



Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve



**Virginia
Retirement
System**

**GASB Statement No. 74 Report for
the Other Postemployment Benefits
of the Virginia Retirement System**

Prepared as of June 30, 2017





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

December 12, 2017

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

Dear Trustees:

Presented in this report is information to assist the Virginia Retirement System in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 74 for the June 30, 2017 Measurement Date. The calculations in this report have been made on a basis that is consistent with our understanding of this accounting standard (GASB 74). This is the first report issued under GASB 74.

The annual actuarial valuation performed as of July 1, 2016 was used as the basis for much of the information presented as of June 30, 2017 in this report. The valuation was based upon data, furnished by the Virginia Retirement System staff, concerning active, inactive and retired members along with pertinent financial information. This information was reviewed for completeness and internal consistency, but was not audited by us. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete our results may be different and our calculations may need to be revised. Please see the actuarial valuation for additional details on the funding requirements for the System including actuarial assumptions and methods and the funding policy.

To the best of our knowledge, the information contained in this report is complete and accurate. The calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the System, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of the System. In addition, the calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 74.



The Board of Trustees

December 12, 2017

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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 74 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

We, Alisa Bennett, FSA, Larry Langer, ASA and Brad Wild, ASA are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We are available to answer any questions on the material contained in this report or to provide explanations or further details as may be appropriate.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Alisa Bennett'.

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'LL'.

Larry Langer, ASA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Bradley R. Wild'.

Bradley R. Wild, ASA, FCA, MAAA
Actuary



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Summary of Principal Results (continued)

**REPORT OF THE ANNUAL GASB STATEMENT NO. 74
REQUIRED INFORMATION FOR THE
VIRGINIA RETIREMENT SYSTEM**

**GROUP LIFE INSURANCE PROGRAM
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	173,134
Inactive Vested Members	0
Inactive Nonvested Members	0
Active Employees	<u>362,678</u>
Total	535,812
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$2,942,426
Fiduciary Net Position (FNP)	<u>1,437,586</u>
Net OPEB Liability (NOL = TOL – FNP)	\$1,504,840
FNP as a percentage of TOL	48.86%



Summary of Principal Results (continued)

**HEALTH INSURANCE CREDIT PROGRAM
STATE EMPLOYEES*
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	44,658
Inactive Vested Members	1,696
Inactive Nonvested Members	0
Active Employees	<u>107,840</u>
Total	154,194
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$990,028
Fiduciary Net Position (FNP)	<u>79,516</u>
Net OPEB Liability (NOL = TOL – FNP)	\$910,512
FNP as a percentage of TOL	8.03%



Summary of Principal Results (continued)

**HEALTH INSURANCE CREDIT PROGRAM
TEACHERS
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	62,413
Inactive Vested Members	1,914
Inactive Nonvested Members	0
Active Employees	<u>149,018</u>
Total	213,345
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$1,364,702
Fiduciary Net Position (FNP)	<u>96,091</u>
Net OPEB Liability (NOL = TOL – FNP)	\$1,268,611
FNP as a percentage of TOL	7.04%



Summary of Principal Results (continued)

**HEALTH INSURANCE CREDIT PROGRAM
PARTICIPATING LOCAL SUBDIVISIONS
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	4,602
Inactive Vested Members	288
Inactive Nonvested Members	0
Active Employees	<u>21,846</u>
Total	26,736
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$39,141
Fiduciary Net Position (FNP)	<u>22,156</u>
Net OPEB Liability (NOL = TOL – FNP)	\$16,985
FNP as a percentage of TOL	56.61%



Summary of Principal Results (continued)

**HEALTH INSURANCE CREDIT PROGRAM
CONSTITUTIONAL OFFICERS
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	3,245
Inactive Vested Members	0
Inactive Nonvested Members	0
Active Employees	<u>12,372</u>
Total	15,617
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$28,193
Fiduciary Net Position (FNP)	<u>2,427</u>
Net OPEB Liability (NOL = TOL – FNP)	\$25,766
FNP as a percentage of TOL	8.61%



Summary of Principal Results (continued)

**HEALTH INSURANCE CREDIT PROGRAM
SOCIAL SERVICE EMPLOYEES
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	1,894
Inactive Vested Members	0
Inactive Nonvested Members	0
Active Employees	<u>5,418</u>
Total	7,312
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$13,816
Fiduciary Net Position (FNP)	<u>1,091</u>
Net OPEB Liability (NOL = TOL – FNP)	\$12,725
FNP as a percentage of TOL	7.90%



Summary of Principal Results (continued)

**HEALTH INSURANCE CREDIT PROGRAM
REGISTRARS
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	62
Inactive Vested Members	0
Inactive Nonvested Members	0
Active Employees	<u>216</u>
Total	278
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$520
Fiduciary Net Position (FNP)	<u>34</u>
Net OPEB Liability (NOL = TOL – FNP)	\$486
FNP as a percentage of TOL	6.54%



Summary of Principal Results (continued)

**VIRGINIA SICKNESS AND DISABILITY PROGRAM
LONG-TERM DISABILITY AND LONG-TERM CARE COMBINED
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	4,520
Inactive Vested Members	0
Inactive Nonvested Members	0
Active Employees	<u>75,410</u>
Total	79,930
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$237,013
Fiduciary Net Position (FNP)	<u>442,334</u>
Net OPEB Liability (NOL = TOL – FNP)	(\$205,321)
FNP as a percentage of TOL	186.63%



Summary of Principal Results (continued)

