290         | 54,226,106            | 97           | 4,245,138            | 22         | 1,693,852            | 90           | 2,887,462            | -                | -                 | 6,483          | 142,506,080             |
| 2008               | 3,028         | 78,614,119              | 3,403         | 55,844,663            | 81           | 3,589,700            | 13         | 1,039,164            | 96           | 3,302,059            | -                | -                 | 6,621          | 142,389,704             |
| 2009               | 2,912         | 70,946,195              | 3,454         | 55,625,899            | 69           | 3,235,896            | 17         | 1,378,301            | 121          | 4,098,400            | 1                | \$ 13,079         | 6,574          | 135,297,770             |
| 2010               | 3,469         | 94,010,639              | 4,056         | 70,689,234            | 75           | 4,048,070            | 15         | 1,254,506            | 99           | 3,493,800            | 4                | 109,567           | 7,718          | 173,605,815             |
| 2011               | 4,197         | 119,343,364             | 4,292         | 76,550,949            | 80           | 3,561,721            | 16         | 1,314,903            | 117          | 4,070,512            | 4                | 209,940           | 8,706          | 205,051,390             |
| 2012               | 622           | 13,656,868              | 1,306         | 22,864,152            | 23           | 1,049,324            | 7          | 612,284              | 46           | 1,482,346            | 1                | 37,718            | 2,005          | 39,702,693              |
|                    | <b>60,388</b> | <b>\$ 1,585,728,014</b> | <b>59,162</b> | <b>\$ 916,339,951</b> | <b>2,133</b> | <b>\$ 95,002,921</b> | <b>263</b> | <b>\$ 21,395,767</b> | <b>1,327</b> | <b>\$ 43,990,746</b> | <b>10</b>        | <b>\$ 370,305</b> | <b>123,283</b> | <b>\$ 2,662,827,703</b> |

\* Does not include beneficiaries.

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## **APPENDIX C**

### SUMMARY OF PLAN PROVISIONS

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# 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' 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, 2012, retired teachers of the Maryland School for the Deaf who accept contractual employment with the Maryland School for the Deaf are not subject to a reemployment earnings limitation.

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

Effective July 1, 2012, members of the Teachers' Retirement System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts membership in the Teachers' Retirement System; or (2) service in a reserve component that does not interrupt membership in the Teacher's Retirement System.

# 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 earned on or after July 1, 2011, the 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 (currently 7.75% as approved by the Board of Trustees). The adjustment is capped at the lesser of 1% or the increase in CPI if the market value return was less than the assumed rate of 7.75%.

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.

**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.



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

- 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, 2012, a member of any one of the several systems of the State Retirement and Pension System who was a member on June 30, 2011, and transfers from one system into the Teachers' Pension System on or after July 1, 2011, and without a break in employment of more than 30 days, will be subject to the same requirements for the Teachers' Pension System that apply to an individual who was a member on June 30, 2011, and remains a member on July 1, 2011.

Effective July 1, 2012, retired teachers of the Maryland School for the Deaf who accept contractual employment with the Maryland School for the Deaf are not subject to a reemployment earnings limitation.

Effective July 1, 2012, members of the Teachers' Pension System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts membership in the Teachers' Pension System; or (2) service in a reserve component that does not interrupt membership in the Teacher's Pension System.

# 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' 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' 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' 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  $66 \frac{2}{3}\%$  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' 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% 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 7.75% 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 7.75%.

## **12. (a) Change in Benefits for Employees' Retirement System**

Effective July 1, 2012, retirees of the Employees' Retirement System who accept contractual employment with the Division of Parole and Probation in the Department of Public Safety and Correctional Services as a parole and probation employee at certain facilities are not subject to a reemployment earnings limitation.

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

Effective July 1, 2012, a member of any one of the several systems of the State Retirement and Pension System who was a member on June 30, 2011, and transfers from one system into the Correctional Officers' Retirement System on or after July 1, 2011, and without a break in employment of more than 30 days, will be subject to the same requirements for the Correctional Officers' Retirement System that apply to an individual who was a member on June 30, 2011, and remains a member on July 1, 2011.

