



# Cavanaugh Macdonald

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December 19, 2013

Ms. Cynthia W. Comer  
Policy, Planning and Compliance Director  
Virginia Retirement System  
1200 E. Main Street  
Richmond, VA 23219

Dear Ms. Comer:

Enclosed are 13 original bound copies of the "Report on the Actuarial Valuation of the Virginia Retirement System" prepared as of June 30, 2013.

Please let us know if you have any questions concerning the report.

Sincerely,

Jose I. Fernandez, ASA, FCA, EA, MAAA  
Principal and Consulting Actuary

TJC/JIF:lam

Enclosure

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**Virginia  
Retirement  
System**

**Report on the Actuarial Valuation for  
Virginia Retirement System**

**Prepared as of June 30, 2013**





# Cavanaugh Macdonald

CONSULTING, LLC

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December 19, 2013

The Board of Trustees  
Virginia Retirement System  
1200 E. Main Street  
Richmond, VA 23219

Dear Trustees:

We are pleased to submit the results of the annual actuarial valuation for the following divisions of the Virginia Retirement System (VRS), prepared as of June 30, 2013.

- State Employees
- Teachers
- State Police (SPORS)
- Judicial
- Virginia Law Officers (VaLORS)

In addition, this report includes information in aggregate on the actuarial valuations of the Political Subdivisions participating in VRS as of June 30, 2013. We have prepared and provided separately, actuarial valuation reports for each of the Political Subdivisions. Please refer to the individual reports for the valuation results, summary of actuarial assumptions and methods, and plan provisions for each of the Political Subdivision plans.

The purpose of this report is to provide a summary of the funded status of VRS as of June 30, 2013, to recommend rates of contribution and to provide accounting information under Governmental Accounting Standards Board Statements No. 25 and 27 (GASB 25 and 27). While not verifying the data at source, the actuary performed tests for consistency and reasonability.

The valuation results indicate that the full employer contribution rates shown in the table below are sufficient to fund the normal cost for all members and finance the unfunded accrued liability of the plans for fiscal years 2015 and 2016. We also present the expected employer contributions to be actually funded based on the percentage of the full rate adopted by the General Assembly. For comparison, in the table below we present the employer contribution rates based on the June 30, 2012 actuarial valuation, the recommended employer contribution rates based on the June 30, 2011 actuarial valuations and the employer contribution rates approved by the General Assembly for fiscal years ending in 2013 and 2014.

| System                                    | June 30, 2011 Valuation<br>Fiscal Years 2013 & 2014 |                                 | June 30, 2012<br>Valuation<br>Informational<br>Purposes | June 30, 2013 Valuation<br>Fiscal Years 2015 & 2016 |   |   |
|---|---|---------------------------------|---|---|---|---|
|   | Board<br>Approved                                   | General<br>Assembly<br>Approved |   | Full Employer<br>Contribution Rate                  | Percentage<br>Adopted by<br>General<br>Assembly | Estimated<br>Employer<br>Contribution Rate<br>to be Adopted |
| State                                     | 13.07%  | 8.76%                           | 14.87%  | 15.79%  | 78.02%  | 12.32%  |
| Teachers                                  | 16.77%  | 11.66%                          | 18.20%  | 18.19%  | 79.69%  | 14.50%  |
| SPORS                                     | 32.62%  | 24.74%                          | 35.16%  | 32.93%  | 83.90%  | 27.63%  |
| VaLORS                                    | 19.52%  | 14.80%                          | 21.30%  | 21.74%  | 83.88%  | 18.24%  |
| Judicial                                  | 54.11%  | 45.44%                          | 55.18%  | 57.84%  | 89.32%  | 51.66%  |
| Political Subdivisions<br>(Average rates) | 10.63%  | N/A                             | 11.11%  | 9.91%   | N/A   | 9.91%   |

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Contribution rates for VRS employers are established every two years. The actuarially calculated employer contribution rates based on the June 30, 2012 valuation presented in this report are for informational purposes only.

The promised benefits of VRS are included in the calculated contribution rates which are developed using the entry age normal cost method. The valuation takes into account the differentiation between Plan 1 vested members, Plan 1 non-vested members as of January 1, 2013 resulting from HB 1130 and SB 498, and Plan 2 members. Five-year smoothed market value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability. In accordance with the supplemental contribution provision under the 2011 Appropriations Act, Item 469(l)(6), the portion of the unfunded accrued liability with respect to deferred contributions for the 2010 -2012 biennium is amortized using a level-dollar, closed, 10 year period beginning June 30, 2011. In accordance with the new funding policy adopted by the Board of Trustees, the balance of the unfunded accrued liability as of June 30, 2013 is being amortized by regular annual contributions as a level percentage of payroll within a closed 30-year period, on the assumption that payroll will increase by 3% annually and the amortization period will decrease by one year until reaching 0 years. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the Fund and to reasonable expectations of anticipated experience under the Fund and meet the parameters for the disclosures under GASB 25 and 27. The valuation reflects changes in the actuarial assumptions adopted by the Board of Trustees recommended in the experience study of VRS for the four-year period ending June 30, 2012. The table below summarizes the changes in actuarial assumptions.

| STATE SYSTEM | ASSUMPTION CHANGE   |
|--------------|---|
| State        | Update mortality table<br>Decrease rates of service retirement<br>Decrease rates of withdrawals for less than 10 years of service<br>Decrease rates of male disability retirement<br>Reduce rates of salary increase by 0.25% per year  |
| Teachers     | Update mortality table<br>Adjustments to rates of service retirement<br>Decrease rates of withdrawals for three through nine years of service<br>Decrease rates of disability<br>Reduce rates of salary increase by 0.25% per year      |
| SPORS        | Update mortality table<br>Increase rate of service retirement at age 54   |
| VaLORS       | Update mortality table<br>Adjustments to rates of service retirement<br>Decrease rates of withdrawals for females under 10 years of service<br>Increase rates of disability<br>Decrease service related disability rate from 60% to 50% |
| Judicial     | Update mortality table  |



| POLITICAL SUBDIVISION SYSTEM         | ASSUMPTION CHANGE   |
|--------------------------------------|---|
| Largest 10 - Non-LEOS                | Update mortality table<br>Decrease rates of service retirement<br>Decrease rates of disability retirement<br>Reduce rates of salary increase by 0.25% per year    |
| Largest 10 - LEOS                    | Update mortality table<br>Decrease male rates of disability   |
| All Others (Non 10 largest) Non-LEOS | Update mortality table<br>Decrease rates of service retirement<br>Decrease rates of disability retirement<br>Reduce rates of salary increase by 0.25% per year    |
| All Others (Non 10 largest) LEOS     | Update mortality table<br>Adjustments to rates of service retirement for females<br>Increase rates of withdrawals<br>Decrease male and female rates of disability |

The valuation assumes no members will elect to opt into the Hybrid Retirement Plan during the election window to be held January 1 through April 30, 2014.

We have prepared the Schedule of Funding Progress and Trend Information shown in the financial section of the Comprehensive Annual Financial Report and all supporting schedules, including the Schedule of Active Member Data, the Solvency Test and the Analysis of Financial Experience shown in the actuarial section of the Comprehensive Annual Financial Report. For completeness, the table of Changes in Unfunded Actuarial Accrued Liabilities in Section VII, the Solvency Test in Schedule A, and the Retiree and Beneficiary Data in Schedule H include the information with respect to the Political Subdivisions participating in VRS.

Our organization has only a contractual relationship with the Virginia Retirement System to provide actuarial consulting services and we do not provide other services to nor have a financial interest in the Virginia Retirement System. There are no known interests or relationships that our firm has with the Virginia Retirement System that may impair or appear to impair the objectivity of our work.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results 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. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.



December 19, 2013  
The Board of Trustees  
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The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,

A handwritten signature in blue ink, reading 'Thomas J. Cavanaugh' in a cursive style.

Thomas J. Cavanaugh, FSA, FCA, EA, MAAA  
Chief Executive Officer

A handwritten signature in blue ink, reading 'Jose I. Fernandez' in a cursive style.

Jose I. Fernandez, ASA, FCA, EA, MAAA  
Principal and Consulting Actuary



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**Section I – Summary of Principal Results**

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results for State Employees, Teachers, State Police, Judicial and Virginia Law Officers are summarized below. In addition, we present a summary of the valuation results for the political subdivisions.

**STATE EMPLOYEES  
(\$ IN THOUSANDS)**

| VALUATION DATE   | June 30, 2013          | June 30, 2012                     |
|--|------------------------|-----------------------------------|
| Members:   |                        |                                   |
| Active   | 75,879                 | 76,274                            |
| Long Term Disability                                     | 2,080                  | 2,106                             |
| Retirees and Beneficiaries                               | 55,658                 | 54,008                            |
| Inactive, Vested   | 11,289                 | 10,537                            |
| Inactive, Non-Vested                                     | 22,718                 | 21,055                            |
| Inactive, active elsewhere in VRS                        | <u>9,121</u>           | <u>9,245</u>                      |
| Total  | 176,745                | 173,225                           |
| Annual Covered Payroll                                   | \$ 3,716,548           | \$ 3,713,119                      |
| Annual Retirement Benefits                               | \$ 1,021,641           | \$ 967,750                        |
| Total Assets:  |                        |                                   |
| Actuarial Value  | \$ 13,714,404          | \$ 13,740,366                     |
| Market Value   | 14,502,362             | 13,469,215                        |
| Actuarial Accrued Liability                              | \$ 21,068,651          | \$ 20,944,258                     |
| Unfunded Actuarial Accrued Liability (UAAL)              |                        |                                   |
| 10-Year Payback of Deferred Contributions                | 236,520                | \$ 258,064                        |
| Balance of UAAL  | <u>7,117,727</u>       | <u>6,945,828</u>                  |
| Total UAAL   | \$ 7,354,247           | \$ 7,203,892                      |
| <b>RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*</b> | <b>2015 &amp; 2016</b> | <b>For Informational Purposes</b> |
| Employer Contribution Rate:                              |                        |                                   |
| Normal Cost (net of employee contributions)              | 4.28 %                 | 3.41 %                            |
| Amortization of Deferred Contributions                   | 1.00 %                 | 1.00 %                            |
| Amortization of Balance of UAAL                          | <u>10.51 %</u>         | <u>10.46 %</u>                    |
| Annual Recommended Contribution                          | 15.79 %                | 14.87 %                           |
| Amortization Period**                                    |                        |                                   |
| Deferred Contributions                                   | 8 years                | 9 years                           |
| Balance of UAAL  | 30 years               | 29 years                          |

\* The adopted contribution rate for fiscal years ending 2013 and 2014 is 8.76%.

\*\* The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(l)(6), is to be amortized using a level-dollar, closed, 10 year period.





Section I – Summary of Principal Results

**TEACHERS**  
**(\$ IN THOUSANDS)**

| VALUATION DATE   | June 30, 2013          | June 30, 2012                     |
|--|------------------------|-----------------------------------|
| Members:   |                        |                                   |
| Active   | 147,257                | 147,216                           |
| Retirees and Beneficiaries                               | 77,699                 | 74,169                            |
| Inactive, Vested   | 19,148                 | 17,922                            |
| Inactive, Non-Vested                                     | 30,249                 | 28,713                            |
| Inactive, active elsewhere in VRS                        | <u>5,391</u>           | <u>5,384</u>                      |
| Total  | 279,744                | 273,404                           |
| Annual Covered Payroll                                   | \$ 7,211,543           | \$ 7,004,577                      |
| Annual Retirement Benefits                               | \$ 1,720,924           | \$ 1,611,894                      |
| Total Assets:  |                        |                                   |
| Actuarial Value  | \$ 24,724,679          | \$ 24,391,761                     |
| Market Value   | 26,076,425             | 23,930,149                        |
| Actuarial Accrued Liability                              | \$ 39,852,334          | \$ 39,090,408                     |
| Unfunded Actuarial Accrued Liability (UAAL)              |                        |                                   |
| 10-Year Payback of Deferred Contributions                | \$ 634,026             | \$ 691,780                        |
| Balance of UAAL  | <u>14,493,629</u>      | <u>14,006,867</u>                 |
| Total UAAL   | \$ 15,127,655          | \$ 14,698,647                     |
| <b>RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*</b> | <b>2015 &amp; 2016</b> | <b>For Informational Purposes</b> |
| Employer Contribution Rate:                              |                        |                                   |
| Normal Cost (net of employee contributions)              | 5.78 %                 | 5.60 %                            |
| Amortization of Deferred Contributions                   | 1.38 %                 | 1.42 %                            |
| Amortization of Balance of UAAL                          | <u>11.03 %</u>         | <u>11.18 %</u>                    |
| Annual Recommended Contribution                          | 18.19 %                | 18.20 %                           |
| Amortization Period**                                    |                        |                                   |
| Deferred Contributions                                   | 8 years                | 9 years                           |
| Balance of UAAL  | 30 years               | 29 years                          |

\* The adopted contribution rate for fiscal years ending 2013 and 2014 is 11.66%

\*\* The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(I)(6), is to be amortized using a level-dollar, closed, 10 year period.



Section I – Summary of Principal Results

**STATE POLICE  
(\$ IN THOUSANDS)**

| VALUATION DATE   | June 30, 2013          | June 30, 2012                     |
|--|------------------------|-----------------------------------|
| Members:   |                        |                                   |
| Active   | 2,002                  | 1,881                             |
| Long-Term Disability                                     | 11                     | 9                                 |
| Retirees and Beneficiaries                               | 1,348                  | 1,327                             |
| Inactive, Vested   | 110                    | 96                                |
| Inactive, Non-Vested                                     | 141                    | 140                               |
| Inactive, active elsewhere in VRS                        | <u>206</u>             | <u>196</u>                        |
| Total  | 3,818                  | 3,649                             |
| Annual Covered Payroll                                   | \$ 109,006             | \$ 104,189                        |
| Annual Retirement Benefits                               | \$ 47,303              | \$ 45,844                         |
| Total Assets:  |                        |                                   |
| Actuarial Value  | \$ 591,983             | \$ 587,160                        |
| Market Value   | 625,562                | 575,468                           |
| Actuarial Accrued Liability                              | \$ 996,690             | \$ 1,013,278                      |
| Unfunded Actuarial Accrued Liability (UAAL)              |                        |                                   |
| 10-Year Payback of Deferred Contributions                | 19,706                 | \$ 21,501                         |
| Balance of UAAL  | <u>385,001</u>         | <u>404,617</u>                    |
| Total UAAL   | \$ 404,707             | \$ 426,118                        |
| <b>RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*</b> | <b>2015 &amp; 2016</b> | <b>For Informational Purposes</b> |
| Employer Contribution Rate:                              |                        |                                   |
| Normal Cost (net of employee contributions)              | 10.72 %                | 10.49 %                           |
| Amortization of Deferred Contributions                   | 2.83 %                 | 2.96 %                            |
| Amortization of Balance of UAAL                          | <u>19.38 %</u>         | <u>21.71 %</u>                    |
| Annual Recommended Contribution                          | 32.93 %                | 35.16 %                           |
| Amortization Period**                                    |                        |                                   |
| Deferred Contributions                                   | 8 years                | 9 years                           |
| Balance of UAAL  | 30 years               | 29 years                          |

\* The adopted contribution rate for fiscal years ending 2013 and 2014 is 24.74%

\*\* The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(I)(6), is to be amortized using a level-dollar, closed, 10 year period.



Section I – Summary of Principal Results

**JUDICIAL**  
**(\$ IN THOUSANDS)**

| VALUATION DATE   | June 30, 2013          | June 30, 2012                     |
|--|------------------------|-----------------------------------|
| Members:   |                        |                                   |
| Active   | 381                    | 380                               |
| Retirees and Beneficiaries                               | 503                    | 476                               |
| Inactive, Vested   | 6                      | 6                                 |
| Inactive, Non-Vested                                     | 1                      | 1                                 |
| Inactive, active elsewhere in VRS                        | <u>7</u>               | <u>4</u>                          |
| Total  | 898                    | 867                               |
| Annual Covered Payroll                                   | \$ 57,110              | \$ 56,958                         |
| Annual Retirement Benefits                               | \$ 35,303              | \$ 32,891                         |
| Total Assets:  |                        |                                   |
| Actuarial Value  | \$ 368,671             | \$ 361,097                        |
| Market Value   | 388,835                | 354,250                           |
| Actuarial Accrued Liability                              | \$ 590,626             | \$ 582,456                        |
| Unfunded Actuarial Accrued Liability (UAAL)              |                        |                                   |
| 10-Year Payback of Deferred Contributions                | \$ 12,329              | \$ 13,452                         |
| Balance of UAAL  | <u>209,626</u>         | <u>207,907</u>                    |
| Total UAAL   | \$ 221,955             | \$ 221,359                        |
| <b>RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*</b> | <b>2015 &amp; 2016</b> | <b>For Informational Purposes</b> |
| Employer Contribution Rate:                              |                        |                                   |
| Normal Cost (net of employee contributions)              | 34.31 %                | 31.39 %                           |
| Amortization of Deferred Contributions                   | 3.38 %                 | 3.39 %                            |
| Amortization of Balance of UAAL                          | <u>20.15 %</u>         | <u>20.40 %</u>                    |
| Annual Recommended Contribution                          | 57.84 %                | 55.18 %                           |
| Amortization Period**                                    |                        |                                   |
| Deferred Contributions                                   | 8 years                | 9 years                           |
| Balance of UAAL  | 30 years               | 29 years                          |

\* The adopted contribution rate for fiscal years ending 2013 and 2014 is 45.44%

\*\* The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(I)(6), is to be amortized using a level-dollar, closed, 10 year period.



Section I – Summary of Principal Results

**VIRGINIA LAW OFFICERS  
(\$ IN THOUSANDS)**

| VALUATION DATE   | June 30, 2013          | June 30, 2012                     |
|--|------------------------|-----------------------------------|
| Members:   |                        |                                   |
| Active   | 9,372                  | 9,383                             |
| Long Term Disability                                     | 546                    | 555                               |
| Retirees and Beneficiaries                               | 3,415                  | 3,075                             |
| Inactive, Vested   | 765                    | 630                               |
| Inactive, Non-Vested                                     | 3,502                  | 3,154                             |
| Inactive, active elsewhere in VRS                        | <u>2,181</u>           | <u>2,047</u>                      |
| Total  | 19,781                 | 18,844                            |
| Annual Covered Payroll                                   | \$ 342,154             | \$ 344,616                        |
| Annual Retirement Benefits                               | \$ 71,274              | \$ 63,962                         |
| Total Assets:  |                        |                                   |
| Actuarial Value  | \$ 941,933             | \$ 909,399                        |
| Market Value   | 992,031                | 894,916                           |
| Actuarial Accrued Liability                              | \$ 1,742,110           | \$ 1,753,014                      |
| Unfunded Actuarial Accrued Liability (UAAL)              |                        |                                   |
| 10-Year Payback of Deferred Contributions                | 40,637                 | \$ 44,339                         |
| Balance of UAAL  | <u>759,540</u>         | <u>799,276</u>                    |
| Total UAAL   | \$ 800,177             | \$ 843,615                        |
| <b>RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*</b> | <b>2015 &amp; 2016</b> | <b>For Informational Purposes</b> |
| Employer Contribution Rate:                              |                        |                                   |
| Normal Cost (net of employee contributions)              | 7.70 %                 | 6.49 %                            |
| Amortization of Deferred Contributions                   | 1.86 %                 | 1.85 %                            |
| Amortization of Balance of UAAL                          | <u>12.18 %</u>         | <u>12.96 %</u>                    |
| Annual Recommended Contribution                          | 21.74 %                | 21.30 %                           |
| Amortization Period**                                    |                        |                                   |
| Deferred Contributions                                   | 8 years                | 9 years                           |
| Balance of UAAL  | 30 years               | 29 years                          |

\* The adopted contribution rate for fiscal years ending 2013 and 2014 is 14.80%

\*\* The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(l)(6), is to be amortized using a level-dollar, closed, 10 year period.



Section I – Summary of Principal Results

**POLITICAL SUBDIVISIONS  
(\$ IN THOUSANDS)**

| VALUATION DATE   | June 30, 2013                         | June 30, 2012                         |
|--|---------------------------------------|---------------------------------------|
| Number of Political Subdivisions in VRS:                                     | 583                                   | 583                                   |
| Members:   |                                       |                                       |
| Active   | 105,141                               | 104,895                               |
| Long Term Disability   | 0                                     | 0                                     |
| Retirees and Beneficiaries*  | 52,793                                | 49,696                                |
| Inactive, Vested*  | 14,418                                | 12,837                                |
| Inactive, Non-Vested*  | 32,628                                | 30,344                                |
| Inactive, active elsewhere in VRS  | <u>27,579</u>                         | <u>27,058</u>                         |
| Total  | 232,559                               | 224,830                               |
| Annual Covered Payroll   | \$ 4,340,988                          | \$ 4,162,579                          |
| Annual Retirement Benefits   | \$ 695,251                            | \$ 634,291                            |
| Total Assets:**  |                                       |                                       |
| Actuarial Value  | \$ 13,685,498                         | \$ 13,079,788                         |
| Market Value   | 14,393,949                            | 12,867,357                            |
| Actuarial Accrued Liability**  | \$ 18,156,606                         | \$ 17,824,190                         |
| Unfunded Actuarial Accrued Liability (UAAL)**                                | 4,471,108                             | 4,744,402                             |
|  | <b>For Informational<br/>Purposes</b> | <b>For Informational<br/>Purposes</b> |
| Average Annual Contribution Rate<br>( <i>net of employee contributions</i> ) | 9.91 %                                | 11.11 %                               |
| Amortization Period  | 30 years                              | 29 years                              |

\* Includes count for each plan from which members are receiving pension benefits or entitled to deferred vested benefits. Therefore, members with benefits from more than one political subdivision are counted more than once. This does not include counts for Political Subdivisions with no active members.

\*\* Includes Political Subdivisions with no active members.



**Section I – Summary of Principal Results**

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- 2. Comments on the valuation results as of June 30, 2013 are given in Section IV and further discussion of the contribution level for each plan is set out in Section V.
  
- 3. Schedule B shows the development of the actuarial value of assets. Schedule D and Schedule E of this report outline the full set of actuarial assumptions and methods used in the current valuation. Changes to the actuarial assumptions since the previous valuation include:

| <b>STATE SYSTEM</b> | <b>ASSUMPTION CHANGE</b>  |
|---------------------|---|
| State               | Update mortality table<br>Decrease rates of service retirement<br>Decrease rates of withdrawals for less than 10 years of service<br>Decrease rates of male disability retirement<br>Reduce rates of salary increase by 0.25% per year  |
| Teachers            | Update mortality table<br>Adjustments to rates of service retirement<br>Decrease rates of withdrawals for three through nine years of service<br>Decrease rates of disability<br>Reduce rates of salary increase by 0.25% per year      |
| SPORS               | Update mortality table<br>Increase rate of service retirement at age 54   |
| VaLORS              | Update mortality table<br>Adjustments to rates of service retirement<br>Decrease rates of withdrawals for females under 10 years of service<br>Increase rates of disability<br>Decrease service related disability rate from 60% to 50% |
| Judicial            | Update mortality table  |



*Section I – Summary of Principal Results*

| POLITICAL SUBDIVISION SYSTEM         | ASSUMPTION CHANGE   |
|--------------------------------------|---|
| Largest 10 - Non-LEOS                | Update mortality table<br>Decrease rates of service retirement<br>Decrease rates of disability retirement<br>Reduce rates of salary increase by 0.25% per year    |
| Largest 10 - LEOS                    | Update mortality table<br>Decrease male rates of disability   |
| All Others (Non 10 largest) Non-LEOS | Update mortality table<br>Decrease rates of service retirement<br>Decrease rates of disability retirement<br>Reduce rates of salary increase by 0.25% per year    |
| All Others (Non 10 largest) LEOS     | Update mortality table<br>Adjustments to rates of service retirement for females<br>Increase rates of withdrawals<br>Decrease male and female rates of disability |

4. The valuation takes into account the effect of amendments to VRS through the valuation date. The main provisions of VRS, as summarized in Schedule F, were taken into account in the current valuation.
5. In accordance with the supplemental contribution provision of the 2011 Appropriations Act, Item 469(l)(6), the portion of the unfunded accrued liability with respect to deferred contributions for the 2010-2012 biennium will be paid back to the plans over a 10-year period. Below we provide an estimate of the deferred contributions as provided by VRS.

| DIVISION              | Deferred Contributions (\$ in thousands) |  |
|-----------------------|--|--|
|                       | Outstanding Balance as of 6/30/2013      | Deferred Contributions as of 6/30/2012 |
| State Employees       | \$ 236,520                               | \$ 258,064                             |
| Teachers              | 634,026                                  | 691,780                                |
| State Police          | 19,706                                   | 21,501                                 |
| Virginia Law Officers | 40,637                                   | 44,339                                 |
| Judicial              | 12,329                                   | 13,452                                 |
| Total                 | \$ 943,218                               | \$ 1,029,136                           |



**Section II – Membership Data**

- Data regarding the membership of VRS for use as a basis of the valuation was furnished by VRS. The following table shows the number of active members and their annual compensation as of June 30, 2013 on the basis of which the valuation was prepared.

**TABLE 1**

**THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF JUNE 30, 2013 (\$ IN THOUSANDS)**

| DIVISION               | NUMBER  | COMPENSATION |
|------------------------|---------|--------------|
| State Employees        | 75,879  | \$3,716,548  |
| Teachers               | 147,257 | 7,211,543    |
| State Police           | 2,002   | 109,006      |
| Judicial               | 381     | 57,110       |
| Virginia Law Officers  | 9,372   | 342,154      |
| Political Subdivisions | 105,141 | 4,340,988    |
| Total                  | 340,032 | \$15,777,349 |

- The following table shows a five-year history of active member valuation data. The data as of June 30, 2013, June 30, 2012 and June 30, 2011 includes the political subdivisions, while the data for valuation dates prior to June 30, 2011 does not include the political subdivisions.

**TABLE 2**

**SCHEDULE OF TOTAL ACTIVE MEMBER VALUATION DATA**

| VALUATION DATE | NUMBER  | ANNUAL PAYROLL (\$ IN THOUSANDS) | ANNUAL AVERAGE PAY | % CHANGE IN AVERAGE PAY |
|----------------|---------|----------------------------------|--------------------|-------------------------|
| 6/30/2013      | 340,032 | \$ 15,777,349                    | \$ 46,400          | 2.54 %                  |
| 6/30/2012      | 340,029 | 15,386,038                       | 45,249             | 0.50 %                  |
| 6/30/2011      | 338,120 | 15,223,687                       | 45,025             | (4.44)%                 |
| 6/30/2010      | 236,404 | 11,138,947                       | 47,118             | (0.19)%                 |
| 6/30/2009      | 239,437 | 11,303,072                       | 47,207             | 2.11 %                  |





Section II – Membership Data

- The following table shows the number and annual retirement benefits payable to retired members and survivors on the roll of VRS as of the valuation date.

