

The experience and dedication you deserve

December 21, 2012

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, 2012.

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** 

 $S: \label{lem:locals} S: \label{locals} S: \label{locals} Waluation VRS 2012 with Locals (Linked). docals (Linked). The local content of the local content$ 



Report on the Actuarial Valuation for Virginia Retirement System

Prepared as of June 30, 2012



The experience and dedication you deserve

December 21, 2012

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, 2012.

- 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, 2012. 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, 2012, 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 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 comparison, in the table below we present the recommended employer contribution rates based on the June 30, 2011 actuarial valuations and the employer contribution rates approved by the General Assembly (GA) for fiscal years ending in 2013 and 2014.

	Employer Contribution Rates					
Division	6/30/2012 Valuation	6/30/2011 Valuation	Approved by GA FY 2013 & 2014			
State Employees	14.87%	13.07%	8.76%			
Teachers	18.20	16.77	11.66%			
State Police	35.16	32.62	24.74%			
Judicial	55.18	54.11	45.44%			
Virginia Law Officers	21.30	19.52	14.80%			
Political Subdivisions*	11.11	10.63	10.63%			

<sup>\*</sup>Aggregate rate for 2012 valuation, and average rates for 2011 valuation and fiscal year's 2013 and 2014.



December 21, 2012 The Board of Trustees Page 2

Contribution rates for VRS employers are established every two years. The actuarially calculated employer contribution rates based on the June 30, 2012 results 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 1/1/2013 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 of House Bill 30 (from 2011), 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. The balance of the unfunded accrued liability is being amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase by 3% annually and the amortization period will decrease by one year until reaching the minimum period of 20 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.

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. All historical information that references a valuation date prior to June 30, 2008 was prepared by a previous actuarial firm.

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 21, 2012 The Board of Trustees Page 3

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,

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

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

TJC/JIF:lam



#### Table of Contents

<u>Section</u>	<u>ltem</u>	Page No.
1	Summary of Principal Results	2
II	Membership Data	9
III	Assets	11
IV	Comments on Valuation	12
V	Contribution Rates	17
VI	Accounting Information	19
VII	Derivation of Experience Gains and Losses	23
Schedule		
Α	Valuation Balance Sheet and Solvency Test	25
В	Development of the Actuarial Value of Assets	35
С	Summary of Changes in Net Assets	41
D	Outline of Actuarial Assumptions and Methods	47
Е	Actuarial Cost Method	75
F	Summary of Main Plan Provisions as Interpreted For Valuation Purposes	76
G	Schedules of Active Member Data	111
Н	Schedules of Retiree and Beneficiary Data	116





#### Section I – Summary of Principal Results\_

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)

(\$ IN THOUSANDS)					
VALUATION DATE	June 30, 2012	June 30, 2011			
Members:					
Active	76,274	75,820			
Long Term Disability	2,106	2,087			
Retirees and Beneficiaries	54,008	52,480			
Inactive, Vested	10,537	10,195			
Inactive, Non-Vested	21,055	19,739			
Inactive, active elsewhere in VRS	<u>9,245</u>	<u>9,363</u>			
Total	173,225	169,684			
Annual Covered Payroll	\$ 3,713,119	\$ 3,686,259			
Annual Retirement Benefits	\$ 967,750	\$ 912,995			
Total Assets:					
Actuarial Value	\$ 13,740,366	\$ 14,406,275			
Market Value	13,469,215	13,992,901			
Actuarial Accrued Liability	\$ 20,944,258	\$ 20,407,958			
Unfunded Actuarial Accrued Liability (UAAL)					
10-Year Payback of Deferred Contributions	\$ 258,064	\$ 278,155			
Balance of UAAL	6,945,828	5,723,528			
Total UAAL	\$ 7,203,892	\$ 6,001,683			
Total GAAL		φ 0,001,003			
RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*	For Informational Purposes	2013 & 2014			
Employer Contribution Rate:					
Normal Cost (net of employee contributions)	3.41 %	3.55 %			
Amortization of Deferred Contributions	1.00 %	1.00 %			
Amortization of Balance of UAAL	10.46 %	8.52 %			
Annual Recommended Contribution	14.87 %	13.07 %			
Amortization Period**					
Deferred Contributions	9 years	10 years			
Balance of UAAL	29 years	30 years			
	,	·			

<sup>\*</sup> The adopted contribution rates for fiscal years ending 2013 and 2014 is 8.76%.

<sup>\*\*</sup> The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching the minimum period of 20 years. The deferred contribution, as defined under HB30, is to be amortized using a level-dollar, closed,10 year period.





## TEACHERS (\$ IN THOUSANDS)

Members:         Active         147,216         146,152           Retirees and Beneficiaries         74,169         71,010           Inactive, Vested         17,922         17,146           Inactive, Non-Vested         28,713         27,342           Inactive, active elsewhere in VRS         5,384         5,304           Total         273,404         266,954           Annual Covered Payroll         \$ 7,004,577         \$ 6,922,130           Annual Retirement Benefits         \$ 1,611,894         \$ 1,501,649           Total Assets:         \$ 24,391,761         \$ 25,166,124           Actuarial Value         \$ 24,391,761         \$ 25,166,124           Market Value         \$ 39,090,408         \$ 37,771,732           Unfunded Actuarial Accrued Liability (UAAL)         \$ 691,780         \$ 741,432           10-Year Payback of Deferred Contributions         \$ 691,780         \$ 741,432           Balance of UAAL         \$ 14,698,647         \$ 12,605,608           For Informational Purposes           Employer Contribution Rate:           Normal Cost (net of employee contributions)         5.60 %         5.93 %           Amortization of Balance of UAAL         11.18 %         9.41 %           Annual Recommended Contribution	VALUATION DATE	June 30, 2012	June 30, 2011
Active Retirees and Beneficiaries Inactive, Vested Inactive, Non-Vested Inactive, Non-Vested Inactive, active elsewhere in VRS Total  Annual Covered Payroll  Annual Retirement Benefits  Total Assets: Actuarial Value Market Value  Actuarial Accrued Liability  Unfunded Actuarial Accrued Liability (UAAL) 10-Year Payback of Deferred Contributions Balance of UAAL Total UAAL  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution  Amortization Period** Deferred Contributions  Amortization Period** Deferred Contributions Purposes  1447,216 774,169 771,116 773,124 773,424 773,404 773,004,577 76,922,130 774,149 774,149 775,004,577 76,922,130 775,004	Members:		
Retirees and Beneficiaries   174,169   171,010   1		147,216	146,152
Inactive, Non-Vested   128,713   27,342   13,044   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   266,954   273,404   273,004,577   \$6,922,130   273,004,577   \$6,922,130   273,004,577   \$6,922,130   273,004,577   \$6,922,130   273,004,577   \$6,922,130   273,004,577   \$6,922,130   273,004,577   \$6,922,130   273,004,577   \$6,922,130   273,004,649   273,004	Retirees and Beneficiaries	i :	
Inactive, active elsewhere in VRS	Inactive, Vested		17,146
Total	Inactive, Non-Vested		
Annual Covered Payroll \$ 7,004,577 \$ 6,922,130  Annual Retirement Benefits \$ 1,611,894 \$ 1,501,649  Total Assets: Actuarial Value \$ 24,391,761 \$ 25,166,124	•	<del></del>	
Annual Retirement Benefits \$ 1,611,894 \$ 1,501,649  Total Assets: Actuarial Value \$ 24,391,761 \$ 25,166,124 24,520,362  Actuarial Accrued Liability \$ 39,090,408 \$ 37,771,732  Unfunded Actuarial Accrued Liability (UAAL) 10-Year Payback of Deferred Contributions Balance of UAAL Total UAAL \$ 14,006,867 \$ 11,864,176 \$ 12,605,608  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution \$ 9 years \$ 10 years	Total	273,404	266,954
Total Assets: Actuarial Value Market Value  Actuarial Accrued Liability  Unfunded Actuarial Accrued Liability (UAAL) 10-Year Payback of Deferred Contributions Balance of UAAL Total UAAL  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions Amortization of Balance of UAAL Annual Recommended Contribution  Amortization Period** Deferred Contributions  Amortization Period** Deferred Contributions  Actuarial Value  \$ 24,391,761	Annual Covered Payroll	\$ 7,004,577	\$ 6,922,130
Actuarial Value         \$ 24,391,761         \$ 25,166,124           Market Value         \$ 39,090,408         \$ 37,771,732           Unfunded Actuarial Accrued Liability         \$ 39,090,408         \$ 37,771,732           Unfunded Actuarial Accrued Liability (UAAL)         \$ 691,780         \$ 741,432           10-Year Payback of Deferred Contributions         \$ 691,780         \$ 741,432           Balance of UAAL         \$ 14,006,867         \$ 12,605,608           RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*         For Informational Purposes         \$ 2013 & 2014           Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution         \$ 5.60 %         \$ 5.93 %           Amortization Period** Deferred Contributions         \$ 9 years         \$ 10 years	Annual Retirement Benefits	\$ 1,611,894	\$ 1,501,649
Market Value 23,930,149 24,520,362  Actuarial Accrued Liability \$ 39,090,408 \$ 37,771,732  Unfunded Actuarial Accrued Liability (UAAL) 10-Year Payback of Deferred Contributions Balance of UAAL Total UAAL \$ 691,780 \$ 741,432 \$ 14,006,867 \$ 11,864,176 \$ 14,698,647 \$ 12,605,608  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution \$ 1.42 % 1.43 % 9.41 % 18.20 % 16.77 %  Amortization Period** Deferred Contributions 9 years 10 years	Total Assets:		
Actuarial Accrued Liability  Unfunded Actuarial Accrued Liability (UAAL) 10-Year Payback of Deferred Contributions Balance of UAAL Total UAAL  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution  Amortization Period** Deferred Contributions  Amortization Period** Deferred Contributions  9 years  \$ 39,090,408 \$ 37,771,732  \$ 491,432 \$ 11,864,176 \$ 12,605,608  For Informational Purposes  \$ 5.60 % \$ 5.93 % \$ 1.43 % \$ 9.41 % \$ 11.18 % \$ 11.18 % \$ 16.77 %	Actuarial Value		\$ 25,166,124
Unfunded Actuarial Accrued Liability (UAAL) 10-Year Payback of Deferred Contributions Balance of UAAL Total UAAL  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contribution Amortization Period** Deferred Contributions  Amortization Period** Deferred Contributions  Purposes  \$ 691,780	Market Value	23,930,149	24,520,362
10-Year Payback of Deferred Contributions Balance of UAAL Total UAAL  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contribution Annual Recommended Contribution  Amortization Period** Deferred Contributions  Purposes  For Informational Purposes  5.60 % 5.93 % 1.42 % 1.43 % 1.42 % 1.43 % 1.41 % 18.20 %  Amortization Period** Deferred Contributions  9 years  10 years	Actuarial Accrued Liability	\$ 39,090,408	\$ 37,771,732
Balance of UAAL Total UAAL  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Annual Recommended Contribution  Amortization Period** Deferred Contributions  Amortization Period** Deferred Contributions  Purposes  For Informational Purposes  5.60 % 1.42 % 11.18 % 11.18 % 9.41 % 16.77 %  Purposes  5.93 % 1.43 % 9.41 % 16.77 %	Unfunded Actuarial Accrued Liability (UAAL)		
Total UAAL  RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution  Amortization Period** Deferred Contributions  Por Informational Purposes  5.60 % 5.93 % 1.42 % 1.1.18 % 11.18 % 18.20 % 16.77 %  Amortization Period** Deferred Contributions  9 years  10 years	10-Year Payback of Deferred Contributions	\$ 691,780	
RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution  Amortization Period** Deferred Contributions  Purposes  5.60 % 5.93 % 1.42 % 1.43 % 1.1.18 % 18.20 % 16.77 %  Amortization Period** Deferred Contributions  9 years  10 years	Balance of UAAL	<u>14,006,867</u>	<u>11,864,176</u>
FISCAL YEAR ENDING*  Employer Contribution Rate: Normal Cost (net of employee contributions) Amortization of Deferred Contributions Amortization of Balance of UAAL Annual Recommended Contribution  Amortization Period** Deferred Contributions  Purposes  2013 & 2014   5.60 % 1.42 % 1.43 % 1.43 % 11.18 % 18.20 % 16.77 %  Amortization Period** Deferred Contributions  9 years  10 years	Total UAAL	\$ 14,698,647	\$ 12,605,608
Normal Cost (net of employee contributions)  Amortization of Deferred Contributions  Amortization of Balance of UAAL  Annual Recommended Contribution  Amortization Period**  Deferred Contributions  5.60 %  1.42 %  1.43 %  9.41 %  18.20 %  16.77 %			2013 & 2014
Normal Cost (net of employee contributions)  Amortization of Deferred Contributions  Amortization of Balance of UAAL  Annual Recommended Contribution  Amortization Period**  Deferred Contributions  5.60 %  1.42 %  1.43 %  9.41 %  18.20 %  16.77 %	Employer Contribution Rate:		
Amortization of Deferred Contributions  Amortization of Balance of UAAL  Annual Recommended Contribution  Amortization Period**  Deferred Contributions  1.42 %  1.43 %  9.41 %  18.20 %  16.77 %		5.60 %	5.93 %
Annual Recommended Contribution 18.20 % 16.77 %  Amortization Period** Deferred Contributions 9 years 10 years		1.42 %	1.43 %
Amortization Period**  Deferred Contributions  9 years  10 years	Amortization of Balance of UAAL		
Deferred Contributions 9 years 10 years	Annual Recommended Contribution	18.20 %	16.77 %
! , ! , ,	Amortization Period**		
Balance of UAAL 29 years 30 years		:	,
	Balance of UAAL	29 years	30 years

<sup>\*</sup> The adopted contribution rates 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 the minimum period of 20 years. The deferred contribution, as defined under HB30, is to be amortized using a level-dollar, closed,10 year period.