**VIRGINIA LOCAL DISABILITY PROGRAM
TEACHERS
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	1
Inactive Vested Members	0
Inactive Nonvested Members	0
Active Employees	<u>5,001</u>
Total	5,002
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$873
Fiduciary Net Position (FNP)	<u>279</u>
Net OPEB Liability (NOL = TOL – FNP)	\$594
FNP as a percentage of TOL	31.96%



Summary of Principal Results (continued)

**VIRGINIA LOCAL DISABILITY PROGRAM
POLITICAL SUBDIVISIONS
(\$ IN THOUSANDS)**

Valuation Date (VD):	July 1, 2016
Prior Measurement Date:	June 30, 2016
Measurement Date (MD):	June 30, 2017
Membership Data:	
Retirees and Beneficiaries	0
Inactive Vested Members	0
Inactive Nonvested Members	0
Active Employees	<u>4,675</u>
Total	4,675
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	7.00%
Municipal Bond Index Rate at Prior Measurement Date	3.01%
Municipal Bond Index Rate at Measurement Date	3.56%
Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	7.00%
Single Equivalent Interest Rate at Measurement Date	7.00%
Net OPEB Liability:	
Total OPEB Liability (TOL)	\$914
Fiduciary Net Position (FNP)	<u>351</u>
Net OPEB Liability (NOL = TOL – FNP)	\$563
FNP as a percentage of TOL	38.40%



Introduction

The Governmental Accounting Standards Board issued Statement No. 74 (GASB 74), “*Financial Reporting for Postemployment Benefit Plans other than Pension Plans*”, in June 2015. The effective date for reporting under GASB 74 for the Virginia Retirement System was fiscal year ending June 30 2017.

This report, prepared as of June 30, 2017 (the Measurement Date), presents information to assist the Virginia Retirement System in meeting the requirements of GASB 74. Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the System performed as of July 1, 2017 (the Valuation Date). The results of that valuation will be detailed in a forthcoming report.

GASB 74 replaces GASB 43, and represents a significant departure from the requirements of the prior statement. GASB 43 was issued as a “funding friendly” statement that required postemployment benefit plans other than pension plans (OPEB) to report items consistent with the results of the plan’s actuarial valuations, as long as those valuations met certain parameters. GASB 74 basically separates accounting from funding by creating disclosure and reporting requirements that may or may not be consistent with the basis used for funding the Plan.

A major change in GASB 74 is the requirement to determine the Total OPEB Liability (TOL) utilizing the Entry Age Normal actuarial cost method. The Net OPEB Liability (NOL) is then set equal to the TOL minus the Plan’s Fiduciary Net Position (FNP) (basically the fair (market) value of assets). The benefit provisions recognized in the calculation of the TOL are summarized in Schedule B.

Among the items needed for the liability calculation is the discount rate, or Single Equivalent Interest Rate (SEIR), as described by GASB 74. To determine the SEIR, the FNP must be projected, using GASB 74 guidelines, into the future for as long as there are anticipated benefits payable under the plan’s provisions applicable to the members and beneficiaries of the System on the Measurement Date. If the FNP is not projected to be depleted at any point in the future, the long-term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.



Introduction (continued)

If, however, the FNP is projected to be depleted at a future measurement date, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate. The rate used, if necessary, for this purpose is the monthly average of the Bond Buyers General Obligation 20-year Municipal Bond Index Rate (formerly published monthly by the Board of Governors of the Federal Reserve System) (3.56%).

Our calculations indicate that the FNP is not projected to be depleted, so the Municipal Bond Index Rate is not used in the determination of the SEIR for either the June 30, 2016 or the June 30, 2017 TOL. The SEIR is 7.00% at June 30, 2017 and 7.00% at June 30, 2016, the long-term assumed rate of return on investments in effect at the respective Measurement Dates. Please see Paragraph 35.b.(2) for more explanation of the development of the SEIR.

The FNP projections are based upon Virginia Retirement System's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 74. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the System, or the System's ability to make benefit payments in future years.

The sections that follow provide the results of all the necessary calculations, presented in the order laid out in GASB 74 for note disclosure and Required Supplementary Information (RSI).



Section I – Notes to Financial Statements

The material presented herein will follow the order presented in GASB 74. Paragraph numbers are provided for ease of reference.

Paragraphs 34.a. (1)-(3): This information will be supplied by the System.

Paragraph 34.a. (4): The data required regarding the membership of the System were furnished by the System. The following table summarizes the membership of the System as of July 1, 2017, the date of the valuation used to determine the June 30, 2017 Total OPEB Liability.

Membership

GROUP LIFE INSURANCE PROGRAM

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	173,134
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	-
Receiving Benefits	
Nonvested Terminations	-
Active Members	362,678
Total	535,812

HEALTH INSURANCE CREDIT PROGRAM – STATE EMPLOYEES

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	44,658
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	1,696
Receiving Benefits	
Nonvested Terminations	-
Active Members	107,840
Total	154,194



Section I – Notes to Financial Statements (continued)

Membership (continued)

HEALTH INSURANCE CREDIT PROGRAM – TEACHERS

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	62,413
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	1,914
Receiving Benefits	
Nonvested Terminations	-
Active Members	149,018
Total	213,345

HEALTH INSURANCE CREDIT PROGRAM – PARTICIPATING LOCAL SUBDIVISIONS

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	4,602
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	288
Receiving Benefits	
Nonvested Terminations	-
Active Members	21,846
Total	26,736



Section I – Notes to Financial Statements (continued)

Membership (continued)

HEALTH INSURANCE CREDIT PROGRAM – CONSTITUTIONAL OFFICERS

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	3,245
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	-
Receiving Benefits	
Nonvested Terminations	-
Active Members	12,372
Total	15,617