**TABLE 3**  
**THE NUMBER AND ANNUAL RETIREMENT BENEFITS**  
**OF RETIRED MEMBERS AND SURVIVORS OF DECEASED MEMBERS**  
**ON THE ROLL AS OF JUNE 30, 2013**  
**(\$ IN THOUSANDS)**

| TYPE OF RETIREMENT | DIVISION        |             |              |          |                       |                         | TOTAL       |
|--------------------|-----------------|-------------|--------------|----------|-----------------------|-------------------------|-------------|
|                    | STATE EMPLOYEES | TEACHERS    | STATE POLICE | JUDICIAL | VIRGINIA LAW OFFICERS | POLITICAL SUBDIVISIONS* |             |
| Service:           |                 |             |              |          |                       |                         |             |
| Number             | 46,682          | 70,861      | 970          | 359      | 3,000                 | 41,503                  | 163,375     |
| Annual Benefits    | \$898,869       | \$1,596,578 | \$38,276     | \$28,757 | \$66,557              | \$548,629               | \$3,177,666 |
| Disability:        |                 |             |              |          |                       |                         |             |
| Number             | 4,341           | 4,243       | 193          | 1        | 222                   | 7,701                   | 16,701      |
| Annual Benefits    | \$66,707        | \$89,213    | \$6,012      | \$104    | \$3,155               | \$115,361               | \$280,552   |
| Survivors:         |                 |             |              |          |                       |                         |             |
| Number             | 4,635           | 2,595       | 185          | 143      | 193                   | 3,589                   | 11,340      |
| Annual Benefits    | \$56,065        | \$35,133    | \$3,015      | \$6,442  | \$1,562               | \$31,261                | \$133,478   |
| Total:             |                 |             |              |          |                       |                         |             |
| Number             | 55,658          | 77,699      | 1,348        | 503      | 3,415                 | 52,793                  | 191,416     |
| Annual Benefits    | \$1,021,641     | \$1,720,924 | \$47,303     | \$35,303 | \$71,274              | \$695,251               | \$3,591,696 |

\* Includes count for each plan from which members are receiving pension benefits or entitled to deferred vested benefits. Therefore, members with benefits from more than one political subdivision are counted more than once. This does not include counts for Political Subdivisions with no active members.

- The five tables of Schedule G, which can be found at the end of this document, show the distribution by age and service of the number and average annual compensation of active members for each division included in the valuation.



**Section III – Assets**

- Schedule C shows the additions and deductions to the assets of VRS for the year preceding the valuation date and a reconciliation of the fund balances at market value. As of June 30, 2013, the market value of assets used to determine the actuarial value of assets for each division is shown below:

**TABLE 4**

**COMPARISON OF MARKET VALUE OF ASSETS  
(\$ IN THOUSANDS)**

| <b>DIVISION</b>              | <b>JUNE 30, 2013 MARKET VALUE</b> | <b>JUNE 30, 2012 MARKET VALUE</b> |
|------------------------------|-----------------------------------|-----------------------------------|
| State Employees              | \$14,502,362                      | \$13,469,215                      |
| Teachers                     | 26,076,425                        | 23,930,149                        |
| State Police                 | 625,562                           | 575,468                           |
| Judicial                     | 388,835                           | 354,250                           |
| Virginia Law Officers        | 992,031                           | 894,916                           |
| Political Subdivisions       | <u>14,393,949</u>                 | <u>12,867,355</u>                 |
| Total Market Value of Assets | \$56,979,164                      | \$52,091,353                      |

- Schedule B shows the development of the actuarial value of assets as of June 30, 2013. The following table shows the actuarial value of assets allocated among all divisions.

**TABLE 5**

**COMPARISON OF ACTUARIAL VALUE OF ASSETS  
(\$ IN THOUSANDS)**

| <b>DIVISION</b>                 | <b>JUNE 30, 2013 ACTUARIAL VALUE</b> | <b>JUNE 30, 2012 ACTUARIAL VALUE</b> |
|---------------------------------|--------------------------------------|--------------------------------------|
| State Employees                 | \$13,714,404                         | \$13,740,366                         |
| Teachers                        | 24,724,679                           | 24,391,761                           |
| State Police                    | 591,983                              | 587,160                              |
| Judicial                        | 368,671                              | 361,097                              |
| Virginia Law Officers           | 941,933                              | 909,399                              |
| Political Subdivisions          | <u>13,685,498</u>                    | <u>13,079,788</u>                    |
| Total Actuarial Value of Assets | \$54,027,168                         | \$53,069,571                         |



## Section IV – Comments on Valuation

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### State Employees

1. The total valuation balance sheet on account of benefits as of June 30, 2013 shows that the State Employees plan has total prospective benefit liabilities of \$23,595,258,048, of which \$10,985,048,798 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$968,973,819 is for the prospective benefits payable on account of present inactive members, and \$11,641,235,431 is for the prospective benefits payable on account of present active members. Against these benefit liabilities the State Employees plan has a total present actuarial value of assets of \$13,714,404,000 as of June 30, 2013. The difference of \$9,880,854,048 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, \$1,389,750,529 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$8,491,103,519 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the State Employees plan on account of retirement benefits consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 4.28% of salary are required. This is net of the 5% employee contribution.
3. Prospective employer normal contributions at the above rate have a present value of \$1,136,856,729. When this amount is subtracted from \$8,491,103,519, which is the present value of the total future contributions to be made by the employers, there remains \$7,354,246,790 as the amount of future accrued liability contributions.
4. It is recommended that the accrued liability contribution rate payable by employers on account of retirement benefits be set at 11.51% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$7,354,246,790 over a closed 8-year period as level-dollar amounts with respect to the deferred contributions and over 30 years for the balance of the unfunded accrued liability, on the assumption that the aggregate payroll for State employees will increase by 3% each year.



## Section IV – Comments on Valuation

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### Teachers

1. The total valuation balance sheet on account of benefits as of June 30, 2013 shows that the Teachers plan has total prospective benefit liabilities of \$46,699,433,909, of which \$20,714,224,122 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$913,265,835 is for the prospective benefits payable on account of present inactive members, and \$25,071,943,952 is for the prospective benefits payable on account of present active members. Against these benefit liabilities the Teachers plan has a total present actuarial value of assets of \$24,724,679,000 as of June 30, 2013. The difference of \$21,974,754,909 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, \$3,263,797,144 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$18,710,957,765 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the Teachers plan on account of retirement benefits consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 5.78% of salary are required. This is net of the 5% employee contribution.
3. Prospective employer normal contributions at the above rate have a present value of \$3,583,302,667. When this amount is subtracted from \$18,710,957,765, which is the present value of the total future contributions to be made by the employers, there remains \$15,127,655,098 as the amount of future accrued liability contributions.
4. It is recommended that the accrued liability contribution rate payable by the employers on account of retirement benefits be set at 12.41% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$15,127,655,098 over a closed 8-year period as level-dollar amounts with respect to the deferred contributions and over 30 years for the balance of the unfunded accrued liability, on the assumption that the aggregate payroll for Teachers will increase by 3% each year.



## Section IV – Comments on Valuation

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### **State Police (SPORS)**

1. The total valuation balance sheet on account of benefits as of June 30, 2013 shows that the SPORS plan has total prospective benefit liabilities of \$1,148,539,576, of which \$531,117,308 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$16,998,105 is for the prospective benefits payable on account of present inactive members, and \$600,424,163 is for the prospective benefits payable on account of present active members. Against these benefit liabilities SPORS has a total present actuarial value of assets of \$591,983,000 as of June 30, 2013. The difference of \$556,556,576 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, \$47,398,824 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$509,157,752 represents the present value of future contributions payable by the employers.
2. The employers' contributions to SPORS on account of retirement benefits consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 10.72% of salary are required. This is net of the 5% employee contribution.
3. Prospective employer normal contributions at the above rate have a present value of \$104,451,197. When this amount is subtracted from \$509,157,752, which is the present value of the total future contributions to be made by the employers, there remains \$404,706,555 as the amount of future accrued liability contributions.
4. It is recommended that the accrued liability contribution rate payable by the employers on account of retirement benefits be set at 22.21% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$404,706,555 over a closed 8-year period as level-dollar amounts with respect to the deferred contributions and over 30 years for the balance of the unfunded accrued liability, on the assumption that the aggregate payroll for SPORS employees will increase by 3% each year.



## Section IV – Comments on Valuation

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### Judicial

1. The total valuation balance sheet on account of benefits as of June 30, 2013 shows that the Judicial plan has total prospective benefit liabilities of \$722,847,418, of which \$355,479,536 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$4,990,617 is for the prospective benefits payable on account of present inactive members, and \$362,377,265 is for the prospective benefits payable on account of present active members. Against these benefit liabilities the Judicial plan has a total present actuarial value of assets of \$368,671,000 as of June 30, 2013. The difference of \$354,176,418 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, \$17,810,363 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$336,366,055 represents the present value of future contributions payable by the employers.
2. The employers' contributions to the Judicial plan on account of retirement benefits consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 34.31% of salary are required. This is net of the 5% employee contribution.
3. Prospective employer normal contributions at the above rate have a present value of \$114,411,175. When this amount is subtracted from \$336,366,055, which is the present value of the total future contributions to be made by the employers, there remains \$221,954,880 as the amount of future accrued liability contributions.
4. It is recommended that the accrued liability contribution rate payable by employers on account of retirement benefits be set at 23.53% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$221,954,880 over a closed 8-year period as level-dollar amounts with respect to the deferred contributions and over 30 years for the balance of the unfunded accrued liability, on the assumption that the aggregate payroll for Judicial employees will increase by 3% each year.



## Section IV – Comments on Valuation

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### Virginia Law Officers (VaLORS)

1. The total valuation balance sheet on account of benefits as of June 30, 2013 shows that VaLORS has total prospective benefit liabilities of \$2,014,783,688, of which \$810,355,237 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$106,530,464 is for the prospective benefits payable on account of present inactive members, and \$1,097,897,987 is for the prospective benefits payable on account of present active members. Against these benefit liabilities VaLORS has a total present actuarial value of assets of \$941,933,000 as of June 30, 2013. The difference of \$1,072,850,688 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits. Of this amount, \$110,406,730 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$962,443,958 represents the present value of future contributions payable by the employers.
2. The employers' contributions to VaLORS on account of retirement benefits consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 7.70% of salary are required. This is net of the 5% employee contribution.
3. Prospective employer normal contributions at the above rate have a present value of \$162,266,785. When this amount is subtracted from \$962,443,958, which is the present value of the total future contributions to be made by the employers, there remains \$800,177,173 as the amount of future accrued liability contributions.
4. It is recommended that the accrued liability contribution rate payable by employers on account of retirement benefits be set at 14.04% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$800,177,173 over a closed 8-year period as level-dollar amounts with respect to the deferred contributions and over 30 years for the balance of the unfunded accrued liability, on the assumption that the aggregate payroll for VaLORS employees will increase by 3% each year.



Section V – Contribution Rates

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1. The actuarially determined employer contribution rates as a percent of payroll for each division based on the June 30, 2013 actuarial valuation are shown in the following table:

**TABLE 6**

| <b>Division</b>       | <b>Employer Contribution Rate</b> |
|-----------------------|-----------------------------------|
| State Employees       | 15.79%                            |
| Teachers              | 18.19                             |
| State Police          | 32.93                             |
| Judicial              | 57.84                             |
| Virginia Law Officers | 21.74                             |

The rates shown are net of 5% member contributions.





**Section V – Contribution Rates**

2. The table below shows the development of the normal contribution rate, the unfunded accrued liability (UAL), amortization period and the actuarially recommended contribution rate for each division as of June 30, 2013.

**TABLE 7  
EMPLOYER CONTRIBUTION RATE  
EXPRESSED AS PERCENT OF ACTIVE MEMBER PAYROLL**

|   | State Employees | Teachers     | State Police | Judicial     | Virginia Law Officers |
|---|-----------------|--------------|--------------|--------------|-----------------------|
| <u>Contribution for</u>   |                 |              |              |              |                       |
| Normal Cost   |                 |              |              |              |                       |
| Service Retirement Benefits   | 6.64%           | 8.67%        | 12.58%       | 33.59%       | 7.44%                 |
| Disability Benefits   | 0.89%           | 0.52%        | 1.08%        | 4.68%        | 2.10%                 |
| Survivor Benefits   | 0.26%           | 0.16%        | 0.67%        | 1.04%        | 0.39%                 |
| Separation Benefits   | <u>1.49%</u>    | <u>1.43%</u> | <u>1.39%</u> | <u>0.00%</u> | <u>2.77%</u>          |
| Total   | 9.28%           | 10.78%       | 15.72%       | 39.31%       | 12.70%                |
| Member Current Contributions  | <u>5.00%</u>    | <u>5.00%</u> | <u>5.00%</u> | <u>5.00%</u> | <u>5.00%</u>          |
| Employer Normal Cost  | 4.28%           | 5.78%        | 10.72%       | 34.31%       | 7.70%                 |
| Amortization of UAAL ( <i>net of deferred contributions</i> ) *                         | 1.00%           | 1.38%        | 2.83%        | 3.38%        | 1.86%                 |
| Amortization of Deferred Contributions *  | 10.51%          | 11.03%       | 19.38%       | 20.15%       | 12.18%                |
| Actuarially Recommended Employer Contribution Rate to pay Normal Cost and amortize UAAL | 15.79%          | 18.19%       | 32.93%       | 57.84%       | 21.74%                |

\* The amortization period of the unfunded less the deferred contribution begins at 30 years on June 30, 2013 and will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(I)(6), is to be amortized using a level-dollar, closed, 10 year period.



**Section VI – Accounting Information**

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of VRS and the employer. One such item is a distribution of the number of members by type of membership, as follows:

**NUMBER OF ALL MEMBERS  
AS OF June 30, 2013**

| GROUP                         | COUNT           |                |              |            |                       |                        |
|-------------------------------|-----------------|----------------|--------------|------------|-----------------------|------------------------|
|                               | State Employees | Teachers       | State Police | Judicial   | Virginia Law Officers | Political Subdivisions |
| Active Members                | 75,879          | 147,257        | 2,002        | 381        | 9,372                 | 105,141                |
| LTD                           | 2,080           | 0              | 11           | 0          | 546                   | 0                      |
| <b>Total Active Members</b>   | <b>77,959</b>   | <b>147,257</b> | <b>2,013</b> | <b>381</b> | <b>9,918</b>          | <b>105,141</b>         |
| Inactive Members              |                 |                |              |            |                       |                        |
| Vested                        | 11,289          | 19,148         | 110          | 6          | 765                   | 14,418                 |
| Non-Vested                    | 22,718          | 30,249         | 141          | 1          | 3,502                 | 32,628                 |
| Active Elsewhere in VRS       | 9,121           | 5,391          | 206          | 7          | 2,181                 | 27,579                 |
| <b>Total Inactive Members</b> | <b>43,128</b>   | <b>54,788</b>  | <b>457</b>   | <b>14</b>  | <b>6,448</b>          | <b>74,625</b>          |
| Retirees                      |                 |                |              |            |                       |                        |
| Service                       | 46,682          | 70,861         | 970          | 359        | 3,000                 | 41,503                 |
| Disabled                      | 4,341           | 4,243          | 193          | 1          | 222                   | 7,701                  |
| Beneficiaries                 | 4,635           | 2,595          | 185          | 143        | 193                   | 3,589                  |
| <b>Total Retirees</b>         | <b>55,658</b>   | <b>77,699</b>  | <b>1,348</b> | <b>503</b> | <b>3,415</b>          | <b>52,793</b>          |
| <b>Totals</b>                 | <b>176,745</b>  | <b>279,744</b> | <b>3,818</b> | <b>898</b> | <b>19,781</b>         | <b>232,559</b>         |



Section VI – Accounting Information

2. Another such item is the schedule of funding progress as shown below.

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

| Actuarial Valuation Date      | Actuarial Value of Plan Assets (a) | Actuarial Liability (AAL) Entry Age (b) | Unfunded AAL (UAAL) (b - a) | Funded Ratio (a / b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll (( b - a ) / c) |
|-------------------------------|------------------------------------|---|-----------------------------|----------------------|---------------------|---|
| <b>STATE EMPLOYEES</b>        |                                    |   |                             |                      |                     |   |
| 6/30/2013                     | \$13,714,404                       | \$21,068,651                            | \$7,354,247                 | 65.1 %               | \$3,716,548         | 197.9 %   |
| 6/30/2012                     | 13,740,366                         | 20,944,258                              | 7,203,892                   | 65.6 %               | 3,713,119           | 194.0 %   |
| 6/30/2011                     | 14,406,275                         | 20,407,958                              | 6,001,683                   | 70.6 %               | 3,686,259           | 162.8 %   |
| 6/30/2010                     | 14,700,854                         | 19,539,453                              | 4,838,599                   | 75.2 %               | 3,514,396           | 137.7 %   |
| 6/30/2009                     | 15,049,901                         | 17,925,879                              | 2,875,978                   | 84.0 %               | 3,619,478           | 79.5 %  |
| 6/30/2008                     | 15,046,348                         | 17,096,942                              | 2,050,594                   | 88.0 %               | 3,640,692           | 56.3 %  |
| <b>TEACHERS</b>               |                                    |   |                             |                      |                     |   |
| 6/30/2013                     | \$24,724,679                       | \$39,852,334                            | \$15,127,655                | 62.0 %               | \$7,211,543         | 209.8 %   |
| 6/30/2012                     | 24,391,761                         | 39,090,408                              | 14,698,647                  | 62.4 %               | 7,004,577           | 209.8 %   |
| 6/30/2011                     | 25,166,124                         | 37,771,732                              | 12,605,608                  | 66.6 %               | 6,922,130           | 182.1 %   |
| 6/30/2010                     | 25,447,677                         | 37,088,576                              | 11,640,899                  | 68.6 %               | 7,119,889           | 163.5 %   |
| 6/30/2009                     | 25,764,665                         | 33,860,514                              | 8,095,849                   | 76.1 %               | 7,160,842           | 113.1 %   |
| 6/30/2008                     | 25,502,482                         | 31,958,321                              | 6,455,839                   | 79.8 %               | 6,896,432           | 93.6 %  |
| <b>STATE POLICE</b>           |                                    |   |                             |                      |                     |   |
| 6/30/2013                     | \$591,983                          | \$996,690                               | \$404,707                   | 59.4 %               | \$109,006           | 371.3 %   |
| 6/30/2012                     | 587,160                            | 1,013,278                               | 426,118                     | 57.9 %               | 104,189             | 409.0 %   |
| 6/30/2011                     | 616,603                            | 985,704                                 | 369,101                     | 62.6 %               | 99,669              | 370.3 %   |
| 6/30/2010                     | 633,415                            | 948,892                                 | 315,477                     | 66.8 %               | 97,601              | 323.2 %   |
| 6/30/2009                     | 646,960                            | 879,180                                 | 232,220                     | 73.6 %               | 100,974             | 230.0 %   |
| 6/30/2008                     | 646,277                            | 844,195                                 | 197,918                     | 76.6 %               | 102,466             | 193.2 %   |
| <b>JUDICIAL</b>               |                                    |   |                             |                      |                     |   |
| 6/30/2013                     | \$368,671                          | \$590,626                               | \$221,955                   | 62.4 %               | \$57,110            | 388.6 %   |
| 6/30/2012                     | 361,097                            | 582,456                                 | 221,359                     | 62.0 %               | 56,958              | 388.6 %   |
| 6/30/2011                     | 371,051                            | 569,494                                 | 198,443                     | 65.2 %               | 58,919              | 336.8 %   |
| 6/30/2010                     | 372,096                            | 559,920                                 | 187,824                     | 66.5 %               | 61,021              | 307.8 %   |
| 6/30/2009                     | 378,212                            | 521,463                                 | 143,251                     | 72.5 %               | 62,709              | 228.4 %   |
| 6/30/2008                     | 373,850                            | 494,768                                 | 120,918                     | 75.6 %               | 60,486              | 199.9 %   |
| <b>VIRGINIA LAW OFFICERS</b>  |                                    |   |                             |                      |                     |   |
| 6/30/2013                     | \$941,933                          | \$1,742,110                             | \$800,177                   | 54.1 %               | \$342,154           | 233.9 %   |
| 6/30/2012                     | 909,399                            | 1,753,014                               | 843,615                     | 51.9 %               | 344,616             | 244.8 %   |
| 6/30/2011                     | 926,082                            | 1,683,191                               | 757,109                     | 55.0 %               | 356,240             | 212.5 %   |
| 6/30/2010                     | 925,443                            | 1,579,321                               | 653,878                     | 58.6 %               | 346,040             | 189.0 %   |
| 6/30/2009                     | 912,922                            | 1,411,844                               | 498,922                     | 64.7 %               | 359,070             | 138.9 %   |
| 6/30/2008                     | 873,473                            | 1,281,477                               | 408,004                     | 68.2 %               | 368,255             | 110.8 %   |
| <b>POLITICAL SUBDIVISIONS</b> |                                    |   |                             |                      |                     |   |
| 6/30/2013                     | \$ 13,685,498                      | \$ 18,156,606                           | \$4,471,108                 | 75.4 %               | \$ 4,340,988        | 103.0 %   |
| 6/30/2012                     | \$ 13,079,788                      | \$ 17,824,190                           | \$4,744,402                 | 73.4 %               | \$ 4,162,579        | 114.0 %   |
| 6/30/2011                     | \$ 12,986,598                      | \$ 17,005,070                           | \$4,018,472                 | 76.4 %               | \$ 4,100,470        | 98.0 %  |



**Section VI – Accounting Information**

3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2013.

|                                    | State Employees        | Teachers               | State Police           | Judicial               | Virginia Law Officers  | Political Subdivisions  |
|------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---|
| Valuation Date                     | 6/30/2013              | 6/30/2013              | 6/30/2013              | 6/30/2013              | 6/30/2013              | 6/30/2013   |
| Actuarial cost method              | Entry Age Normal       | Entry Age Normal       | Entry Age Normal       | Entry Age Normal       | Entry Age Normal       | Entry Age Normal  |
| Amortization method*               | Level percent, open    | Level percent, open    | Level percent, open    | Level percent, open    | Level percent, open    | Level percent, open   |
| Payroll Growth Rate                | 3.00%                  | 3.00%                  | 3.00%                  | 3.00%                  | 3.00%                  | 3.00%   |
| Remaining amortization period      | 8 and 30 years*        | 8 and 30 years*        | 8 and 30 years*        | 8 and 30 years*        | 8 and 30 years*        | 30 years*   |
| Asset valuation method             | 5 year Smoothed Market | 5 year Smoothed Market | 5 year Smoothed Market | 5 year Smoothed Market | 5 year Smoothed Market | 5 year Smoothed Market  |
| Actuarial assumptions:             |                        |                        |                        |                        |                        |   |
| Investment rate of return**        | 7.00%                  | 7.00%                  | 7.00%                  | 7.00%                  | 7.00%                  | 7.00%   |
| Projected salary increases**       | 3.50 – 5.35%           | 3.50 – 5.95%           | 3.50 – 4.75%           | 4.50%                  | 3.50 – 4.75%           | 3.50 – 5.35%<br>General Employees<br>3.5% - 4.75% Public Safety |
| Post-Retirement Benefit Increases: | compounded annually    | compounded annually    | compounded annually    | compounded annually    | compounded annually    | compounded annually   |
| Plan 1                             | 2.50%                  | 2.50%                  | 2.50%                  | 2.50%                  | 2.50%                  | 2.50%   |
| Plan 2                             | 2.25%                  | 2.25%                  | 2.25%                  | 2.25%                  | 2.25%                  | 2.25%   |

\* For non political subdivisions:

The amortization period of the unfunded less the deferred contribution begins at 30 years on June 30, 2013 and will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(l)(6), is to be amortized using a level-dollar, closed, 10 year period beginning June 30, 2011.

For political subdivisions:

The amortization period of the unfunded begins at 30 years on June 30, 2013 and will decrease by one each year until reaching 0 years

\*\* Includes inflation at 2.50%.



Section VI – Accounting Information

**SCHEDULE OF ADOPTED EMPLOYER CONTRIBUTIONS**

| Fiscal Year End              | ARC \$      | ARC %<br>(Percent of Payroll) | % of ARC Contributed | Statutory Required Contribution Paid \$ | Statutory Required Contribution %<br>(Percent of Payroll) | % Statutory Contribution Contributed |
|------------------------------|-------------|-------------------------------|----------------------|---|---|--------------------------------------|
| <b>State</b>                 |             |                               |                      |   |   |                                      |
| 2013                         | \$485,577   | 13.07%                        | 67.02%               | \$325,451                               | 8.76%   | 100%                                 |
| 2012                         | 309,930     | 8.46%                         | 37.98%               | 117,696                                 | 3.21%   | 100%                                 |
| 2011                         | 294,363     | 8.46%                         | 25.18%               | 74,113                                  | 2.13%   | 100%                                 |
| 2010                         | 285,209     | 8.02%                         | 61.97%               | 176,751                                 | 6.26%   | 100%                                 |
| 2009                         | 290,653     | 8.02%                         | 77.68%               | 225,782                                 | 6.23%   | 100%                                 |
| <b>Teachers</b>              |             |                               |                      |   |   |                                      |
| 2013                         | \$1,203,856 | 16.77%                        | 69.53%               | \$837,028                               | 11.66%  | 100%                                 |
| 2012                         | 903,655     | 12.91%                        | 49.03%               | 443,078                                 | 6.33%   | 100%                                 |
| 2011                         | 891,237     | 12.91%                        | 30.44%               | 271,306                                 | 3.93%   | 100%                                 |
| 2010                         | 839,550     | 11.84%                        | 53.63%               | 450,218                                 | 8.81%   | 100%                                 |
| 2009                         | 845,999     | 11.84%                        | 74.41%               | 629,497                                 | 8.81%   | 100%                                 |
| <b>State Police</b>          |             |                               |                      |   |   |                                      |
| 2013                         | \$34,535    | 32.62%                        | 75.84%               | \$26,193                                | 24.74%  | 100%                                 |
| 2012                         | 26,250      | 25.56%                        | 43.58%               | 11,441                                  | 11.09%  | 100%                                 |
| 2011                         | 24,570      | 25.56%                        | 30.36%               | 7,460                                   | 7.76%   | 100%                                 |
| 2010                         | 23,791      | 24.09%                        | 66.05%               | 15,714                                  | 20.05%  | 100%                                 |
| 2009                         | 24,241      | 24.09%                        | 83.23%               | 20,175                                  | 20.05%  | 100%                                 |
| <b>Judicial</b>              |             |                               |                      |   |   |                                      |
| 2013                         | \$32,185    | 54.11%                        | 83.98%               | \$27,028                                | 45.44%  | 100%                                 |
| 2012                         | 27,631      | 46.79%                        | 68.43%               | 18,907                                  | 32.13%  | 100%                                 |
| 2011                         | 28,101      | 46.79%                        | 61.57%               | 17,303                                  | 28.81%  | 100%                                 |
| 2010                         | 23,638      | 38.04%                        | 72.20%               | 17,065                                  | 34.51%  | 100%                                 |
| 2009                         | 23,148      | 38.04%                        | 90.72%               | 21,000                                  | 34.51%  | 100%                                 |
| <b>Virginia Law Officers</b> |             |                               |                      |   |   |                                      |
| 2013                         | \$66,463    | 19.52%                        | 75.82%               | \$50,392                                | 14.80%  | 100%                                 |
| 2012                         | 55,306      | 15.93%                        | 44.27%               | 24,481                                  | 7.08%   | 100%                                 |
| 2011                         | 53,686      | 15.93%                        | 32.14%               | 17,255                                  | 5.12%   | 100%                                 |
| 2010                         | 57,894      | 16.78%                        | 67.41%               | 39,027                                  | 14.23%  | 100%                                 |
| 2009                         | 60,059      | 16.78%                        | 84.80%               | 50,932                                  | 14.23%  | 100%                                 |

\* Reported in the Comprehensive Annual Financial Report as a percentage of Covered Payroll, including revisions adopted by the General Assembly of the actuarially determined rates. The statutory required contribution percentages for the fiscal year ending in 2013 are a blend of a rate payable for nine months and three months at another rate.