## STATE POLICE (\$ IN THOUSANDS)

VALUATION DATE	June 30, 2012	June 30, 2011
Members:		
Active	1,881	1,738
Long-Term Disability	9	8
Retirees and Beneficiaries	1,327	1,289
Inactive, Vested	96	93
Inactive, Non-Vested	140	120
Inactive, active elsewhere in VRS	<u>196</u>	210
Total	3,649	3,458
Annual Covered Payroll	\$ 104,189	\$ 99,669
Annual Retirement Benefits	\$ 45,844	\$ 43,768
Total Assets:		
Actuarial Value	\$ 587,160	\$ 616,603
Market Value	575,468	598,686
Actuarial Accrued Liability	\$ 1,013,278	\$ 985,704
Unfunded Actuarial Accrued Liability (UAAL)		
10-Year Payback of Deferred Contributions	\$ 21,501	\$ 23,086
Balance of UAAL	404,617	346,015
Total UAAL	\$ 426,118	\$ 369,101
RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*	For Informational Purposes	2013 & 2014
Employer Contribution Rate:		
Normal Cost (net of employee contributions)	10.49 %	10.49 %
Amortization of Deferred Contributions Amortization of Balance of UAAL	2.96 % <u>21.71 %</u>	3.08 % 19.05 %
Annual Recommended Contribution	35.16 %	<u>19.05 %</u> 32.62 %
Amortization Period**	0	40
Deferred Contributions Balance of UAAL	9 years 29 years	10 years 30 years
Dalatice of OAAL	29 years	SU years

<sup>\*</sup> The adopted contribution rates for fiscal years ending 2013 and 2014 is 24.74%

<sup>\*\*</sup> The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching the minimum period of 20 years. The deferred contribution, as defined under HB30, is to be amortized using a level-dollar, closed,10 year period.





## JUDICIAL (\$ IN THOUSANDS)

VALUATION DATE	June 30, 2012	June 30, 2011
Members:		
Active	380	394
Retirees and Beneficiaries	476	459
Inactive, Vested	6	8
Inactive, Non-Vested	1	0
Inactive, active elsewhere in VRS	4	4
Total	867	- 865
Annual Covered Payroll	\$ 56,958	\$ 58,919
Annual Retirement Benefits	\$ 32,891	\$ 30,559
Total Assets:		
Actuarial Value	\$ 361,097	\$ 371,051
Market Value	354,250	361,401
Actuarial Accrued Liability	\$ 582,456	\$ 569,494
Unfunded Actuarial Accrued Liability (UAAL)		
10-Year Payback of Deferred Contributions	\$ 13,452	\$ 14,585
Balance of UAAL	207,907	183,858
Total UAAL	\$ 221,359	\$ 198,443
RECOMMENDED CONTRIBUTIONS FOR FISCAL YEAR ENDING*	For Informational Purposes	2013 & 2014
Employer Contribution Rate:		
Normal Cost (net of employee contributions)	31.39 %	33.69 %
Amortization of Deferred Contributions	3.39 %	3.29 %
Amortization of Balance of UAAL Annual Recommended Contribution	<u>20.40 %</u> 55.18 %	<u>17.13 %</u> 54.11 %
Amortization Period**	00.10 /0	3 1.11 70
Deferred Contributions	9 years	10 years
Balance of UAAL	29 years	30 years
	•	

<sup>\*</sup> The adopted contribution rates for fiscal years ending 2013 and 2014 is 45.44%

<sup>\*\*</sup> The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching the minimum period of 20 years. The deferred contribution, as defined under HB30, is to be amortized using a level-dollar, closed,10 year period.





## VIRGINIA LAW OFFICERS (\$ IN THOUSANDS)

VALUATION DATE	June 30, 2012	June 30, 2011
Members:		
Active	9,383	9,631
Long Term Disability	5,565	525
Retirees and Beneficiaries	3,075	2,730
Inactive, Vested	630	569
Inactive, Non-Vested	3,154	2,932
Inactive, active elsewhere in VRS	2,047	<u>1,927</u>
Total	18,844	18,314
Annual Covered Payroll	\$ 344,616	\$ 356,240
Annual Retirement Benefits	\$ 63,962	\$ 57,030
Total Assets:		
Actuarial Value	\$ 909,399	\$ 926,082
Market Value	894,916	910,666
Actuarial Accrued Liability	\$ 1,753,014	\$ 1,683,191
Unfunded Actuarial Accrued Liability (UAAL)		
10-Year Payback of Deferred Contributions	\$ 44,339	\$ 48,155
Balance of UAAL	<u>799,276</u>	<u>708,954</u>
Total UAAL	\$ 843,615	\$ 757,109
RECOMMENDED CONTRIBUTIONS FOR	For Informational	
FISCAL YEAR ENDING*	Purposes	2013 & 2014
Employer Contribution Rate:		
Normal Cost (net of employee contributions)	6.49 %	6.80 %
Amortization of Deferred Contributions	1.85 %	1.80 %
Amortization of Balance of UAAL	<u>12.96 %</u>	<u>10.92 %</u>
Annual Recommended Contribution	21.30 %	19.52 %
Amortization Period**	_	4.5
Deferred Contributions	9 years	10 years
Balance of UAAL	29 years	30 years

<sup>\*</sup> The adopted contribution rates for fiscal years ending 2013 and 2014 is 14.80%

<sup>\*\*</sup> The amortization period of the unfunded less the deferred contribution, will decrease by one each year until reaching the minimum period of 20 years. The deferred contribution, as defined under HB30, is to be amortized using a level-dollar, closed,10 year period.





## POLITICAL SUBDIVISIONS (\$ IN THOUSANDS)

VALUATION DATE	June 30, 2012	June 30, 2011
Number of Political Subdivisions in VRS:	583	579
Members:     Active     Long Term Disability     Retirees and Beneficiaries*     Inactive, Vested*     Inactive, Non-Vested*     Inactive, active elsewhere in VRS     Total	104,895 0 49,696 12,837 30,344 27,058 224,830	104,385 0 46,865 12,148 29,132 26,613 219,143
Annual Covered Payroll  Annual Retirement Benefits	\$ 4,162,579 \$ 634,291	\$ 4,100,470 \$ 585,297
Total Assets:** Actuarial Value Market Value	\$ 13,079,788 12,867,355	\$ 12,986,598 12,767,072
Actuarial Accrued Liability** Unfunded Actuarial Accrued Liability (UAAL)**	\$ 17,824,190 4,744,402 For Informational	\$ 17,005,070 4,018,472 For Informational
Aggregate Annual Contribution Rate*** (net of employee contributions)	Purposes 11.11 %	Purposes 10.63 %
Amortization Period	29 years	30 years

<sup>\*</sup> 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.



<sup>\*\*</sup> Includes Political Subdivisions with no active members.

<sup>\*\*\*</sup> Average Rate for 2011.



#### Section I – Summary of Principal Results\_

- Comments on the valuation results as of June 30, 2012 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.
- 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. The valuation takes into account applicable benefit changes under HB 1130 and SB 498.
- In accordance with the supplemental contribution provision of House Bill 30, Item 469, 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.

	Deferred Contributions (\$ in thousands)				
DIVISION		ing Balance as of 6/30/2012	Deferre	ed Contributions as of 6/30/2011	
State Employees	\$	258,064	\$	278,197	
Teachers		691,780		745,443	
State Police	! ! !	21,501		23,172	
Virginia Law Officers		44,339		47,824	
Judicial		13,452		14,508	
Total	\$	1,029,136	\$	1,109,144	





#### 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, 2012 on the basis of which the valuation was prepared.

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF JUNE 30, 2012 (\$ IN THOUSANDS)

TABLE 1

DIVISION	NUMBER	COMPENSATION
State Employees	76,274	\$3,713,119
Teachers	147,216	7,004,577
State Police	1,881	104,189
Judicial	380	56,958
Virginia Law Officers	9,383	344,616
Political Subdivisions	<u>104,895</u>	<u>4,162,579</u>
Total	340,029	\$15,386,038

2. The following table shows a five-year history of active member valuation data. The data as of 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
6/30/2012	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 %
6/30/2008	239,420	11,068,331	46,230	4.50 %





#### Section II – Membership Data\_

3. 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, 2012 (\$ IN THOUSANDS)

			(4	,			
				DIVISION			
TYPE OF RETIREMENT	STATE EMPLOYEES	TEACHERS	STATE POLICE	JUDICIAL	VIRGINIA LAW OFFICERS	POLITICAL SUBDIVISIONS*	TOTAL
Service: Number Annual Benefits Disability:	45,019 \$848,042	67,520 \$1,492,725	945 \$36,842	336 \$26,434	2,693 \$59,571	38,759 \$499,680	155,272 \$2,963,294
Number	4,441	4,177	202	1	216	7,548	16,585
Annual Benefits Survivors:	\$66,835	\$86,431	\$6,110	\$102	\$3,080	\$105,979	\$268,537
Number	4,548	2,472	180	139	166	3,389	10,894
Annual Benefits Total:	\$52,873	\$32,738	\$2,892	\$6,355	\$1,311	\$28,632	\$124,801
Number	54,008	74,169	1,327	476	3,075	49,696	182,751
Annual Benefits	\$967,750	\$1,611,894	\$45,844	\$32,891	\$63,962	\$634,291	\$3,356,632

- \* 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.
- 4. 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, appearing on pages 40 to 45, 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, 2012, 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)

DIVISION	JUNE 30, 2012 MARKET VALUE	JUNE 30, 2011 MARKET VALUE
State Employees	\$13,469,215	\$13,992,901
Teachers	23,930,149	24,520,362
State Police	575,468	598,686
Judicial	354,250	361,401
Virginia Law Officers	894,916	910,666
Political Subdivisions	<u>12,867,355</u>	<u>12,767,072</u>
Total Market Value of Assets	\$52,091,353	\$53,151,088

2. Schedule B shows the development of the actuarial value of assets as of June 30, 2012. The following table shows the actuarial value of assets allocated among all divisions.

TABLE 5

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

DIVISION	JUNE 30, 2012 ACTUARIAL VALUE	JUNE 30, 2011 ACTUARIAL VALUE
State Employees	\$13,740,366	\$14,406,275
Teachers	24,391,761	25,166,124
State Police	587,160	616,603
Judicial	361,097	371,051
Virginia Law Officers	909,399	926,082
Political Subdivisions	<u>13,079,788</u>	<u>12,986,598</u>
Total Actuarial Value of Assets	\$53,069,571	\$54,472,733



#### Section IV – Comments on Valuation

#### **State Employees**

- 1. The total valuation balance sheet on account of benefits as of June 30, 2012 shows that the State Employees plan has total prospective benefit liabilities of \$23,079,366,952, of which \$10,503,734,392 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$859,280,181 is for the prospective benefits payable on account of present inactive members, and \$11,716,352,379 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 \$13,740,366,000 as of June 30, 2012. The difference of \$9,339,000,952 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, \$1,385,654,339 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$7,953,346,613 represents the present value of future contributions payable by the employers.
- 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 3.41% 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 \$749,454,980. When this amount is subtracted from \$7,953,346,613, which is the present value of the total future contributions to be made by the employers, there remains \$7,203,891,633 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 11.46% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$7,203,891,633 over a closed 9-year period as level-dollar amounts with respect to the deferred contributions and over 29 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

#### **Teachers**

- 1. The total valuation balance sheet on account of benefits as of June 30, 2012 shows that the Teachers plan has total prospective benefit liabilities of \$45,260,577,250, of which \$19,503,928,334 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$857,161,022 is for the prospective benefits payable on account of present inactive members, and \$24,899,487,894 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 \$24,391,761,000 as of June 30, 2012. The difference of \$20,868,816,250 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, \$3,144,007,104 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$17,724,809,146 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 5.60% 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 \$3,026,162,034. When this amount is subtracted from \$17,724,809,146, which is the present value of the total future contributions to be made by the employers, there remains \$14,698,647,112 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 12.60% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$14,698,647,112 over a closed 9-year period as level-dollar amounts with respect to the deferred contributions and over 29 years for the balance of the unfunded accrued liability, on the assumption that the aggregate payroll for Teachers will increase by 3% each year.