HEALTH INSURANCE CREDIT PROGRAM – SOCIAL SERVICE EMPLOYEES

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	1,894
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	-
Receiving Benefits	
Nonvested Terminations	-
Active Members	5,418
Total	7,312



Section I – Notes to Financial Statements (continued)

Membership (continued)

HEALTH INSURANCE CREDIT PROGRAM – REGISTRARS

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	62
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	-
Receiving Benefits	
Nonvested Terminations	-
Active Members	216
Total	278

VIRGINIA SICKNESS AND DISABILITY PROGRAM

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	4,520
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	-
Receiving Benefits	
Nonvested Terminations	-
Active Members	75,410
Total	79,930



Section I – Notes to Financial Statements (continued)

Membership (continued)

VIRGINIA LOCAL DISABILITY PROGRAM - TEACHERS

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	1
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	-
Receiving Benefits	
Nonvested Terminations	-
Active Members	5,001
Total	5,002

VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS

Number as of July 1, 2016	
Inactive Members Or Their Beneficiaries	-
Currently Receiving Benefits	
Inactive Members Entitled To But Not Yet	-
Receiving Benefits	
Nonvested Terminations	-
Active Members	4,675
Total	4,675

Paragraphs 34.a. (5)-(6) and Paragraphs 34.b.-e.: This information will be supplied by the System.

Paragraph 35.a. (1)-(4): As stated earlier, the NOL is equal to the TOL minus the FNP. That result, as of June 30, 2017, is presented in the following table.



Section I – Notes to Financial Statements (continued)

Net OPEB Liability

GROUP LIFE INSURANCE PROGRAM
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	2,942,426
Fiduciary Net Position		<u>1,437,586</u>
Net OPEB Liability	\$	1,504,840
Ratio of Fiduciary Net Position to Total OPEB Liability		48.86%

HEALTH INSURANCE CREDIT PROGRAM – STATE EMPLOYEES
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	990,028
Fiduciary Net Position		<u>79,516</u>
Net OPEB Liability	\$	910,512
Ratio of Fiduciary Net Position to Total OPEB Liability		8.03%



Section I – Notes to Financial Statements (continued)

Net OPEB Liability (continued)

HEALTH INSURANCE CREDIT PROGRAM – TEACHERS
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	1,364,702
Fiduciary Net Position		<u>96,091</u>
Net OPEB Liability	\$	1,268,611
Ratio of Fiduciary Net Position to Total OPEB Liability		7.04%

HEALTH INSURANCE CREDIT PROGRAM – PARTICIPATING LOCAL SUBDIVISIONS
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	39,141
Fiduciary Net Position		<u>22,156</u>
Net OPEB Liability	\$	16,985
Ratio of Fiduciary Net Position to Total OPEB Liability		56.61%



Section I – Notes to Financial Statements (continued)

Net OPEB Liability (continued)

HEALTH INSURANCE CREDIT PROGRAM – CONSTITUTIONAL OFFICERS
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	28,193
Fiduciary Net Position		<u>2,427</u>
Net OPEB Liability	\$	25,766
Ratio of Fiduciary Net Position to Total OPEB Liability		8.61%

HEALTH INSURANCE CREDIT PROGRAM – SOCIAL SERVICE EMPLOYEES
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	13,816
Fiduciary Net Position		<u>1,091</u>
Net OPEB Liability	\$	12,725
Ratio of Fiduciary Net Position to Total OPEB Liability		7.90%



Section I – Notes to Financial Statements (continued)

Net OPEB Liability (continued)

HEALTH INSURANCE CREDIT PROGRAM – REGISTRARS
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	520
Fiduciary Net Position		<u>34</u>
Net OPEB Liability	\$	486
Ratio of Fiduciary Net Position to Total OPEB Liability		6.54%

VIRGINIA SICKNESS AND DISABILITY PROGRAM
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	237,013
Fiduciary Net Position		<u>442,334</u>
Net OPEB Liability	\$	(205,321)
Ratio of Fiduciary Net Position to Total OPEB Liability		186.63%



Section I – Notes to Financial Statements (continued)

Net OPEB Liability (continued)

VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	873
Fiduciary Net Position		<u>279</u>
Net OPEB Liability	\$	594
Ratio of Fiduciary Net Position to Total OPEB Liability		31.96%

VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS
(\$ in Thousands)

Fiscal Year Ending June 30, 2017		
Total OPEB Liability	\$	914
Fiduciary Net Position		<u>351</u>
Net OPEB Liability	\$	563
Ratio of Fiduciary Net Position to Total OPEB Liability		38.40%



Section I – Notes to Financial Statements (continued)

Paragraph 35.b.: This paragraph requires information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TOL. The complete set of actuarial assumptions and other inputs utilized in developing the TOL are outlined in Appendix C. The TOL as of June 30, 2017 was determined based on an actuarial valuation prepared as of July 1, 2016, using the following actuarial assumptions and other inputs:

Price Inflation	2.50 percent
Salary increases, including price inflation	State Employees: 3.50 to 5.35 percent Teachers: 3.50 to 5.95 percent State Police: 3.50 to 4.75 percent Judicial: 4.50 percent VaLORS: 3.50 to 4.75 percent Political Subdivisions: General Employees: 3.50 – 5.35 percent Public Safety: 3.50 to 4.75 percent
Long-term Rate of Return, net of investment expense, including price inflation	7.00 percent
Municipal Bond Index Rate	
Prior Measurement Date	3.01 percent
Measurement Date	3.56 percent
Year FNP is projected to be depleted	N/A
Single Equivalent Interest Rate, net of plan investment expense, including price inflation	
Prior Measurement Date	7.00 percent
Measurement Date	7.00 percent
Healthcare Cost Trend Rate	N/A



Section I – Notes to Financial Statements (continued)

Mortality

Pre-retirement mortality rates were based on the RP-2014 Active Healthy Mortality Table with base rates projected to 2020 using Scale BB.