Section VII – Derivation of Experience Gains and Losses

**CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITIES (UAAL)  
DURING FISCAL YEAR 2013  
(\$ IN THOUSANDS)**

|  | State Employees | Teachers      | State Police | Judicial    | Virginia Law Officers | Local Agencies | Total          |
|--|-----------------|---------------|--------------|-------------|-----------------------|----------------|----------------|
| <b>A. Calculation of Expected Unfunded Actuarial Accrued Liability</b> |                 |               |              |             |                       |                |                |
| 1. UAAL as of June 30, 2012  | \$ 7,203,892    | \$ 14,698,647 | \$ 426,118   | \$ 221,359  | \$ 843,615            | \$ 4,744,402   | \$ 28,138,033  |
| 2. Normal Cost for previous year                                       | 312,456         | 742,659       | 16,143       | 20,727      | 39,594                | 491,644        | 1,623,223      |
| 3. Actual contributions during the year                                | (519,803)       | (1,204,697)   | (31,553)     | (30,000)    | (67,681)              | (746,400)      | (2,600,134)    |
| 4. Interest at previous year's rate of 0.07                            |                 |               |              |             |                       |                |                |
| a. on UAAL   | 504,272         | 1,028,905     | 29,828       | 15,495      | 59,053                | 332,108        | 1,969,661      |
| b. on normal cost  | 21,872          | 51,986        | 1,130        | 1,451       | 2,772                 | 34,415         | 113,626        |
| c. on contributions  | (18,193)        | (42,164)      | (1,104)      | (1,050)     | (2,369)               | (26,124)       | (91,004)       |
| d. total: (a)+(b)+(c)  | \$ 507,951      | \$ 1,038,727  | \$ 29,854    | \$ 15,896   | \$ 59,456             | \$ 340,399     | \$ 1,992,283   |
| 5. Expected UAAL as of June 30, 2013<br>A1+A2+A3+A4                    | 7,504,496       | 15,275,336    | 440,562      | 227,982     | 874,984               | 4,830,045      | 29,153,405     |
| 6. Actual UAAL as of June 30, 2013                                     | 7,354,247       | 15,127,655    | 404,707      | 221,955     | 800,177               | 4,471,108      | 28,379,849     |
| 7. Total Gain/(Loss): A5-A6  | \$ 150,249      | \$ 147,681    | \$ 35,855    | \$ 6,027    | \$ 74,807             | \$ 358,937     | \$ 773,556     |
| <b>B. Calculation of Asset Gain/(Loss)</b>                             |                 |               |              |             |                       |                |                |
| 1. Actuarial Value of Assets (AVA) as of June 30, 2012                 | \$ 13,740,366   | \$ 24,391,761 | \$ 587,160   | \$ 361,097  | \$ 909,399            | \$ 13,079,789  | \$ 53,069,572  |
| 2. Contributions during the year                                       | \$ 519,803      | \$ 1,204,697  | \$ 31,553    | \$ 30,000   | \$ 67,681             | \$ 746,400     | \$ 2,600,134   |
| 3. Benefit payments during the year                                    | (1,044,558)     | (1,816,700)   | (48,248)     | (36,800)    | (75,224)              | (732,549)      | (3,754,079)    |
| 4. Interest at previous year's rate of 0.07                            |                 |               |              |             |                       |                |                |
| a. on AVA at beginning of year   | \$ 961,826      | \$ 1,707,423  | \$ 41,101    | \$ 25,277   | \$ 63,658             | \$ 915,585     | \$ 3,714,870   |
| b. on contributions  | 18,193          | 42,164        | 1,104        | 1,050       | 2,369                 | 26,124         | 91,004         |
| c. on benefit payments   | (36,560)        | (63,585)      | (1,689)      | (1,288)     | (2,633)               | (25,639)       | (131,394)      |
| d. total: (a)+(b)+(c)  | \$ 943,459      | \$ 1,686,002  | \$ 40,516    | \$ 25,039   | \$ 63,394             | \$ 916,070     | \$ 3,674,480   |
| 5. Expected AVA as of June 30, 2013<br>B1+B2+B3+B4                     | 14,159,070      | 25,465,760    | 610,981      | 379,336     | 965,250               | 14,009,710     | 55,590,107     |
| 6. Actual AVA as of June 30, 2013                                      | 13,714,404      | 24,724,679    | 591,983      | 368,671     | 941,933               | 13,685,498     | 54,027,168     |
| 7. Gain/(Loss) on assets: B6-B5  | \$ (444,666)    | \$ (741,081)  | \$ (18,998)  | \$ (10,665) | \$ (23,317)           | \$ (324,212)   | \$ (1,562,939) |
| <b>C. Calculation of Liability Gain/(Loss)</b>                         |                 |               |              |             |                       |                |                |
| 1. Gain/(Loss) due to changes in actuarial assumptions                 | 46,209          | 214,181       | 40,272       | (2,832)     | 61,264                | 554,166        | \$ 913,260     |
| 2. Gain/(Loss) due to plan amendments                                  | 0               | 0             | 0            | 0           |                       | (2,342)        | (2,342)        |
| 3. Gain/(Loss) due to change in methods                                | 404,248         | 664,174       | 4,889        | 7,384       | 38,099                | 408,425        | 1,527,219      |
| 4. Liability Experience Gain/(Loss):<br>A7-B7-C1-C2                    | \$ 144,458      | \$ 10,407     | \$ 9,692     | \$ 12,140   | \$ (1,239)            | \$ (277,100)   | \$ (101,642)   |



Section VII – Derivation of Experience Gains and Losses

**GAINS & LOSSES  
DURING FISCAL YEAR 2013  
(\$ IN MILLIONS)**

| Type of Activity   | State Employees | Teachers  | State Police | Judges   | Virginia Law Officers | Political Subdivisions |
|--|-----------------|-----------|--------------|----------|-----------------------|------------------------|
| <b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.   | \$31.3          | \$160.9   | \$5.3        | \$7.3    | (\$12.8)              | (\$42.4)               |
| <b>Disability Before Retirement.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.  | (\$19.3)        | \$7.9     | (\$0.7)      | \$1.4    | \$0.0                 | (\$34.1)               |
| <b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.  | \$0.8           | (\$8.9)   | \$0.3        | \$0.3    | \$1.3                 | \$3.4                  |
| <b>Withdrawal from Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.   | (\$49.8)        | (\$142.7) | (\$1.2)      | \$0.7    | (\$5.2)               | (\$19.8)               |
| <b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.  | \$201.6         | \$7.0     | \$9.0        | \$6.9    | \$19.8                | (\$112.4)              |
| <b>New Members.</b> Additional unfunded accrued liability will produce a loss.   | (\$5.6)         | (\$32.1)  | (\$0.1)      | (\$1.4)  | (\$0.7)               | (\$11.1)               |
| <b>Death after Retirement.</b> If retirees live longer than assumed, there is a loss. If not as long, a gain.  | (\$35.0)        | (\$25.1)  | (\$2.3)      | (\$3.7)  | (\$0.5)               | \$37.0                 |
| <b>Data and Other Adjustments.</b>   | (\$20.7)        | (\$5.9)   | (\$1.6)      | \$0.4    | \$5.2                 | (\$87.2)               |
| <b>Benefit Payments.</b> If benefit payments are greater than expected, there is a loss. If the benefits payments are less, a gain.  | (\$2.7)         | (\$30.1)  | (\$1.3)      | (\$1.0)  | (\$3.9)               | (\$41.1)               |
| <b>Cost of Living Allowance (COLA).</b> If COLA is greater than expected, there is a loss. If COLA is less, a gain.  | \$44.0          | \$79.3    | \$2.3        | \$1.4    | (\$4.4)               | \$30.8                 |
| <b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.   | (\$444.7)       | (\$741.1) | (\$19.0)     | (\$10.7) | (\$23.3)              | (\$324.2)              |
| <b>Gain or (Loss) During Year</b>  | (\$300.1)       | (\$730.8) | (\$9.3)      | \$1.6    | (\$24.5)              | (\$601.1)              |
| <b>Non-Recurring Items.</b> Adjustments for plan amendments, assumption changes, etc.  | 450.5           | 878.4     | 45.2         | 4.6      | 99.4                  | \$960.2                |
| <b>Expected Contributions vs. Actual Contributions.</b> If the difference in the actual contribution to the plan is more or less than what was expected based on the previous valuation then there will be a gain or loss associated with this difference. | (251.5)         | (491.9)   | (12.1)       | (5.6)    | (26.9)                | (\$38.2)               |
| <b>Total Gain or (Loss) During Year</b>  | (\$101.2)       | (\$344.3) | \$23.7       | \$0.5    | \$48.0                | \$320.9                |



Schedule A – Balance Sheet

**STATE EMPLOYEES**  
**As Of June 30, 2013**

| <b>PRESENT AND PROSPECTIVE ASSETS</b>   |    |                              |
|---|----|------------------------------|
| Actuarial Value of Assets   | \$ | 13,714,404,000               |
| Present value of future members' contributions  |    | 1,389,750,529                |
| Present value of future employer contributions  |    |                              |
| Normal contributions  | \$ | 1,136,856,729                |
| Unfunded accrued liability contributions  |    | <u>7,354,246,790</u>         |
| Total prospective employer contributions  |    | <u>8,491,103,519</u>         |
| Total Present and Prospective Assets  | \$ | <u><u>23,595,258,048</u></u> |
| <b>ACTUARIAL LIABILITIES</b>  |    |                              |
| Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits | \$ | 10,985,048,798               |
| Present value of prospective benefits payable on account of inactive members  |    | 968,973,819                  |
| Present value of prospective benefits payable on account of present active members:   |    |                              |
| Service retirement benefits   | \$ | 10,626,410,963               |
| Disability retirement benefits  |    | 460,806,527                  |
| Survivor benefits   |    | 256,876,492                  |
| Separation benefits   |    | <u>297,141,449</u>           |
| Total   |    | <u>11,641,235,431</u>        |
| Total Actuarial Liabilities   | \$ | <u><u>23,595,258,048</u></u> |





Schedule A – Balance Sheet

**TEACHERS**  
As Of June 30, 2013

| <b>PRESENT AND PROSPECTIVE ASSETS</b>   |                       |                          |
|---|-----------------------|--------------------------|
| Actuarial Value of Assets   |                       | \$ 24,724,679,000        |
| Present value of future members' contributions  |                       | 3,263,797,144            |
| Present value of future employer contributions  |                       |                          |
| Normal contributions  | \$ 3,583,302,667      |                          |
| Unfunded accrued liability contributions  | <u>15,127,655,098</u> |                          |
| Total prospective employer contributions  |                       | <u>18,710,957,765</u>    |
| Total Present and Prospective Assets  |                       | <u>\$ 46,699,433,909</u> |
| <b>ACTUARIAL LIABILITIES</b>  |                       |                          |
| Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits |                       | \$ 20,714,224,122        |
| Present value of prospective benefits payable on account of inactive members  |                       | 913,265,835              |
| Present value of prospective benefits payable on account of present active members:   |                       |                          |
| Service retirement benefits   | \$ 23,467,875,285     |                          |
| Disability retirement benefits  | 567,874,858           |                          |
| Survivor benefits   | 295,091,301           |                          |
| Separation benefits   | <u>741,102,508</u>    |                          |
| Total   |                       | <u>25,071,943,952</u>    |
| Total Actuarial Liabilities   |                       | <u>\$ 46,699,433,909</u> |



Schedule A – Balance Sheet

**STATE POLICE**  
As Of June 30, 2013

| <b>PRESENT AND PROSPECTIVE ASSETS</b>   |    |                             |
|---|----|-----------------------------|
| Actuarial Value of Assets   | \$ | 591,983,000                 |
| Present value of future members' contributions  |    | 47,398,824                  |
| Present value of future employer contributions  |    |                             |
| Normal contributions  | \$ | 104,451,197                 |
| Unfunded accrued liability contributions  |    | <u>404,706,555</u>          |
| Total prospective employer contributions  |    | <u>509,157,752</u>          |
| Total Present and Prospective Assets  | \$ | <u><u>1,148,539,576</u></u> |
| <b>ACTUARIAL LIABILITIES</b>  |    |                             |
| Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits | \$ | 531,117,308                 |
| Present value of prospective benefits payable on account of inactive members  |    | 16,998,105                  |
| Present value of prospective benefits payable on account of present active members:   |    |                             |
| Service retirement benefits   | \$ | 540,307,540                 |
| Disability retirement benefits  |    | 24,365,623                  |
| Survivor benefits   |    | 13,453,459                  |
| Separation benefits   |    | <u>22,297,541</u>           |
| Total   |    | <u>600,424,163</u>          |
| Total Actuarial Liabilities   | \$ | <u><u>1,148,539,576</u></u> |



Schedule A – Balance Sheet

**JUDICIAL**  
As Of June 30, 2013

| <b>PRESENT AND PROSPECTIVE ASSETS</b>   |    |                           |
|---|----|---------------------------|
| Actuarial Value of Assets   | \$ | 368,671,000               |
| Present value of future members' contributions  |    | 17,810,363                |
| Present value of future employer contributions  |    |                           |
| Normal contributions  | \$ | 114,411,175               |
| Unfunded accrued liability contributions  |    | <u>221,954,880</u>        |
| Total prospective employer contributions  |    | <u>336,366,055</u>        |
| Total Present and Prospective Assets  | \$ | <u><u>722,847,418</u></u> |
| <b>ACTUARIAL LIABILITIES</b>  |    |                           |
| Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits | \$ | 355,479,536               |
| Present value of prospective benefits payable on account of inactive members  |    | 4,990,617                 |
| Present value of prospective benefits payable on account of present active members:   |    |                           |
| Service retirement benefits   | \$ | 342,334,453               |
| Disability retirement benefits  |    | 13,134,799                |
| Survivor benefits   |    | 6,908,013                 |
| Separation benefits   |    | <u>-</u>                  |
| Total   |    | <u>362,377,265</u>        |
| Total Actuarial Liabilities   | \$ | <u><u>722,847,418</u></u> |



Schedule A – Balance Sheet

**VIRGINIA LAW OFFICERS**  
**As Of June 30, 2013**

| <b>PRESENT AND PROSPECTIVE ASSETS</b>   |    |                             |
|---|----|-----------------------------|
| Actuarial Value of Assets   | \$ | 941,933,000                 |
| Present value of future members' contributions  |    | 110,406,730                 |
| Present value of future employer contributions  |    |                             |
| Normal contributions  | \$ | 162,266,785                 |
| Unfunded accrued liability contributions  |    | <u>800,177,173</u>          |
| Total prospective employer contributions  |    | <u>962,443,958</u>          |
| Total Present and Prospective Assets  | \$ | <u><u>2,014,783,688</u></u> |
| <b>ACTUARIAL LIABILITIES</b>  |    |                             |
| Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits | \$ | 810,355,237                 |
| Present value of prospective benefits payable on account of inactive members  |    | 106,530,464                 |
| Present value of prospective benefits payable on account of present active members:   |    |                             |
| Service retirement benefits   | \$ | 901,036,605                 |
| Disability retirement benefits  |    | 65,277,057                  |
| Survivor benefits   |    | 20,748,358                  |
| Separation benefits   |    | <u>110,835,967</u>          |
| Total   |    | <u>1,097,897,987</u>        |
| Total Actuarial Liabilities   | \$ | <u><u>2,014,783,688</u></u> |



Schedule A – Balance Sheet

**POLITICAL SUBDIVISIONS**  
As Of June 30, 2013

| <b>PRESENT AND PROSPECTIVE ASSETS</b>   |                      |                                 |
|---|----------------------|---------------------------------|
| Actuarial Value of Assets   |                      | \$ 13,685,497,583               |
| Present value of future members' contributions  |                      | 1,723,684,376                   |
| Present value of future employer contributions  |                      |                                 |
| Normal contributions  | \$ 2,173,372,766     |                                 |
| Unfunded accrued liability contributions  | <u>4,471,108,711</u> |                                 |
| Total prospective employer contributions  |                      | <u>6,644,481,477</u>            |
| Total Present and Prospective Assets  |                      | <u><u>\$ 22,053,663,436</u></u> |
| <b>ACTUARIAL LIABILITIES</b>  |                      |                                 |
| Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits |                      | \$ 7,748,343,173                |
| Present value of prospective benefits payable on account of inactive members  |                      | 1,053,841,323                   |
| Present value of prospective benefits payable on account of present active members:   |                      |                                 |
| Service retirement benefits   | \$ 11,622,624,580    |                                 |
| Disability retirement benefits  | 722,164,364          |                                 |
| Survivor benefits   | 269,714,271          |                                 |
| Separation benefits   | <u>636,975,725</u>   |                                 |
| Total   |                      | <u>13,251,478,940</u>           |
| Total Actuarial Liabilities   |                      | <u><u>\$ 22,053,663,436</u></u> |



Schedule A – Solvency Test

**SOLVENCY TEST**

**Virginia Retirement System (State Employees, Teachers, and Political Subdivisions)**  
**(\$ in thousands)**

| Valuation Date | Aggregate Accrued Liabilities For |  |  |              | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |        |       |
|----------------|-----------------------------------|--|--|--------------|---------------------------|---|--------|-------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total        |                           | (1)   | (2)    | (3)   |
| 6/30/2013      | \$11,420,836                      | \$42,383,697                                 | \$25,273,058                                   | \$79,077,591 | \$52,124,581              | 100.00%   | 96.00% | 0.00% |
| 6/30/2012      | 9,479,988                         | 39,996,442                                   | 28,382,426                                     | 77,858,856   | 51,211,915                | 100.00  | 100.00 | 6.11  |
| 6/30/2011      | 9,116,662                         | 37,539,539                                   | 28,528,577                                     | 75,184,778   | 52,558,997                | 100.00  | 100.00 | 20.69 |
| 6/30/2010      | 9,246,421                         | 35,117,915                                   | 28,436,065                                     | 72,800,401   | 52,728,575                | 100.00  | 100.00 | 29.41 |
| 6/30/2009      | 8,876,564                         | 31,589,747                                   | 25,856,699                                     | 66,323,010   | 53,185,033                | 100.00  | 100.00 | 49.19 |

**State Employees Retirement System**  
**(\$ in thousands)**

| Valuation Date | Aggregate Accrued Liabilities For |  |  |              | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |        |       |
|----------------|-----------------------------------|--|--|--------------|---------------------------|---|--------|-------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total        |                           | (1)   | (2)    | (3)   |
| 6/30/2013      | \$3,113,926                       | \$11,954,023                                 | \$6,000,702                                    | \$21,068,651 | \$13,714,404              | 100.00%   | 88.70% | 0.00% |
| 6/30/2012      | 2,559,930                         | 11,363,015                                   | 7,021,313                                      | 20,944,258   | 13,740,366                | 100.00  | 98.40  | 0.00  |
| 6/30/2011      | 2,475,123                         | 10,844,164                                   | 7,088,671                                      | 20,407,958   | 14,406,275                | 100.00  | 100.00 | 15.33 |
| 6/30/2010      | 2,511,650                         | 10,279,653                                   | 6,748,150                                      | 19,539,453   | 14,700,854                | 100.00  | 100.00 | 28.30 |
| 6/30/2009      | 2,501,163                         | 9,024,592                                    | 6,400,124                                      | 17,925,879   | 15,049,901                | 100.00  | 100.00 | 55.06 |



Schedule A – Solvency Test

**Teachers Retirement System**  
(\$ in thousands)

| Valuation Date | Aggregate Accrued Liabilities For |  |  |              | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |        |       |
|----------------|-----------------------------------|--|--|--------------|---------------------------|---|--------|-------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total        |                           | (1)   | (2)    | (3)   |
| 6/30/2013      | \$5,310,701                       | \$21,627,490                                 | \$12,914,143                                   | \$39,852,334 | \$24,724,679              | 100.00%   | 89.80% | 0.00% |
| 6/30/2012      | 4,573,244                         | 20,361,089                                   | 14,156,075                                     | 39,090,408   | 24,391,761                | 100.00  | 97.30  | 0.00  |
| 6/30/2011      | 4,394,657                         | 19,066,272                                   | 14,310,803                                     | 37,771,732   | 25,166,124                | 100.00  | 100.00 | 11.92 |
| 6/30/2010      | 4,376,385                         | 17,935,907                                   | 14,776,284                                     | 37,088,576   | 25,447,677                | 100.00  | 100.00 | 21.22 |
| 6/30/2009      | 4,155,034                         | 16,383,311                                   | 13,322,169                                     | 33,860,514   | 25,764,665                | 100.00  | 100.00 | 39.23 |

**Political Subdivisions Retirement System**  
(\$ in thousands)

| Valuation Date | Aggregate Accrued Liabilities For |  |  |              | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |         |        |
|----------------|-----------------------------------|--|--|--------------|---------------------------|---|---------|--------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total        |                           | (1)   | (2)     | (3)    |
| 6/30/2013      | \$2,996,209                       | \$8,802,184                                  | \$6,358,213                                    | \$18,156,606 | \$13,685,498              | 100.00%   | 100.00% | 29.68% |
| 6/30/2012      | 2,346,814                         | 8,272,338                                    | 7,205,038                                      | 17,824,190   | 13,079,788                | 100.00  | 100.00  | 34.15  |
| 6/30/2011      | 2,246,882                         | 7,629,103                                    | 7,129,103                                      | 17,005,088   | 12,986,598                | 100.00  | 100.00  | 43.63  |
| 6/30/2010      | 2,358,386                         | 6,902,355                                    | 6,911,631                                      | 16,172,372   | 12,580,044                | 100.00  | 100.00  | 48.02  |
| 6/30/2009      | 2,220,367                         | 6,181,844                                    | 6,134,406                                      | 14,536,617   | 12,370,467                | 100.00  | 100.00  | 64.69  |



Schedule A – Solvency Test

**State Police Retirement System**  
(\$ in thousands)

| Valuation Date | Aggregate Accrued Liabilities For |  |  |           | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |        |       |
|----------------|-----------------------------------|--|--|-----------|---------------------------|---|--------|-------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total     |                           | (1)   | (2)    | (3)   |
| 6/30/2013      | \$88,814                          | \$548,115                                    | \$359,761                                      | \$996,690 | \$591,983                 | 100.00%   | 91.80% | 0.00% |
| 6/30/2012      | 78,465                            | 563,612                                      | 371,201  | 1,013,278 | 587,160                   | 100.00  | 90.30  | 0.00  |
| 6/30/2011      | 74,943                            | 540,097                                      | 370,664  | 985,704   | 616,603                   | 100.00  | 100.00 | 0.42  |
| 6/30/2010      | 77,759                            | 510,491                                      | 360,642  | 948,892   | 633,415                   | 100.00  | 100.00 | 12.52 |
| 6/30/2009      | 74,662                            | 474,622                                      | 329,896  | 879,180   | 646,960                   | 100.00  | 100.00 | 29.61 |

**Judicial Retirement System**  
(\$ in thousands)

| Valuation Date | Aggregate Accrued Liabilities For |  |  |           | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |        |       |
|----------------|-----------------------------------|--|--|-----------|---------------------------|---|--------|-------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total     |                           | (1)   | (2)    | (3)   |
| 6/30/2013      | \$38,439                          | \$360,470                                    | \$191,717                                      | \$590,626 | \$368,671                 | 100.00%   | 91.60% | 0.00% |
| 6/30/2012      | 38,578                            | 335,501                                      | 208,377  | 582,456   | 361,097                   | 100.00  | 96.10  | 0.00  |
| 6/30/2011      | 37,981                            | 312,423                                      | 219,091  | 569,494   | 371,051                   | 100.00  | 100.00 | 9.42  |
| 6/30/2010      | 43,217                            | 310,305                                      | 206,398  | 559,920   | 372,096                   | 100.00  | 100.00 | 9.00  |
| 6/30/2009      | 41,793                            | 287,543                                      | 192,127  | 521,463   | 378,212                   | 100.00  | 100.00 | 25.44 |





Schedule A – Solvency Test

**Virginia Law Officers Retirement System**  
(\$ in thousands)

| Valuation Date | Aggregate Accrued Liabilities For |  |  |             | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |        |       |
|----------------|-----------------------------------|--|--|-------------|---------------------------|---|--------|-------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total       |                           | (1)   | (2)    | (3)   |
| 6/30/2013      | \$223,467                         | \$916,886                                    | \$601,757                                      | \$1,742,110 | \$941,933                 | 100.00%   | 78.40% | 0.00% |
| 6/30/2012      | 176,172                           | 861,342                                      | 715,499  | 1,753,014   | 909,399                   | 100.00  | 85.10  | 0.00  |
| 6/30/2011      | 174,963                           | 763,631                                      | 744,597  | 1,683,191   | 926,082                   | 100.00  | 98.40  | 0.00  |
| 6/30/2010      | 186,792                           | 682,378                                      | 710,151  | 1,579,321   | 925,443                   | 100.00  | 100.00 | 7.92  |
| 6/30/2009      | 181,760                           | 581,887                                      | 648,197  | 1,411,844   | 912,922                   | 100.00  | 100.00 | 23.03 |