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

- 1. The total valuation balance sheet on account of benefits as of June 30, 2012 shows that the SPORS plan has total prospective benefit liabilities of \$1,154,846,599, of which \$547,805,179 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$15,807,246 is for the prospective benefits payable on account of present inactive members, and \$591,234,175 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 \$587,160,000 as of June 30, 2012. The difference of \$567,686,599 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, \$45,399,413 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$522,287,186 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 10.49% 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 \$96,169,672. When this amount is subtracted from \$522,287,186, which is the present value of the total future contributions to be made by the employers, there remains \$426,117,514 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 24.67% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$426,117,514 over a closed 9-year period as level-dollar amounts with respect to the deferred contributions and over 29 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

#### **Judicial**

- 1. The total valuation balance sheet on account of benefits as of June 30, 2012 shows that the Judicial plan has total prospective benefit liabilities of \$700,736,439, of which \$332,182,898 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$3,318,566 is for the prospective benefits payable on account of present inactive members, and \$365,234,975 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 \$361,097,000 as of June 30, 2012. The difference of \$339,639,439 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, \$16,968,714 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$322,670,725 represents the present value of future contributions payable by the employers.
- 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 31.39% 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 \$101,311,533. When this amount is subtracted from \$322,670,725, which is the present value of the total future contributions to be made by the employers, there remains \$221,359,192 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 23.79% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$221,359,192 over a closed 9-year period as level-dollar amounts with respect to the deferred contributions and over 29 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

#### Virginia Law Officers (VaLORS)

- 1. The total valuation balance sheet on account of benefits as of June 30, 2012 shows that VaLORS has total prospective benefit liabilities of \$1,995,186,469, of which \$764,239,156 is for the prospective benefits payable on account of present retired members and survivors of deceased members, \$97,103,093 is for the prospective benefits payable on account of present inactive members, and \$1,133,844,220 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 \$909,399,000 as of June 30, 2012. The difference of \$1,085,787,469 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, \$116,473,471 is the present value of future contributions expected to be made by members (at the rate of 5% of salary), and the balance of \$969,313,998 represents the present value of future contributions payable by the employers.
- 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 6.49% 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 \$125,699,290. When this amount is subtracted from \$969,313,998, which is the present value of the total future contributions to be made by the employers, there remains \$843,614,708 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 14.81% of salary. This rate is sufficient to liquidate the unfunded accrued liability of \$843,614,708 over a closed 9-year period as level-dollar amounts with respect to the deferred contributions and over 29 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

1. The actuarially determined employer contribution rates for each division based on the June 30, 2012 actuarial valuation are shown in the following table:

**TABLE 6** 

Division	Employer Contribution Rate
State Employees	14.87%
Teachers	18.20
State Police	35.16
Judicial	55.18
Virginia Law Officers	21.30

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, 2012.

TABLE 7

EMPLOYER CONTRIBUTION RATE
EXPRESSED AS PERCENT OF ACTIVE MEMBER PAYROLL

	State Employees	Teachers	State Police	Judicial	Virginia Law Officers
Contribution for					
Normal Cost					
Service Retirement Benefits	6.40%	8.72%	12.61%	31.88%	8.15%
Disability Benefits	0.69%	0.61%	1.07%	2.71%	0.50%
Survivor Benefits	0.41%	0.30%	0.72%	1.81%	0.55%
Separation Benefits	<u>0.91%</u>	0.97%	<u>1.09%</u>	0.00%	<u>2.29%</u>
Total	8.41%	10.60%	15.49%	36.39%	11.49%
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	3.41%	5.60%	10.49%	31.39%	6.49%
Amortization of UAAL (net of deferred contributions) *	1.00%	1.42%	2.96%	3.39%	1.85%
Amortization of Deferred Contributions *	10.46%	11.18%	21.71%	20.40%	12.96%
Actuarially Recommended Employer Contribution Rate to pay Normal Cost and amortize UAAL	14.87%	18.20%	35.16%	55.18%	21.30%

<sup>\*</sup> 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 HB30, is to be amortized using a level-dollar, closed,10 year period.





#### Section VI - Accounting Information

 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, 2012

GROUP			СО	UNT		
	State Employees	Teachers	State Police	Judicial	Virginia Law Officers	Political Subdivisions
Active Members	76,274	147,216	1,881	380	9,383	104,895
LTD	2,106	0	9	0	555	0
Total Active Members	78,380	147,216	1,890	380	9,938	104,895
Inactive Members						
Vested	10,537	17,922	96	6	630	12,837
Non-Vested	21,055	28,713	140	1	3,154	30,344
Active Elsewhere in VRS	9,245	5,384	196	4	2,047	27,058
Total Inactive Members	40,837	52,019	432	11	5,831	70,239
Detinose						
Retirees Service	4E 040	67 500	945	336	2 602	20.750
Disabled	45,019 4,441	67,520 4,177	945 202	330	2,693 216	38,759 7,548
Beneficiaries	4,548	2,472	180	139	166	3,389
Total Retirees	54,008	74,169	1,327	476	3,075	49,696
Totals	173,225	273,404	3,649	867	18,844	224,830





#### 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	Actuarial Value of Plan Assets	Actuarial Accrued Liability (AAL) Entry Age	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
Date	(a)	(b)	(b-a)	(a/b)	(c)	((b-a)/c)
	Ì	STA	TE EMPLOYE	FS		
6/30/2012	\$13,740,366	\$20,944,258	\$7,203,892	<u>==</u> 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 %
6/30/2007	13,857,342	16,279,781	2,422,439	85.1 %	3,467,388	69.9 %
			TEACHERS			
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 %
	25,447,677		, ,	68.6 %	, ,	
6/30/2010		37,088,576	11,640,899		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 %
6/30/2007	23,204,871	29,669,838	6,464,967	78.2 %	6,604,643	97.9 %
		<u>s</u>	TATE POLICE	<u>.</u>		
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 %
6/30/2007	594,985	806,028	211,043	73.8 %	100,785	209.4 %
			JUDICIAL			
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 %
6/30/2007	340,200	442,498	102,298	76.9 %	57,687	177.3 %
		VIRGIN	NIA LAW OFFI	<u>CERS</u>		
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 %
6/30/2007	766,243	1,165,979	399,736	65.7 %	341,035	117.2 %
		<u>POLITI</u>	CAL SUBDIVIS	SIONS		
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, 2012.

	State Employees	Teachers	State Police	Judicial	Virginia Law Officers	Political Subdivisions
Valuation Date	6/30/2012	6/30/2012	6/30/2012	6/30/2012	6/30/2012	6/30/2012
Actuarial cost method	Entry Age Normal	Entry Age Normal				
Amortization method*	Level percent, open	Level percent, open				
Payroll Growth Rate	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Remaining amortization period	9 and 29 years*	29 years*				
Asset valuation method	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**	3.75 – 5.60%	3.75 – 6.20%	3.50 – 4.75%	4.50%	3.50 – 4.75%	3.75 – 5.60% General Employees
						3.5% - 4.75% Public Safety
Post-Retirement Benefit Increases:	compounded annually	compounded annually	compounded annually	compounded annually	compounded annually	compounded annually
Prior Plan New Plan	2.50% 2.25%	2.50% 2.25%	2.50% 2.25%	2.50% 2.25%	2.50% 2.25%	2.50% 2.25%

\* For non political subdivisions:

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 HB30, 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, 2011 and will decrease by one each year until reaching the minimum period of 20 years

\*\* Includes inflation at 2.50%.





#### SCHEDULE OF ADOPTED EMPLOYER CONTRIBUTIONS

Fiscal Year End	ARC \$	ARC % (Percent of Payroll)	% of ARC Contributed	Statutory Required Contribution Paid \$	Statutory Required Contribution % (Percent of Payroll)	% Statutory Contribution Contributed
			State			
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%
2008	260,965	7.33%	83.90%	218,954	6.15%	100%
			Teachers			
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%
2008	766,559	11.18%	92.30%	706,222	10.30%	100%
			State Police			
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%
2008	22,941	22.69%	91.49%	20,989	20.76%	100%
			Judicial			
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%
2008	23,599	40.08%	94.86%	22,386	38.01%	100%
		V	irginia Law Offic	ers		
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%
2008	61,325	17.39%	91.20%	55,929	15.86%	100%

<sup>\*</sup> 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 2012 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 2012 (\$ IN THOUSANDS)

		<b>A</b>				 			
	E	State Employees	Teachers	State Police	Judicial	ginia Law Officers		Local Agencies	Total
A. Calculation of Expected Unfunded Actuarial									
Accrued Liability									
1. UAAL as of June 30,2011	\$	6,001,683	\$ 12,605,608	\$ 369,101	\$ 198,443	\$ 757,109	\$	4,018,472	\$ 23,950,416
Normal Cost for previous year		315,244	756,662	15,438	22,793	42,051		495,107	1,647,295
Actual contributions during the year		(307,844)	(814,680)	(16,611)	(21,875)	(42,202)		(613,543)	(1,816,755)
4. Interest at previous year's rate of 0.07									
a. on UAAL		420,118	882,393	25,837	13,891	52,998		281,293	1,676,530
b. on normal cost		22,067	52,966	1,081	1,596	2,944		34,657	115,311
c. on contributions		(10,775)	(28,514)	(581)	(766)	(1,477)		(21,474)	(63,587)
d. total: (a)+(b)+(c)	\$	431,410	\$ 906,845	\$ 26,337	\$ 14,721	\$ 54,465	\$	294,476	\$ 1,728,254
5. Expected UAAL as of June 30, 2012									
A1+A2+A3+A4		6,440,493	13,454,435	394,265	214,082	811,423		4,194,512	25,509,210
6. Actual UAAL as of June 30, 2012		7,203,892	14,698,647	426,118	221,359	843,615		4,744,402	28,138,033
7. Total Gain/(Loss): A5-A6	\$	(763,399)	\$ (1,244,212)	\$ (31,853)	\$ (7,277)	\$ (32,192)	\$	(549,890)	\$ (2,628,823)
B. Calculation of Asset Gain/(Loss)									
<ol> <li>Actuarial Value of Assets (AVA) as of</li> </ol>									
June 30,2011	\$	14,406,275	\$ 25,166,124	\$ 616,603	\$ 371,051	\$ 926,082		12,986,598	54,472,733
<ol><li>Contributions during the year</li></ol>	\$	307,844	\$ 814,680	\$ 16,611	\$ 21,875	\$ 42,202		613,543	\$ 1,816,755
<ol><li>Benefit payments during the year</li></ol>		(984,072)	(1,684,845)	(46,432)	(33,454)	(68,876)		(672,992)	(3,490,671)
<ol><li>Interest at previous year's rate of 0.07</li></ol>									
a. on AVA at beginning of year	\$	1,008,439	\$ 1,761,629	\$ 43,162	\$ 25,974	\$ 64,826	\$	909,062	\$ 3,813,092
b. on contributions		10,775	28,514	581	766	1,477		21,474	63,587
c. on benefit payments		(34,443)	(58,970)	(1,625)	(1,171)	(2,411)		(23,555)	(122,175)
d. total: (a)+(b)+(c)	\$	984,771	\$ 1,731,173	\$ 42,118	\$ 25,569	\$ 63,892	\$	906,981	\$ 3,754,504
<ol><li>Expected AVA as of June 30, 2012</li></ol>									
B1+B2+B3+B4		14,714,818	26,027,132	628,900	385,041	963,300		13,834,130	56,553,321
<ol><li>Actual AVA as of June 30, 2012</li></ol>		13,740,366	24,391,761	587,160	361,097	909,399		13,079,789	53,069,572
7. Gain/(Loss) on assets: B6-B5	\$	(974,452)	\$ (1,635,371)	\$ (41,740)	\$ (23,944)	\$ (53,901)	\$	(754,341)	\$ (3,483,749)
C. Calculation of Liability Gain/(Loss)									
<ol> <li>Gain/(Loss) due to changes in actuarial</li> </ol>									
assumptions		0	0	0	0	0	l	0	\$ -
<ol><li>Gain/(Loss) due to plan amendments</li></ol>		33,093	118,411	1,260	0	5,601	l	65,172	223,537
<ol><li>Gain/(Loss) due to change in methods</li></ol>		0	0	0	0	0	l	0	0
<ol><li>Liability Experience Gain/(Loss):</li></ol>							l		
A7-B7-C1-C2	\$	177,960	\$ 272,748	\$ 8,627	\$ 16,667	\$ 16,108	\$	139,279	\$ 631,388



#### Section VII - Derivation of Experience Gains and Losses

## GAINS & LOSSES DURING FISCAL YEAR 2012 (\$ IN MILLIONS)

Type of Activity	State Employees	Teachers	State Police	Judges	Virginia Law Officers	Political Subdivisions
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$35.9	\$148.6	\$4.0	\$9.6	(\$10.1)	\$9.5
<b>Disability Before Retirement</b> . If disability claims are less than assumed, there is a gain. If more claims, a loss.	(\$15.0)	\$12.4	\$0.0	\$1.8	(\$0.5)	\$19.4
<b>Death-in Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	\$0.6	(\$8.1)	\$0.3	\$0.3	\$1.2	\$5.3
Withdrawal from Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(\$46.1)	(\$149.3)	(\$1.2)	\$0.8	\$0.7	(\$9.8)
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	\$234.9	\$443.3	\$9.4	\$8.5	\$22.7	\$129.8
New Members. Additional unfunded accrued liability will produce a loss.	(\$5.8)	(\$37.1)	(\$0.5)	(\$0.3)	(\$0.7)	(\$10.4)
Death after Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(\$18.7)	(\$23.1)	(\$1.8)	(\$3.5)	\$4.0	\$25.4
Data and Other Adjustments.	\$13.1	\$16.2	\$2.3	\$2.2	\$6.2	(\$16.8)
Benefit Payments. If benefit payments are greater than expected, there is a loss. If the benefits payments are less, a gain.	\$35.6	(\$35.1)	(\$0.9)	(\$1.1)	(\$3.6)	\$24.9
Cost of Living Allowance (COLA). If COLA is greater than expected, there is a loss. If COLA is less, a gain.	(\$56.4)	(\$95.0)	(\$3.0)	(\$1.7)	(\$3.9)	(\$37.9)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(\$974.5)	(\$1,635.4)	(\$41.7)	(\$23.9)	(\$53.9)	(\$754.3)
Gain or (Loss) During Year	(\$796.4)	(\$1,362.6)	(\$33.1)	(\$7.3)	(\$37.9)	(\$614.9)
Non-Recurring Items. Adjustments for plan amendments, assumption changes, etc.	33.1	118.4	1.3	0.0	5.6	\$65.2
Expected Contributions vs. Actual Contributions. If the difference in the actual contribution to the plan is more or less then what was expected based on the previous valuation then there will be a gain or loss associated with this difference.	(394.2)	(769.3)	(22.9)	(14.6)	(49.8)	(\$81.5)
Total Gain or (Loss) During Year	(\$1,157.5)	(\$2,013.5)	(\$54.8)	(\$21.9)	(\$82.1)	(\$631.2)