Post-retirement mortality rates were based on the RP-2014 Retiree Healthy Mortality Table with base rates projected to 2020 using Scale BB.

Disability mortality rates were based on the RP-2014 Disabled Mortality Rates projected to 2020 using Scale BB.

Each table has setbacks and weighting adjustments depending on the group covered. Refer to Appendix C for a full description for each group.

The actuarial assumptions used in the valuation are based on the results of the most recent actuarial experience study, which covered the four-year period ending June 30, 2016.

Paragraph 35.b.(1)

Sensitivity analysis: The disclosure of the sensitivity of the Net OPEB Liability to changes in the healthcare cost trend rate. The TOL is based on a medical benefit that is a flat dollar amount, therefore, it is unaffected by a healthcare cost trend rate. An increase or decrease in the trend rate would have no effect on the TOL.



Section I – Notes to Financial Statements (continued)

Paragraph 35.b.(2)

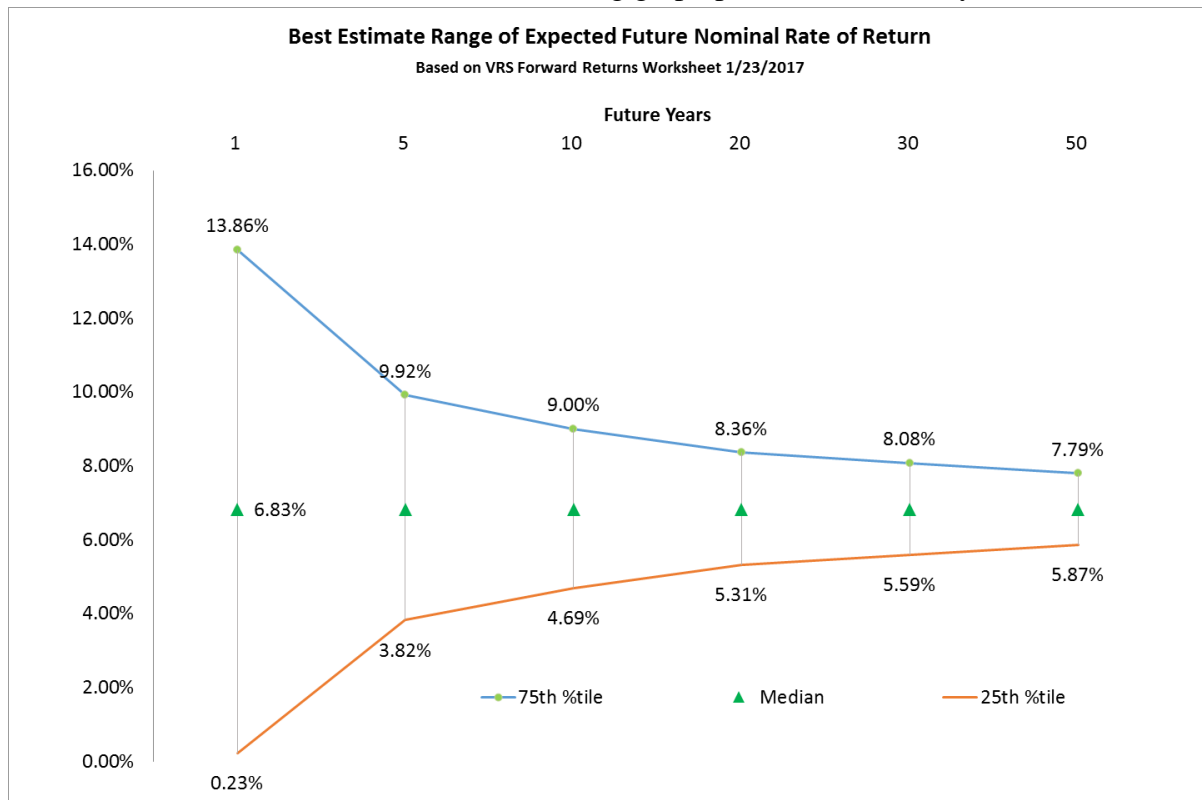
- (a) **Discount rate (SEIR):** The discount rate used to measure the TOL at June 30, 2017 was 7.00 percent. The discount rate used to measure the TOL at the Prior Measurement Date was 7.00 percent.
- (b) **Projected cash flows:** The projection of cash flows used to determine the discount rate assumed that plan contributions from members and Virginia Retirement System will be made at the current contribution rates as set out in state statute:
- a. Virginia Retirement System contribution rate: board approved contribution rates as a percentage of covered payroll for fiscal years 2017 and 2018. For fiscal years 2019 and beyond, projected actuarially determined contribution rates (normal cost including expenses plus unfunded actuarial accrued liability amortization).
 - b. Administrative expenses in the prior year were projected forward with price inflation as an estimate for administrative expenses in current and future years. The portion of expenses in future years allocated to the current members was based on the proportionate share of covered payroll in each year for the remainder of the existing members to the total covered payroll for all members.
 - c. OPEB benefits are paid by the trust.

Based on those assumptions, the System's FNP was projected to be available to make all projected future benefit payments of current System members. Therefore, the long-term expected rate of return on System investments of 7.00% was applied to all periods of projected benefit payments to determine the TOL.

The FNP projections are based upon the System's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 74. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing System basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the System, or the System's ability to make benefit payments in future years.