**All Retirement Systems Combined**  
(\$ in thousands)

| Valuation Date | Aggregate Accrued Liabilities For |  |  |              | Actuarial Value of Assets | Portion of Accrued Liabilities Covered by Actuarial Value of Assets |        |       |
|----------------|-----------------------------------|--|--|--------------|---------------------------|---|--------|-------|
|                | (1) Active Member Contributions   | (2) Retirees, Survivors and Inactive Members | (3) Active Members (Employer Financed Portion) | Total        |                           | (1)   | (2)    | (3)   |
| 6/30/2013      | \$11,771,556                      | \$44,209,168                                 | \$26,426,293                                   | \$82,407,016 | \$54,027,168              | 100.00%   | 95.60% | 0.00% |
| 6/30/2012      | 9,773,203                         | 41,756,897                                   | 29,677,503                                     | 81,207,603   | 53,069,571                | 100.00  | 100.00 | 5.19  |
| 6/30/2011      | 9,404,549                         | 39,155,690                                   | 29,862,929                                     | 78,423,167   | 54,472,733                | 100.00  | 100.00 | 19.80 |
| 6/30/2010      | 9,554,189                         | 36,621,088                                   | 29,713,256                                     | 75,888,534   | 54,659,529                | 100.00  | 100.00 | 28.55 |
| 6/30/2009      | 9,174,779                         | 32,933,799                                   | 27,026,919                                     | 69,135,497   | 55,123,127                | 100.00  | 100.00 | 48.15 |



Schedule B – Development of Actuarial Value of Assets

**STATE EMPLOYEES**  
**FOR THE YEAR ENDING June 30, 2013**  
**(\$ IN THOUSANDS)**

|     |   |    |             |
|-----|---|----|-------------|
| (1) | Actuarial Value Beginning of Year   | \$ | 13,740,366  |
| (2) | Market Value End of Year  | \$ | 14,502,362  |
| (3) | Market Value Beginning of Year  | \$ | 13,469,215  |
| (4) | Cash Flow   |    |             |
|     | a. Contributions  | \$ | 519,318     |
|     | b. Benefit Payments   |    | (1,044,558) |
|     | c. Administrative Expenses  |    | (9,656)     |
|     | d. Net Transfers  |    | 485         |
|     | e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]   | \$ | (534,411)   |
| (5) | Investment Income   |    |             |
|     | a. Market total: (2) – (3) – (4)e   | \$ | 1,567,558   |
|     | b. Assumed Rate   |    | 7.00%       |
|     | c. Amount of Immediate Recognition<br>[(3) x (5)b] + [(4)e - (4)c] x (5)b x 0.5] - (4)c | \$ | 934,135     |
|     | d. Amount for Phased-in Recognition: (5)a – (5)c  | \$ | 633,423     |
| (6) | Phased-In Recognition of Investment Income  |    |             |
|     | a. Current Year: 0.20 x (5)d  | \$ | 126,685     |
|     | b. First Prior Year   |    | (160,607)   |
|     | c. Second Prior Year  |    | 294,458     |
|     | d. Third Prior Year   |    | 174,123     |
|     | e. Fourth Prior Year  |    | (860,345)   |
|     | f. Total Recognized Investment Gain   | \$ | (425,686)   |
| (7) | Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]                                  | \$ | 13,714,404  |



Schedule B – Development of Actuarial Value of Assets

**TEACHERS**  
**FOR THE YEAR ENDING June 30, 2013**  
**(\$ IN THOUSANDS)**

|     |   |    |             |
|-----|---|----|-------------|
| (1) | Actuarial Value Beginning of Year   | \$ | 24,391,761  |
| (2) | Market Value End of Year  | \$ | 26,076,425  |
| (3) | Market Value Beginning of Year  | \$ | 23,930,149  |
| (4) | Cash Flow   |    |             |
|     | a. Contributions  | \$ | 1,204,023   |
|     | b. Benefit Payments   |    | (1,816,700) |
|     | c. Administrative Expenses  |    | (16,998)    |
|     | d. Net Transfers  |    | 674         |
|     | e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]   | \$ | (629,001)   |
| (5) | Investment Income   |    |             |
|     | a. Market total: (2) – (3) – (4)e   | \$ | 2,775,277   |
|     | b. Assumed Rate   |    | 7.00%       |
|     | c. Amount of Immediate Recognition<br>[(3) x (5)b] + [(4)e - (4)c] x (5)b x 0.5] - (4)c | \$ | 1,670,687   |
|     | d. Amount for Phased-in Recognition: (5)a – (5)c  | \$ | 1,104,590   |
| (6) | Phased-In Recognition of Investment Income  |    |             |
|     | a. Current Year: 0.20 x (5)d  | \$ | 220,918     |
|     | b. First Prior Year   |    | (281,225)   |
|     | c. Second Prior Year  |    | 509,063     |
|     | d. Third Prior Year   |    | 293,625     |
|     | e. Fourth Prior Year  |    | (1,451,149) |
|     | f. Total Recognized Investment Gain   | \$ | (708,768)   |
| (7) | Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]                                  | \$ | 24,724,679  |



Schedule B – Development of Actuarial Value of Assets

**STATE POLICE**  
**FOR THE YEAR ENDING June 30, 2013**  
**(\$ IN THOUSANDS)**

|     |  |    |          |
|-----|--|----|----------|
| (1) | Actuarial Value Beginning of Year  | \$ | 587,160  |
| (2) | Market Value End of Year   | \$ | 625,562  |
| (3) | Market Value Beginning of Year   | \$ | 575,468  |
| (4) | Cash Flow  |    |          |
|     | a. Contributions   | \$ | 31,553   |
|     | b. Benefit Payments  |    | (48,248) |
|     | c. Administrative Expenses   |    | (278)    |
|     | d. Net Transfers   |    | -        |
|     | e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]  | \$ | (16,973) |
| (5) | Investment Income  |    |          |
|     | a. Market total: (2) – (3) – (4)e  | \$ | 67,067   |
|     | b. Assumed Rate  |    | 7.00%    |
|     | c. Amount of Immediate Recognition<br>[(3) x (5)b] + [(4)e - (4)c] x (5)b x 0.5 - (4)c | \$ | 39,976   |
|     | d. Amount for Phased-in Recognition: (5)a – (5)c                                       | \$ | 27,091   |
| (6) | Phased-In Recognition of Investment Income   |    |          |
|     | a. Current Year: 0.20 x (5)d   | \$ | 5,418    |
|     | b. First Prior Year  |    | (6,852)  |
|     | c. Second Prior Year   |    | 12,548   |
|     | d. Third Prior Year  |    | 7,368    |
|     | e. Fourth Prior Year   |    | (36,662) |
|     | f. Total Recognized Investment Gain  | \$ | (18,180) |
| (7) | Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]                                 | \$ | 591,983  |



Schedule B – Development of Actuarial Value of Assets

**JUDICIAL**  
**FOR THE YEAR ENDING June 30, 2013**  
**(\$ IN THOUSANDS)**

|     |   |    |          |
|-----|---|----|----------|
| (1) | Actuarial Value Beginning of Year   | \$ | 361,097  |
| (2) | Market Value End of Year  | \$ | 388,835  |
| (3) | Market Value Beginning of Year  | \$ | 354,250  |
| (4) | Cash Flow   |    |          |
|     | a. Contributions  | \$ | 30,000   |
|     | b. Benefit Payments   |    | (36,800) |
|     | c. Administrative Expenses  |    | (172)    |
|     | d. Net Transfers  |    | -        |
|     | e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]   | \$ | (6,972)  |
| (5) | Investment Income   |    |          |
|     | a. Market total: (2) – (3) – (4)e   | \$ | 41,557   |
|     | b. Assumed Rate   |    | 7.00%    |
|     | c. Amount of Immediate Recognition<br>[(3) x (5)b] + [(4)e - (4)c] x (5)b x 0.5] - (4)c | \$ | 24,732   |
|     | d. Amount for Phased-in Recognition: (5)a – (5)c  | \$ | 16,825   |
| (6) | Phased-In Recognition of Investment Income  |    |          |
|     | a. Current Year: 0.20 x (5)d  | \$ | 3,365    |
|     | b. First Prior Year   |    | (4,093)  |
|     | c. Second Prior Year  |    | 7,353    |
|     | d. Third Prior Year   |    | 4,277    |
|     | e. Fourth Prior Year  |    | (21,088) |
|     | f. Total Recognized Investment Gain   | \$ | (10,186) |
| (7) | Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]                                  | \$ | 368,671  |



Schedule B – Development of Actuarial Value of Assets

**VIRGINIA LAW OFFICERS**  
**FOR THE YEAR ENDING June 30, 2013**  
**(\$ IN THOUSANDS)**

|     |  |    |          |
|-----|--|----|----------|
| (1) | Actuarial Value Beginning of Year  | \$ | 909,399  |
| (2) | Market Value End of Year   | \$ | 992,031  |
| (3) | Market Value Beginning of Year   | \$ | 894,916  |
| (4) | Cash Flow  |    |          |
|     | a. Contributions   | \$ | 67,654   |
|     | b. Benefit Payments  |    | (75,224) |
|     | c. Administrative Expenses   |    | (426)    |
|     | d. Net Transfers   |    | 27       |
|     | e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]  | \$ | (7,969)  |
| (5) | Investment Income  |    |          |
|     | a. Market total: (2) – (3) – (4)e  | \$ | 105,084  |
|     | b. Assumed Rate  |    | 7.00%    |
|     | c. Amount of Immediate Recognition<br>[(3) x (5)b] + [(4)e - (4)c] x (5)b x 0.5 - (4)c | \$ | 62,806   |
|     | d. Amount for Phased-in Recognition: (5)a – (5)c                                       | \$ | 42,278   |
| (6) | Phased-In Recognition of Investment Income   |    |          |
|     | a. Current Year: 0.20 x (5)d   | \$ | 8,456    |
|     | b. First Prior Year  |    | (10,400) |
|     | c. Second Prior Year   |    | 18,608   |
|     | d. Third Prior Year  |    | 10,260   |
|     | e. Fourth Prior Year   |    | (49,227) |
|     | f. Total Recognized Investment Gain  | \$ | (22,303) |
| (7) | Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]                                 | \$ | 941,933  |



Schedule B – Development of Actuarial Value of Assets

**POLITICAL SUBDIVISIONS**  
**FOR THE YEAR ENDING June 30, 2013**  
**(\$ IN THOUSANDS)**

|     |   |    |            |
|-----|---|----|------------|
| (1) | Actuarial Value Beginning of Year   | \$ | 13,079,788 |
| (2) | Market Value End of Year  | \$ | 14,393,949 |
| (3) | Market Value Beginning of Year  | \$ | 12,867,357 |
| (4) | Cash Flow   |    |            |
|     | a. Contributions  | \$ | 746,039    |
|     | b. Benefit Payments   |    | (732,549)  |
|     | c. Administrative Expenses  |    | (9,052)    |
|     | d. Net Transfers  |    | 361        |
|     | e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]   | \$ | 4,799      |
| (5) | Investment Income   |    |            |
|     | a. Market total: (2) – (3) – (4)e   | \$ | 1,521,793  |
|     | b. Assumed Rate   |    | 7.00%      |
|     | c. Amount of Immediate Recognition<br>[(3) x (5)b] + [(4)e – (4)c] x (5)b x 0.5] – (4)c | \$ | 910,255    |
|     | d. Amount for Phased-in Recognition: (5)a – (5)c  | \$ | 611,538    |
| (6) | Phased-In Recognition of Investment Income  |    |            |
|     | a. Current Year: 0.20 x (5)d  | \$ | 122,308    |
|     | b. First Prior Year   |    | (146,376)  |
|     | c. Second Prior Year  |    | 258,796    |
|     | d. Third Prior Year   |    | 140,754    |
|     | e. Fourth Prior Year  |    | (684,826)  |
|     | f. Total Recognized Investment Gain   | \$ | (309,344)  |
| (7) | Actuarial Value End of Year: (1) + (4) + (5)c + (6)f                                    | \$ | 13,685,498 |



Schedule C – Summary of Changes in Net Assets

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**STATE EMPLOYEES  
FOR THE YEAR ENDING June 30, 2013  
(\$ IN THOUSANDS)**

Additions for the Year

|                            |                     |
|----------------------------|---------------------|
| Contributions:             |                     |
| Members                    | \$ 189,035          |
| Members (paid by employer) | 4,057               |
| Employers                  | <u>326,226</u>      |
| Total                      | \$ 519,318          |
| Miscellaneous Revenue      | 498                 |
| Net Investment Income      | <u>1,567,558</u>    |
| TOTAL                      | \$ <u>2,087,374</u> |

Deductions for the Year

|                         |                     |
|-------------------------|---------------------|
| Benefit Payments        | \$ 1,024,464        |
| Refunds                 | 20,094              |
| Transfers               | 13                  |
| Administrative Expenses | <u>9,656</u>        |
| TOTAL                   | \$ <u>1,054,227</u> |

Excess of Additions Over Deductions \$ 1,033,147

Reconciliation of Asset Balances

|   |                      |
|---|----------------------|
| Market Value of Assets as of 6/30/2012  | \$ 13,469,215        |
| Excess of Additions over Deductions     | <u>1,033,147</u>     |
| Market Value of Assets as of 6/30/2013* | <u>\$ 14,502,362</u> |

\*The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).





Schedule C – Summary of Changes in Net Assets

**TEACHERS  
FOR THE YEAR ENDING June 30, 2013  
(\$ IN THOUSANDS)**

Additions for the Year

|                            |                     |
|----------------------------|---------------------|
| Contributions:             |                     |
| Members                    | \$ 219,018          |
| Members (paid by employer) | 147,617             |
| Employers                  | <u>837,388</u>      |
| Total                      | \$ 1,204,023        |
| Miscellaneous Revenue      | 688                 |
| Net Investment Income      | <u>2,775,277</u>    |
| TOTAL                      | \$ <u>3,979,988</u> |

Deductions for the Year

|                         |                     |
|-------------------------|---------------------|
| Benefit Payments        | \$ 1,788,548        |
| Refunds                 | 28,152              |
| Transfers               | 14                  |
| Administrative Expenses | <u>16,998</u>       |
| TOTAL                   | \$ <u>1,833,712</u> |

Excess of Additions Over Deductions \$ 2,146,276

Reconciliation of Asset Balances

|   |                             |
|---|-----------------------------|
| Market Value of Assets as of 6/30/2012  | \$ 23,930,149               |
| Excess of Additions over Deductions     | <u>2,146,276</u>            |
| Market Value of Assets as of 6/30/2013* | \$ <u><u>26,076,425</u></u> |

\*The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).



Schedule C – Summary of Changes in Net Assets

**STATE POLICE  
FOR THE YEAR ENDING June 30, 2013  
(\$ IN THOUSANDS)**

Additions for the Year

|                            |    |               |               |
|----------------------------|----|---------------|---------------|
| Contributions:             |    |               |               |
| Members                    | \$ | 5,361         |               |
| Members (paid by employer) |    | -             |               |
| Employers                  |    | <u>26,192</u> |               |
| Total                      | \$ |               | 31,553        |
| Miscellaneous Revenue      |    |               | -             |
| Net Investment Income      |    |               | <u>67,067</u> |
| TOTAL                      | \$ |               | <u>98,620</u> |

Deductions for the Year

|                         |    |            |               |
|-------------------------|----|------------|---------------|
| Benefit Payments        | \$ | 47,884     |               |
| Refunds                 |    | 364        |               |
| Transfers               |    | -          |               |
| Administrative Expenses |    | <u>278</u> |               |
| TOTAL                   | \$ |            | <u>48,526</u> |

Excess of Additions Over Deductions \$ 50,094

Reconciliation of Asset Balances

|   |    |         |                |
|---|----|---------|----------------|
| Market Value of Assets as of 6/30/2012  | \$ | 575,468 |                |
| Excess of Additions over Deductions     |    |         | <u>50,094</u>  |
| Market Value of Assets as of 6/30/2013* | \$ |         | <u>625,562</u> |

\*The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).



Schedule C – Summary of Changes in Net Assets

**JUDICIAL  
FOR THE YEAR ENDING June 30, 2013  
(\$ IN THOUSANDS)**

Additions for the Year

|                            |    |        |        |
|----------------------------|----|--------|--------|
| Contributions:             |    |        |        |
| Members                    | \$ | 179    |        |
| Members (paid by employer) |    | 2,795  |        |
| Employers                  |    | 27,026 |        |
|                            |    | <hr/>  |        |
| Total                      | \$ |        | 30,000 |
| Miscellaneous Revenue      |    |        | -      |
| Net Investment Income      |    |        | 41,557 |
|                            |    |        | <hr/>  |
| TOTAL                      | \$ |        | 71,557 |

Deductions for the Year

|                         |    |        |        |
|-------------------------|----|--------|--------|
| Benefit Payments        | \$ | 36,800 |        |
| Refunds                 |    | -      |        |
| Transfers               |    | -      |        |
| Administrative Expenses |    | 172    |        |
|                         |    | <hr/>  |        |
| TOTAL                   | \$ |        | 36,972 |

Excess of Additions Over Deductions \$ 34,585

Reconciliation of Asset Balances

|   |    |         |         |
|---|----|---------|---------|
| Market Value of Assets as of 6/30/2012  | \$ | 354,250 |         |
| Excess of Additions over Deductions     |    |         | 34,585  |
|   |    |         | <hr/>   |
| Market Value of Assets as of 6/30/2013* | \$ |         | 388,835 |

\*The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).



Schedule C – Summary of Changes in Net Assets

**VIRGINIA LAW OFFICERS  
FOR THE YEAR ENDING June 30, 2013  
(\$ IN THOUSANDS)**

Additions for the Year

|                            |                   |
|----------------------------|-------------------|
| Contributions:             |                   |
| Members                    | \$ 17,256         |
| Members (paid by employer) | -                 |
| Employers                  | <u>50,398</u>     |
| Total                      | \$ 67,654         |
| Miscellaneous Revenue      | -                 |
| Net Investment Income      | <u>105,084</u>    |
| TOTAL                      | \$ <u>172,738</u> |

Deductions for the Year

|                         |                  |
|-------------------------|------------------|
| Benefit Payments        | \$ 71,638        |
| Refunds                 | 3,586            |
| Transfers               | (27)             |
| Administrative Expenses | <u>426</u>       |
| TOTAL                   | \$ <u>75,623</u> |

Excess of Additions Over Deductions \$ 97,115

Reconciliation of Asset Balances

|   |                   |
|---|-------------------|
| Market Value of Assets as of 6/30/2012  | \$ 894,916        |
| Excess of Additions over Deductions     | <u>97,115</u>     |
| Market Value of Assets as of 6/30/2013* | <u>\$ 992,031</u> |

\*The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).



Schedule C – Summary of Changes in Net Assets

**POLITICAL SUBDIVISIONS  
FOR THE YEAR ENDING June 30, 2013  
(\$ IN THOUSANDS)**

Additions for the Year

|                            |                     |
|----------------------------|---------------------|
| Contributions:             |                     |
| Members                    | \$ 164,490          |
| Members (paid by employer) | 56,021              |
| Employers                  | <u>525,528</u>      |
| Total                      | \$ 746,039          |
| Miscellaneous Revenue      | 361                 |
| Net Investment Income      | <u>1,521,793</u>    |
| TOTAL                      | \$ <u>2,268,193</u> |

Deductions for the Year

|                         |                   |
|-------------------------|-------------------|
| Benefit Payments        | \$ 703,207        |
| Refunds                 | 29,342            |
| Transfers               | -                 |
| Administrative Expenses | <u>9,052</u>      |
| TOTAL                   | \$ <u>741,601</u> |

Excess of Additions Over Deductions \$ 1,526,592

Reconciliation of Asset Balances

|   |                  |
|---|------------------|
| Market Value of Assets as of 6/30/2012  | \$ 12,867,357    |
| Excess of Additions over Deductions     | <u>1,526,592</u> |
| Market Value of Assets as of 6/30/2013* | \$ 14,393,949    |

\*The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).



## Schedule D – Outline of Actuarial Assumptions and Methods

### Assumptions and Methods which apply to all VRS Plans

|   |  |
|---|--|
| <b>Investment Return Rate:</b>                          | 7.00% per annum, compounded annually (net of administrative expenses).   |
| <b>Inflation Assumption:</b>                            | 2.50% per year.  |
| <b>Actuarial Cost Method:</b>                           | Entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability. See Section E for a detailed explanation.  |
| <b>Funding Period:</b>                                  | The unfunded actuarial accrued liability as of June 30, 2013 is amortized over a closed 30 year period from June 30, 2013. The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching 0 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(l)(6), is to be amortized using a level-dollar, closed 10 year period beginning June 30, 2011. |
| <b>Payroll Growth Rate:</b>                             | 3% per annum.  |
| <b>Asset Valuation Method:</b>                          | The method of valuing assets is intended to recognize a “smoothed” market value of assets. Under this method, the difference between actual return on market value from investment experience and the expected return on market value is recognized over a five-year period. The resulting actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.  |
| <b>Cost-of-living Increase:</b>                         | 2.5% per year compounded annually for Plan 1 members receiving benefits or vested as of January 1, 2013 and 2.25% compounded annually for all other members. The temporary supplement for SPORS and VaLORS members is assumed to be adjusted biennially based on increases of 2.5% per annum compounded annually.  |
| <b>Percent Electing a Deferred Termination Benefit:</b> | Terminating members are assumed to elect a return of contributions or a deferred annuity, whichever is most valuable benefit at the time of termination. Termination benefits are assumed to commence at normal retirement age.  |
| <b>Marriage Assumption:</b>                             | 100% of active employees are assumed to be married, with spouses the same age as participants.   |
| <b>Plan 1:</b>  | Members hired prior to July 1, 2010 and who were vested as of January 1, 2013.   |
| <b>Plan 2:</b>  | Members hired on or after July 1, 2010, or members hired prior to July 1, 2010 and who were not vested as of January 1, 2013.  |



Schedule D – State Employees’ Actuarial Assumptions and Methods

**STATE EMPLOYEES**  
**Plan Specific Assumptions and Methods**

**MORTALITY RATES:**

Pre-Retirement:

RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with Males set forward 2 years and Females set back 3 years.

Post-Retirement:

RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with Females set back 1 year.

Post-Disablement:

RP-2000 Disabled Life Mortality Table with Males set back 3 years and no provision for future mortality improvement.

| Mortality Rates |                |                 |                  |                |                 |                  |
|-----------------|----------------|-----------------|------------------|----------------|-----------------|------------------|
| Age             | Male           |                 |                  | Female         |                 |                  |
|                 | Pre Retirement | Post Retirement | Post Disablement | Pre Retirement | Post Retirement | Post Disablement |
| 20              | 0.00026        | 0.00024         | 0.00000          | 0.00014        | 0.00014         | 0.00000          |
| 25              | 0.00035        | 0.00031         | 0.02257          | 0.00014        | 0.00015         | 0.00745          |
| 30              | 0.00051        | 0.00040         | 0.02257          | 0.00018        | 0.00020         | 0.00745          |
| 35              | 0.00082        | 0.00070         | 0.02257          | 0.00030        | 0.00036         | 0.00745          |
| 40              | 0.00099        | 0.00092         | 0.02257          | 0.00043        | 0.00048         | 0.00745          |
| 45              | 0.00128        | 0.00116         | 0.02257          | 0.00063        | 0.00076         | 0.00745          |
| 50              | 0.00163        | 0.00149         | 0.02512          | 0.00092        | 0.00108         | 0.01154          |
| 55              | 0.00258        | 0.00247         | 0.03156          | 0.00148        | 0.00198         | 0.01654          |
| 60              | 0.00437        | 0.00489         | 0.03803          | 0.00272        | 0.00402         | 0.02184          |
| 65              | 0.00662        | 0.00961         | 0.04498          | 0.00421        | 0.00780         | 0.02803          |
| 70              | 0.00703        | 0.01641         | 0.05445          | 0.00562        | 0.01344         | 0.03764          |
| 75              |                | 0.02854         | 0.06941          |                | 0.02212         | 0.05223          |
| 80              |                | 0.05265         | 0.09215          |                | 0.03607         | 0.07231          |
| 85              |                | 0.09624         | 0.12188          |                | 0.06041         | 0.10020          |
| 90              |                | 0.16928         | 0.15524          |                | 0.11221         | 0.14005          |

14% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as projected with Scale AA.