## STATE EMPLOYEES As Of June 30, 2012

PRESENT AND PROSPI	ECTIVE ASSETS	
Actuarial Value of Assets		\$ 13,740,366,000
Present value of future members' contributions		1,385,654,339
Present value of future employer contributions		
Normal contributions Unfunded accrued liability contributions	\$ 749,454,980 7,203,891,633	
Total prospective employer contributions	-	7,953,346,613
Total Present and Prospective Assets	=	\$ 23,079,366,952
ACTUARIAL LIA	BILITIES	
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		\$ 10,503,734,392
Present value of prospective benefits payable on account of inactive members		859,280,181
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	\$ 10,545,526,270	
Disability retirement benefits	459,288,198	
Survivor benefits	420,301,282	
Separation benefits	291,236,629	
Total	-	11,716,352,379
Total Actuarial Liabilities	=	\$ 23,079,366,952



## TEACHERS As Of June 30, 2012

PRESENT AND PROSPEC	\	E ACCETO	
PRESENT AND PROSPEC	۱۱۷	E ASSETS	
Actuarial Value of Assets			\$ 24,391,761,000
Present value of future members' contributions			3,144,007,104
Present value of future employer contributions			
Normal contributions Unfunded accrued liability contributions	\$	3,026,162,034 14,698,647,112	
Total prospective employer contributions			17,724,809,146
Total Present and Prospective Assets			\$ 45,260,577,250
ACTUARIAL LIAB	ILIT	IES	
Dragant value of hanofita navable on account of			
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits			\$ 19,503,928,334
retired members and survivors of deceased members			\$ 19,503,928,334 857,161,022
retired members and survivors of deceased members now drawing retirement benefits  Present value of prospective benefits payable on	\$	22,798,122,620 822,056,136 561,808,826 717,500,312	\$
retired members and survivors of deceased members now drawing retirement benefits  Present value of prospective benefits payable on account of inactive members  Present value of prospective benefits payable on account of present active members:  Service retirement benefits  Disability retirement benefits  Survivor benefits	\$	822,056,136 561,808,826	\$



#### STATE POLICE As Of June 30, 2012

PRESENT AND PROSPECTIVE ASSETS									
Actuarial Value of Assets			\$	587,160,000					
Present value of future members' contributions				45,399,413					
Present value of future employer contributions									
Normal contributions Unfunded accrued liability contributions									
Total prospective employer contributions		-		522,287,186					
Total Present and Prospective Assets		:	\$	1,154,846,599					
ACTUARIAL LIABILITIES									
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits			\$	547,805,179					
Present value of prospective benefits payable on account of inactive members				15,807,246					
Present value of prospective benefits payable on account of present active members:  Service retirement benefits  Disability retirement benefits  Survivor benefits  Separation benefits	\$	529,736,685 24,435,689 15,048,993 22,012,808							
Total				591,234,175					
Total Actuarial Liabilities		:	\$	1,154,846,600					



#### JUDICIAL As Of June 30, 2012

PRESENT AND PROSPECTIVE ASSETS									
Actuarial Value of Assets			\$	361,097,000					
Present value of future members' contributions				16,968,714					
Present value of future employer contributions									
Normal contributions Unfunded accrued liability contributions	\$	101,311,533 221,359,192							
Total prospective employer contributions				322,670,725					
Total Present and Prospective Assets		:	\$	700,736,439					
ACTUARIAL LIA	BILI	TIES							
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits			\$	332,182,898					
Present value of prospective benefits payable on account of inactive members				3,318,566					
Present value of prospective benefits payable on account of present active members:									
Service retirement benefits	\$	338,589,881							
Disability retirement benefits		12,576,178							
Survivor benefits Separation benefits		14,068,916							
Total		-		365,234,975					
Total Actuarial Liabilities			\$	700,736,439					



## VIRGINIA LAW OFFICERS As Of June 30, 2012

PRESENT AND PROSPECTIVE ASSETS									
Actuarial Value of Assets			\$	909,399,000					
Present value of future members' contributions				116,473,471					
Present value of future employer contributions									
Normal contributions Unfunded accrued liability contributions	\$	125,699,290 843,614,708							
Total prospective employer contributions				969,313,998					
Total Present and Prospective Assets		:	\$	1,995,186,469					
ACTUARIAL LIAB	ILITIE	S							
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits  Present value of prospective benefits payable on account of inactive members  Present value of prospective benefits payable on account of present active members:  Service retirement benefits  Disability retirement benefits  Survivor benefits  Separation benefits	\$	946,621,317 29,419,948 30,932,564 126,870,391	\$	764,239,156 97,103,093					
Total				1,133,844,220					
Total Actuarial Liabilities		_	\$	1,995,186,469					



## POLITICAL SUBDIVISIONS As Of June 30, 2012

PRESENT AND PROSPECTIVE ASSETS								
Actuarial Value of Assets	\$	13,079,789,219						
	•							
Present value of future members' contributions		1,658,407,079						
Present value of future employer contributions								
Normal contributions \$ 2,016,443,070								
Unfunded accrued liability contributions 4,744,418,311	-							
Total prospective employer contributions		6,760,861,381						
Total Present and Prospective Assets	\$	21,499,057,679						
ACTUARIAL LIABILITIES								
Present value of benefits payable on account of								
retired members and survivors of deceased								
members now drawing retirement benefits	\$	7,302,542,594						
Present value of prospective benefits payable on								
account of inactive members		969,795,600						
		000,100,000						
Present value of prospective benefits payable on		000,1.00,000						
account of present active members:		555,155,555						
· · ·		000,1.00,000						
account of present active members:								
account of present active members:  Service retirement benefits \$ 11,118,466,694		555,1.05,000						
account of present active members:  Service retirement benefits \$11,118,466,694  Disability retirement benefits 1,090,939,011								
account of present active members:  Service retirement benefits \$11,118,466,694  Disability retirement benefits 1,090,939,011  Survivor benefits 414,196,251		13,226,719,485						



#### **SOLVENCY TEST**

## <u>Virginia Retirement System (State Employees, Teachers, and Political Subdivisions)</u> (\$ in thousands)

Aggregate Accrued Liabilities For					Portion of Accrued Liabilities Covered by Actuarial Value of Assets			
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	8,389,773	29,225,652	24,939,054	62,554,479	52,548,375	100.00	100.00	59.88

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

Aggregate Accrued Liabilities For					Portion of Accrued Liabilities Covered by Actuarial Value of Assets			
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	2,398,033	8,411,441	6,287,468	17,096,942	15,046,348	100.00	100.00	67.39



# Teachers Retirement System (\$ in thousands)

							f Accrued loy Actuaria Assets	
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	3,922,647	15,181,246	12,854,428	31,958,321	25,502,482	100.00	100.00	49.78

# Political Subdivisions Retirement System (\$ in thousands)

							f Accrued l by Actuaria Assets	
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	2,069,093	5,632,966	5,797,158	13,499,217	11,999,545	100.00	100.00	74.13



# State Police Retirement System (\$ in thousands)

							f Accrued loy Actuaria Assets	
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	71,160	444,025	329,010	844,195	646,277	100.00	100.00	39.84

# <u>Judicial Retirement System</u> (\$ in thousands)

							f Accrued by Actuaria Assets	
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	38,785	271,276	184,707	494,768	373,850	100.00	100.00	34.54



# <u>Virginia Law Officers Retirement System</u> (\$ in thousands)

							f Accrued by Actuaria Assets	
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	173,039	510,878	597,560	1,281,477	873,473	100.00	100.00	31.72

# All Retirement Systems Combined (\$ in thousands)

							f Accrued I by Actuaria Assets	
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
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
6/30/2008	8,672,757	30,451,831	26,050,331	65,174,919	54,441,975	100.00	100.00	58.80



# STATE EMPLOYEES FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

(1)	Actuarial Value Beginning of Year	\$	14,406,275
(2)	Market Value End of Year	\$	13,469,215
(3)	Market Value Beginning of Year	\$	13,992,901
(4)	Cash Flow		
(-)	a. Contributions	\$	307,844
	b. Benefit Payments	Ψ	(984,072)
	•		` ,
	c. Administrative Expenses		(10,929)
	d. Net Transfers		(249)
	e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	\$	(687,406)
(5)	Investment Income		
,	a. Market total: (2) – (3) – (4)e	\$	163,720
	b. Assumed Rate	·	7.00%
	c. Amount of Immediate Recognition		
	[(3) x (5)b] + [[(4)e - (4)c] x (5)b x 0.5] - (4)c	\$	966,755
	d. Amount for Phased-in Recognition: (5)a – (5)c	\$	(803,035)
(6)	Phased-In Recognition of Investment Income		
	a. Current Year: 0.20 x (5)d	\$	(160,607)
	b. First Prior Year		294,458
	c. Second Prior Year		174,123
	d. Third Prior Year		(860,345)
	e. Fourth Prior Year	<b></b>	(392,887)
	f. Total Recognized Investment Gain	\$	(945,258)
(7)	Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]	\$	13,740,366



# TEACHERS FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

		:	
(1)	Actuarial Value Beginning of Year	\$	25,166,124
(2)	Market Value End of Year	\$	23,930,149
(3)	Market Value Beginning of Year	\$	24,520,362
(4)	Cash Flow		
( . /	a. Contributions	\$	814,680
	b. Benefit Payments	Ψ	(1,684,845)
	c. Administrative Expenses		(18,958)
	d. Net Transfers		105
	e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	\$	(889,018)
(5)	Investment Income		
	a. Market total: (2) – (3) – (4)e	\$	298,805
	b. Assumed Rate	Ť	7.00%
	c. Amount of Immediate Recognition		
	[(3) x (5)b] + [[(4)e - (4)c] x (5)b x 0.5] - (4)c	\$	1,704,931
	d. Amount for Phased-in Recognition: (5)a – (5)c	\$	(1,406,126)
(6)	Phased-In Recognition of Investment Income		
	a. Current Year: 0.20 x (5)d	\$	(281,225)
	b. First Prior Year		509,063
	c. Second Prior Year		293,625
	d. Third Prior Year		(1,451,149)
	e. Fourth Prior Year	<u> </u>	(660,590)
	f. Total Recognized Investment Gain	\$	(1,590,276)
(7)	Actuarial Value End of Year: $[(1) + (4) + (5)c + (6)f]$	\$	24,391,761



# STATE POLICE FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

(1)	Actuarial Value Beginning of Year	\$	616,603
(2)	Market Value End of Year	\$	575,468
(3)	Market Value Beginning of Year	\$	598,686
(4)	Cash Flow a. Contributions b. Benefit Payments c. Administrative Expenses d. Net Transfers	\$	16,611 (46,432) (449)
	e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	\$	(30,270)
(5)	Investment Income  a. Market total: (2) – (3) – (4)e  b. Assumed Rate  c. Amount of Immediate Recognition [(3) x (5)b] + [[(4)e - (4)c] x (5)b x 0.5] - (4)c  d. Amount for Phased-in Recognition: (5)a – (5)c	\$ \$ \$	7,052 7.00% 41,313 (34,261)
(6)	Phased-In Recognition of Investment Income  a. Current Year: 0.20 x (5)d  b. First Prior Year  c. Second Prior Year  d. Third Prior Year  e. Fourth Prior Year  f. Total Recognized Investment Gain  Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]	\$ \$	(6,852) 12,548 7,368 (36,662) (16,888) (40,486)
(7)	Λοισαπαι ναισε Επα στ τεαι. <u>[(1) + (+) + (5)</u> 6 + (0)]	Ψ	307,100



## JUDICIAL FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

		:	
(1)	Actuarial Value Beginning of Year	\$	371,051
(2)	Market Value End of Year	\$	354,250
(3)	Market Value Beginning of Year	\$	361,401
(4)	Cash Flow		
( . /	a. Contributions	\$	21,875
	b. Benefit Payments	<b>*</b>	(33,454)
	c. Administrative Expenses		(269)
	d. Net Transfers		(=55)
	e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	\$	(11,848)
(5)	Investment Income		
	a. Market total: (2) – (3) – (4)e	\$	4,697
	b. Assumed Rate		7.00%
	c. Amount of Immediate Recognition		
	$[(3) \times (5)b] + [[(4)e - (4)c] \times (5)b \times 0.5] - (4)c$	\$	25,162
	d. Amount for Phased-in Recognition: (5)a – (5)c	\$	(20,465)
(6)	Phased-In Recognition of Investment Income		
	a. Current Year: 0.20 x (5)d	\$	(4,093)
	b. First Prior Year		7,353
	c. Second Prior Year		4,277
	d. Third Prior Year		(21,088)
	e. Fourth Prior Year	<u> </u>	(9,717)
	f. Total Recognized Investment Gain	\$	(23,268)
(7)	Actuarial Value End of Year: [(1) + (4) + (5)c + (6)f]	\$	361,097