Section I – Notes to Financial Statements (continued)

(c) **Long-term rate of return:** The long-term expected rate of return on pension System investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension System investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Using stochastic projection results provides an expected range of real rates of return over various time horizons. Looking at one year results produces an expected real return of 7.3% but also has a high standard deviation, which means there is high volatility. Over larger time horizons, the median return does not change much but the volatility declines significantly. The median return is 6.83%. The following graph provides a summary of results.



The chart above shows the percentile rankings of expected returns. Thus for the 20-year time span, 25% of the resulting nominal rates of return are expected to be below 5.31% and 75% were above that. As the time span increases, the range of expected results narrows. Over a 50-year time span, the results indicate there is a 25% chance that nominal returns will be below 5.87% and a 25% chance they will be above 7.79%. In other words there is a 50% chance the real returns will be between 5.87% and 7.79%.



Section I – Notes to Financial Statements (continued)

- (d) **Municipal bond rate:** A municipal bond rate was not used in determining the discount rate. If it were required, the rate would be 3.56% on the Measurement Date.
- (e) **Periods of projected benefit payments:** Projected future benefit payments for all current plan members until benefit payments ran out.
- (f) **Assumed asset allocation:** The target asset allocation and best estimates of arithmetic real rates of return for each major asset class as provided by the System for use in the last actuarial experience study for the four-year period ending June 30, 2016 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Public Equity	40.00%	4.54%
Fixed Income	15.00%	0.69%
Credit Strategies	15.00%	3.96%
Real Assets	15.00%	5.76%
Private Equity	15.00%	9.53%
Total	100.00%	

- (g) **Sensitivity analysis:** This paragraph requires disclosure of the sensitivity of the NOL to changes in the discount rate. The following presents the NOL of the System, calculated using the discount rate of 7.00 percent, as well as the System's NOL calculated using a discount rate that is 1-percentage-point lower (6.00 percent) or 1-percentage-point higher (8.00 percent) than the current rate



Section I – Notes to Financial Statements (continued)

Sensitivity Analysis

GROUP LIFE INSURANCE PROGRAM (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$1,946,356	\$1,504,840	\$1,146,924

HEALTH INSURANCE CREDIT PROGRAM – STATE EMPLOYEES (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$1,006,798	\$910,512	\$827,718

HEALTH INSURANCE CREDIT PROGRAM – TEACHERS (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$1,415,909	\$1,268,611	\$1,143,425

HEALTH INSURANCE CREDIT PROGRAM – PARTICIPATING LOCAL SUBDIVISIONS (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$21,074	\$16,985	\$13,500



Section I – Notes to Financial Statements (continued)

Sensitivity Analysis (continued)

HEALTH INSURANCE CREDIT PROGRAM – CONSTITUTIONAL OFFICERS (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$28,778	\$25,766	\$23,205

HEALTH INSURANCE CREDIT PROGRAM – SOCIAL SERVICE EMPLOYEES (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$14,081	\$12,725	\$11,561

HEALTH INSURANCE CREDIT PROGRAM – REGISTRARS (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$535	\$486	\$444

VIRGINIA SICKNESS AND DISABILITY PROGRAM (\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	(\$195,422)	(\$205,321)	(\$222,484)



Section I – Notes to Financial Statements (continued)

Sensitivity Analysis (continued)

VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS
(\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$686	\$594	\$495

VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS
(\$ in Thousands)

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB Liability	\$642	\$563	\$491

Paragraph 35.c.: July 1, 2016 is the actuarial valuation date upon which the TOL is based. That result was rolled forward using standard actuarial techniques to the Measurement Date of June 30, 2017.



Section II – Required Supplementary Information

There are several tables of Required Supplementary Information (RSI) that need to be included in the System's financial statements:

Paragraphs 36.a.-c.: The required tables of schedules are provided in Appendix A.

Paragraph 36.d. and 37: The money-weighted rates of return will be supplied by the System.

Paragraph 38: The following information should be noted regarding the RSI, particularly for the *Schedule of Employer Contributions*:

Changes of benefit and funding terms: There have been no significant changes to the System benefit provisions since the prior actuarial valuation. The mandatory retirement age for most judges was increased from age 70 to age 73. A hybrid plan with changes to the defined benefit plan structure and a new defined contribution component was adopted in 2012. The hybrid plan applies to most new employees hired on or after January 1, 2014 and not covered by enhanced hazardous duty benefits. Some of the Political Subdivision plans have made changes to the benefits provided to members in hazardous duty positions. In aggregate the impact of these changes on the Political Subdivision plans is not significant.

Method and assumptions used in calculations of actuarially determined contributions: The actuarially determined contribution rates are determined every two years. The last determination of the actuarial contribution rates was as of June 30, 2015 payable for the fiscal years 2017 and 2018. For the non-Political Subdivision plans the amortization period of the unfunded liability less the deferred contribution begins at 30 years on June 30, 2013 and will decrease by one each year until reaching 0 years. Each subsequent year, a new base will be added to the unfunded liability and will be amortized over a closed 20 year period. For the Political Subdivision plans the amortization period of the unfunded begins at 30 years on June 30, 2013 and will decrease by one each year until reaching 0 years. Each subsequent year, a new base will be added to the unfunded liability and will be amortized over a closed 20 year period. The following actuarial methods and assumptions were used to determine contribution rates as of the June 30, 2015 actuarial valuations of the Virginia Retirement System OPEB plans:



Section II – Required Supplementary Information (continued)

Changes of assumption: VRS adopted updated assumptions based on the experience study for the period June 30, 2012 to June 30, 2016. The changes are summarized below.