*Schedule D – State Employees’ Actuarial Assumptions and Methods*

**RETIREMENT RATES:** The following rates of retirement are assumed for members eligible to retire from Plan 1.

| State Employees Retirement Rates, Plan 1 |                  |       |         |       |
|--|------------------|-------|---------|-------|
| Age                                      | Males            |       | Females |       |
|  | Years of Service |       |         |       |
|  | 0-29             | >=30  | 0-29    | >=30  |
| <=49                                     | 0.000            | 0.000 | 0.000   | 0.000 |
| 50                                       | 0.030            | 0.100 | 0.032   | 0.100 |
| 51                                       | 0.030            | 0.100 | 0.031   | 0.100 |
| 52                                       | 0.030            | 0.100 | 0.030   | 0.100 |
| 53                                       | 0.030            | 0.100 | 0.030   | 0.100 |
| 54                                       | 0.030            | 0.100 | 0.035   | 0.100 |
| 55                                       | 0.050            | 0.100 | 0.050   | 0.100 |
| 56                                       | 0.050            | 0.100 | 0.050   | 0.100 |
| 57                                       | 0.045            | 0.100 | 0.045   | 0.100 |
| 58                                       | 0.040            | 0.100 | 0.055   | 0.100 |
| 59                                       | 0.050            | 0.100 | 0.055   | 0.100 |
| 60                                       | 0.050            | 0.100 | 0.055   | 0.150 |
| 61                                       | 0.100            | 0.150 | 0.100   | 0.200 |
| 62                                       | 0.150            | 0.250 | 0.150   | 0.300 |
| 63                                       | 0.150            | 0.200 | 0.150   | 0.200 |
| 64                                       | 0.150            | 0.200 | 0.150   | 0.200 |
| 65                                       | 0.300            | 0.300 | 0.300   | 0.400 |
| 66                                       | 0.300            | 0.250 | 0.300   | 0.300 |
| 67                                       | 0.300            | 0.250 | 0.300   | 0.250 |
| 68                                       | 0.300            | 0.200 | 0.300   | 0.250 |
| 69                                       | 0.300            | 0.200 | 0.300   | 0.200 |
| >=70                                     | 1.000            | 1.000 | 1.000   | 1.000 |





Schedule D – State Employees’ Actuarial Assumptions and Methods

**RETIREMENT RATES:** The following rates of retirement are assumed for members eligible to retire from Plan 2.

| State Employees Rates of Retirement, Plan 2 |                    |                      |                    |                      |
|---|--------------------|----------------------|--------------------|----------------------|
| Age   | Males              |                      | Females            |                      |
|   | Reduced Retirement | Unreduced Retirement | Reduced Retirement | Unreduced Retirement |
| <=49  | 0.000              | 0.000                | 0.000              | 0.000                |
| 50  | 0.000              | 0.350                | 0.000              | 0.350                |
| 51  | 0.000              | 0.100                | 0.000              | 0.100                |
| 52  | 0.000              | 0.100                | 0.000              | 0.100                |
| 53  | 0.000              | 0.100                | 0.000              | 0.100                |
| 54  | 0.000              | 0.100                | 0.000              | 0.100                |
| 55  | 0.000              | 0.100                | 0.000              | 0.100                |
| 56  | 0.000              | 0.100                | 0.000              | 0.100                |
| 57  | 0.000              | 0.100                | 0.000              | 0.100                |
| 58  | 0.000              | 0.100                | 0.000              | 0.100                |
| 59  | 0.000              | 0.100                | 0.000              | 0.100                |
| 60  | 0.050              | 0.100                | 0.055              | 0.150                |
| 61  | 0.100              | 0.150                | 0.100              | 0.200                |
| 62  | 0.150              | 0.250                | 0.150              | 0.300                |
| 63  | 0.150              | 0.200                | 0.150              | 0.200                |
| 64  | 0.150              | 0.200                | 0.150              | 0.200                |
| 65  | 0.300              | 0.300                | 0.300              | 0.400                |
| 66  | 0.300              | 0.250                | 0.300              | 0.300                |
| 67  | 0.300              | 0.250                | 0.300              | 0.250                |
| 68  | 0.300              | 0.200                | 0.300              | 0.250                |
| 69  | 0.300              | 0.200                | 0.300              | 0.200                |
| >=70  | 1.000              | 1.000                | 1.000              | 1.000                |



Schedule D – State Employees’ Actuarial Assumptions and Methods

**DISABILITY RATES:** As shown below for selected ages. 14% of disability cases are assumed to be service related.

| State Employees Disability Rates |         |         |
|----------------------------------|---------|---------|
| Age                              | Male    | Female  |
| 20                               | 0.00090 | 0.00010 |
| 25                               | 0.00090 | 0.00100 |
| 30                               | 0.00180 | 0.00150 |
| 35                               | 0.00180 | 0.00250 |
| 40                               | 0.00180 | 0.00290 |
| 45                               | 0.00360 | 0.00340 |
| 50                               | 0.00450 | 0.00550 |
| 55                               | 0.00540 | 0.00810 |
| 60                               | 0.00720 | 0.01000 |
| 65                               | 0.00630 | 0.00900 |
| 70                               | 0.00630 | 0.00000 |



**Schedule D – State Employees’ Actuarial Assumptions and Methods**

**TERMINATION RATES:** The following withdrawal rates for members are used based on age and years of service. (For causes other than death, disability, or retirement)

| State Employees Rates of Termination, Plan 1 |                  |       |       |        |       |       |
|--|------------------|-------|-------|--------|-------|-------|
| Age  | Male             |       |       | Female |       |       |
|  | Years of Service |       |       |        |       |       |
|  | 0-2              | 3-9   | >=10  | 0-2    | 3-9   | >=10  |
| 20   | 0.245            | 0.175 | 0.000 | 0.283  | 0.198 | 0.000 |
| 25   | 0.221            | 0.130 | 0.000 | 0.256  | 0.157 | 0.000 |
| 30   | 0.199            | 0.110 | 0.050 | 0.212  | 0.130 | 0.060 |
| 35   | 0.167            | 0.093 | 0.045 | 0.178  | 0.110 | 0.050 |
| 40   | 0.145            | 0.075 | 0.034 | 0.155  | 0.090 | 0.036 |
| 45   | 0.129            | 0.070 | 0.023 | 0.139  | 0.074 | 0.025 |
| 50   | 0.115            | 0.061 | 0.000 | 0.130  | 0.063 | 0.000 |
| 55   | 0.102            | 0.060 | 0.000 | 0.125  | 0.000 | 0.000 |
| 60   | 0.106            | 0.000 | 0.000 | 0.123  | 0.000 | 0.000 |
| 65   | 0.113            | 0.000 | 0.000 | 0.140  | 0.000 | 0.000 |
| 70   | 0.131            | 0.000 | 0.000 | 0.249  | 0.000 | 0.000 |

| State Employees Rates of Termination, Plan 2 |                  |       |       |        |       |       |
|--|------------------|-------|-------|--------|-------|-------|
| Age  | Male             |       |       | Female |       |       |
|  | Years of Service |       |       |        |       |       |
|  | 0-2              | 3-9   | >=10  | 0-2    | 3-9   | >=10  |
| 20   | 0.245            | 0.175 | 0.000 | 0.283  | 0.198 | 0.000 |
| 25   | 0.221            | 0.130 | 0.000 | 0.256  | 0.157 | 0.000 |
| 30   | 0.199            | 0.110 | 0.050 | 0.212  | 0.130 | 0.060 |
| 35   | 0.167            | 0.093 | 0.045 | 0.178  | 0.110 | 0.050 |
| 40   | 0.145            | 0.075 | 0.034 | 0.155  | 0.090 | 0.036 |
| 45   | 0.129            | 0.070 | 0.023 | 0.139  | 0.074 | 0.025 |
| 50   | 0.115            | 0.061 | 0.020 | 0.130  | 0.063 | 0.020 |
| 55   | 0.102            | 0.060 | 0.004 | 0.125  | 0.060 | 0.004 |
| 60   | 0.106            | 0.000 | 0.000 | 0.123  | 0.000 | 0.000 |
| 65   | 0.113            | 0.000 | 0.000 | 0.140  | 0.000 | 0.000 |
| 70   | 0.131            | 0.000 | 0.000 | 0.249  | 0.000 | 0.000 |



Schedule D – State Employees’ Actuarial Assumptions and Methods

**SALARY INCREASE RATES:** The following total salary increase rates are used. The total salary increase rate consists of an inflation rate of 2.50%, a productivity component of 1.00%, and a variable merit component that is dependent on years of service.

| Pay Increase Assumption |                            |
|-------------------------|----------------------------|
| Years of Service        | Total Increase (Next Year) |
| 1                       | 5.35%                      |
| 2                       | 5.35                       |
| 3                       | 4.75                       |
| 4                       | 4.45                       |
| 5                       | 4.45                       |
| 6                       | 4.45                       |
| 7                       | 4.35                       |
| 8                       | 4.25                       |
| 9                       | 4.00                       |
| 10                      | 4.00                       |
| 11-19                   | 3.65                       |
| 20 or more              | 3.50                       |

**DISABILITY ELECTION:** All active members hired on or after January 1, 1999 will enter the Virginia Sickness and Disability Program (VSDP) and will not be eligible to receive non-VSDP disability benefits. For members hired before January 1, 1999 we measure the liabilities based upon the member’s actual election contained in the valuation data.



Schedule D – Teachers’ Actuarial Assumptions and Methods

**TEACHERS**  
**Plan Specific Assumptions and Methods**

**MORTALITY RATES:**

Pre-Retirement:

RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with Males set back 3 years and Females set back 5 years.

Post-Retirement:

RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with Males set back 2 years and Females set back 3 years.

Post-Disablement:

RP-2000 Disabled Life Mortality Table Projected to 2020 with Males set back 1 year and no provision for future mortality improvement.

| Mortality Rates |                |                 |                  |                |                 |                  |
|-----------------|----------------|-----------------|------------------|----------------|-----------------|------------------|
| Age             | Male           |                 |                  | Female         |                 |                  |
|                 | Pre Retirement | Post Retirement | Post Disablement | Pre Retirement | Post Retirement | Post Disablement |
| 20              | 0.00021        | 0.00022         | 0.00000          | 0.00012        | 0.00014         | 0.00000          |
| 25              | 0.00026        | 0.00028         | 0.01737          | 0.00014        | 0.00014         | 0.00562          |
| 30              | 0.00035        | 0.00036         | 0.02042          | 0.00016        | 0.00018         | 0.00609          |
| 35              | 0.00051        | 0.00057         | 0.02042          | 0.00022        | 0.00030         | 0.00597          |
| 40              | 0.00082        | 0.00086         | 0.01961          | 0.00038        | 0.00043         | 0.00551          |
| 45              | 0.00099        | 0.00104         | 0.01773          | 0.00052        | 0.00063         | 0.00540          |
| 50              | 0.00128        | 0.00135         | 0.01965          | 0.00081        | 0.00092         | 0.00819          |
| 55              | 0.00163        | 0.00195         | 0.02280          | 0.00119        | 0.00152         | 0.01409          |
| 60              | 0.00258        | 0.00382         | 0.02946          | 0.00215        | 0.00315         | 0.01976          |
| 65              | 0.00437        | 0.00755         | 0.03644          | 0.00356        | 0.00602         | 0.02535          |
| 70              | 0.00000        | 0.01348         | 0.04497          | 0.00000        | 0.01100         | 0.03405          |
| 75              |                | 0.02246         | 0.05729          |                | 0.01832         | 0.04448          |
| 80              |                | 0.04094         | 0.08287          |                | 0.02964         | 0.06283          |
| 85              |                | 0.07640         | 0.11724          |                | 0.04892         | 0.08884          |
| 90              |                | 0.13623         | 0.15309          |                | 0.08892         | 0.13188          |

5% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as projected with Scale AA.



*Schedule D – Teachers’ Actuarial Assumptions and Methods*

**RETIREMENT RATES:** The following rates of retirement are assumed for members eligible to retire from Plan 1.

| <b>Teachers Rates of Retirement, Plan 1</b> |                         |                |               |                |
|---|-------------------------|----------------|---------------|----------------|
| <b>Age</b>                                  | <b>Male</b>             |                | <b>Female</b> |                |
|   | <b>Years of Service</b> |                |               |                |
|   | <b>0-29</b>             | <b>&gt;=30</b> | <b>0-29</b>   | <b>&gt;=30</b> |
| <=49  | 0.000                   | 0.000          | 0.000         | 0.000          |
| 50  | 0.020                   | 0.175          | 0.020         | 0.150          |
| 51  | 0.020                   | 0.175          | 0.024         | 0.150          |
| 52  | 0.020                   | 0.175          | 0.027         | 0.150          |
| 53  | 0.023                   | 0.175          | 0.024         | 0.150          |
| 54  | 0.040                   | 0.175          | 0.037         | 0.150          |
| 55  | 0.057                   | 0.225          | 0.061         | 0.225          |
| 56  | 0.046                   | 0.225          | 0.054         | 0.225          |
| 57  | 0.045                   | 0.225          | 0.057         | 0.225          |
| 58  | 0.066                   | 0.225          | 0.062         | 0.225          |
| 59  | 0.070                   | 0.225          | 0.075         | 0.225          |
| 60  | 0.075                   | 0.225          | 0.085         | 0.225          |
| 61  | 0.110                   | 0.300          | 0.120         | 0.300          |
| 62  | 0.170                   | 0.350          | 0.170         | 0.350          |
| 63  | 0.140                   | 0.350          | 0.160         | 0.350          |
| 64  | 0.180                   | 0.300          | 0.165         | 0.350          |
| 65  | 0.300                   | 0.400          | 0.300         | 0.350          |
| 66  | 0.300                   | 0.400          | 0.300         | 0.350          |
| 67  | 0.300                   | 0.400          | 0.300         | 0.350          |
| 68  | 0.300                   | 0.400          | 0.300         | 0.350          |
| 69  | 0.300                   | 0.400          | 0.300         | 0.350          |
| >=70  | 1.000                   | 1.000          | 1.000         | 1.000          |



*Schedule D – Teachers’ Actuarial Assumptions and Methods*

**RETIREMENT RATES:** The following rates of retirement are assumed for members eligible to retire from Plan 2.

| <b>Teachers Rates of Retirement, Plan 2</b> |                           |                             |                           |                             |
|---|---------------------------|-----------------------------|---------------------------|-----------------------------|
| <b>Age</b>                                  | <b>Male</b>               |                             | <b>Female</b>             |                             |
|   | <b>Reduced Retirement</b> | <b>Unreduced Retirement</b> | <b>Reduced Retirement</b> | <b>Unreduced Retirement</b> |
| <=49  | 0.000                     | 0.000                       | 0.000                     | 0.000                       |
| 50  | 0.000                     | 0.400                       | 0.000                     | 0.350                       |
| 51  | 0.000                     | 0.175                       | 0.000                     | 0.150                       |
| 52  | 0.000                     | 0.175                       | 0.000                     | 0.150                       |
| 53  | 0.000                     | 0.175                       | 0.000                     | 0.150                       |
| 54  | 0.000                     | 0.175                       | 0.000                     | 0.150                       |
| 55  | 0.000                     | 0.225                       | 0.000                     | 0.225                       |
| 56  | 0.000                     | 0.225                       | 0.000                     | 0.225                       |
| 57  | 0.000                     | 0.225                       | 0.000                     | 0.225                       |
| 58  | 0.000                     | 0.225                       | 0.000                     | 0.225                       |
| 59  | 0.000                     | 0.225                       | 0.000                     | 0.225                       |
| 60  | 0.075                     | 0.225                       | 0.085                     | 0.225                       |
| 61  | 0.110                     | 0.300                       | 0.120                     | 0.300                       |
| 62  | 0.170                     | 0.350                       | 0.170                     | 0.350                       |
| 63  | 0.140                     | 0.350                       | 0.160                     | 0.350                       |
| 64  | 0.180                     | 0.300                       | 0.165                     | 0.350                       |
| 65  | 0.300                     | 0.400                       | 0.300                     | 0.350                       |
| 66  | 0.300                     | 0.400                       | 0.300                     | 0.350                       |
| 67  | 0.300                     | 0.400                       | 0.300                     | 0.350                       |
| 68  | 0.300                     | 0.400                       | 0.300                     | 0.350                       |
| 69  | 0.300                     | 0.400                       | 0.300                     | 0.350                       |
| >=70  | 1.000                     | 1.000                       | 1.000                     | 1.000                       |



*Schedule D – Teachers’ Actuarial Assumptions and Methods*

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**DISABILITY RATES:** As shown below for selected ages. 5% of disability cases are assumed to be service related.

| <b>Teachers Disability Rates</b> |             |               |
|----------------------------------|-------------|---------------|
| <b>Age</b>                       | <b>Male</b> | <b>Female</b> |
| 20                               | 0.00000     | 0.00000       |
| 25                               | 0.00008     | 0.00004       |
| 30                               | 0.00010     | 0.00010       |
| 35                               | 0.00018     | 0.00030       |
| 40                               | 0.00021     | 0.00036       |
| 45                               | 0.00099     | 0.00042       |
| 50                               | 0.00133     | 0.00090       |
| 55                               | 0.00195     | 0.00204       |
| 60                               | 0.00308     | 0.00240       |
| 65                               | 0.00276     | 0.00330       |
| 70                               | 0.00169     | 0.00180       |





**Schedule D – Teachers’ Actuarial Assumptions and Methods**

**TERMINATION RATES:** The following withdrawal rates are used based on age and years of service. (For causes other than death, disability, or retirement)

| Teachers Rates of Termination, Plan 1 |                  |       |       |        |       |       |
|---------------------------------------|------------------|-------|-------|--------|-------|-------|
| Age                                   | Male             |       |       | Female |       |       |
|                                       | Years of Service |       |       |        |       |       |
|                                       | 0-2              | 3-9   | >=10  | 0-2    | 3-9   | >=10  |
| 20                                    | 0.182            | 0.143 | 0.008 | 0.159  | 0.160 | 0.000 |
| 25                                    | 0.154            | 0.118 | 0.008 | 0.146  | 0.120 | 0.150 |
| 30                                    | 0.149            | 0.090 | 0.037 | 0.164  | 0.110 | 0.047 |
| 35                                    | 0.141            | 0.073 | 0.031 | 0.149  | 0.090 | 0.039 |
| 40                                    | 0.141            | 0.070 | 0.025 | 0.127  | 0.075 | 0.028 |
| 45                                    | 0.147            | 0.075 | 0.019 | 0.117  | 0.064 | 0.021 |
| 50                                    | 0.138            | 0.070 | 0.000 | 0.118  | 0.058 | 0.000 |
| 55                                    | 0.143            | 0.000 | 0.000 | 0.124  | 0.000 | 0.000 |
| 60                                    | 0.166            | 0.000 | 0.000 | 0.129  | 0.000 | 0.000 |
| 65                                    | 0.170            | 0.000 | 0.000 | 0.130  | 0.000 | 0.000 |
| 70                                    | 0.170            | 0.000 | 0.000 | 0.130  | 0.000 | 0.000 |

| Teachers Rates of Termination, Plan 2 |                  |       |       |        |       |       |
|---------------------------------------|------------------|-------|-------|--------|-------|-------|
| Age                                   | Male             |       |       | Female |       |       |
|                                       | Years of Service |       |       |        |       |       |
|                                       | 0-2              | 3-9   | >=10  | 0-2    | 3-9   | >=10  |
| 20                                    | 0.182            | 0.143 | 0.008 | 0.159  | 0.160 | 0.000 |
| 25                                    | 0.154            | 0.118 | 0.008 | 0.146  | 0.120 | 0.150 |
| 30                                    | 0.149            | 0.090 | 0.037 | 0.164  | 0.110 | 0.047 |
| 35                                    | 0.141            | 0.073 | 0.031 | 0.149  | 0.090 | 0.039 |
| 40                                    | 0.141            | 0.070 | 0.025 | 0.127  | 0.075 | 0.028 |
| 45                                    | 0.147            | 0.075 | 0.019 | 0.117  | 0.064 | 0.021 |
| 50                                    | 0.138            | 0.070 | 0.016 | 0.118  | 0.058 | 0.018 |
| 55                                    | 0.143            | 0.070 | 0.003 | 0.124  | 0.058 | 0.003 |
| 60                                    | 0.166            | 0.000 | 0.000 | 0.129  | 0.000 | 0.000 |
| 65                                    | 0.170            | 0.000 | 0.000 | 0.130  | 0.000 | 0.000 |
| 70                                    | 0.170            | 0.000 | 0.000 | 0.130  | 0.000 | 0.000 |



Schedule D – Teachers’ Actuarial Assumptions and Methods

**SALARY INCREASE RATES:** The following salary increase rates are used. Inflation rate of 2.50% plus productivity component of 1.00% plus step-rate/promotional component as shown:

| Pay Increase Assumption |                            |
|-------------------------|----------------------------|
| Years of Service        | Total Increase (Next Year) |
| 1                       | 5.95%                      |
| 2                       | 5.85                       |
| 3                       | 5.85                       |
| 4                       | 5.45                       |
| 5                       | 5.45                       |
| 6                       | 5.45                       |
| 7                       | 5.35                       |
| 8                       | 5.35                       |
| 9                       | 5.35                       |
| 10                      | 4.85                       |
| 11                      | 4.85                       |
| 12                      | 4.85                       |
| 13                      | 4.75                       |
| 14                      | 4.75                       |
| 15                      | 4.65                       |
| 16                      | 4.65                       |
| 17                      | 4.55                       |
| 18                      | 4.45                       |
| 19                      | 4.45                       |
| 20 or more              | 3.50                       |



*Schedule D – State Police Actuarial Assumptions and Methods*

**STATE POLICE  
Plan Specific Assumptions and Methods**

**MORTALITY RATES:**

Pre-Retirement:

RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with Males set forward 5 years and Females set back 3 years.

Post-Retirement:

RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with Females set back 1 year.

Post-Disablement:

RP-2000 Disabled Life Mortality Table with Males set back 3 years and no provision for future mortality improvement.

| Mortality Rates |                |                 |                  |                |                 |                  |
|-----------------|----------------|-----------------|------------------|----------------|-----------------|------------------|
| Age             | Male           |                 |                  | Female         |                 |                  |
|                 | Pre Retirement | Post Retirement | Post Disablement | Pre Retirement | Post Retirement | Post Disablement |
| 20              | 0.00031        | 0.00024         | 0.00000          | 0.00014        | 0.00014         | 0.00000          |
| 25              | 0.00040        | 0.00031         | 0.02257          | 0.00014        | 0.00015         | 0.00745          |
| 30              | 0.00070        | 0.00040         | 0.02257          | 0.00018        | 0.00020         | 0.00745          |
| 35              | 0.00092        | 0.00070         | 0.02257          | 0.00030        | 0.00036         | 0.00745          |
| 40              | 0.00116        | 0.00092         | 0.02257          | 0.00043        | 0.00048         | 0.00745          |
| 45              | 0.00149        | 0.00116         | 0.02257          | 0.00063        | 0.00076         | 0.00745          |
| 50              | 0.00206        | 0.00149         | 0.02512          | 0.00092        | 0.00108         | 0.01154          |
| 55              | 0.00353        | 0.00247         | 0.03156          | 0.00148        | 0.00198         | 0.01654          |
| 60              | 0.00571        | 0.00489         | 0.03803          | 0.00272        | 0.00402         | 0.02184          |
| 65              | 0.00703        | 0.00961         | 0.04498          | 0.00421        | 0.00780         | 0.02803          |
| 70              | 1.00000        | 0.01641         | 0.05445          | 1.00000        | 0.01344         | 0.03764          |
| 75              |                | 0.02854         | 0.06941          |                | 0.02212         | 0.05223          |
| 80              |                | 0.05265         | 0.09215          |                | 0.03607         | 0.07231          |
| 85              |                | 0.09624         | 0.12188          |                | 0.06041         | 0.10020          |
| 90              |                | 0.16928         | 0.15524          |                | 0.11221         | 0.14005          |

60% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as projected with Scale AA.



*Schedule D – State Police Actuarial Assumptions and Methods*

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**RETIREMENT RATES:** The following rates of retirement are assumed for members eligible to retire.

| <b>SPORS Rates of Retirement</b> |                         |                   |
|----------------------------------|-------------------------|-------------------|
| <b>Age</b>                       | <b>Years of Service</b> |                   |
|                                  | <b>Less Than 25</b>     | <b>25 or More</b> |
| <=49                             | 0.000                   | 0.000             |
| 50                               | 0.100                   | 0.150             |
| 51                               | 0.100                   | 0.150             |
| 52                               | 0.100                   | 0.150             |
| 53                               | 0.100                   | 0.150             |
| 54                               | 0.100                   | 0.150             |
| 55                               | 0.100                   | 0.150             |
| 56                               | 0.100                   | 0.150             |
| 57                               | 0.100                   | 0.150             |
| 58                               | 0.120                   | 0.200             |
| 59                               | 0.120                   | 0.200             |
| 60                               | 0.250                   | 0.400             |
| 61                               | 0.350                   | 0.400             |
| 62                               | 0.500                   | 1.000             |
| 63                               | 0.500                   | 1.000             |
| >=64                             | 1.000                   | 1.000             |



*Schedule D – State Police Actuarial Assumptions and Methods*

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**DISABILITY RATES:** As shown below for selected ages. 60% of disability cases are assumed to be service related.

| <b>SPORS Rates of Disability</b> |               |
|----------------------------------|---------------|
| <b>Age</b>                       | <b>Unisex</b> |
| <=29                             | 0.00000       |
| 30                               | 0.00028       |
| 35                               | 0.00134       |
| 40                               | 0.00210       |
| 45                               | 0.00411       |
| 50                               | 0.00675       |
| 55                               | 0.01001       |
| 60                               | 0.00000       |



*Schedule D – State Police Actuarial Assumptions and Methods*

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**TERMINATION RATES:** The following withdrawal rates are used based on age and years of service.  
(For causes other than death, disability, or retirement)

| SPORS Rates of Termination |                  |       |       |         |       |       |
|----------------------------|------------------|-------|-------|---------|-------|-------|
| Age                        | Males            |       |       | Females |       |       |
|                            | Years of Service |       |       |         |       |       |
|                            | 0-2              | 3-9   | >=10  | 0-2     | 3-9   | >=10  |
| 20                         | 0.075            | 0.210 | 0.030 | 0.101   | 0.053 | 0.036 |
| 25                         | 0.075            | 0.055 | 0.030 | 0.108   | 0.054 | 0.044 |
| 30                         | 0.075            | 0.045 | 0.030 | 0.119   | 0.057 | 0.055 |
| 35                         | 0.075            | 0.048 | 0.024 | 0.121   | 0.060 | 0.061 |
| 40                         | 0.075            | 0.048 | 0.018 | 0.117   | 0.062 | 0.062 |
| 45                         | 0.100            | 0.045 | 0.014 | 0.108   | 0.064 | 0.059 |
| 50                         | 0.100            | 0.045 | 0.012 | 0.093   | 0.066 | 0.052 |
| 55                         | 0.100            | 0.067 | 0.012 | 0.074   | 0.067 | 0.041 |
| 60                         | 0.100            | 0.075 | 0.012 | 0.049   | 0.068 | 0.026 |
| 65                         | 0.100            | 0.075 | 0.012 | 0.015   | 0.069 | 0.006 |
| 70                         | 0.100            | 0.075 | 0.012 | 0.000   | 0.071 | 0.000 |



*Schedule D – State Police Actuarial Assumptions and Methods*

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**SALARY INCREASE RATES:** The following salary increase rates are used. Inflation rate of 2.50% plus productivity component of 1.00% plus step-rate/promotional component as shown:

| Pay Increase Assumption |                            |
|-------------------------|----------------------------|
| Years of Service        | Total Increase (Next Year) |
| 1                       | 4.75%                      |
| 2                       | 4.75                       |
| 3                       | 4.75                       |
| 4                       | 4.75                       |
| 5                       | 4.65                       |
| 6                       | 4.40                       |
| 7                       | 4.40                       |
| 8                       | 4.40                       |
| 9                       | 4.40                       |
| 10 - 19                 | 4.00                       |
| 20 or more              | 3.50                       |

It is assumed members covered under VSDP receive a 3.50% annual increase in pay while disabled and this adjusted pay is used to determine deferred benefits payable from the System.

**DISABILITY ELECTION:** All active members hired on or after January 1, 1999 will enter the Virginia Sickness and Disability Program (VSDP) and will not be eligible to receive non-VSDP disability benefits. For members hired before January 1, 1999 we measure the liabilities based upon the member's actual election contained in the valuation data.



Schedule D – Judicial Actuarial Assumptions and Methods

**JUDICIAL**  
**Plan Specific Assumptions and Methods**

**MORTALITY RATES:**

Pre-Retirement:

RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with Males set forward 2 years and Females set back 3 years.

Post-Retirement:

RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with Females set back 1 year.