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

Effective July 1, 2012, the number of years a retiree of the Correctional Officers' Retirement System is required to wait in order to be exempt from a reemployment earnings limitation if the retiree is hired by the individual's last employer prior to retirement is reduced to five years.

### **(c) Changes Benefits for Employees' Retirement System and Correctional Officers**

Effective July 1, 2012, members of the Employees' Retirement System or the Correctional Officers' Retirement System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts membership in the Employees' Retirement System or the Correctional Officers' Retirement System; or (2) service in a reserve component that does not interrupt membership in the Employees' Retirement System or the Correctional Officers' Retirement 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 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 (currently 7.75% 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 7.75%.

### **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, 2012, a member of any one of the several systems of the State Retirement and Pension System who was a member on June 30, 2011, and transfers from one system into the Employees' Pension System on or after July 1, 2011, and without a break in employment of more than 30 days, will be subject to the same requirements for the Employees' Pension System that apply to an individual who was a member on June 30, 2011, and remains a member on July 1, 2011.

Effective July 1, 2012, retirees of the Employees' Pension System who accept contractual employment with the Division of Parole and Probation in the Department of Public Safety and Correctional Services as a parole and probation employee at certain facilities are not subject to a reemployment earnings limitation.

Effective July 1, 2012, members of the Employees' Pension System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts membership in the Employees' Pension System; or (2) service in a reserve component that does not interrupt membership in 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 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 (currently 7.75% as approved by the Board of Trustees). The adjustment is capped at the lesser of 1% and increase in CPI if the market value return was less than the assumed rate of 7.75%.

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, 2012, a member of any one of the several systems of the State Retirement and Pension System who was a member on June 30, 2011, and transfers from one system into the State Police Retirement System on or after July 1, 2011, and without a break in employment of more than 30 days, will be subject to the same requirements for the State Police Retirement System that apply to an individual who was a member on June 30, 2011, and remains a member on July 1, 2011.

Effective July 1, 2012, the number of years a retiree of the State Police Retirement System is required to wait in order to be exempt from a reemployment earnings limitation if the retiree is hired by the individual's last employer prior to retirement is reduced to five years.

Effective July 1, 2012, members of the State Police Retirement System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts membership in the State Police Retirement System; or (2) service in a reserve component that does not interrupt membership in the State Police Retirement System.

# **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: Termination of service prior to age 60.

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, 2012, member contributions are increased to 8% of earnable compensation of all members of the Judges’ Retirement System.

Effective July 1, 2012, individuals who become members of the Judges’ Retirement System on or after July 1, 2012, are required to accrue five years of eligibility service to vest in the Judges’ Retirement System.

Effective July 1, 2012, members of the Judges’ Retirement System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts membership in the Judges’ Retirement System; or (2) service in a reserve component that does not interrupt membership in the Judges’ Retirement System.

**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**

Effective July 1, 2012, members of the Law Enforcement Officers’ Pension System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts membership in the Law Enforcement Officers’ Pension System; or (2) service in a reserve component that does not interrupt membership in the Law Enforcement Officers’ Pension System.

# 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 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 (currently 7.75% as approved by the Board of Trustees). The adjustment is capped at the lesser of 1% or the increase in CPI if the market value return was less than the assumed rate of 7.75%.

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, 2012, a member of any one of the several systems of the State Retirement and Pension System who was a member on June 30, 2011, and transfers from one system into the Law Enforcement Officers’ Pension System on or after July 1, 2011, and without a break in employment of more than 30 days, will be subject to the same requirements for the Law Enforcement Officers’ Pension System that apply to an individual who was a member on June 30, 2011, and remains a member on July 1, 2011.

Effective July 1, 2012, members of the Law Enforcement Officers’ Pension System who are also members of a reserve component of the U.S. armed forces may earn four months of military service credit, up to a maximum of three years of credit, for each year of: (1) active duty or inactive training that interrupts a membership in the Law Enforcement Officers’ Pension System; or (2) service in a reserve component that does not interrupt membership in the Law Enforcement Officers’ Pension System.