For the Health Insurance Credit Program, the percentage of service retirees and disabled members receiving less than the full benefit for which they are eligible was increased from 10 percent to 20 percent for SPORS and VaLORS members. The percentage increased from 5 percent to 10 percent for Political Subdivisions and Special Coverage Codes members. These changes were made to reflect recent experience.

For the Virginia Sickness and Disability Program and the Virginia Local Disability Program, there were multiple changes:

- (a) The definition of disability was changed from “Own Occupation” to “Any Occupation” beginning with the twenty-fifth month of disability.
- (b) Benefit offset rates for newly disabled members were increased to reflect recent experience.
- (c) Extended the period in which those members without offsets are assumed to eventually receive an offset. The rate at which members without offsets are assumed to receive offsets were updated to reflect recent experience.
- (d) The percentage of members receiving a Social Security offset was decreased from 73.8 percent to 70.5 percent to reflect recent experience. Member who receive a Social Security offset are eligible to receive an additional one percent employer contribution.



Section II – Required Supplementary Information (continued)

Further demographic assumptions that affect all plans are summarized in the tables below:

Summary of Demographic Assumption Changes for State Level Plans

System	Assumption	Description
State	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020
	2. Retirement Rates	Lowered rates at older ages and changed final retirement age from 70 to 75
	3. Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
	4. Disability Rates	Adjusted rates to better match experience
	5. Salary Scale	No change
	6. Line of Duty Disability	Increase rate from 14% to 25%
Teachers	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020
	2. Retirement Rates	Lowered rates at older ages and changed final retirement age from 70 to 75
	3. Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
	4. Disability Rates	Adjusted rates to better match experience
	5. Salary Scale	No change
SPORS	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
	2. Retirement Rates	Increased age 50 rates, and lowered rates at older ages
	3. Withdrawal Rates	Adjusted rates to better match experience
	4. Disability Rates	Adjusted rates to better match experience
	5. Salary Increases	No change
	6. Line of Duty Disability	Increase rate from 60% to 85%
VaLORS	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
	2. Retirement Rates	Increased age 50 rates, and lowered rates at older ages
	3. Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
	4. Disability Rates	Adjusted rates to better match experience
	5. Salary Increases	No change
	6. Line of Duty Disability	Decrease rate from 50% to 35%
JRS	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020
	2. Retirement Rates	Decreased rates at first retirement eligibility
	3. Withdrawal Rates	No change
	4. Disability Rates	Removed disability rates
	5. Salary Increases	No change



Section II – Required Supplementary Information (continued)

Summary of Demographic Assumption Changes for Political Subdivisions

System	Assumption	Description
Locals Largest 10 (Non-Hazardous Duty)	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020
	2. Retirement Rates	Lowered rates at older ages and changed final retirement age from 70 to 75
	3. Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
	4. Disability Rates	Lowered rates
	5. Salary Increases	No change
	6. Line of Duty Disability	Increase rate from 14% to 20%
Locals Largest 10 (Hazardous Duty)	2. Retirement Rates	Lowered rates at older ages
	3. Withdrawal Rates	Adjusted rates to better match experience
	4. Disability Rates	Increased rates
	5. Salary Increases	No change
	6. Line of Duty Disability	Increase rate from 60% to 70%
Locals Non10 Largest (Non-Hazardous Duty)	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020
	2. Retirement Rates	Lowered rates at older ages and changed final retirement age from 70 to 75
	3. Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
	4. Disability Rates	Lowered rates
	5. Salary Increases	No change
	6. Line of Duty Disability	Increase rate from 14% to 15%
Locals Non10 Largest (Hazardous Duty)	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Update to a more current mortality table - RP-2014 projected to 2020
	2. Retirement Rates	Increased age 50 rates, and lowered rates at older ages
	3. Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
	4. Disability Rates	Adjusted rates to better match experience
	5. Salary Increases	No change
	6. Line of Duty Disability	Decrease rate from 60% to 45%



Section II – Required Supplementary Information (continued)

The System is funded with fixed contribution rates for the state and with varying contributions for employees based on their job and personal elections. The Actuarially Determined Contributions in the *Schedule of Employer Contributions* are calculated as of the beginning of the fiscal year in which contributions are reported.

The following actuarial methods and assumptions (from the July 1, 2016 actuarial valuation) were used to determine the Actuarially Determined Contribution reported for Fiscal Year End 2017 in that schedule:

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll, closed
Remaining amortization period	27 years, 20 years, 19 years, 18 years
Asset valuation method	5-year moving average
Price Inflation	2.50 percent
Salary increases, including price inflation	State Employees: 3.50 to 5.35 percent Teachers: 3.50 to 5.95 percent State Police: 3.50 to 4.75 percent Judicial: 4.50 percent VaLORS: 3.50 to 4.75 percent Political Subdivisions: General Employees: 3.50 – 5.35 percent Public Safety: 3.50 to 4.75 percent
Long-term Rate of Return, net of investment expense, including price inflation	7.00 percent
Healthcare Cost Trend Rate	N/A

Please see the information presented in this Paragraph 38 for detailed information on the benefit changes and assumption changes that may have impacted the Actuarially Determined Contributions shown in the *Schedule of Employer Contributions*.