Post-Disablement:

RP-2000 Disabled Life Mortality Table with Males set back 3 years and no provision for future mortality improvement.

| Mortality Rates |                |                 |                  |                |                 |                  |
|-----------------|----------------|-----------------|------------------|----------------|-----------------|------------------|
| Age             | Male           |                 |                  | Female         |                 |                  |
|                 | Pre Retirement | Post Retirement | Post Disablement | Pre Retirement | Post Retirement | Post Disablement |
| 20              | 0.00026        | 0.00024         | 0.00000          | 0.00014        | 0.00014         | 0.00000          |
| 25              | 0.00035        | 0.00031         | 0.02257          | 0.00014        | 0.00015         | 0.00745          |
| 30              | 0.00051        | 0.00040         | 0.02257          | 0.00018        | 0.00020         | 0.00745          |
| 35              | 0.00082        | 0.00070         | 0.02257          | 0.00030        | 0.00036         | 0.00745          |
| 40              | 0.00099        | 0.00092         | 0.02257          | 0.00043        | 0.00048         | 0.00745          |
| 45              | 0.00128        | 0.00116         | 0.02257          | 0.00063        | 0.00076         | 0.00745          |
| 50              | 0.00163        | 0.00149         | 0.02512          | 0.00092        | 0.00108         | 0.01154          |
| 55              | 0.00258        | 0.00247         | 0.03156          | 0.00148        | 0.00198         | 0.01654          |
| 60              | 0.00437        | 0.00489         | 0.03803          | 0.00272        | 0.00402         | 0.02184          |
| 65              | 0.00662        | 0.00961         | 0.04498          | 0.00421        | 0.00780         | 0.02803          |
| 70              | 0.00703        | 0.01641         | 0.05445          | 0.00562        | 0.01344         | 0.03764          |
| 75              |                | 0.02854         | 0.06941          |                | 0.02212         | 0.05223          |
| 80              |                | 0.05265         | 0.09215          |                | 0.03607         | 0.07231          |
| 85              |                | 0.09624         | 0.12188          |                | 0.06041         | 0.10020          |
| 90              |                | 0.16928         | 0.15524          |                | 0.11221         | 0.14005          |

5% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as projected with Scale AA.





*Schedule D – Judicial Actuarial Assumptions and Methods*

**RETIREMENT RATES:** The following rates of retirement are assumed for members eligible to retire with an unreduced retirement benefit.

| Judicial Rates of Retirement |  |        |       |       |  |        |       |       |
|------------------------------|--|--------|-------|-------|--|--------|-------|-------|
| Age                          | Service Multiplier = 1.5<br>Years of Service |        |       |       | Service Multiplier = 2.0<br>Years of Service |        |       |       |
|                              | <=1  | 2 - 19 | 20    | >=21  | <=1  | 2 - 14 | 15    | >=16  |
| <=59                         | 0  | 0      | 0     | 0     | 0  | 0      | 0     | 0     |
| 60                           | 0  | 0      | 0.500 | 0.500 | 0  | 0      | 0.500 | 0.500 |
| 61                           | 0  | 0      | 0.500 | 0.150 | 0  | 0      | 0.500 | 0.150 |
| 62                           | 0  | 0      | 0.500 | 0.150 | 0  | 0      | 0.500 | 0.150 |
| 63                           | 0  | 0      | 0.500 | 0.150 | 0  | 0      | 0.500 | 0.150 |
| 64                           | 0  | 0      | 0.500 | 0.150 | 0  | 0      | 0.500 | 0.150 |
| 65                           | 0  | 0.500  | 0.500 | 0.150 | 0  | 0.500  | 0.500 | 0.150 |
| 66                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150  | 0.150 | 0.150 |
| 67                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150  | 0.150 | 0.150 |
| 68                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150  | 0.150 | 0.150 |
| 69                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150  | 0.150 | 0.150 |
| >=70                         | 0  | 1.000  | 1.000 | 1.000 | 0  | 1.000  | 1.000 | 1.000 |

| Judicial Rates of Retirement |  |        |       |       |  |       |       |       |
|------------------------------|--|--------|-------|-------|--|-------|-------|-------|
| Age                          | Service Multiplier = 2.5<br>Years of Service |        |       |       | Service Multiplier = 3.5<br>Years of Service |       |       |       |
|                              | <=1  | 2 - 11 | 12    | >=13  | <1   | 1 - 8 | 9     | >=10  |
| <=59                         | 0  | 0      | 0     | 0     | 0  | 0     | 0     | 0     |
| 60                           | 0  | 0      | 0.500 | 0.500 | 0  | 0     | 0.500 | 0.500 |
| 61                           | 0  | 0      | 0.500 | 0.150 | 0  | 0     | 0.500 | 0.150 |
| 62                           | 0  | 0      | 0.500 | 0.150 | 0  | 0     | 0.500 | 0.150 |
| 63                           | 0  | 0      | 0.500 | 0.150 | 0  | 0     | 0.500 | 0.150 |
| 64                           | 0  | 0      | 0.500 | 0.150 | 0  | 0     | 0.500 | 0.150 |
| 65                           | 0  | 0.500  | 0.500 | 0.150 | 0  | 0.500 | 0.500 | 0.150 |
| 66                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150 | 0.150 | 0.150 |
| 67                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150 | 0.150 | 0.150 |
| 68                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150 | 0.150 | 0.150 |
| 69                           | 0  | 0.150  | 0.150 | 0.150 | 0  | 0.150 | 0.150 | 0.150 |
| >=70                         | 0  | 1.000  | 1.000 | 1.000 | 0  | 1.000 | 1.000 | 1.000 |



*Schedule D – Judicial Actuarial Assumptions and Methods*

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**DISABILITY RATES:** As shown below for selected ages. 5% of disability cases are assumed to be service related.

| Judicial Rates of Disability |         |         |
|------------------------------|---------|---------|
| Age                          | Male    | Female  |
| <=29                         | 0.00000 | 0.00000 |
| 30                           | 0.00007 | 0.00007 |
| 35                           | 0.00037 | 0.00045 |
| 40                           | 0.00142 | 0.00090 |
| 45                           | 0.00292 | 0.00210 |
| 50                           | 0.00480 | 0.00397 |
| 55                           | 0.00712 | 0.00600 |
| 60                           | 0.00000 | 0.00000 |

**TERMINATION RATES:** There are no assumed rates of withdrawal prior to service retirement. (For causes other than death, disability, or retirement).

**SALARY INCREASE RATES:** Salary increase rates are 4.5%.



Schedule D – Virginia Law Officers’ Actuarial Assumptions and Methods

**VIRGINIA LAW OFFICERS  
Plan Specific Assumptions and Methods**

**MORTALITY RATES:**

Pre-Retirement:

RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with Males set forward 5 years and Females set back 3 years.

Post-Retirement:

RP-2000 Combined Mortality Table Projected with Scale AA to 2020 with Females set back 1 year.

Post-Disablement:

RP-2000 Disabled Life Mortality Table with Males set back 3 years and no provision for future mortality improvement.

| Mortality Rates |                |                 |                  |                |                 |                  |
|-----------------|----------------|-----------------|------------------|----------------|-----------------|------------------|
| Age             | Male           |                 |                  | Female         |                 |                  |
|                 | Pre Retirement | Post Retirement | Post Disablement | Pre Retirement | Post Retirement | Post Disablement |
| 20              | 0.00031        | 0.00024         | 0.00000          | 0.00014        | 0.00014         | 0.00000          |
| 25              | 0.00040        | 0.00031         | 0.02257          | 0.00014        | 0.00015         | 0.00745          |
| 30              | 0.00070        | 0.00040         | 0.02257          | 0.00018        | 0.00020         | 0.00745          |
| 35              | 0.00092        | 0.00070         | 0.02257          | 0.00030        | 0.00036         | 0.00745          |
| 40              | 0.00116        | 0.00092         | 0.02257          | 0.00043        | 0.00048         | 0.00745          |
| 45              | 0.00149        | 0.00116         | 0.02257          | 0.00063        | 0.00076         | 0.00745          |
| 50              | 0.00206        | 0.00149         | 0.02512          | 0.00092        | 0.00108         | 0.01154          |
| 55              | 0.00353        | 0.00247         | 0.03156          | 0.00148        | 0.00198         | 0.01654          |
| 60              | 0.00571        | 0.00489         | 0.03803          | 0.00272        | 0.00402         | 0.02184          |
| 65              | 0.00703        | 0.00961         | 0.04498          | 0.00421        | 0.00780         | 0.02803          |
| 70              | 1.00000        | 0.01641         | 0.05445          | 1.00000        | 0.01344         | 0.03764          |
| 75              |                | 0.02854         | 0.06941          |                | 0.02212         | 0.05223          |
| 80              |                | 0.05265         | 0.09215          |                | 0.03607         | 0.07231          |
| 85              |                | 0.09624         | 0.12188          |                | 0.06041         | 0.10020          |
| 90              |                | 0.16928         | 0.15524          |                | 0.11221         | 0.14005          |

60% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as projected with Scale AA.



Schedule D – Virginia Law Officers’ Actuarial Assumptions and Methods

**RETIREMENT RATES:** The following rates of retirement are assumed for members eligible to retire.

| VaLORS Rates of Retirement |                  |            |
|----------------------------|------------------|------------|
| Age                        | Years of Service |            |
|                            | Less Than 25     | 25 or More |
| <=49                       | 0.000            | 0.000      |
| 50                         | 0.092            | 0.250      |
| 51                         | 0.090            | 0.250      |
| 52                         | 0.090            | 0.250      |
| 53                         | 0.090            | 0.250      |
| 54                         | 0.100            | 0.250      |
| 55                         | 0.095            | 0.250      |
| 56                         | 0.090            | 0.250      |
| 57                         | 0.120            | 0.300      |
| 58                         | 0.100            | 0.300      |
| 59                         | 0.120            | 0.400      |
| 60                         | 0.200            | 0.400      |
| 61                         | 0.260            | 0.500      |
| 62                         | 0.400            | 1.000      |
| 63                         | 0.200            | 1.000      |
| 64                         | 0.200            | 1.000      |
| >=65                       | 1.000            | 1.000      |



Schedule D – Virginia Law Officers’ Actuarial Assumptions and Methods

**DISABILITY RATES:** As shown below for selected ages. 50% of disability cases are assumed to be service related.

| VaLORS Rates of Disability |         |
|----------------------------|---------|
| Age                        | Unisex  |
| 20                         | 0.00150 |
| 25                         | 0.00300 |
| 30                         | 0.00600 |
| 35                         | 0.00800 |
| 40                         | 0.00800 |
| 45                         | 0.01000 |
| 50                         | 0.01200 |
| 55                         | 0.01200 |
| 60                         | 0.01000 |
| 65                         | 0.00800 |
| 70                         | 0.00600 |



Schedule D – Virginia Law Officers’ Actuarial Assumptions and Methods

**TERMINATION RATES:** The following withdrawal rates are used based on age and years of service.  
(For causes other than death, disability, or retirement)

| VaLORS Rates of Termination |                  |       |       |                  |       |       |
|-----------------------------|------------------|-------|-------|------------------|-------|-------|
| Age                         | Males            |       |       | Females          |       |       |
|                             | Years of Service |       |       | Years of Service |       |       |
|                             | 0-2              | 3-9   | >=10  | 0-2              | 3-9   | >=10  |
| 20                          | 0.250            | 0.150 | 0.050 | 0.200            | 0.150 | 0.075 |
| 25                          | 0.200            | 0.150 | 0.050 | 0.200            | 0.150 | 0.075 |
| 30                          | 0.200            | 0.125 | 0.050 | 0.200            | 0.125 | 0.060 |
| 35                          | 0.200            | 0.125 | 0.050 | 0.200            | 0.125 | 0.060 |
| 40                          | 0.150            | 0.105 | 0.040 | 0.175            | 0.105 | 0.050 |
| 45                          | 0.150            | 0.105 | 0.040 | 0.175            | 0.080 | 0.040 |
| 50                          | 0.150            | 0.080 | 0.040 | 0.175            | 0.080 | 0.040 |
| 55                          | 0.120            | 0.065 | 0.040 | 0.100            | 0.120 | 0.040 |
| 60                          | 0.125            | 0.070 | 0.040 | 0.100            | 0.200 | 0.040 |
| 65                          | 0.150            | 0.070 | 0.040 | 0.100            | 0.100 | 0.040 |
| 70                          | 0.200            | 0.070 | 0.040 | 0.100            | 0.100 | 0.040 |



Schedule D – Virginia Law Officers’ Actuarial Assumptions and Methods

**SALARY INCREASE RATES:** The following salary increase rates are used. Inflation rate of 2.50% plus productivity component of 1.00% plus step-rate/promotional component as shown:

| Pay Increase Assumption |                            |
|-------------------------|----------------------------|
| Years of Service        | Total Increase (Next Year) |
| 1                       | 4.75%                      |
| 2                       | 4.75                       |
| 3                       | 4.75                       |
| 4                       | 4.75                       |
| 5                       | 4.65                       |
| 6                       | 4.40                       |
| 7                       | 4.40                       |
| 8                       | 4.40                       |
| 9                       | 4.40                       |
| 10 - 19                 | 4.00                       |
| 20 or more              | 3.50                       |

It is assumed members covered under VSDP receive a 3.50% annual increase in pay while disabled and this adjusted pay is used to determine deferred benefits payable from the System.

**DISABILITY ELECTION:** All active members hired on or after January 1, 1999 will enter the Virginia Sickness and Disability Program (VSDP) and will not be eligible to receive non-VSDP disability benefits. For members hired before January 1, 1999 we measure the liabilities based upon the member’s actual election contained in the valuation data.



Schedule D – Summary of Actuarial Assumption and Method Changes

**2009 Valuation**

1. Changes to the actuarial assumptions as a result of the experience study for the four-year period ending June 30, 2008 are stated below.

| SYSTEM   | ASSUMPTION CHANGE   |
|----------|---|
| State    | Increase rates of withdrawals<br>Increase rates of disability retirement up to age 52, females<br>Decrease rates of disability retirement after age 52, all members<br>Decrease rates of service retirement |
| Teachers | Increase rates of withdrawals<br>Increase rates of disability retirement<br>Decrease rates of service retirement  |
| SPORS    | Decrease rates of withdrawals, males<br>Decrease rates of service retirement  |
| VaLORS   | Increase rates of withdrawals<br>Decrease rates of disability retirement<br>Change rates of service retirement  |
| Judicial | Increase rates of salary increases  |

2. For the June 30, 2009 valuation the Board suspended application of the 80%/120% market value of assets corridor on the actuarial value of assets.

**2010 Valuation**

The investment return rate was decreased from 7.50% per annum to 7.00% per annum.

**2011 Valuation**

The amortization period of the unfunded less the deferred contribution begins at 30 years on June 30, 2011 and will decrease by one each year until reaching the minimum period of 20 years. The deferred contribution, as defined under 2011 Appropriations Act, Item 469(l)(6), is amortized using a level-dollar, closed, 10 year period beginning June 30, 2011.

**2013 Valuation**

1. The amortization period of the unfunded as of June 30, 2013 less the deferred contribution under 2011 Appropriations Act, Item 469(l)(6) is amortized using a level-dollar, closed, 30 year period beginning June 30, 2013 decreasing by one each year until reaching 0 years.





*Schedule D – Summary of Actuarial Assumption and Method Changes*

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2. Changes to the actuarial assumptions as a result of the experience study for the four-year period ending June 30, 2012 are summarized below.

| <b>STATE SYSTEM</b> | <b>ASSUMPTION CHANGE</b>  |
|---------------------|---|
| State               | Update mortality table<br>Decrease rates of service retirement<br>Decrease rates of withdrawals for less than 10 years of service<br>Decrease rates of male disability retirement<br>Reduce rates of salary increase by 0.25% per year  |
| Teachers            | Update mortality table<br>Adjustments to rates of service retirement<br>Decrease rates of withdrawals for three through nine years of service<br>Decrease rates of disability<br>Reduce rates of salary increase by 0.25% per year      |
| SPORS               | Update mortality table<br>Increase rate of service retirement at age 54   |
| VaLORS              | Update mortality table<br>Adjustments to rates of service retirement<br>Decrease rates of withdrawals for females under 10 years of service<br>Increase rates of disability<br>Decrease service related disability rate from 60% to 50% |
| Judicial            | Update mortality table  |



## *Schedule E – Actuarial Cost Method*

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### **ACTUARIAL COST METHOD**

1. The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability, termination from service or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 7.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.
2. The employer contributions required to support the benefits of VRS are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the VRS. The accrued liability contribution amortizes the balance of the unfunded accrued liability over a period of years from the valuation date.



Schedule F – Summary of Plan Provisions

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**Benefit Provisions which apply to all VRS Plans**

|                                   |  |
|-----------------------------------|--|
| <b>Plan Year:</b>                 | Twelve-month period ending June 30th.  |
| <b>Administration:</b>            | All plans are administered by the Board of Trustees of the Virginia Retirement System.   |
| <b>Plan 1:</b>                    | Members hired prior to July 1, 2010 and who were vested as of January 1, 2013.   |
| <b>Plan 2:</b>                    | Members hired on or after July 1, 2010, or members hired prior to July 1, 2010 and who were not vested as of January 1, 2013.  |
| <b>Eligibility:</b>               | All full-time, salaried, permanent employees of the Commonwealth of Virginia or of any participating Virginia city, county, town or political subdivision or of any local Virginia school boards are eligible to become members of VRS. This summary covers the provisions relating to state employees.  |
| <b>Employee Contributions:</b>    | All active members contribute 5.00% of their creditable compensation per year. The employer may "pick-up" the member's assessments under the provisions of Internal Revenue Code Section 414(h).   |
| <b>Creditable Compensation:</b>   | Annual salary minus any overtime pay, payments of a temporary nature, or payments for extra duties.  |
| <b>Optional Forms of Payment:</b> | There are optional forms of payment available on an actuarially equivalent basis, as follows:<br><br>100% Survivor Option:<br><br>Payable for the member's life. Upon the member's death, 100% of the benefit continues to the contingent annuitant.<br><br>50% Survivor Option:<br><br>Upon the member's death, 50% of the benefit continues to the contingent annuitant.<br><br>Leveling Option:<br><br>A temporarily increased retirement allowance payable to a date specified by the member and a reduced retirement allowance (on an actuarially equivalent basis) payable after the specified date for the member's remaining lifetime. |



*Schedule F – Summary of Plan Provisions*

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Partial Lump Sum Option:

The member may elect to receive a lump sum payment equal to the sum of 12, 24, or 36 payments of the standard monthly life annuity. The member's monthly benefit will be actuarially reduced to reflect the lump sum payment. The member may then elect to receive the reduced monthly annuity under any of the other optional forms of payment.

Actuarial equivalence is based on tables adopted by the Board of Trustees.



Schedule F – State Employees' Plan Provisions

**STATE EMPLOYEES**  
**Plan Specific Benefit Provisions**

|                                    |   |
|------------------------------------|---|
| <b>Effective Date:</b>             | March 1, 1952   |
| <b>Type of Plan:</b>               | VRS is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is considered an agent multiple-employer PERS with separate cost-sharing pools for state employees and teachers.  |
| <b>Service:</b>                    | Employees receive credit of one month of service for each month a contribution is made on their behalf to VRS. A member may also purchase credit for certain periods, such as time spent in the military, by paying a purchase rate (5 or 15 percent of the larger of current creditable compensation or final average compensation times the number of years to be purchased). Special rules and limits govern the purchase of additional service.   |
| <b>Average Final Compensation:</b> |   |
| Plan 1:                            | The average of the member's highest 36 consecutive months of salary.  |
| Plan 2:                            | The average of the member's highest 60 consecutive months of salary.  |
| <b>Normal Retirement:</b>          |   |
| Plan 1:                            | Eligibility:<br><br>A member may retire upon Normal Retirement on or after age 65 with credit for 5 years of service.<br><br>Annual Benefit:<br><br>1.7% of average final compensation (AFC) times years of service.<br><br>Payment Form:<br><br>Benefits are paid as a monthly life annuity, with a guarantee that if the payments do not exceed the member's contributions plus interest, determined as of the date at retirement, the balance will be paid in a lump sum to the member's beneficiary. Optional forms of payment are available. |



## Schedule F – State Employees' Plan Provisions

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Plan 2:

Eligibility:

A member may retire upon Normal Retirement after reaching Social Security normal retirement age plus five years of service.

Annual Benefit:

1.70% of average final compensation (AFC) times years of service up to January 1, 2013 plus 1.65% of AFC times years of service from January 1, 2013.

Payment Form:

Benefits are paid as a monthly life annuity, with a guarantee that if the payments do not exceed the member's contributions plus interest, determined as of the date at retirement, the balance will be paid in a lump sum to the member's beneficiary. Optional forms of payment are available.

### **Early Retirement:**

Plan 1:

Eligibility:

A member may retire early after reaching age 50 with at least ten years of service credit, or age 55 with credit for at least five years of service.

Annual Benefit:

Calculated the same as the normal retirement benefit, using actual service at retirement and multiplied by a reduction factor. No reduction applies if the member has credit for thirty years of service at retirement and is at least age 50. For members at least age 55, the reduction is 0.5% per month for the first 60 months and 0.4% per month for the next 60 months. This reduction is applied for each month that the retirement age precedes 65, or if more favorable, for each month the service at retirement is less than 30. For members younger than 55 at retirement, the reduction factor determined as though the member were 55 is further reduced by multiplying it by a second factor, to reflect a 0.6% reduction for each month retirement precedes age 55.

Payment Form:

Same as for Normal Retirement above.



## Schedule F – State Employees' Plan Provisions

Plan 2:

Eligibility:

A member may retire early after reaching age 60 with five years of service, or upon the sum of their age and their service being 90 (Rule of 90).

Annual Benefit:

Calculated the same as the normal retirement benefit, using actual service at retirement and multiplied by a reduction factor. The reduction is an actuarially equivalent factor. No reduction is applied if the sum of the member's age and service is equal to 90.

Payment Form:

Same as for Normal Retirement above.

**Disability Retirement - Non-VSDP:**

Eligibility:

A member hired prior to 1/1/1999 and who has declined VSDP coverage is eligible from the first day of employment.

Annual Benefit:

For members with less than five years of service credit, the minimum guaranteed benefit. For members with greater than five years of service credit, the greater of the minimum guaranteed benefit and 1.7% of AFC times service credit. Benefit is reduced by Worker's Compensation (if any).

Minimum Guaranteed Benefit:

- Workers Compensation Guarantee:  
66 2/3% of AFC if member does not qualify for primary Social Security and 50% of AFC if member qualifies for primary Social Security.
- Special Retirement Allowance Guarantee:  
50% of AFC if member does not qualify for primary Social Security and 33 1/3% of AFC if member qualifies for primary Social Security.



## Schedule F – State Employees' Plan Provisions

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### Service Credit:

If disability occurs before age 60, service is the smaller of 1) twice actual service, and 2) rendered service plus the number of years remaining between age at disability and age 60.

### Payment Form:

The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump sum to the member's beneficiary. 100% and 50% Survivor Options are also permitted for disability retirement. (A refund of the member's contribution account is paid out for a work-related disability.)

### Disability Retirement – VSDP:

Provisions applying to members entering in 1999 or later and continuing members who have elected this benefit: In lieu of the above benefits, these members will be covered by the Virginia Sickness and Disability Program (VSDP). Under VSDP, these members will receive a deferred benefit payable at age 65 from this plan. The deferred benefit will be computed like a normal retirement benefit. For this calculation, a member's creditable service will include the period of disability, and the Average Final Compensation will be adjusted to reflect increases in the cost-of-living between the date of disability and age 65. If the member dies while disabled before age 65, a death benefit will be determined as though the employee were an active member.

### Deferred Termination Benefit:

#### Plan 1:

#### Eligibility:

A member with at least five years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.

#### Annual Benefit:

Same as normal retirement benefit, but both AFC and service are determined at the time the member leaves active employment. Benefits may commence unreduced at age 65 or at age 50 with at least 30 years of service. Reduced benefits may commence at or after age 55 with more than 5 years of service or age 50 with at least 10 years of service.





Schedule F – State Employees' Plan Provisions

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Payment Form:

Same as for Normal Retirement above.

Death Benefit:

The beneficiary of a member who dies after leaving active service but before retiring is entitled to receive a lump sum distribution of the deceased member's contribution account.

Plan 2:

Eligibility:

A member with at least five years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.

Annual Benefit:

Same as normal retirement benefit, but both AFC and service are determined at the time the member leaves active employment. Benefits commence unreduced at Social Security Normal Retirement Age. Reduced benefits may commence on or after age 60 with five years of service.

Payment Form:

Same as for Normal Retirement above.

Death Benefit:

The beneficiary of a member who dies after leaving active service but before retiring is entitled to receive a lump sum distribution of the deceased member's contribution account.

**Withdrawal (Refund) Benefit:**

Eligibility:

All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their contributions plus interest in lieu of the deferred benefits otherwise due.

Benefit:

The member who withdraws receives a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is credited at 4%.



## Schedule F – State Employees' Plan Provisions

### **Death Benefit:**

#### **Eligibility:**

Death must have occurred while an active or inactive, non-retired member.

#### **Benefit:**

Upon the death of a non-vested member, a refund of the member's contributions and interest is paid. Upon the death of a vested member, if death occurs while in active service the qualifying survivor of the member is entitled to receive a benefit determined as though the member retired, elected the 100% Survivor Option, then died. If the member dies before reaching age 55, the member is assumed to be 55 for benefit calculation purposes. The qualifying survivor may elect to receive a refund of the contributions plus interest in lieu of the monthly benefit. If the death occurs while inactive, benefits payable are described in Section 9(d).

#### **Work-Related Death:**

Qualifying survivor would receive 50% of AFC if beneficiary does not qualify for Social Security survivor benefits and 33 1/3% of AFC if beneficiary qualifies for Social Security survivor benefits. This benefit is reduced by Worker's Compensation. In addition, a refund of the member's contribution account is paid to the beneficiary.

### **Cost-of-Living Increase:**

- Plan 1: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 3% of the Consumer Price Index increase plus half of each percentage increase from 3% to 7%.
- Plan 2: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 2% increase of the Consumer Price Index plus half of each percent from 2% to 4%, with the maximum cost-of-living increase of 3%.
- Plans 1 & 2: The COLA is deferred for one full calendar year after the member reaches unreduced retirement age. The deferred COLA does not apply to employees within 5 years of eligibility for unreduced retirement as of January 1, 2013 and to members who retire with twenty or more years of service.



Schedule F – Teachers’ Plan Provisions

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**TEACHERS**  
**Plan Specific Benefit Provisions**

|                                    |   |
|------------------------------------|---|
| <b>Effective Date:</b>             | March 1, 1952   |
| <b>Type of Plan:</b>               | VRS is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is considered an agent multiple-employer PERS with separate cost-sharing pools for state employees and teachers.  |
| <b>Service:</b>                    | Employees receive credit of one month of service for each month a contribution is made on their behalf to VRS. A member may also purchase credit for certain periods, such as time spent in the military, by paying a purchase rate (5 or 15 percent of the larger of current creditable compensation or final average compensation times the number of years to be purchased). Special rules and limits govern the purchase of additional service.   |
| <b>Average Final Compensation:</b> |   |
| Plan 1:                            | The average of the member’s highest 36 consecutive months of salary.  |
| Plan 2:                            | The average of the member’s highest 60 consecutive months of salary.  |
| <b>Normal Retirement:</b>          |   |
| Plan 1:                            | Eligibility:<br><br>A member may retire upon Normal Retirement on or after age 65 with credit for 5 years of service.<br><br>Annual Benefit:<br><br>1.7% of average final compensation (AFC) times years of service.<br><br>Payment Form:<br><br>Benefits are paid as a monthly life annuity, with a guarantee that if the payments do not exceed the member's contributions plus interest, determined as of the date at retirement, the balance will be paid in a lump sum to the member's beneficiary. Optional forms of payment are available. |



## Schedule F – Teachers' Plan Provisions

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Plan 2:

Eligibility:

A member may retire upon Normal Retirement after reaching Social Security normal retirement age plus five years of service.