# VIRGINIA LAW OFFICERS FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

		:	
(1)	Actuarial Value Beginning of Year	\$	926,082
(2)	Market Value End of Year	\$	894,916
(3)	Market Value Beginning of Year	\$	910,666
(4)	Cash Flow		
(')	a. Contributions	\$	42,202
	b. Benefit Payments	Ψ	(68,876)
	c. Administrative Expenses		(682)
	d. Net Transfers		106
	e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	\$	(27,250)
(5)	Investment Income		
, ,	a. Market total: (2) – (3) – (4)e	\$	11,500
	b. Assumed Rate		7.00%
	c. Amount of Immediate Recognition		
	$[(3) \times (5)b] + [[(4)e - (4)c] \times (5)b \times 0.5] - (4)c$	\$	63,499
	d. Amount for Phased-in Recognition: (5)a – (5)c	\$	(51,999)
(6)	Phased-In Recognition of Investment Income		
	a. Current Year: 0.20 x (5)d	\$	(10,400)
	b. First Prior Year		18,608
	c. Second Prior Year		10,260
	d. Third Prior Year		(49,227)
	e. Fourth Prior Year		(22,173)
	f. Total Recognized Investment Gain	\$	(52,932)
(7)	Actuarial Value End of Year: $[(1) + (4) + (5)c + (6)f]$	\$	909,399



# POLITICAL SUBDIVISIONS FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

		Ī	
(1)	Actuarial Value Beginning of Year	\$	12,986,598
(2)	Market Value End of Year	\$	12,867,357
(3)	Market Value Beginning of Year	\$	12,767,072
(4)	Cash Flow		
(4)		\$	613,572
		Ψ	·
			(673,019)
	c. Administrative Expenses		(9,703)
	d. Net Transfers		(1)
	e. Net Cash Flow: [(4)a + (4)b + (4)c + (4)d]	\$	(69,151)
(5)	Investment Income		
, ,	a. Market total: (2) – (3) – (4)e	\$	169,436
	b. Assumed Rate		7.00%
	c. Amount of Immediate Recognition		
	$[(3) \times (5)b] + [[(4)e - (4)c] \times (5)b \times 0.5] - (4)c$	\$	901,316
	d. Amount for Phased-in Recognition: (5)a – (5)c	\$	(731,880)
(6)	Phased-In Recognition of Investment Income		
(-,	a. Current Year: 0.20 x (5)d	\$	(146,376)
	b. First Prior Year	Ī	258,796
	c. Second Prior Year		140,754
	d. Third Prior Year		(684,826)
	e. Fourth Prior Year		(307,323)
	f. Total Recognized Investment Gain	\$	(738,975)
	-		,
(7)	Actuarial Value End of Year: (1) + (4) + (5)c + (6)f	\$	13,079,788



#### STATE EMPLOYEES FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

## Additions for the Year

Contributions:  Members  Members (paid by employer)  Employers	\$ 188,266 1,412 118,166	ı	
Total		\$	307,844
Miscellaneous Revenue			(35)
Net Investment Income			163,720
TOTAL		\$	471,529
Deductions for the Year			
Benefit Payments	\$ 961,209		
Refunds	22,863		
Transfers	214		
Administrative Expenses	 10,929		
TOTAL		\$	995,215
Excess of Additions Over Deductions		\$	(523,686)
Reconciliation of Asset Balances			
Market Value of Assets as of 6/30/2011		\$	13,992,901
Excess of Additions over Deductions			(523,686)
Market Value of Assets as of 6/30/2012*		\$	13,469,215

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





# TEACHERS FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

#### Additions for the Year Contributions: Members \$ 7,203 357,044 Members (paid by employer) 450,433 **Employers** Total 814,680 Miscellaneous Revenue 1 Net Investment Income 298,805 **TOTAL** \$ 1,113,486 Deductions for the Year Benefit Payments \$ 1,654,377 Refunds 30,468 Transfers (104)Administrative Expenses 18,958 **TOTAL** 1,703,699 \$ **Excess of Additions Over Deductions** (590,213)Reconciliation of Asset Balances Market Value of Assets as of 6/30/2011 \$ 24,520,362 **Excess of Additions over Deductions** (590,213)Market Value of Assets as of 6/30/2012\* 23,930,149



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



Additions for the Year

Reconciliation of Asset Balances

Market Value of Assets as of 6/30/2011

Market Value of Assets as of 6/30/2012\*

**Excess of Additions over Deductions** 

#### STATE POLICE FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

#### Contributions: Members \$ 5,167 Members (paid by employer) 11,443 **Employers** Total 16,611 Miscellaneous Revenue Net Investment Income 7,052 **TOTAL** \$ 23,663 Deductions for the Year Benefit Payments 46,113 Refunds 319 Transfers Administrative Expenses 449 **TOTAL** 46,881 \$ **Excess of Additions Over Deductions** \$ (23,218)



\$

598,686

(23,218)

575,468

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



#### JUDICIAL FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

#### Additions for the Year Contributions: Members \$ 47 2,921 Members (paid by employer) **Employers** 18,907 Total 21,875 Miscellaneous Revenue Net Investment Income 4,697 **TOTAL** \$ 26,572 Deductions for the Year Benefit Payments 33,454 Refunds Transfers Administrative Expenses 269 **TOTAL** 33,723 \$ **Excess of Additions Over Deductions** (7,151)Reconciliation of Asset Balances Market Value of Assets as of 6/30/2011 \$ 361,401



**Excess of Additions over Deductions** 

Market Value of Assets as of 6/30/2012\*

(7,151)

354,250

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



# VIRGINIA LAW OFFICERS FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

### Additions for the Year

Contributions:  Members  Members (paid by employer)  Employers  Total	\$ 17,510 48 24,644	\$ 42,202
Miscellaneous Revenue		(4)
Net Investment Income		11,500
TOTAL		\$ 53,698
Deductions for the Year		
Benefit Payments Refunds Transfers Administrative Expenses	\$ 64,849 4,027 (110) 682	
TOTAL		\$ 69,448
Excess of Additions Over Deductions		\$ (15,750)
Reconciliation of Asset Balances		
Market Value of Assets as of 6/30/2011 Excess of Additions over Deductions		\$ 910,666 (15,750)
Market Value of Assets as of 6/302012*		\$ 894,916

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





#### POLITICAL SUBDIVISIONS FOR THE YEAR ENDING June 30, 2012 (\$ IN THOUSANDS)

Additions for the Year			
Contributions:			
Members	\$ 12,774		
Members (paid by employer)	199,066		
Employers	 401,732		
Total		\$	613,572
Miscellaneous Revenue			(1)
Net Investment Income			169,436
TOTAL		\$	783,007
Deductions for the Year			
Benefit Payments	\$ 641,773		
Refunds	31,246		
Transfers	-		
Administrative Expenses	 9,703	•	
TOTAL		\$	682,722
Excess of Additions Over Deductions		\$	100,285
Reconciliation of Asset Balances			
Market Value of Assets as of 6/30/2011		\$	12,767,072
Excess of Additions over Deductions		-	100,285
Market Value of Assets as of 6/302012*		\$	12,867,357

<sup>\*</sup>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

**Investment Return Rate:** 7.00% per annum, compounded annually (net of administrative

expenses).

**Inflation Assumption:** 2.50% per year.

Actuarial Cost Method: Entry age normal cost method. Actuarial gains and losses are

reflected in the unfunded actuarial accrued liability. See Section

E for a detailed explanation.

Funding Period: 29 years from valuation date. The amortization period of the

unfunded less the deferred contribution, will decrease by one each year until reaching the minimum period of 20 years. The deferred contribution, as defined under HB30, is to be amortized using a level-dollar, closed,10 year period beginning June 30,

2011.

**Payroll Growth Rate:** 3% per annum.

Asset Valuation Method: 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.

Cost-of-living Increase: 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.

Percent Electing a

Deferred Termination Benefit: 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.

Marriage Assumption: 100% of active employees are assumed to be married, with

spouses the same age as participants.





# STATE EMPLOYEES Plan Specific Assumptions and Methods

#### **MORTALITY RATES:**

#### Pre-Retirement:

1994 Group Annuity Mortality Tables for males and females with a one year setback in age for males and females.

#### Post-Retirement:

1994 Group Annuity Mortality Tables for males and females with a one year setback in age for males and females.

#### Post-Disablement:

70% of PBGC Disabled Mortality Table 5a for Males. 90% of PBGC Disabled Mortality Table 6a for Females.

	Mortality Rates										
	Male		Female								
Age	<b>Pre- and Post-retirement</b>	Post-disablement	<b>Pre- and Post-retirement</b>	Post-disablement							
20	0.0484%	3.3810%	0.0280%	2.3670%							
25	0.0624	3.3810	0.0291	2.3670							
30	0.0779	2.5340	0.0331	2.1330							
35	0.0849	1.9460	0.0449	1.9260							
40	0.0999	1.9740	0.0652	1.8810							
45	0.1458	2.2540	0.0923	2.0160							
50	0.2326	2.6810	0.1310	2.3130							
55	0.3979	3.3740	0.2084	2.6550							
60	0.7090	4.2210	0.3863	2.9790							
65	1.2940	4.7460	0.7621	3.3300							
70	2.1729	5.1730	1.2709	3.6990							
75	3.4051	5.8940	2.0381	4.4280							
80	5.5861	7.8960	3.5362	6.7140							
85	8.9613	11.7740	6.0979	10.1520							
90	13.9452	17.6750	10.4594	15.1380							

14% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as recent mortality experience shows actual deaths approximately 70% greater than expected under the selected tables.





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

	Separations from Active Service due to Retirement Percentage of Members Separating within the Next Year										
		e or Members Separai ale		nale							
	Less than 30 Years	More than 30 Years	Less than 30 Years	More than 30 Years							
Age	of Service	of Service	of Service	of Service							
<=49	0.00%	0.00%	0.00%	0.00%							
50	3.00	10.00	3.22	10.00							
51	3.00	10.00	3.07	10.00							
52	3.00	10.00	3.00	10.00							
53	3.00	10.00	3.00	10.00							
54	3.00	10.00	3.50	10.00							
55	5.00	10.00	5.00	10.00							
56	5.00	10.00	5.00	10.00							
57	4.50	10.00	4.50	10.00							
58	4.00	10.00	5.50	10.00							
59	5.00	10.00	5.50	10.00							
60	5.00	10.00	5.50	15.00							
61	10.00	15.00	10.00	20.00							
62	15.00	25.00	15.00	30.00							
63	15.00	20.00	15.00	20.00							
64	15.00	20.00	15.00	20.00							
65	40.00	30.00	40.00	40.00							
66	40.00	25.00	40.00	30.00							
67	40.00	25.00	40.00	25.00							
68	40.00	20.00	40.00	25.00							
69	40.00	20.00	40.00	20.00							
>=70	100.00	100.00	100.00	100.00							



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

	Separations from Active Service due to Retirement Percentage of Members Separating within the Next Year									
	Male	<u> </u>	Female							
Age	Reduced Retirement	Unreduced Retirement	Reduced Retirement	Unreduced Retirement						
<=49	0.00%	0.00%	0.00%	0.00%						
50	0.00	10.00	0.00	10.00						
51	0.00	10.00	0.00	10.00						
52	0.00	10.00	0.00	10.00						
53	0.00	10.00	0.00	10.00						
54	0.00	10.00	0.00	10.00						
55	0.00	10.00	0.00	10.00						
56	0.00	10.00	0.00	10.00						
57	0.00	10.00	0.00	10.00						
58	0.00	10.00	0.00	10.00						
59	0.00	10.00	0.00	10.00						
60	5.00	10.00	5.50	15.00						
61	10.00	15.00	10.00	20.00						
62	15.00	25.00	15.00	30.00						
63	15.00	20.00	15.00	20.00						
64	15.00	20.00	15.00	20.00						
65	40.00	30.00	40.00	40.00						
66	40.00	25.00	40.00	30.00						
67	40.00	25.00	40.00	25.00						
68	40.00	20.00	40.00	25.00						
69	40.00	20.00	40.00	20.00						
>=70	100.00	100.00	100.00	100.00						





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

Separations from Active Service due to Disability Percentage of Members Separating within the Next Year										
Age	Male	Female								
20	0.1000%	0.0100%								
25	0.1000	0.1000								
30	0.2000	0.1500								
35	0.2000	0.2500								
40	0.2000	0.2900								
45	0.4000	0.3400								
50	0.5000	0.5500								
55	0.6000	0.8100								
60	0.8000	1.0000								
65	0.7000	0.9000								





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

	Separations from Active Service due to Termination Percentage of Male Members Separating within the Next Year											
Age					Year	s of Ser	vice					
	0	1	2	3	4	5	6	7	8	9	>=10	
20	26.0%	26.0%	26.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	0.0%	
25	22.0	22.0	22.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	0.0	
30	20.0	20.0	20.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	5.0	
35	17.0	17.0	17.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	4.5	
40	15.0	15.0	15.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	3.4	
45	14.0	14.0	14.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	2.3	
50	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	2.0	
55	10.0	10.0	10.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	0.0	
60	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	
65	12.0	12.0	12.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	0.0	