Appendix A – Required Supplementary Information Tables

Exhibit A
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
GROUP LIFE INSURANCE PROGRAM
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$81,479									
Interest	201,770									
Benefit changes	0									
Difference between expected and actual experience	(39,461)									
Changes of assumptions	(91,738)									
Benefit payments	(184,092)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	(\$32,042)									
Total OPEB Liability - beginning	\$2,974,468									
Total OPEB Liability - ending (a)	\$2,942,426									
Plan Fiduciary Net Position										
Contributions – employer	\$94,082									
Contributions – non-employer	0									
Contributions – member	146,002									
Net investment income	158,430									
Benefit payments	(184,092)									
Administrative expense	(31)									
Refunds of contributions	0									
Other	<u>(1,731)</u>									
Net change in Plan Fiduciary Net Position	\$212,660									
Plan Fiduciary Net Position – beginning	\$1,224,926									
Plan Fiduciary Net Position - ending (b)	1,437,586									
Net OPEB Liability - ending (a) - (b)	\$1,504,840									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – STATE EMPLOYEES
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$19,231									
Interest	66,641									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(12,229)									
Benefit payments	(71,256)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$2,387									
Total OPEB Liability - beginning	\$987,641									
Total OPEB Liability - ending (a)	\$990,028									
Plan Fiduciary Net Position										
Contributions – employer	\$75,058									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	7,706									
Benefit payments	(71,256)									
Administrative expense	(131)									
Refunds of contributions	0									
Other	<u>(546)</u>									
Net change in Plan Fiduciary Net Position	\$10,831									
Plan Fiduciary Net Position – beginning	\$68,685									
Plan Fiduciary Net Position - ending (b)	79,516									
Net OPEB Liability - ending (a) - (b)	\$910,512									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – TEACHERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$20,351									
Interest	91,661									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(15,003)									
Benefit payments	(83,510)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$13,499									
Total OPEB Liability - beginning	\$1,351,203									
Total OPEB Liability - ending (a)	\$1,364,702									
Plan Fiduciary Net Position										
Contributions – employer	\$87,613									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	8,818									
Benefit payments	(83,510)									
Administrative expense	(120)									
Refunds of contributions	0									
Other	<u>436</u>									
Net change in Plan Fiduciary Net Position	\$13,237									
Plan Fiduciary Net Position – beginning	\$82,854									
Plan Fiduciary Net Position - ending (b)	96,091									
Net OPEB Liability - ending (a) - (b)	\$1,268,611									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – POLITICAL LOCAL SUBDIVISIONS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$972									
Interest	2,618									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(1,015)									
Benefit payments	(1,676)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$899									
Total OPEB Liability - beginning	\$38,242									
Total OPEB Liability - ending (a)	\$39,141									
Plan Fiduciary Net Position										
Contributions – employer	\$2,165									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	2,272									
Benefit payments	(1,676)									
Administrative expense	(37)									
Refunds of contributions	0									
Other	<u>111</u>									
Net change in Plan Fiduciary Net Position	\$2,835									
Plan Fiduciary Net Position – beginning	\$19,321									
Plan Fiduciary Net Position - ending (b)	22,156									
Net OPEB Liability - ending (a) - (b)	\$16,985									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – CONSTITUTIONAL OFFICERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$671									
Interest	1,890									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(578)									
Benefit payments	(1,568)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$415									
Total OPEB Liability - beginning	\$27,778									
Total OPEB Liability - ending (a)	\$28,193									
Plan Fiduciary Net Position										
Contributions – employer	\$2,320									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	215									
Benefit payments	(1,568)									
Administrative expense	(4)									
Refunds of contributions	0									
Other	<u>(15)</u>									
Net change in Plan Fiduciary Net Position	\$948									
Plan Fiduciary Net Position – beginning	\$1,479									
Plan Fiduciary Net Position - ending (b)	2,427									
Net OPEB Liability - ending (a) - (b)	\$25,766									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – SOCIAL SERVICE EMPLOYEES
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$263									
Interest	928									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(162)									
Benefit payments	(928)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$101									
Total OPEB Liability - beginning	\$13,715									
Total OPEB Liability - ending (a)	\$13,816									
Plan Fiduciary Net Position										
Contributions – employer	\$1,069									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	98									
Benefit payments	(928)									
Administrative expense	(2)									
Refunds of contributions	0									
Other	<u>(7)</u>									
Net change in Plan Fiduciary Net Position	\$230									
Plan Fiduciary Net Position – beginning	\$861									
Plan Fiduciary Net Position - ending (b)	1,091									
Net OPEB Liability - ending (a) - (b)	\$12,725									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – REGISTRARS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$12									
Interest	35									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(10)									
Benefit payments	(27)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$10									
Total OPEB Liability - beginning	\$510									
Total OPEB Liability - ending (a)	\$520									
Plan Fiduciary Net Position										
Contributions – employer	\$47									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	3									
Benefit payments	(27)									
Administrative expense	0									
Refunds of contributions	0									
Other	<u>0</u>									
Net change in Plan Fiduciary Net Position	\$23									
Plan Fiduciary Net Position – beginning	\$11									
Plan Fiduciary Net Position - ending (b)	34									
Net OPEB Liability - ending (a) - (b)	\$486									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
VIRGINIA SICKNESS AND DISABILITY PROGRAM
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$27,884									
Interest	15,810									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(17,511)									
Benefit payments	(30,056)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	(\$3,873)									
Total OPEB Liability - beginning	\$240,886									
Total OPEB Liability - ending (a)	\$237,013									
Plan Fiduciary Net Position										
Contributions – employer	\$24,130									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	48,206									
Benefit payments	(30,056)									
Administrative expense	(7,718)									
Refunds of contributions	0									
Other	<u>(54)</u>									
Net change in Plan Fiduciary Net Position	\$34,508									
Plan Fiduciary Net Position – beginning	\$407,826									
Plan Fiduciary Net Position - ending (b)	442,334									
Net OPEB Liability - ending (a) - (b)	(\$205,321)									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$389									
Interest	29									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	53									
Benefit payments	(36)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$435									
Total OPEB Liability - beginning	\$438									
Total OPEB Liability - ending (a)	\$873									
Plan Fiduciary Net Position										
Contributions – employer	\$589									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	0									
Benefit payments	(36)									
Administrative expense	(568)									
Refunds of contributions	0									
Other	<u>294</u>									
Net change in Plan Fiduciary Net Position	\$279									
Plan Fiduciary Net Position – beginning	\$0									
Plan Fiduciary Net Position - ending (b)	279									
Net OPEB Liability - ending (a) - (b)	\$594									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit A (continued)
GASB 74 Paragraph 36.a.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service Cost	\$664									
Interest	25									
Benefit changes	0									
Difference between expected and actual experience	0									
Changes of assumptions	(110)									
Benefit payments	(44)									
Refunds of contributions	<u>0</u>									
Net change in Total OPEB Liability	\$535									
Total OPEB Liability - beginning	\$379									
Total OPEB Liability - ending (a)	\$914									
Plan Fiduciary Net Position										
Contributions – employer	\$740									
Contributions – non-employer	0									
Contributions – member	0									
Net investment income	0									
Benefit payments	(44)									
Administrative expense	(715)									
Refunds of contributions	0									
Other	<u>370</u>									
Net change in Plan Fiduciary Net Position	\$351									
Plan Fiduciary Net Position – beginning	\$0									
Plan Fiduciary Net Position - ending (b)	351									
Net OPEB Liability - ending (a) - (b)	\$563									