Annual Benefit:

1.70% of average final compensation (AFC) times years of service up to January 1, 2013 plus 1.65% of AFC times years of service from January 1, 2013.

Payment Form:

Benefits are paid as a monthly life annuity, with a guarantee that if the payments do not exceed the member's contributions plus interest, determined as of the date at retirement, the balance will be paid in a lump sum to the member's beneficiary. Optional forms of payment are available.

### **Early Retirement:**

Plan 1:

Eligibility:

A member may retire early after reaching age 50 with at least ten years of service credit, or age 55 with credit for at least five years of service.

Annual Benefit:

Calculated the same as the normal retirement benefit, using actual service at retirement and multiplied by a reduction factor. No reduction applies if the member has credit for thirty years of service at retirement and is at least age 50. For members at least age 55, the reduction is 0.5% per month for the first 60 months and 0.4% per month for the next 60 months. This reduction is applied for each month that the retirement age precedes 65, or if more favorable, for each month the service at retirement is less than 30. For members younger than 55 at retirement, the reduction factor determined as though the member were 55 is further reduced by multiplying it by a second factor, to reflect a 0.6% reduction for each month retirement precedes age 55.

Payment Form:

Same as for Normal Retirement above.



## Schedule F – Teachers' Plan Provisions

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Plan 2:

Eligibility:

A member may retire early after reaching age 60 with five years of service or upon the sum of their age and their service being 90 (Rule of 90).

Annual Benefit:

Calculated the same as the normal retirement benefit, using actual service at retirement and multiplied by a reduction factor. The reduction is an actuarially equivalent factor. No reduction is applied if the sum of the member's age and service is equal to 90.

Payment Form:

Same as for Normal Retirement above.

**Disability Retirement:**

Eligibility:

A member is eligible from the first day of employment.

Annual Benefit:

For members with less than five years of service credit, the minimum guaranteed benefit. For members with greater than five years of service credit, the greater of the minimum guaranteed benefit and 1.7% of AFC times service credit. Benefit is reduced by Worker's Compensation (if any).

Minimum Guaranteed Benefit:

- Workers Compensation Guarantee:  
66 2/3% of AFC if member does not qualify for primary Social Security and 50% of AFC if member qualifies for primary Social Security.
- Special Retirement Allowance Guarantee:  
50% of AFC if member does not qualify for primary Social Security and 33 1/3% of AFC if member qualifies for primary Social Security.



## Schedule F – Teachers' Plan Provisions

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### Service Credit:

If disability occurs before age 60, service is the smaller of 1) twice actual service, and 2) rendered service plus the number of years remaining between age at disability and age 60.

### Payment Form:

The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump sum to the member's beneficiary. 100% and 50% Survivor Options are also permitted for disability retirement. (A refund of the member's contribution account is paid out for a work-related disability.)

### Deferred Termination Benefit:

#### Plan 1:

#### Eligibility:

A member with at least five years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.

#### Annual Benefit:

Same as normal retirement benefit, but both AFC and service are determined at the time the member leaves active employment. Benefits may commence unreduced at age 65 or at age 50 with at least 30 years of service. Reduced benefits may commence at or after age 55 with more than 5 years of service or age 50 with at least 10 years of service.

#### Payment Form:

Same as for Normal Retirement above.

#### Death Benefit:

The beneficiary of a member who dies after leaving active service but before retiring is entitled to receive a lump sum distribution of the deceased member's contribution account.



## Schedule F – Teachers' Plan Provisions

Plan 2:

Eligibility:

A member with at least five years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.

Annual Benefit:

Same as normal retirement benefit, but both AFC and service are determined at the time the member leaves active employment. Benefits commence unreduced at Social Security Normal Retirement Age. Reduced benefits may commence on or after age 60 with five years of service.

Payment Form:

Same as for Normal Retirement above.

Death Benefit:

The beneficiary of a member who dies after leaving active service but before retiring is entitled to receive a lump sum distribution of the deceased member's contribution account.

**Withdrawal (Refund) Benefit:**

Eligibility:

All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their contributions plus interest in lieu of the deferred benefits otherwise due.

Benefit:

The member who withdraws receives a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is credited at 4%.

**Death Benefit:**

Eligibility:

Death must have occurred while an active or inactive, non-retired member.



## Schedule F – Teachers' Plan Provisions

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### Benefit:

Upon the death of a non-vested member, a refund of the member's contributions and interest is paid. Upon the death of a vested member, if death occurs while in active service the qualifying survivor of the member is entitled to receive a benefit determined as though the member retired, elected the 100% Survivor Option, then died. If the member dies before reaching age 55, the member is assumed to be 55 for benefit calculation purposes. The qualifying survivor may elect to receive a refund of the contributions plus interest in lieu of the monthly benefit. If the death occurs while inactive, benefits payable are described in Section 9(d).

### Work-Related Death:

Qualifying survivor would receive 50% of AFC if beneficiary does not qualify for Social Security survivor benefits and 33 1/3% of AFC if beneficiary qualifies for Social Security survivor benefits. This benefit is reduced by Worker's Compensation. In addition, a refund of the member's contribution account is paid to the beneficiary.

### Cost-of-Living Increase:

- Plan 1: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 3% of the Consumer Price Index increase plus half of each percentage increase from 3% to 7%.
- Plan 2: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 2% increase of the Consumer Price Index plus half of each percent from 2% to 4%, with the maximum cost-of-living increase of 3%.
- Plans 1 & 2: The COLA is deferred for one full calendar year after the member reaches unreduced retirement age. The deferred COLA does not apply to employees within 5 years of eligibility for unreduced retirement as of January 1, 2013 and to members who retire with twenty or more years of service.





Schedule F – State Police Plan Provisions

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**STATE POLICE**  
**Plan Specific Benefit Provisions**

|                                    |   |
|------------------------------------|---|
| <b>Effective Date:</b>             | July 1, 1950  |
| <b>Type of Plan:</b>               | SPORS is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is considered a single-employer PERS.   |
| <b>Service:</b>                    | Employees receive credit of one month of service for each month a contribution is made on their behalf to SPORS. A member may also purchase credit for certain periods, such as time spent in the military, by paying a purchase rate (5 or 15 percent of the larger of current creditable compensation or final average compensation times the number of years to be purchased). Special rules and limits govern the purchase of additional service.   |
| <b>Average Final Compensation:</b> |   |
| Plan 1:                            | The average of the member's highest 36 consecutive months of salary.  |
| Plan 2:                            | The average of the member's highest 60 consecutive months of salary.  |
| <b>Normal Retirement:</b>          | Eligibility:<br><br>A member may retire upon Normal Retirement on or after age 60 with credit for 5 years of service.<br><br>Annual Benefit:<br><br>1.85% of average final compensation (AFC) times years of service. (Previously 1.7% of AFC times years of service.)<br><br>Payment Form:<br><br>Benefits are paid as a monthly life annuity, with a guarantee that if the payments do not exceed the member's contributions plus interest, determined as of the date at retirement, the balance will be paid in a lump sum to the member's beneficiary. Optional forms of payment are available. |



## Schedule F – State Police Plan Provisions

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### Temporary supplement:

A member hired on or after July 1, 1974 who has 20 or more years of hazardous service at retirement or a member hired before July 1, 1974 who is vested under SPORS/VaLORS benefits shall receive an additional annual retirement allowance of \$13,128 payable from the date of retirement to their Social Security normal retirement age. This amount is adjusted biennially based upon increases in Social Security benefits during the interim period.

### **Early Retirement:**

#### Eligibility:

A member may retire early after reaching age 50 with at least five years of service.

#### Annual Benefit:

Calculated the same as the normal retirement benefit, using actual service at retirement and reduced by 1/2% for the first 60 months and 4/10% for any additional months of early retirement. This reduction is applied for each month that the retirement age precedes 60, or if more favorable, for each month the service at retirement is less than 25. No reduction applies if the member has credit for 25 years of service at retirement.

#### Payment Form:

Same as for Normal Retirement above.

### Temporary Supplement:

A member hired on or after July 1, 1974 who has 20 or more years of hazardous service at retirement or a member hired before July 1, 1974 who is vested under SPORS/VaLORS benefits shall receive an additional annual retirement allowance of \$13,128 payable from the date of retirement to their Social Security normal retirement age. This amount is adjusted biennially based upon increases in Social Security benefits during the interim period.



## *Schedule F – State Police Plan Provisions*

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### **Disability Retirement - Non-VSDP:**

#### Eligibility:

A member hired prior to 1/1/1999 and who has declined VSDP coverage is eligible from the first day of employment.

#### Monthly Benefit:

For members with less than five years of service credit, the minimum guaranteed benefit. For members with greater than five years of service credit, the greater of the minimum guaranteed benefit and 1.7% of AFC times service credit. Benefit is reduced by Worker's Compensation (if any).

#### Minimum Guaranteed Benefit:

- Workers Compensation Guarantee:  

66 2/3% of AFC if member does not qualify for primary Social Security and 50% of AFC if member qualifies for primary Social Security.
- Special Retirement Allowance Guarantee:  

50% of AFC if member does not qualify for primary Social Security and 33 1/3% of AFC if member qualifies for primary Social Security.

#### Service Credit:

If disability occurs before age 60, service is the smaller of 1) twice actual service, and 2) rendered service plus the number of years remaining between age at disability and age 60.



## Schedule F – State Police Plan Provisions

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### Payment Form:

The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump sum to the member's beneficiary. 100% and 50% Survivor Options are also permitted for disability retirement. (A refund of the member's contribution account is paid out for a work-related disability.)

### **Disability Retirement – VSDP:**

Provisions applying to members entering in 1999 or later and continuing members who have elected this benefit: In lieu of the above benefits, these members will be covered by the Virginia Sickness and Disability Program (VSDP). Under VSDP, these members will receive a deferred benefit payable at age 60 from this plan. The deferred benefit will be computed like a normal retirement benefit. For this calculation, a member's creditable service will include the period of disability, and the Average Final Compensation will be adjusted to reflect increases in the cost-of-living between the date of disability and age 60. If the member dies while disabled before age 60, a death benefit will be determined as though the employee were an active member.

### **Deferred Termination Benefit:**

#### Eligibility:

A member with at least five years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.

#### Annual Benefit:

Same as normal retirement benefit, but both AFC and service are determined at the time the member leaves active employment. Benefits may commence unreduced at age 60 or at age 50 with at least 25 years of service. Reduced benefits may commence at or after age 50 if the member is not eligible for an unreduced benefit.

#### Payment Form:

The form of payment is the same as for Normal Retirement above.



## Schedule F – State Police Plan Provisions

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### Death Benefit:

The beneficiary of a member who dies after leaving active service but before retiring is entitled to receive a lump sum distribution of the deceased member's contribution account.

### **Withdrawal (Refund) Benefit:**

#### Eligibility:

All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their contributions plus interest in lieu of the deferred benefits otherwise due.

#### Benefit:

The member who withdraws receives a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is credited at 4%.

### **Death Benefit**

#### Eligibility:

Death must have occurred while an active, non-retired member.

#### Benefit:

Upon the death of a non-vested member, a refund of the member's contributions and interest is paid. Upon the death of a vested member, if death occurs while in active service the qualifying survivor of the member is entitled to receive a benefit determined as though the member retired, elected the 100% Survivor Option, then died. If the member dies before reaching age 50, the member is assumed to be 50 for benefit calculation purposes. The qualifying survivor may elect to receive a refund of the contributions plus interest in lieu of the monthly benefit. If the death occurs while inactive, benefits payable are described in Section 9(d).

#### Work-Related Death:

Qualifying survivor would receive 50% of AFC if beneficiary does not qualify for Social Security survivor benefits and 33 1/3% of AFC if beneficiary qualifies for Social Security survivor benefits. This benefit is reduced by Worker's Compensation. In addition, a refund of the member's contribution account is paid to the beneficiary.



*Schedule F – State Police Plan Provisions*

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**Cost-of-Living Increase:**

- Plan 1: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 3% of the Consumer Price Index increase plus half of each percentage increase from 3% to 7%.
- Plan 2: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 2% increase of the Consumer Price Index plus half of each percent from 2% to 4%, with the maximum cost-of-living increase of 3%. This COLA will be deferred until the date at which the member is eligible for unreduced retirement.
- Plans 1 & 2: The COLA is deferred for one full calendar year after the member reaches unreduced retirement age. The deferred COLA does not apply to employees within 5 years of eligibility for unreduced retirement as of January 1, 2013 and to members who retire with twenty or more years of service.



*Schedule F – Judicial Plan Provisions*

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**JUDICIAL**  
**Plan Specific Benefit Provisions**

|                                    |   |
|------------------------------------|---|
| <b>Effective Date:</b>             | July 1, 1970  |
| <b>Type of Plan:</b>               | JRS is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is considered a single-employer PERS.   |
| <b>Service:</b>                    |   |
| Plan 1:                            | Employees receive credit of one month of service multiplied by a weighting factor of 3.5 (2.5 for judges entering JRS on or after January 1, 1995) for each month a contribution is made on their behalf to JRS. This weighted service is used for all purposes under this plan, including determining a member's vested status, determining whether a member is eligible for retirement, computing early retirement reductions, and computing the amount of the benefit. A member may also purchase credit for certain periods, such as time spent in the military, by paying a purchase rate (5 or 15 percent of the larger of current creditable compensation or final average compensation times the number of years to be purchased). Special rules and limits govern the purchase of additional service.  |
| Plan 2:                            | Employees receive credit of one month of service multiplied by a tiered weighting factor for each month a contribution is made on their behalf to JRS. First term judges under age 45 use a weighting factor of 1.5, judges age 45 – 54 use a weighting factor of 2.0, and judges age 55 and above use a weighting factor of 2.5. This weighted service is used for all purposes under this plan, including determining a member's vested status, determining whether a member is eligible for retirement, computing early retirement reductions, and computing the amount of the benefit. A member may also purchase credit for certain periods, such as time spent in the military, by paying a purchase rate (5 or 15 percent of the larger of current creditable compensation or final average compensation times the number of years to be purchased). Special rules and limits govern the purchase of additional service. |
| <b>Average Final Compensation:</b> |   |
| Plan 1:                            | The average of the member's highest 36 consecutive months of salary.  |
| Plan 2:                            | The average of the member's highest 60 consecutive months of salary.  |



## Schedule F – Judicial Plan Provisions

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### **Normal Retirement**

#### Eligibility:

A member may retire upon Normal Retirement on or after age 65 with credit for 5 years of service.

#### Annual Benefit:

1.7% of average final compensation (AFC) times years of service, not to exceed 78% of AFC. For members hired after January 1, 2013, the benefit multiplier is 1.65%.

#### Payment Form:

Benefits are paid as a monthly life annuity, with a guarantee that if the payments do not exceed the member's contributions plus interest, determined as of the date at retirement, the balance will be paid in a lump sum to the member's beneficiary. Optional forms of payment are available.

### **Early Retirement**

#### Eligibility:

A member may retire early after reaching age 55 with credit for five years of service.

#### Annual Benefit:

Calculated the same as the normal retirement benefit, using actual service at retirement and multiplied by a reduction factor. No reduction applies if the member has reached age 60 and has credit for 30 or more years of creditable service. For other members, the reduction is 0.5% per month for the first 60 months and 0.4% per month for the next 60 months. This reduction is measured from the later of age 60 and the point at which the member would have earned 30 years of service, or if more favorable, from age 65.

#### Payment Form:

Same as for Normal Retirement above.





## Schedule F – Judicial Plan Provisions

### **Disability Retirement**

#### Eligibility:

A member is eligible from the first day of employment.

#### Annual Benefit:

For members with less than five years of service credit, the minimum guaranteed benefit. For members with greater than five years of service credit, the greater of the minimum guaranteed benefit and 1.7% of AFC times service credit. Benefit is reduced by Worker's Compensation (if any).

#### Minimum Guaranteed Benefit:

- **Workers Compensation Guarantee:**

66 2/3% of AFC if member does not qualify for primary Social Security and 50% of AFC if member qualifies for primary Social Security.
  
- **Special Retirement Allowance Guarantee**

50% of AFC if member does not qualify for primary Social Security and 33 1/3% of AFC if member qualifies for primary Social Security.

#### Service Credit:

If disability occurs before age 60, service is the smaller of 1) twice actual service, and 2) rendered service plus the number of years remaining between age at disability and age 60.

#### Payment Form:

The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump sum to the member's beneficiary. 100% and 50% Survivor Options are also permitted for disability retirement. (A refund of the member's contribution account is paid out for a work-related disability.)



## *Schedule F – Judicial Plan Provisions*

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### **Deferred Termination Benefit Eligibility:**

A member with at least five years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit

#### **Annual Benefit:**

Same as normal retirement benefit, but both AFC and service are determined at the time the member leaves active employment. Benefits may commence unreduced at age 65 or at age 60 with at least 30 years of service. Reduced benefits may commence at or after age 55 if the member is not eligible for an unreduced benefit.

#### **Payment Form:**

The form of payment is the same as for Normal Retirement above.

#### **Death Benefit:**

The beneficiary of a member who dies after leaving active service but before retiring is entitled to receive a lump sum distribution of the deceased member's contribution account.

### **Withdrawal (Refund) Benefit**

#### **Eligibility:**

All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their contributions plus interest in lieu of the deferred benefits otherwise due.

#### **Benefit:**

The member who withdraws receives a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is credited at 4%.



## Schedule F – Judicial Plan Provisions

### **Death Benefit**

#### Eligibility:

Death must have occurred while an active, non-retired member.

#### Benefit:

Upon the death of a non-vested member, a refund of the member's contributions and interest is paid. Upon the death of a vested member, if death occurs while in active service the qualifying survivor of the member is entitled to receive a benefit determined as though the member retired, elected the 100% Survivor Option, then died. If the member dies before reaching age 55, the member is assumed to be 55 for benefit calculation purposes. The qualifying survivor may elect to receive a refund of the contributions plus interest in lieu of the monthly benefit. If the death occurs while inactive, benefits payable are described in Section 8(d).

#### Work-Related Death:

Qualifying survivor would receive 50% of AFC if beneficiary does not qualify for Social Security survivor benefits, and 33 1/3% of AFC if beneficiary qualifies for Social Security survivor benefits. This benefit is reduced by Worker's Compensation. In addition, a refund of the member's contribution account is paid to the beneficiary.

### **Cost-of-Living Increase:**

- Plan 1: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 3% of the Consumer Price Index increase plus half of each percentage increase from 3% to 7%.
- Plan 2: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 2% increase of the Consumer Price Index plus half of each percent from 2% to 4%, with the maximum cost-of-living increase of 3%.
- Plans 1 & 2: The COLA is deferred for one full calendar year after the member reaches unreduced retirement age. The deferred COLA does not apply to employees within 5 years of eligibility for unreduced retirement as of January 1, 2013 and to members who retire with twenty or more years of service.



Schedule F – Virginia Law Officers’ Plan Provisions

**VIRGINIA LAW OFFICERS  
Plan Specific Benefit Provisions**

|                                    |   |
|------------------------------------|---|
| <b>Effective Date:</b>             | October 1, 1999   |
| <b>Type of Plan:</b>               | VaLORS is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is considered a single-employer PERS.  |
| <b>Service:</b>                    | Employees receive credit of one month of service for each month a contribution is made on their behalf to VaLORS. A member may also purchase credit for certain periods, such as time spent in the military, by paying a purchase rate (5 or 15 percent of the larger of current creditable compensation or final average compensation times the number of years to be purchased). Special rules and limits govern the purchase of additional service.  |
| <b>Average Final Compensation:</b> |   |
| Plan 1:                            | The average of the member’s highest 36 consecutive months of salary.  |
| Plan 2:                            | The average of the member’s highest 60 consecutive months of salary.  |
| <b>Normal Retirement:</b>          | Eligibility:<br><br>A member may retire upon Normal Retirement on or after age 60 with credit for 5 years of service.<br><br>Annual Benefit:<br><br>For all employees hired on or after July 1, 2001, the benefit is calculated as 2.0% of average final compensation (AFC) times years of service.<br><br>Employees hired before July 1, 2001, must make a one-time election to receive benefits under (i) or (ii) below:<br><br>(i) 1.7% of average final compensation (AFC) times years of service plus the temporary supplement described in 5(d).<br><br>(ii) 2.0% of average final compensation (AFC) times years of service and no temporary supplement. |



## Schedule F – Virginia Law Officers’ Plan Provisions

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### Payment Form:

Benefits are paid as a monthly life annuity, with a guarantee that if the payments do not exceed the member's contributions plus interest, determined as of the date at retirement, the balance will be paid in a lump sum to the member's beneficiary. Optional forms of payment are available.

### Temporary supplement:

Temporary Supplement: A member who is hired before July 1, 2001, and who was either (i) hired on or after July 1, 1974 who has 20 or more years of hazardous service at retirement or (ii) a member hired before July 1, 1974 who is vested under SPORS/VaLORS benefits shall be eligible to receive an additional annual retirement allowance of \$13,128 payable from the date of retirement to age 65. This amount is adjusted biennially based upon increases in Social Security benefits during the interim period. The eligible employee must have made a one-time election to receive benefits under b(i) to receive this supplement.

### Early Retirement:

#### Eligibility:

A member may retire early after reaching age 50 with credit for five years of service.

#### Annual Benefit:

Calculated the same as the normal retirement benefit, using actual service at retirement and reduced by 0.5% per month for the first 60 months and 0.4% per month for any additional months of early retirement. This reduction is applied for each month that the retirement age precedes 60, or if more favorable, for each month the service at retirement is less than 25. No reduction applies if the member has credit for 25 years of service at retirement.

#### Payment Form:

Same as for Normal Retirement above.



## Schedule F – Virginia Law Officers' Plan Provisions

### Temporary Supplement:

Temporary Supplement: A member who is hired before July 1, 2001, and who was either (i) hired on or after July 1, 1974 who has 20 or more years of hazardous service at retirement or (ii) a member hired before July 1, 1974 who is vested under SPORS/VaLORS benefits shall be eligible to receive an additional annual retirement allowance or \$13,128 payable from the date of retirement to age 65. This amount is adjusted biennially based upon increases in Social Security benefits during the interim period. The eligible employee must have made a one-time election to receive benefits under 5(b)(i) to receive this supplement.

### Disability Retirement - Non-VSDP:

#### Eligibility:

A member hired prior to 1/1/1999 and who has declined VSDP coverage is eligible from the first day of employment.

#### Monthly Benefit:

For members with less than five years of service credit, the minimum guaranteed benefit. For members with greater than five years of service credit, the greater of the minimum guaranteed benefit and 1.7% of AFC times service credit. Benefit is reduced by Worker's Compensation (if any).

#### Minimum Guaranteed Benefit:

- Workers Compensation Guarantee:  
66 2/3% of AFC if member does not qualify for primary Social Security and 50% of AFC if member qualifies for primary Social Security.
- Special Retirement Allowance Guarantee:  
50% of AFC if member does not qualify for primary Social Security and 33 1/3% of AFC if member qualifies for primary Social Security.



## Schedule F – Virginia Law Officers' Plan Provisions

### Service Credit:

If disability occurs before age 60, service is the smaller of 1) twice actual service, and 2) rendered service plus the number of years remaining between age at disability and age 60.

### Payment Form:

The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump sum to the member's beneficiary. 100% and 50% Survivor Options are also permitted for disability retirement. (A refund of the member's contribution account is paid out for a work-related disability.)

### **Disability Retirement – VSDP:**

Provisions applying to members entering in 1999 or later and continuing members who have elected this benefit: In lieu of the above benefits, these members will be covered by the Virginia Sickness and Disability Program (VSDP). Under VSDP, these members will receive a deferred benefit payable at age 60 from this plan. The deferred benefit will be computed like a normal retirement benefit. For this calculation, a member's creditable service will include the period of disability, and the Average Final Compensation will be adjusted to reflect increases in the cost-of-living between the date of disability and age 60. If the member dies while disabled before age 60, a death benefit will be determined as though the employee were an active member.

### **Deferred Termination Benefit:**

#### Eligibility:

A member with at least five years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.

#### Annual Benefit:

Same as normal retirement benefit, but both AFC and service are determined at the time the member leaves active employment. Benefits may commence unreduced at age 60 or at age 50 with at least 25 years of service. Reduced benefits may commence at or after age 50 if the member is not eligible for an unreduced benefit.



## Schedule F – Virginia Law Officers' Plan Provisions

### Payment Form:

The form of payment is the same as for Normal Retirement above.

### Death Benefit:

The beneficiary of a member who dies after leaving active service but before retiring is entitled to receive a lump sum distribution of the deceased member's contribution account.

### Withdrawal (Refund) Benefit:

#### Eligibility:

All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their contributions plus interest in lieu of the deferred benefits otherwise due.

#### Benefit:

The member who withdraws receives a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is credited at 4%.

### Death Benefit:

#### Eligibility:

Death must have occurred while an active or inactive, non-retired member.

#### Benefit:

Upon the death of a non-vested member, a refund of the member's contributions and interest is paid. Upon the death of a vested member, if death occurs while in active service the qualifying survivor of the member is entitled to receive a benefit determined as though the member retired, elected the 100% Survivor Option, then died. If the member dies before reaching age 50, the member is assumed to be 50 for benefit calculation purposes. The qualifying survivor may elect to receive a refund of the contributions plus interest in lieu of the monthly benefit. If the death occurs while inactive, benefits payable are described in Section 9(d).





## Schedule F – Virginia Law Officers' Plan Provisions

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### Work-Related Death:

Qualifying survivor would receive 50% of AFC if beneficiary does not qualify for Social Security survivor benefits and 33 1/3% of AFC if beneficiary qualifies for Social Security survivor benefits. This benefit is reduced by Worker's Compensation. In addition, a refund of the member's contribution account is paid to the beneficiary.