	Separations from Active Service due to Termination Percentage of Female Members Separating within the Next Year											
Age					Year	s of Ser	vice					
	0	1	2	3	4	5	6	7	8	9	>=10	
20	30.0%	30.0%	30.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	0.0%	
25	25.5	25.5	25.5	16.0	16.0	16.0	16.0	16.0	16.0	16.0	0.0	
30	22.5	22.5	22.5	14.0	14.0	14.0	14.0	14.0	14.0	14.0	6.0	
35	19.0	19.0	19.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	5.0	
40	16.5	16.5	16.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	3.6	
45	14.0	14.0	14.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	2.5	
50	13.5	13.5	13.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	2.0	
55	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	
60	12.5	12.5	12.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	
65	13.0	13.0	13.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	0.0	





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

	Separations from Active Service due to Termination Percentage of Male Members Separating within the Next Year											
Age					Year	s of Ser	vice					
	0	1	2	3	4	5	6	7	8	9	>=10	
20	26.0%	26.0%	26.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	0.0%	
25	22.0	22.0	22.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	0.0	
30	20.0	20.0	20.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	5.0	
35	17.0	17.0	17.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	4.5	
40	15.0	15.0	15.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	3.4	
45	14.0	14.0	14.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	2.3	
50	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	2.0	
55	10.0	10.0	10.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	0.4	
60	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	
65	12.0	12.0	12.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	0.0	

	Separations from Active Service due to Termination  Percentage of Female Members Separating within the Next Year											
Age		Years of Service										
	0	1	2	3	4	5	6	7	8	9	>=10	
20	30.0%	30.0%	30.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	0.0%	
25	25.5	25.5	25.5	16.0	16.0	16.0	16.0	16.0	16.0	16.0	0.0	
30	22.5	22.5	22.5	14.0	14.0	14.0	14.0	14.0	14.0	14.0	6.0	
35	19.0	19.0	19.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	5.0	
40	16.5	16.5	16.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	3.6	
45	14.0	14.0	14.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	2.5	
50	13.5	13.5	13.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	2.0	
55	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.4	
60	12.5	12.5	12.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	
65	13.0	13.0	13.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	0.0	





**SALARY INCREASE RATES:** The following salary increase rates are used. Inflation rate of 2.50% plus productivity component of 1.25% plus step-rate/promotional component as shown:

Pay Increase Assumptions for an Individual Member										
Annual										
Years	Step Rate/	Inflation &	Total							
of	Promotional	Productivity	Increase							
Service	Rates	(Economy)	(Next Year)							
1	1.85%	3.75%	5.60%							
2	1.85	3.75	5.60							
3	1.25	3.75	5.00							
4	0.95	3.75	4.70							
5	0.95	3.75	4.70							
6	0.95	3.75	4.70							
7	0.85	3.75	4.60							
8	0.75	3.75	4.50							
9	0.50	3.75	4.25							
10	0.50	3.75	4.25							
11-19	0.15	3.75	3.90							
20 or more	0.00	3.75	3.75							

**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.



# TEACHERS Plan Specific Assumptions and Methods

#### **MORTALITY RATES:**

#### Pre-Retirement:

1994 Group Annuity Mortality Tables for males and females with a one year setback in age for males and females.

#### Post-Retirement:

1994 Group Annuity Mortality Tables for males and females with a three year setback in age for males and females.

#### Post-Disablement:

70% of PBGC Disabled Mortality Table 5a for Males. 90% of PBGC Disabled Mortality Table 6a for Females.

	Mortality Rates										
		Male		Female							
Age	Pre- retirement	Post- retirement	Post- disablement	Pre- retirement	Post- retirement	Post- disablement					
20	0.0484%	0.0430%	3.3810%	0.0280%	0.0262%	2.3670%					
25	0.0624	0.0556	3.3810	0.0291	0.0289	2.3670					
30	0.0779	0.0727	2.5340	0.0331	0.0302	2.1330					
35	0.0849	0.0839	1.9460	0.0449	0.0397	1.9260					
40	0.0999 0.0891		1.9740	0.0652	0.0551	1.8810					
45	0.1458	0.1252	2.2540	0.0923	0.0825	2.0160					
50	0.2326	0.1899	2.6810	0.1310	0.1112	2.3130					
55	0.3979	0.3213	3.3740	0.2084	0.1734	2.6550					
60	0.7090	0.5581	4.2210	0.3863	0.2919	2.9790					
65	1.2940	1.0147	4.7460	0.7621	0.5832	3.3300					
70	2.1729	1.8034	5.1730	1.2709	1.0764	3.6990					
75	3.4051	2.8481	5.8940	2.0381	1.6506	4.4280					
80	5.5861	4.5171	7.8960	3.5362	2.8366	6.7140					
85	8.9613	7.5532	11.7740	6.0979	4.9153	10.1520					
90	13.9452	11.5671	17.6750	10.4594	8.4023	15.1380					

5% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as recent mortality experience shows actual deaths approximately 34% greater than expected under the selected tables.





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

	Separations from Active Service due to Retirement Percentage of Members Separating within the Next Year									
		e or members separa ale		nale						
	Less than 30 Years	More than 30 Years	Less than 30 Years	More than 30 Years						
Age	of Service	of Service	of Service	of Service						
<=49	0.00%	0.00%	0.00%	0.00%						
50	2.00	17.50	2.00	15.00						
51	2.00	17.50	2.40	15.00						
52	2.00	17.50	2.70	15.00						
53	2.30	17.50	2.40	15.00						
54	4.00	17.50	3.70	15.00						
55	5.70	22.50	6.10	22.50						
56	4.60	22.50	5.40	22.50						
57	4.50	22.50	5.70	22.50						
58	6.60	22.50	6.20	22.50						
59	7.00	22.50	7.50	22.50						
60	7.50	22.50	8.50	22.50						
61	11.00	30.00	12.00	30.00						
62	17.00	35.00	17.00	40.00						
63	14.00	35.00	16.00	35.00						
64	18.00	30.00	16.50	25.00						
65	40.00	40.00	40.00	40.00						
66	40.00	35.00	40.00	35.00						
67	40.00	20.00	40.00	30.00						
68	40.00	20.00	40.00	25.00						
69	40.00	20.00	40.00	20.00						
>=70	100.00	100.00	100.00	100.00						





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

	Separations from Active Service due to Retirement Percentage of Members Separating within the Next Year										
		ale		male							
Age	Reduced Retirement	Unreduced Retirement	Reduced Retirement	Unreduced Retirement							
<=49	0.00%	0.00%	0.00%	0.00%							
50	0.00	17.50	0.00	15.00							
51	0.00	17.50	0.00	15.00							
52	0.00	17.50	0.00	15.00							
53	0.00	17.50	0.00	15.00							
54	0.00	17.50	0.00	15.00							
55	0.00	22.50	0.00	22.50							
56	0.00	22.50	0.00	22.50							
57	0.00	22.50	0.00	22.50							
58	0.00	22.50	0.00	22.50							
59	0.00	22.50	0.00	22.50							
60	7.50	22.50	8.50	22.50							
61	11.00	30.00	12.00	30.00							
62	17.00	35.00	17.00	40.00							
63	14.00	35.00	16.00	35.00							
64	18.00	30.00	16.50	25.00							
65	40.00	40.00	40.00	40.00							
66	40.00	35.00	40.00	35.00							
67	40.00	20.00	40.00	30.00							
68	40.00	20.00	40.00	25.00							
69	40.00	20.00	40.00	20.00							
>=70	100.00	100.00	100.00	100.00							





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

Separations from Active Service due to Disability Percentage of Members Separating within the Next Year										
Age	Male	Female								
20	0.0000%	0.0000%								
25	0.0120	0.0070								
30	0.0150	0.0170								
35	0.0270	0.0500								
40	0.0320	0.0600								
45	0.1530	0.0700								
50	0.2040	0.1500								
55	0.3000	0.3400								
60	0.4740	0.4000								
65	0.4250	0.5500								





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

	Separations from Active Service due to Termination Percentage of Male Members Separating within the Next Year											
Age	Years of Service											
	0	1	2	3	4	5	6	7	8	9	>=10	
20	20.0%	20.0%	20.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	0.8%	
25	15.0	15.0	15.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	0.8	
30	15.0	15.0	15.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	4.0	
35	14.0	14.0	14.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	3.2	
40	14.0	14.0	14.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	2.5	
45	15.0	15.0	15.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	1.9	
50	13.5	13.5	13.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	1.5	
55	14.0	14.0	14.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	0.0	
60	17.0	17.0	17.0	8.3	8.3	8.3	8.3	8.3	8.3	8.3	0.0	
>=65	17.0	17.0	17.0	8.3	8.3	8.3	8.3	8.3	8.3	8.3	0.0	

	Separations from Active Service due to Termination Percentage of Female Members Separating within the Next Year											
Age		Years of Service										
_	0	1	2	3	4	5	6	7	8	9	>=10	
20	17.0%	17.0%	17.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	0.0%	
25	14.0	14.0	14.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	15.0	
30	17.0	17.0	17.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	5.0	
35	15.0	15.0	15.0	9.7	9.7	9.7	9.7	9.7	9.7	9.7	4.0	
40	12.5	12.5	12.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7	2.8	
45	11.5	11.5	11.5	6.3	6.3	6.3	6.3	6.3	6.3	6.3	2.0	
50	11.8	11.8	11.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	1.7	
55	12.5	12.5	12.5	5.7	5.7	5.7	5.7	5.7	5.7	5.7	0.0	
60	13.0	13.0	13.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	0.0	
>=65	13.0	13.0	13.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	0.0	





**SALARY INCREASE RATES:** The following salary increase rates are used. Inflation rate of 2.50% plus productivity component of 1.25% plus step-rate/promotional component as shown:

	Pay Increase Assumptions for an Individual Member									
	Annual									
Years	Step Rate/	Inflation &	Total							
of	Promotional	Productivity	Increase							
Service	Rates	(Economy)	(Next Year)							
1	2.45%	3.75%	6.20%							
2	2.35	3.75	6.10							
3	2.35	3.75	6.10							
4	1.95	3.75	5.70							
5	1.95	3.75	5.70							
6	1.95	3.75	5.70							
7	1.85	3.75	5.60							
8	1.85	3.75	5.60							
9	1.85	3.75	5.60							
10	1.35	3.75	5.10							
11	1.35	3.75	5.10							
12	1.35	3.75	5.10							
13	1.25	3.75	5.00							
14	1.25	3.75	5.00							
15	1.15	3.75	4.90							
16	1.15	3.75	4.90							
17	1.05	3.75	4.80							
18	0.95	3.75	4.70							
19	0.95	3.75	4.70							
20 or more	0	3.75	3.75							





#### Schedule D – State Police Actuarial Assumptions and Methods

# STATE POLICE Plan Specific Assumptions and Methods

#### **MORTALITY RATES:**

#### Pre-Retirement:

1994 Group Annuity Mortality Tables for males and females with a one year setback in age for males and females.

#### Post-Retirement:

1994 Group Annuity Mortality Tables for males and females with a four year setback in age for males and females.

#### Post-Disablement:

70% of PBGC Disabled Mortality Table 5a for Males. 90% of PBGC Disabled Mortality Table 6a for Females.

	Mortality Rates									
		Male			Female					
	Pre-	Post-	Post-	Pre-	Post-	Post-				
Age	retirement	retirement	disablement	retirement	retirement	disablement				
20	0.0484%	0.0391%	3.3810%	0.0280%	0.0242%	2.3670%				
25	0.0624	0.0530	3.3810	0.0291	0.0286	2.3670				
30	0.0779	0.0696	2.5340	0.0331	0.0294	2.1330				
35	0.0849	0.0821	1.9460	0.0449	0.0373	1.9260				
40	0.0999	0.0862	1.9740	0.0652	0.0512	1.8810				
45	0.1458	0.1156	2.2540	0.0923	0.0768	2.0160				
50	0.2326	0.1722	2.6810	0.1310	0.1033	2.3130				
55	0.3979	0.2872	3.3740	0.2084	0.1568	2.6550				
60	0.7090	0.4949	4.2210	0.3863	0.2563	2.9790				
65	1.2940	0.8986	4.7460	0.7621	0.5093	3.3300				
70	2.1729	1.6239	5.1730	1.2709	0.9694	3.6990				
75	3.4051	2.5951	5.8940	2.0381	1.4953	4.4280				
80	5.5861	4.0858	7.8960	3.5362	2.5325	6.7140				
85	8.9613	6.8615	11.7740	6.0979	4.3952	10.1520				
90	13.9452	10.5792	17.6750	10.4594	7.5347	15.1380				

60% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as recent mortality experience shows actual deaths approximately 95% greater than expected under the selected tables.