### Cost-of-Living Increase:

- Plan 1: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 3% of the Consumer Price Index increase plus half of each percentage increase from 3% to 7%.
- Plan 2: Members qualify for cost-of-living increased on July 1 of the second calendar year after retirement. Automatic cost-of-living increases are calculated as the first 2% increase of the Consumer Price Index plus half of each percent from 2% to 4%, with the maximum cost-of-living increase of 3%.
- Plans 1 & 2: The COLA is deferred for one full calendar year after the member reaches unreduced retirement age. The deferred COLA does not apply to employees within 5 years of eligibility for unreduced retirement as of January 1, 2013 and to members who retire with twenty or more years of service.



## Schedule F – Summary of Plan Changes

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### Summary of Plan Changes

#### 1996 Valuation

1. Any member with at least 25 years of service may purchase prior service credit for a) active duty military service in the armed forces of the United States, b) certified creditable service in the retirement system of another state, or c) both at the rate of 5% of current compensation or average final compensation, if greater, times years of service purchased.
2. VRS may enter into an agreement with any political subdivision of the Commonwealth of Virginia which has a defined benefit plan that is not supplemental to VRS to permit portability of service credit on a cost-neutral basis.
3. Early retirement is allowed at age 50 with 10 years of service. The early retirement benefit is determined as if the member is age 55 (but using actual service and AFC) reduced by 0.6% for each month the member is younger than age 55. This benefit can be no smaller than the value of the member's contributions and interest paid in monthly installments over the member's lifetime.
4. The service multiplier for judges entering the Retirement System after January 1, 1995 is 2.5.
5. Effective 7/1/98, a health credit of \$1.50 per month per year of service (up to 30 years) is automatically provided to teachers in VRS who retire with at least 15 years of service. An additional credit of \$1.00 per month per year of service (up to 30 years) can be provided.

#### 1998 Valuation

1. Effective January 1, 1999, the retirement benefit became 1.7% of average final pay times years of service. The 3% benefit adjustment was eliminated for future retirees. A 1.6% ad hoc benefit increase was provided for all retirees and beneficiaries receiving benefits as of December 31, 1999.
2. On January 1, 1999, the Virginia Sickness and Disability Program became effective. All future new members will be covered by this program, and will only receive a deferred retirement benefit from VRS. Members joining before 1999 were allowed to make a one-time irrevocable election to join this program. (Applies to State Employees and State Police.)
3. Effective July 1, 1999, state employees, teachers and employees of participating local units that had not elected out of this benefit may retire with an unreduced benefit if they are at least 50 years old and they have earned at least 30 years of service.

#### 1999 Valuation

1. 100% Joint and Survivor Option is payable in the case of death of a member who dies while in active service.
2. 100% Joint and Survivor Option is payable for disability retirement.



## Schedule F – Summary of Plan Changes

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### **2000 Valuation**

1. On October 1, 1999, the Virginia Law Officers' Retirement System became effective.
2. On November 15, 2000 the VRS Board of Trustees adopted the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2000 actuarial experience.
3. The Board of Trustees adopted the use of a "pooled" contribution rate for State Employees and Teachers.

### **2001 Valuation**

1. The State Police System had their temporary supplement starting at retirement extended from age 65 to their Social Security retirement age.
2. The Virginia Law Officers System has changed their benefit multiplier from 1.7% to 2.0% of pay with no temporary supplement for all new hires and rehires after July 1, 2001 as well as for current participants who have made an election to change formulas.
3. The Partial Lump Sum Option was added as an additional optional form of payment. This option provides the retiring member with a lump sum payment equal to the sum of 12, 24, or 36 payments of the standard monthly life annuity. The member's monthly annuity is actuarially reduced to reflect the lump sum payment.

### **2002 Valuation**

No material changes were made to the plan provisions.

### **2003 Valuation**

No actuarially material changes were made to the plan provisions. Listed below are the two minor changes of note.

1. School superintendents with five years of service may now purchase an additional ten years of out-of-state service. The superintendent must not be eligible for an out-of-state benefit.
2. The leveling option was restored as an optional form of payment. Benefits may be leveled to age 62 or older, and the benefit cannot reduce more than 50%. Any COLAs are calculated on the basic benefit amount.

### **2004 Valuation**

No material changes were made to the plan provisions.



## Schedule F – Summary of Plan Changes

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### **2005 Valuation**

No material changes were made to the plan provisions.

### **2006 Valuation**

No material changes were made to the plan provisions.

### **2007 Valuation**

The State Police changed their benefit multiplier from 1.7% to 1.85% of pay.

### **2008 Valuation**

No material changes were made to the plan provisions.

### **2009 Valuation**

The temporary retirement supplement for SPORS and VaLORS changed from \$11,508 to \$12,456.

### **2010 Valuation**

No material changes were made to the plan provisions.

### **2011 Valuation**

In 2010, VRS adopted a second retirement plan. All employees hired on or after July 1, 2010 are automatically enrolled in this plan. The differences between Plan 1 and Plan 2 are listed below:

1. The Average Final Compensation is now based on the highest 60 consecutive months of service.
2. The Cost of Living Adjustment was adjusted to be the first 2% increase of the Consumer Price Index plus half of each percent from 2% to 10%, with the maximum cost-of-living increases of 6%.
3. The Normal Retirement Age is Social Security normal retirement age plus five years of service. A member is eligible for unreduced early retirement when the sum of his or her age plus years of service is 90 (Rule of 90). Eligibility for reduced early retirement is at age 60 with five years of service.
4. Judges service weight has been changed. For first term judges less than age 45 the service weight is 1.5; for judges age 45 – 54 the service weight is 2.0; finally, for judges age 55 and above the service weight is 2.5.

The State Employees Plan and the Teachers Plan adopted changes 1, 2, and 3 listed above. The State Police Plan and the Virginia Law Officers Plan adopted changes 1 and 2 listed above. The Judicial Plan adopted changes 1, 2, and 4



## Schedule F – Summary of Plan Changes

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### **2012 Valuation**

In, 2012 HB 1130 / SB 498 was enacted and will go into effect on January 1, 2013. A summary of this bill is listed below:

1. Active non-vested members in Plan 1 will have their Average Final Compensation based on the highest 60 consecutive months of service instead of the highest 36 consecutive months of service. This provision applies to all plans.
2. Active non-vested members in Plan 1 and all Plan 2 members will accrue benefits at 1.65% as of the effective date. This provision applies only to the State and Teacher Plans as well as members in political subdivision plans not covered by hazardous duty benefits members.
3. Active members in the Judicial plan hired after January 1, 2013 will accrue benefits at 1.65%.
4. Active non-vested members in Plan 1 will now have to satisfy the Rule of 90 (sum of age and service at least 90) or reach their Social Security Normal Retirement Age to be eligible for Unreduced Retirement. These same members must attain age 60 with 5 years of service to be eligible for Early Retirement. This provision applies only to the State and Teachers Plans as well as members in political subdivision plans not covered by hazardous duty benefits members.
5. Active non-vested members in Plan 1 and all Plan 2 members will only be able to receive a maximum COLA of 3%. This provision applies to all plans.
6. All active employees not within 5 years of eligibility for unreduced retirement as of January 1, 2013 and retiring with less than 20 years of service will have their COLA deferred to one year after their unreduced retirement date after beginning to receive benefits. All active employees within 5 years of eligibility for unreduced retirement as of January 1, 2013 are grandfathered into the old provisions with no deferral of the COLA.



Schedule G – Schedule of Active Member Data

**STATE EMPLOYEES  
AS OF June 30, 2013**

| Attained Age | Completed Years of Service |        |          |          |          |          |       |        | Total            | Payroll |
|--------------|----------------------------|--------|----------|----------|----------|----------|-------|--------|------------------|---------|
|              | Under 5                    | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30+   |        |                  |         |
| Under 20     | 33                         | 0      | 0        | 0        | 0        | 0        | 0     | 33     | \$ 731,294       |         |
| 20 to 24     | 1,589                      | 21     | 0        | 0        | 0        | 0        | 0     | 1,610  | \$ 47,633,879    |         |
| 25 to 29     | 3,989                      | 924    | 12       | 0        | 0        | 0        | 0     | 4,925  | \$ 178,207,155   |         |
| 30 to 34     | 3,489                      | 2,544  | 467      | 15       | 0        | 0        | 0     | 6,515  | \$ 275,189,437   |         |
| 35 to 39     | 2,785                      | 2,377  | 1,243    | 335      | 13       | 0        | 0     | 6,753  | \$ 314,520,568   |         |
| 40 to 44     | 2,658                      | 2,578  | 1,601    | 1,043    | 444      | 25       | 0     | 8,349  | \$ 404,537,698   |         |
| 45 to 49     | 2,441                      | 2,505  | 1,773    | 1,256    | 1,304    | 806      | 29    | 10,114 | \$ 489,253,885   |         |
| 50 to 54     | 2,100                      | 2,500  | 1,917    | 1,340    | 1,650    | 1,725    | 1,037 | 12,269 | \$ 613,643,096   |         |
| 55 to 59     | 1,633                      | 2,135  | 1,756    | 1,348    | 1,476    | 1,519    | 2,591 | 12,458 | \$ 657,074,413   |         |
| 60           | 264                        | 364    | 311      | 258      | 284      | 262      | 560   | 2,303  | \$ 123,582,369   |         |
| 61           | 169                        | 296    | 310      | 236      | 270      | 257      | 531   | 2,069  | \$ 111,498,326   |         |
| 62           | 189                        | 278    | 243      | 228      | 233      | 229      | 412   | 1,812  | \$ 99,648,103    |         |
| 63           | 114                        | 240    | 239      | 186      | 190      | 192      | 380   | 1,541  | \$ 87,751,936    |         |
| 64           | 92                         | 192    | 208      | 152      | 159      | 179      | 329   | 1,311  | \$ 76,636,986    |         |
| 65           | 68                         | 156    | 175      | 126      | 128      | 124      | 293   | 1,070  | \$ 63,841,999    |         |
| 66           | 47                         | 116    | 121      | 107      | 114      | 84       | 235   | 824    | \$ 48,879,865    |         |
| 67           | 31                         | 69     | 73       | 52       | 50       | 57       | 131   | 463    | \$ 29,614,600    |         |
| 68           | 22                         | 58     | 48       | 31       | 47       | 41       | 115   | 362    | \$ 22,043,514    |         |
| 69           | 17                         | 44     | 45       | 32       | 32       | 33       | 111   | 314    | \$ 20,751,417    |         |
| 70 & Over    | 32                         | 84     | 111      | 90       | 91       | 89       | 287   | 784    | \$ 51,507,629    |         |
| Total        | 21,762                     | 17,481 | 10,653   | 6,835    | 6,485    | 5,622    | 7,041 | 75,879 | \$ 3,716,548,169 |         |

Average Age: 48.25

Average Service: 12.83



Schedule G – Schedule of Active Member Data

**TEACHERS**  
**AS OF June 30, 2013**

| Attained Age | Completed Years of Service |        |          |          |          |          |       |         | Total            | Payroll |
|--------------|----------------------------|--------|----------|----------|----------|----------|-------|---------|------------------|---------|
|              | Under 5                    | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30+   |         |                  |         |
| Under 20     | 8                          | 0      | 0        | 0        | 0        | 0        | 0     | 8       | \$ 147,709       |         |
| 20 to 24     | 3,388                      | 19     | 0        | 0        | 0        | 0        | 0     | 3,407   | \$ 128,223,724   |         |
| 25 to 29     | 10,535                     | 4,088  | 12       | 0        | 0        | 0        | 0     | 14,635  | \$ 610,462,125   |         |
| 30 to 34     | 4,835                      | 9,810  | 2,833    | 11       | 0        | 0        | 0     | 17,489  | \$ 793,760,402   |         |
| 35 to 39     | 3,514                      | 5,235  | 6,159    | 1,543    | 5        | 0        | 0     | 16,456  | \$ 788,960,759   |         |
| 40 to 44     | 3,903                      | 5,221  | 4,782    | 4,640    | 1,345    | 9        | 0     | 19,900  | \$ 983,853,102   |         |
| 45 to 49     | 3,298                      | 5,078  | 4,159    | 2,669    | 3,135    | 1,074    | 11    | 19,424  | \$ 948,125,106   |         |
| 50 to 54     | 2,449                      | 4,526  | 4,487    | 2,726    | 2,250    | 2,789    | 1,176 | 20,403  | \$ 1,013,438,631 |         |
| 55 to 59     | 1,423                      | 3,095  | 3,778    | 2,886    | 2,465    | 1,985    | 3,265 | 18,897  | \$ 1,012,838,080 |         |
| 60           | 175                        | 448    | 546      | 549      | 513      | 400      | 648   | 3,279   | \$ 183,536,962   |         |
| 61           | 158                        | 421    | 547      | 465      | 443      | 374      | 636   | 3,044   | \$ 171,011,491   |         |
| 62           | 126                        | 329    | 442      | 412      | 388      | 306      | 487   | 2,490   | \$ 139,608,185   |         |
| 63           | 112                        | 295    | 324      | 363      | 337      | 309      | 377   | 2,117   | \$ 120,396,652   |         |
| 64           | 75                         | 219    | 310      | 266      | 290      | 244      | 300   | 1,704   | \$ 96,638,822    |         |
| 65           | 66                         | 172    | 226      | 193      | 219      | 201      | 238   | 1,315   | \$ 75,011,793    |         |
| 66           | 44                         | 152    | 180      | 144      | 133      | 119      | 159   | 931     | \$ 52,476,258    |         |
| 67           | 29                         | 54     | 87       | 72       | 77       | 60       | 79    | 458     | \$ 25,836,317    |         |
| 68           | 25                         | 56     | 70       | 54       | 52       | 48       | 84    | 389     | \$ 22,221,111    |         |
| 69           | 10                         | 40     | 55       | 26       | 31       | 29       | 49    | 240     | \$ 13,129,347    |         |
| 70 & Over    | 34                         | 102    | 108      | 92       | 87       | 70       | 178   | 671     | \$ 31,866,858    |         |
| Total        | 34,207                     | 39,360 | 29,105   | 17,111   | 11,770   | 8,017    | 7,687 | 147,257 | \$ 7,211,543,435 |         |

Average Age: 45.20

Average Service: 11.91



Schedule G – Schedule of Active Member Data

STATE POLICE  
AS OF June 30, 2013

| Attained Age | Completed Years of Service |        |          |          |          |          |     | Total | Payroll        |
|--------------|----------------------------|--------|----------|----------|----------|----------|-----|-------|----------------|
|              | Under 5                    | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30+ |       |                |
| Under 20     | 0                          | 0      | 0        | 0        | 0        | 0        | 0   | 0     | \$ -           |
| 20 to 24     | 142                        | 0      | 0        | 0        | 0        | 0        | 0   | 142   | \$ 5,401,925   |
| 25 to 29     | 173                        | 82     | 0        | 0        | 0        | 0        | 0   | 255   | \$ 10,743,819  |
| 30 to 34     | 70                         | 164    | 76       | 0        | 0        | 0        | 0   | 310   | \$ 14,358,474  |
| 35 to 39     | 27                         | 71     | 133      | 44       | 0        | 0        | 0   | 275   | \$ 13,746,721  |
| 40 to 44     | 27                         | 38     | 82       | 130      | 22       | 0        | 0   | 299   | \$ 16,225,231  |
| 45 to 49     | 18                         | 31     | 27       | 51       | 130      | 65       | 1   | 323   | \$ 19,594,033  |
| 50 to 54     | 17                         | 11     | 13       | 16       | 40       | 113      | 17  | 227   | \$ 15,399,791  |
| 55 to 59     | 1                          | 3      | 7        | 8        | 5        | 27       | 66  | 117   | \$ 8,897,635   |
| 60           | 0                          | 0      | 1        | 0        | 1        | 0        | 10  | 12    | \$ 947,975     |
| 61           | 0                          | 0      | 2        | 0        | 0        | 0        | 6   | 8     | \$ 698,005     |
| 62           | 0                          | 0      | 0        | 0        | 0        | 1        | 7   | 8     | \$ 685,398     |
| 63           | 0                          | 0      | 0        | 0        | 0        | 2        | 3   | 5     | \$ 482,024     |
| 64           | 0                          | 0      | 0        | 0        | 0        | 1        | 3   | 4     | \$ 326,985     |
| 65           | 0                          | 0      | 0        | 1        | 0        | 0        | 4   | 5     | \$ 483,653     |
| 66           | 0                          | 1      | 0        | 0        | 0        | 0        | 5   | 6     | \$ 506,807     |
| 67           | 0                          | 0      | 0        | 0        | 1        | 0        | 1   | 2     | \$ 160,073     |
| 68           | 0                          | 1      | 0        | 0        | 0        | 0        | 3   | 4     | \$ 347,880     |
| 69           | 0                          | 0      | 0        | 0        | 0        | 0        | 0   | 0     | \$ -           |
| 70 & Over    | 0                          | 0      | 0        | 0        | 0        | 0        | 0   | 0     | \$ -           |
| Total        | 475                        | 402    | 341      | 250      | 199      | 209      | 126 | 2,002 | \$ 109,006,429 |

Average Age: 40.35

Average Service: 13.48





Schedule G – Schedule of Active Member Data

**JUDICIAL  
AS OF June 30, 2013**

| Attained Age | Completed Years of Service |           |           |           |           |           |          | Total      | Payroll              |
|--------------|----------------------------|-----------|-----------|-----------|-----------|-----------|----------|------------|----------------------|
|              | Under 5                    | 5 to 9    | 10 to 14  | 15 to 19  | 20 to 24  | 25 to 29  | 30+      |            |                      |
| Under 20     | 0                          | 0         | 0         | 0         | 0         | 0         | 0        | 0          | \$ -                 |
| 20 to 24     | 0                          | 0         | 0         | 0         | 0         | 0         | 0        | 0          | \$ -                 |
| 25 to 29     | 0                          | 0         | 0         | 0         | 0         | 0         | 0        | 0          | \$ -                 |
| 30 to 34     | 0                          | 0         | 0         | 0         | 0         | 0         | 0        | 0          | \$ -                 |
| 35 to 39     | 1                          | 0         | 0         | 0         | 0         | 0         | 0        | 1          | \$ 142,329           |
| 40 to 44     | 8                          | 7         | 0         | 0         | 0         | 0         | 0        | 15         | \$ 2,224,148         |
| 45 to 49     | 20                         | 11        | 7         | 0         | 0         | 0         | 0        | 38         | \$ 5,503,332         |
| 50 to 54     | 13                         | 16        | 13        | 8         | 1         | 0         | 0        | 51         | \$ 7,697,772         |
| 55 to 59     | 19                         | 30        | 21        | 12        | 9         | 0         | 0        | 91         | \$ 13,628,007        |
| 60           | 1                          | 5         | 7         | 3         | 3         | 2         | 0        | 21         | \$ 3,181,887         |
| 61           | 5                          | 3         | 6         | 7         | 3         | 1         | 0        | 25         | \$ 3,784,855         |
| 62           | 7                          | 5         | 3         | 6         | 3         | 0         | 0        | 24         | \$ 3,589,617         |
| 63           | 1                          | 4         | 3         | 1         | 5         | 1         | 0        | 15         | \$ 2,307,456         |
| 64           | 2                          | 1         | 4         | 5         | 4         | 1         | 0        | 17         | \$ 2,571,738         |
| 65           | 1                          | 4         | 4         | 11        | 3         | 2         | 0        | 25         | \$ 3,694,853         |
| 66           | 1                          | 5         | 6         | 4         | 5         | 2         | 0        | 23         | \$ 3,447,422         |
| 67           | 0                          | 0         | 0         | 3         | 1         | 3         | 0        | 7          | \$ 1,075,328         |
| 68           | 0                          | 2         | 8         | 0         | 1         | 2         | 2        | 15         | \$ 2,258,819         |
| 69           | 0                          | 0         | 4         | 0         | 0         | 4         | 2        | 10         | \$ 1,559,918         |
| 70 & Over    | 0                          | 0         | 1         | 2         | 0         | 0         | 0        | 3          | \$ 442,792           |
| <b>Total</b> | <b>79</b>                  | <b>93</b> | <b>87</b> | <b>62</b> | <b>38</b> | <b>18</b> | <b>4</b> | <b>381</b> | <b>\$ 57,110,273</b> |

Average Age: 58.66

Average Service: 11.66



Schedule G – Schedule of Active Member Data

**VIRGINIA LAW OFFICERS  
AS OF June 30, 2013**

| Attained Age | Completed Years of Service |              |              |              |            |            |           | Total        | Payroll               |
|--------------|----------------------------|--------------|--------------|--------------|------------|------------|-----------|--------------|-----------------------|
|              | Under 5                    | 5 to 9       | 10 to 14     | 15 to 19     | 20 to 24   | 25 to 29   | 30+       |              |                       |
| Under 20     | 18                         | 0            | 0            | 0            | 0          | 0          | 0         | 18           | \$ 499,734            |
| 20 to 24     | 755                        | 13           | 0            | 0            | 0          | 0          | 0         | 768          | \$ 23,046,120         |
| 25 to 29     | 865                        | 361          | 2            | 0            | 0          | 0          | 0         | 1,228        | \$ 40,020,733         |
| 30 to 34     | 519                        | 512          | 90           | 6            | 0          | 0          | 0         | 1,127        | \$ 38,398,610         |
| 35 to 39     | 341                        | 405          | 268          | 148          | 2          | 0          | 0         | 1,164        | \$ 41,859,165         |
| 40 to 44     | 317                        | 367          | 287          | 343          | 81         | 3          | 0         | 1,398        | \$ 52,278,761         |
| 45 to 49     | 226                        | 334          | 249          | 312          | 225        | 102        | 4         | 1,452        | \$ 56,642,283         |
| 50 to 54     | 151                        | 271          | 209          | 221          | 112        | 77         | 18        | 1,059        | \$ 41,444,238         |
| 55 to 59     | 83                         | 174          | 149          | 181          | 64         | 49         | 40        | 740          | \$ 30,406,497         |
| 60           | 8                          | 29           | 16           | 30           | 7          | 6          | 9         | 105          | \$ 4,213,259          |
| 61           | 6                          | 24           | 16           | 25           | 12         | 3          | 5         | 91           | \$ 3,652,192          |
| 62           | 7                          | 20           | 8            | 12           | 6          | 3          | 7         | 63           | \$ 2,647,354          |
| 63           | 1                          | 11           | 10           | 14           | 5          | 1          | 3         | 45           | \$ 1,878,408          |
| 64           | 0                          | 8            | 12           | 8            | 4          | 1          | 4         | 37           | \$ 1,589,571          |
| 65           | 1                          | 8            | 6            | 6            | 5          | 4          | 5         | 35           | \$ 1,623,189          |
| 66           | 0                          | 4            | 5            | 2            | 2          | 1          | 0         | 14           | \$ 640,647            |
| 67           | 1                          | 1            | 1            | 4            | 0          | 0          | 0         | 7            | \$ 266,316            |
| 68           | 0                          | 0            | 0            | 3            | 0          | 2          | 1         | 6            | \$ 285,260            |
| 69           | 1                          | 0            | 0            | 0            | 0          | 0          | 0         | 1            | \$ 64,911             |
| 70 & Over    | 0                          | 3            | 2            | 3            | 1          | 2          | 3         | 14           | \$ 696,894            |
| <b>Total</b> | <b>3,300</b>               | <b>2,545</b> | <b>1,330</b> | <b>1,318</b> | <b>526</b> | <b>254</b> | <b>99</b> | <b>9,372</b> | <b>\$ 342,154,142</b> |

Average Age: 41.10

Average Service: 9.19



Schedule H – Schedule of Retiree and Beneficiary Data

**RETIREE AND BENEFICIARY DATA  
AS OF June 30, 2013**

| Employer     | Prior Year Total Retirees and Beneficiaries | Retirees and Beneficiaries |         | Current Year Total Retirees and Beneficiaries | Current Annual Allowances (000s) | Prior Annual Allowances (000s) | Annualized % Increase in Annual Allowances | Average Annual Allowances | Prior Year Average Annual Allowances | % Increase in Average Annual Allowances |
|--------------|---|----------------------------|---------|---|----------------------------------|--------------------------------|--|---------------------------|--------------------------------------|---|
|              |   | Added                      | Removed |   |                                  |                                |  |                           |                                      |   |
| State        | 48,615                                      | 2,864                      | 1,650   | 49,829  | \$ 1,021,572                     | \$ 967,750                     | 5.6%                                       | \$ 20,502                 | \$ 19,906                            | 3.0%                                    |
| Teacher      | 70,586                                      | 4,929                      | 1,607   | 73,908  | 1,718,783                        | 1,611,894                      | 6.6%                                       | 23,256                    | 22,836                               | 1.8%                                    |
| Political    | 39,570                                      | 3,504                      | 1,317   | 41,757  | 693,202                          | 634,291                        | 9.3%                                       | 16,601                    | 16,030                               | 3.6%                                    |
| Total VRS    | 158,771                                     | 11,297                     | 4,574   | 165,494                                       | \$ 3,433,557                     | \$ 3,213,935                   | 6.8%                                       | \$ 20,747                 | \$ 20,243                            | 2.5%                                    |
| State Police | 1,200                                       | 44                         | 36      | 1,208   | 47,005                           | 45,844                         | 2.5%                                       | 38,912                    | 38,203                               | 1.9%                                    |
| VaLORS       | 2,911                                       | 336                        | 34      | 3,213   | 75,370                           | 63,962                         | 17.8%                                      | 23,458                    | 21,973                               | 6.8%                                    |
| Judicial     | 463   | 40                         | 14      | 489   | 36,169                           | 32,891                         | 10.0%                                      | 73,966                    | 71,039                               | 4.1%                                    |
| Totals       | 163,345                                     | 11,717                     | 4,658   | 170,404                                       | \$ 3,592,102                     | \$ 3,356,632                   | 7.0%                                       | \$ 21,080                 | \$ 20,549                            | 2.6%                                    |

**CHANGE IN ALLOWANCES FOR RETIREES AND BENEFICIARIES  
AS OF June 30, 2013**

|              | Prior Year Annual Allowances | COLA      | Additions  | Deletions | Current Year Annual Allowances |
|--------------|------------------------------|-----------|------------|-----------|--------------------------------|
| State        | \$ 967,750                   | \$ 20,032 | \$ 61,953  | \$ 28,163 | \$ 1,021,572                   |
| Teacher      | 1,611,894                    | 33,366    | 109,470    | 35,947    | 1,718,783                      |
| Political    | 634,291                      | 13,130    | 65,289     | 19,508    | 693,202                        |
| Total VRS    | \$ 3,213,935                 | \$ 66,528 | \$ 236,712 | \$ 83,618 | \$ 3,433,557                   |
| State Police | 45,844                       | 949       | 1,703      | 1,491     | 47,005                         |
| VaLORS       | 63,962                       | 1,324     | 7,237      | (2,847)   | 75,370                         |
| Judges       | 32,891                       | 681       | 2,802      | 205       | 36,169                         |
| Totals       | \$ 3,356,632                 | \$ 69,482 | \$ 248,454 | \$ 82,466 | \$ 3,592,102                   |