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

Separations from Active Service due to Retirement Percentage of Members Separating within the Next Year								
	Both	Sexes						
	Less than 25 Years	More than 25 Years						
Age	of Service	of Service						
<=49	0.00%	0.00%						
50	10.00	15.00						
51	10.00	15.00						
52	10.00	15.00						
53	10.00	15.00						
54	10.00	10.00						
55	10.00	15.00						
56	10.00	15.00						
57	10.00	15.00						
58	12.00	20.00						
59	12.00	20.00						
60	25.00	40.00						
61	35.00	40.00						
62	50.00	100.00						
63	50.00	100.00						
>=64	100.00	100.00						





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

and the second s	Separations from Active Service due to Disability Percentage of Members Separating within the Next Year									
Age Unisex										
<=29	0.0000%									
30	0.0281									
35	0.1341									
40	0.2100									
45	0.4106									
50	0.6750									
55	1.0013									
>=60	0.0000									





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

	Separations from Active Service due to Termination Percentage of Male Members Separating within the Next Year												
Age	Years of Service												
	0	1	2	3	4	5	6	7	8	9	>=10		
20	7.5%	7.5%	7.5%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	3.0%		
25	7.5	7.5	7.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	3.0		
30	7.5	7.5	7.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.0		
35	7.5	7.5	7.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	2.4		
40	7.5	7.5	7.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	1.8		
45	10.0	10.0	10.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	1.4		
50	10.0	10.0	10.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	1.2		
55	10.0	10.0	10.0	6.7	6.7	6.7	6.7	6.7	6.7	6.7	1.2		
60	10.0	10.0	10.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	1.2		
65	10.0	10.0	10.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	1.2		

	Separations from Active Service due to Termination Percentage of Female Members Separating within the Next Year											
Age	Years of Service											
	0	1	2	3	4	5	6	7	8	9	>=10	
20	18.4%	12.5%	10.1%	10.8%	11.6%	12.2%	12.3%	9.6%	7.0%	5.3%	3.6%	
25	18.3	13.3	10.8	10.5	10.4	10.5	10.2	8.3	6.6	5.4	4.4	
30	18.1	14.4	11.9	10.2	9.1	8.4	7.8	6.9	6.2	5.7	5.5	
35	17.0	14.4	12.1	10.0	8.5	7.4	6.7	6.3	6.2	6.0	6.1	
40	15.2	13.5	11.7	9.8	8.4	7.4	6.7	6.5	6.4	6.2	6.2	
45	12.7	11.7	10.8	9.8	9.0	8.2	7.7	7.5	6.8	6.4	5.9	
50	9.4	9.1	9.3	10.0	10.1	10.0	9.8	9.2	7.5	6.6	5.2	
55	5.2	5.7	7.4	10.2	11.9	12.6	12.9	11.8	8.4	6.7	4.1	
60	1.0	1.3	4.9	10.6	14.2	16.2	17.1	15.1	9.6	6.8	2.6	
65	0.0	0.0	1.5	11.1	17.1	20.5	22.2	19.1	11.0	6.9	0.6	





### Schedule D – State Police 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 Assumptions for an Individual Member				
Years of Service	Annual Step Rate/ Promotional Rates	Inflation & Productivity (Economy)	Total Increase (Next Year)	
1	1.25%	3.50%	4.75%	
2	1.25	3.50	4.75	
3	1.25	3.50	4.75	
4	1.25	3.50	4.75	
5	1.15	3.50	4.65	
6-9	0.90	3.50	4.40	
10-19	0.50	3.50	4.00	
20 or more	0.00	3.50	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:

1994 Group Annuity Mortality Tables for males and females with a one year setback in age for males and females.

#### Post-Retirement:

1994 Group Annuity Mortality Tables for males and females with a one year setback in age for males and females.

#### Post-Disablement:

70% of PBGC Disabled Mortality Table 5a for Males. 90% of PBGC Disabled Mortality Table 6a for Females.

Mortality Rates					
Percentage of Members within the Next Year					
	Male		Female		
Age	<b>Pre- and Post-retirement</b>	Post-disablement	Pre- and Post-retirement	Post-disablement	
20	0.0484%	3.3810%	0.0280%	2.3670%	
25	0.0624	3.3810	0.0291	2.3670	
30	0.0779	2.5340	0.0331	2.1330	
35	0.0849	1.9460	0.0449	1.9260	
40	0.0999	1.9740	0.0652	1.8810	
45	0.1458	2.2540	0.0923	2.0160	
50	0.2326	2.6810	0.1310	2.3130	
55	0.3979	3.3740	0.2084	2.6550	
60	0.7090	4.2210	0.3863	2.9790	
65	1.2940	4.7460	0.7621	3.3300	
70	2.1729	5.1730	1.2709	3.6990	
75	3.4051	5.8940	2.0381	4.4280	
80	5.5861	7.8960	3.5362	6.7140	
85	8.9613	11.7740	6.0979	10.1520	
90	13.9452	17.6750	10.4594	15.1380	

5% of pre-retirement deaths are assumed to be service related.





## 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.

Separations from Active Service due to Retirement Percentage of Members Separating within the Next Year								
Age	Service Multiplier = 2.5 Years of Service			Service Multiplier = 3.5  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	50	50	0	0	50	50
61	0	0	50	15	0	0	50	15
62	0	0	50	15	0	0	50	15
63	0	0	50	15	0	0	50	15
64	0	0	50	15	0	0	50	15
65	0	50	15	15	0	50	50	15
66	0	15	15	15	0	15	15	15
67	0	15	15	15	0	15	15	15
68	0	15	15	15	0	15	15	15
69	0	15	15	15	0	15	15	15
>=70	0	100	100	100	0	100	100	100

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

Separations from Active Service due to Disability Percentage of Members Separating within the Next Year			
Age	Male	Female	
<=29	0.0000%	0.0000%	
30	0.0070	0.0070	
35	0.0370	0.0450	
40	0.1420	0.0900	
45	0.2920	0.2100	
50	0.4800	0.3970	
55	0.7120	0.6000	
>=60	0.0000	0.0000	





# Schedule D - Judicial Actuarial Assumptions and Methods

**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:

1994 Group Annuity Mortality Tables for males and females with a one year setback in age for males and females.

#### Post-Retirement:

1994 Group Annuity Mortality Tables for males and females with a four year setback in age for males and females.

# Post-Disablement:

70% of PBGC Disabled Mortality Table 5a for Males. 90% of PBGC Disabled Mortality Table 6a for Females.

			Mortality R	ates				
		Male		Female				
	Pre-	Post-	Post-	Pre-	Post-	Post-		
Age	retirement	retirement	disablement	retirement	retirement	disablement		
20	0.0484%	0.0391%	3.3810%	0.0280%	0.0242%	2.3670%		
25	0.0624	0.0530	3.3810	0.0291	0.0286	2.3670		
30	0.0779	0.0696	2.5340	0.0331	0.0294	2.1330		
35	0.0849	0.0821	1.9460	0.0449	0.0373	1.9260		
40	0.0999	0.0862	1.9740	0.0652	0.0512	1.8810		
45	0.1458	0.1156	2.2540	0.0923	0.0768	2.0160		
50	0.2326	0.1722	2.6810	0.1310	0.1033	2.3130		
55	0.3979	0.2872	3.3740	0.2084	0.1568	2.6550		
60	0.7090	0.4949	4.2210	0.3863	0.2563	2.9790		
65	1.2940	0.8986	4.7460	0.7621	0.5093	3.3300		
70	2.1729	1.6239	5.1730	1.2709	0.9694	3.6990		
75	3.4051	2.5951	5.8940	2.0381	1.4953	4.4280		
80	5.5861	4.0858	7.8960	3.5362	2.5325	6.7140		
85	8.9613	6.8615	11.7740	6.0979	4.3952	10.1520		
90	13.9452	10.5792	17.6750	10.4594	7.5347	15.1380		

60% of pre-retirement deaths are assumed to be service related. Mortality improvement is anticipated under the post-retirement mortality assumption as recent mortality experience shows actual deaths approximately 99% greater than expected under the selected tables.





# Schedule D - Virginia Law Officers' Actuarial Assumptions and Methods

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

Separations from Active Service due to Retirement Percentage of Members Separating within the Next Year							
	Unisex						
	Less than 25 Years	More than 25 Years					
Age	of Service	of Service					
<=49	0.00%	0.00%					
50	9.20	25.00					
51	9.00	15.00					
52	9.00	15.00					
53	9.00	15.00					
54	10.00	15.00					
55	9.50	20.00					
56	9.00	20.00					
57	12.00	20.00					
58	10.00	25.00					
59	12.00	25.00					
60	20.00	40.00					
61	26.00	50.00					
62	40.00	100.00					
63	20.00	100.00					
64	20.00	100.00					
>=65	100.00	100.00					





# Schedule D - Virginia Law Officers' Actuarial Assumptions and Methods

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

Separations from Active Service due to Disability Percentage of Members Separating within the Next Year						
Age	Unisex					
<=27	0.0000%					
28	0.0250					
29	0.0250					
30	0.0250					
35	0.1140					
40	0.1810					
45	0.2690					
50	0.4740					
55	0.7820					
60	0.6200					
61	0.6200					
62	0.6200					
>=63	0.0000					





# 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)

Separations from Active Service due to Termination Percentage of Male Members Separating within the Next Year											
Age		Years of Service									
	0	1	2	3	4	5	6	7	8	9	>=10
20	25.0%	25.0%	25.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	5.0%
25	20.0	20.0	20.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	5.0
30	20.0	20.0	20.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	5.0
35	20.0	20.0	20.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	5.0
40	15.0	15.0	15.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	4.0
45	15.0	15.0	15.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	4.0
50	15.0	15.0	15.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	4.0
55	12.0	12.0	12.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	4.0
60	12.5	12.5	12.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	4.0
65	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	4.0

Separations from Active Service due to Termination Percentage of Female Members Separating within the Next Year											
Age		Years of Service									
	0	1	2	3	4	5	6	7	8	9	>=10
20	20.0%	20.0%	20.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	7.5%
25	20.0	20.0	20.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	7.5
30	20.0	20.0	20.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	7.5
35	20.0	20.0	20.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	7.5
40	17.5	17.5	17.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	6.2
45	17.5	17.5	17.5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	5.9
50	17.5	17.5	17.5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	6.0
55	10.0	10.0	10.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	6.0
60	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	6.0
65	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	6.0





# 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 Assumptions for an Individual Member								
Years of Service	Annual Step Rate/ Promotional Rates	Inflation & Productivity (Economy)	Total Increase (Next Year)					
1	1.25%	3.50%	4.75%					
2	1.25	3.50	4.75					
3	1.25	3.50	4.75					
4	1.25	3.50	4.75					
5	1.15	3.50	4.65					
6-9	0.90	3.50	4.40					
10-19	0.50	3.50	4.00					
20 or more	0.00	3.50	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
	Increase rates of disability retirement up to age 52, females
	Decrease rates of disability retirement after age 52, all members
	Decrease rates of service retirement
Teachers	Increase rates of withdrawals
	Increase rates of disability retirement
	Decrease rates of service retirement
SPORS	Decrease rates of withdrawals, males
	Decrease rates of service retirement
VaLORS	Increase rates of withdrawals
	Decrease rates of disability retirement
	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 HB30, is to be amortized using a level-dollar, closed,10 year period.



## Schedule E – Actuarial Cost Method

#### **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

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

**Plan Year:** Twelve-month period ending June 30th.

Administration: All plans are administered by the Board of Trustees of the

Virginia Retirement System.

Plan 1: Members hired prior to July 1, 2010.

Plan 2: Members hired on or after July 1, 2010.

**Prior Plan:** Members in Plan 1 that are vested as of January 1, 2013.

New Plan: Members in Plan 1 that are not vested as of January 1, 2013 and

all Plan 2 members.

Eligibility: 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.

**Employee Contributions:** 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).

**Creditable Compensation:** Annual salary minus any overtime pay, payments of a temporary

nature, or payments for extra duties.

**Optional Forms of Payment**: There are optional forms of payment available on an actuarially

equivalent basis, as follows:

100% Survivor Option:

Payable for the member's life. Upon the member's death, 100% of the benefit continues to the contingent

annuitant.

50% Survivor Option:

Upon the member's death, 50% of the benefit continues

to the contingent annuitant.

Leveling Option:

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

# 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.





# STATE EMPLOYEES Plan Specific Benefit Provisions

Effective Date: March 1, 1952

**Type of Plan:** 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.

Service: 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.

**Average Final Compensation:** 

Prior Plan: The average of the member's highest 36 consecutive months of

salary.

New Plan: The average of the member's highest 60 consecutive months of

salary.

**Normal Retirement:** 

Prior Plan: 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.

. –

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.





New Plan:

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:** 

Prior Plan:

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.





New Plan: 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.





#### 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:**

Prior Plan: 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.

New Plan: 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.

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:** 

Prior Plan: 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%.

New Plan: 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%.

Prior & New Plan: 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.





# **TEACHERS Plan Specific Benefit Provisions**

**Effective Date:** March 1, 1952

Type of Plan: 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.

Service: 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.

**Average Final Compensation:** 

Prior Plan: The average of the member's highest 36 consecutive months of

salary.

New Plan: The average of the member's highest 60 consecutive months of

salary.

**Normal Retirement:** 

Prior Plan: 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.

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.





New Plan:

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:** 

Prior Plan:

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.





New Plan: 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.





#### 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:**

Prior Plan: 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.





New Plan:

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.





#### 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:**

Prior Plan: 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%.

New Plan: 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%.

Prior & New Plan: 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.





# STATE POLICE Plan Specific Benefit Provisions

Effective Date: July 1, 1950

**Type of Plan:** SPORS is a qualified governmental defined benefit retirement

plan. For Governmental Accounting Standards Board purposes,

it is considered a single-employer PERS.

**Service:** 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.

**Average Final Compensation:** 

Prior Plan: The average of the member's highest 36 consecutive months of

salary.

New Plan: The average of the member's highest 60 consecutive months of

salary.

Normal Retirement: Eligibility:

A member may retire upon Normal Retirement on or

after age 60 with credit for 5 years of service.

Annual Benefit:

1.85% of average final compensation (AFC) times years of service. (Previously 1.7% of AFC times years of

service.)

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:

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 \$12,456 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 \$12,456 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.





#### **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.





#### 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.





#### 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.





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

Prior Plan: 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%.

New Plan: 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.

Prior & New Plan: 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.





# JUDICIAL Plan Specific Benefit Provisions

Effective Date: July 1, 1970

**Type of Plan:** JRS is a qualified governmental defined benefit retirement plan.

For Governmental Accounting Standards Board purposes, it is

considered a single-employer PERS.

Service:

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 weighing factor of 1.5, judges age 45 – 54 use a weighing factor of 2.0, and judges age 55 and above use a weighing 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.

**Average Final Compensation:** 

Prior Plan: The average of the member's highest 36 consecutive months of

salary.

New Plan: The average of the member's highest 60 consecutive months of

salary.





#### **Normal Retirement**

## Eligibility:

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

#### Annual Benefit:

Prior Plan: 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.





#### **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.)





#### **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%.





#### **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:**

Prior Plan: 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%.

New Plan: 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%.

Prior & New Plan: 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

**Effective Date:** October 1, 1999

Type of Plan: VaLORS is a qualified governmental defined benefit retirement

plan. For Governmental Accounting Standards Board purposes,

it is considered a single-employer PERS.

**Service:** 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.

**Average Final Compensation:** 

Prior Plan: The average of the member's highest 36 consecutive months of

salary.

New Plan: The average of the member's highest 60 consecutive months of

salary.

Normal Retirement: Eligibility:

A member may retire upon Normal Retirement on or

after age 60 with credit for 5 years of service.

**Annual Benefit:** 

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.

Employees hired before July 1, 2001, must make a onetime election to receive benefits under (i) or (ii) below:

(i) 1.7% of average final compensation (AFC) times years of service plus the temporary supplement described in 5(d).

(ii) 2.0% of average final compensation (AFC) times years of service and no temporary supplement.





# Schedule F - Virginia Law Officers' Plan Provisions

#### 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 \$12,456 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.





# <u>Schedule F – Virginia Law Officers' Plan Provisions</u>

## 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 \$12,456 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

#### 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:**

Prior Plan: 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%.

New Plan: 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%.

Prior & New Plan: 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.





#### **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

#### 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

#### 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:

- 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

#### 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:

- 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.





# **STATE EMPLOYEES** AS OF June 30, 2012

Attained				Com	pleted Ye	ears of Se	rvice		
Age	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
Under 20	47	0	0	0	0	0	0	47	\$ 987,444
20 to 24	1,648	34	0	0	0	0	0	1,682	\$ 48,734,435
25 to 29	4,108	928	12	0	0	0	0	5,048	\$ 181,693,981
30 to 34	3,546	2,282	502	15	0	0	0	6,345	\$ 266,711,930
35 to 39	2,908	2,248	1,256	290	6	0	0	6,708	\$ 308,688,594
40 to 44	2,785	2,519	1,732	1,070	473	36	0	8,615	\$ 408,498,276
45 to 49	2,625	2,361	1,909	1,307	1,452	836	49	10,539	\$ 508,552,205
50 to 54	2,240	2,310	1,994	1,305	1,731	1,651	1,252	12,483	\$ 620,373,099
55 to 59	1,723	1,999	1,843	1,316	1,505	1,459	2,713	12,558	\$ 661,280,314
60	215	300	333	265	275	259	561	2,208	\$ 117,860,708
61	225	284	298	241	264	254	495	2,061	\$ 112,875,179
62	150	266	264	190	224	200	426	1,720	\$ 97,133,255
63	127	227	205	166	182	180	351	1,438	\$ 83,980,779
64	109	180	212	148	177	163	351	1,340	\$ 78,032,031
65	77	156	160	135	142	122	313	1,105	\$ 64,919,865
66	43	79	97	62	65	72	158	576	\$ 36,718,391
67	33	64	52	43	56	46	143	437	\$ 27,042,649
68	24	53	52	38	34	37	133	371	\$ 24,535,746
69	20	30	37	16	27	27	102	259	\$ 17,374,040
70 & Over	37	74	109	83	97	78	256	734	\$ 47,126,383
Total	22,690	16,394	11,067	6,690	6,710	5,420	7,303	76,274	\$ 3,713,119,304

Average Age: 48.09 Average Service: 12.80





## TEACHERS AS OF June 30, 2012

Attained				Col	mpleted Y	ears of S	ervice		
Age	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
Under 20	10	0	0	0	0	0	0	10	\$ 212,307
20 to 24	3,340	18	0	0	0	0	0	3,358	\$ 121,649,451
25 to 29	10,337	4,468	13	0	0	0	0	14,818	\$ 599,678,264
30 to 34	4,809	9,658	2,713	6	0	0	0	17,186	\$ 757,433,165
35 to 39	3,651	5,345	6,032	1,407	3	0	0	16,438	\$ 763,093,072
40 to 44	4,131	5,252	4,660	4,342	1,365	11	0	19,761	\$ 940,245,770
45 to 49	3,489	5,216	4,130	2,501	2,968	1,093	10	19,407	\$ 906,844,544
50 to 54	2,647	4,620	4,415	2,612	2,233	2,833	1,342	20,702	\$ 1,005,100,619
55 to 59	1,487	3,083	3,741	2,825	2,555	2,048	3,619	19,358	\$ 1,022,903,581
60	205	480	602	490	461	389	729	3,356	\$ 184,132,964
61	179	393	496	438	423	346	579	2,854	\$ 156,358,645
62	160	346	394	429	367	368	486	2,550	\$ 141,627,509
63	108	263	371	297	346	278	350	2,013	\$ 112,496,208
64	89	222	283	234	289	245	298	1,660	\$ 93,060,330
65	63	213	230	203	233	197	240	1,379	\$ 76,652,339
66	34	85	124	106	112	84	125	670	\$ 37,022,014
67	33	71	91	72	65	70	100	502	\$ 27,829,937
68	18	49	65	34	39	39	64	308	\$ 16,728,729
69	11	33	45	40	35	26	79	269	\$ 14,209,101
70 & Over	42	96	97	77	74	64	167	617	\$ 27,298,338
Total	34,843	39,911	28,502	16,113	11,568	8,091	8,188	147,216	\$ 7,004,576,887

Average Age: 45.20 Average Service: 11.86





## STATE POLICE AS OF June 30, 2012

Attained				Com	pleted Ye	ars of Ser	vice		
Age	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
Under 20	0	0	0	0	0	0	0	0	\$ -
20 to 24	89	0	0	0	0	0	0	89	\$ 3,287,012
25 to 29	130	101	0	0	0	0	0	231	\$ 9,899,153
30 to 34	55	185	63	0	0	0	0	303	\$ 14,059,177
35 to 39	22	80	130	36	0	0	0	268	\$ 13,629,481
40 to 44	27	55	76	120	25	1	0	304	\$ 16,501,233
45 to 49	17	33	17	50	137	62	0	316	\$ 19,678,475
50 to 54	15	5	15	21	36	97	29	218	\$ 14,949,552
55 to 59	1	4	2	6	6	17	66	102	\$ 7,891,194
60	0	1	1	0	0	0	6	8	\$ 693,702
61	0	0	0	0	0	1	9	10	\$ 842,691
62	0	0	0	0	0	3	4	7	\$ 634,188
63	0	0	0	1	0	1	3	5	\$ 378,430
64	0	0	0	1	0	0	5	6	\$ 570,561
65	0	1	0	0	0	0	6	7	\$ 590,029
66	0	0	0	0	1	0	2	3	\$ 236,404
67	0	1	0	0	0	0	3	4	\$ 347,880
68	0	0	0	0	0	0	0	0	\$ -
69	0	0	0	0	0	0	0	0	\$ -
70 & Over	0	0	0	0	0	0	0	0	\$ -
Total	356	466	304	235	205	182	133	1,881	\$ 104,189,162

Average Age: 40.78 Average Service: 13.95



## JUDICIAL AS OF June 30, 2012

Attained				Com	pleted Yea	ars of Ser	vice		
Age	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
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	1	0	0	0	0	0	2	\$ 300,463
40 to 44	10	6	0	0	0	0	0	16	\$ 2,350,672
45 to 49	13	13	4	0	0	0	0	30	\$ 4,333,091
50 to 54	7	26	10	10	1	0	0	54	\$ 8,140,563
55 to 59	13	26	23	16	8	2	0	88	\$ 13,255,844
60	2	3	8	5	4	0	0	22	\$ 3,342,063
61	6	5	6	9	2	0	0	28	\$ 4,157,141
62	1	3	3	3	3	2	0	15	\$ 2,307,456
63	3	1	5	4	5	1	0	19	\$ 2,872,201
64	2	4	5	11	2	3	0	27	\$ 3,995,316
65	1	6	8	6	3	2	0	26	\$ 3,906,019
66	0	0	0	3	3	1	0	7	\$ 1,075,328
67	0	4	8	1	3	2	1	19	\$ 2,843,940
68	0	2	3	0	1	3	2	11	\$ 1,702,247
69	0	0	4	1	1	0	0	6	\$ 869,779
70 & Over	0	3	1	3	1	0	2	10	\$ 1,505,633
Total	59	103	88	72	37	16	5	380	\$ 56,957,756

Average Age: 58.91 Average Service: 12.32





# VIRGINIA LAW OFFICERS AS OF June 30, 2012

Attained				Com	pleted Ye	ars of Sei	vice		
Age	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
Under 20	25	0	0	0	0	0	0	25	\$ 698,756
20 to 24	672	9	0	0	0	0	0	681	\$ 20,585,329
25 to 29	877	329	2	0	0	0	0	1,208	\$ 39,721,327
30 to 34	540	425	129	4	0	0	0	1,098	\$ 37,328,291
35 to 39	377	391	313	132	3	0	0	1,216	\$ 43,536,001
40 to 44	342	367	325	293	79	3	0	1,409	\$ 52,572,362
45 to 49	269	314	276	294	252	94	8	1,507	\$ 59,152,921
50 to 54	195	245	229	187	114	79	25	1,074	\$ 42,361,998
55 to 59	107	157	176	148	67	59	43	757	\$ 31,271,641
60	12	24	23	23	14	0	7	103	\$ 4,163,317
61	9	20	17	16	10	4	7	83	\$ 3,544,227
62	6	14	9	16	9	3	4	61	\$ 2,535,489
63	5	9	13	8	4	2	5	46	\$ 2,010,168
64	5	7	12	8	5	5	6	48	\$ 2,151,343
65	0	4	8	8	2	2	0	24	\$ 1,043,864
66	1	4	1	5	1	0	0	12	\$ 455,695
67	0	1	1	2	0	2	1	7	\$ 320,649
68	1	0	1	0	2	0	0	4	\$ 201,569
69	0	2	0	1	1	1	3	8	\$ 446,652
70 & Over	0	5	2	2	2	0	1	12	\$ 514,052
Total	3,443	2,327	1,537	1,147	565	254	110	9,383	\$ 344,615,651

Average Age: 41.36 Average Service: 9.20





# Schedule H - Schedule of Retiree and Beneficiary Data

# RETIREE AND BENEFICIARY DATA AS OF June 30, 2012

Employer	Prior Year Total Retirees and Beneficiaries		es and iciaries Removed	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
State	47,494	2,739	1,618	48,615	\$ 967,750	\$ 912,995	6.0%	\$ 19,906	\$ 19,223	3.6%
Teacher	67,616	4,520	1,550	70,586	1,611,894	1,501,649	7.3%	22,836	22,208	2.8%
Political	37,579	3,234	1,243	39,570	634,291	585,297	8.4%	16,030	15,575	2.9%
Total VRS	152,689	10,493	4,411	158,771	\$ 3,213,935	\$ 2,999,941	7.1%	\$ 20,243	\$ 19,647	3.0%
State Police	1,166	54	20	1,200	45,844	43,768	4.7%	38,203	37,537	1.8%
VaLORS	2,601	347	37	2,911	63,962	57,030	12.2%	21,973	21,926	0.2%
Judicial	446	34	17	463	32,891	30,559	7.6%	71,039	68,518	3.7%
Totals	156,902	10,928	4,485	163,345	\$ 3,356,632	\$ 3,131,298	7.2%	\$ 20,549	\$ 19,957	3.0%

# CHANGE IN ALLOWANCES FOR RETIREES AND BENEFICIARIES AS OF June 30, 2012

	or Year Annual Allowances	COLA	Additions	Deletions	Cu	rrent Year Annual Allowances
State	\$ 912,995	\$ 28,120	\$ 56,885	\$ 30,250	\$	967,750
Teacher	1,501,649	46,251	100,902	36,908		1,611,894
Political	585,297	18,027	55,255	24,288		634,291
Total VRS	\$ 2,999,941	\$ 92,398	\$ 213,042	\$ 91,446	\$	3,213,935
State Police	43,768	1,348	2,271	1,543		45,844
VaLORS	57,030	1,757	7,680	2,505		63,962
Judges	30,559	941	2,413	1,022		32,891
Totals	\$ 3,131,298	\$ 96,444	\$ 225,406	\$ 96,516	\$	3,356,632