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B
GASB 74 Paragraph 36.b.
SCHEDULE OF THE NET OPEB LIABILITY
GROUP LIFE INSURANCE PROGRAM
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$2,942,426									
Plan Fiduciary Net Position	<u>1,437,586</u>									
Net OPEB Liability	\$1,504,840									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	48.86%									
Covered payroll	\$18,473,085									
Net OPEB Liability as a percentage of covered payroll	8.15%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – STATE EMPLOYEES
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$990,028									
Plan Fiduciary Net Position	<u>79,516</u>									
Net OPEB Liability	\$910,512									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	8.03%									
Covered payroll	\$6,489,070									
Net OPEB Liability as a percentage of covered payroll	14.03%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – TEACHERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$1,364,702									
Plan Fiduciary Net Position	<u>96,091</u>									
Net OPEB Liability	\$1,268,611									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	7.04%									
Covered payroll	\$7,892,011									
Net OPEB Liability as a percentage of covered payroll	16.07%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – PARTICIPATING LOCAL SUBDIVISIONS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$39,141									
Plan Fiduciary Net Position	<u>22,156</u>									
Net OPEB Liability	\$16,985									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	56.61%									
Covered payroll	\$966,611									
Net OPEB Liability as a percentage of covered payroll	1.76%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – CONSTITUTIONAL OFFICERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$28,193									
Plan Fiduciary Net Position	<u>2,427</u>									
Net OPEB Liability	\$25,766									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	8.61%									
Covered payroll	\$633,397									
Net OPEB Liability as a percentage of covered payroll	4.07%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – SOCIAL SERVICE EMPLOYEES
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$13,816									
Plan Fiduciary Net Position	<u>1,091</u>									
Net OPEB Liability	\$12,725									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	7.90%									
Covered payroll	\$251,084									
Net OPEB Liability as a percentage of covered payroll	5.07%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
HEALTH INSURANCE CREDIT PROGRAM – REGISTRARS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$520									
Plan Fiduciary Net Position	<u>34</u>									
Net OPEB Liability	\$486									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	6.54%									
Covered payroll	\$11,047									
Net OPEB Liability as a percentage of covered payroll	4.40%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
VIRGINIA SICKNESS AND DISABILITY PROGRAM
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$237,013									
Plan Fiduciary Net Position	<u>442,334</u>									
Net OPEB Liability	(\$205,321)									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	186.63%									
Covered payroll	\$3,799,590									
Net OPEB Liability as a percentage of covered payroll	-5.40%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$873									
Plan Fiduciary Net Position	<u>279</u>									
Net OPEB Liability	\$594									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	31.96%									
Covered payroll	\$282,200									
Net OPEB Liability as a percentage of covered payroll	0.21%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit B (continued)
GASB 74 Paragraph 36.b.
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability	\$914									
Plan Fiduciary Net Position	<u>351</u>									
Net OPEB Liability	\$563									
Ratio of Plan Fiduciary Net Position to Total OPEB Liability	38.40%									
Covered payroll	\$183,629									
Net OPEB Liability as a percentage of covered payroll	0.31%									

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
GROUP LIFE INSURANCE PROGRAM
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$241,997	\$237,558	\$231,283	\$228,086	\$221,622	\$181,527	\$177,378	\$145,228	\$146,545	\$158,740
Actual employer contributions	<u>241,997</u>	<u>214,162</u>	<u>208,505</u>	<u>205,623</u>	<u>199,796</u>	<u>47,293</u>	<u>44,744</u>	<u>95,185</u>	<u>135,019</u>	<u>158,740</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>\$23,396</u>	<u>\$22,778</u>	<u>\$22,463</u>	<u>\$21,826</u>	<u>\$134,234</u>	<u>\$132,634</u>	<u>\$50,043</u>	<u>\$11,526</u>	<u>\$0</u>
Covered payroll	\$18,473,085	\$17,996,821	\$17,521,463	\$17,279,273	\$16,884,223	\$16,446,009	\$15,980,013	\$16,317,768	\$16,465,749	\$15,873,980
Actual contributions as a percentage of covered payroll	1.31%	1.19%	1.19%	1.19%	1.18%	0.29%	0.28%	0.58%	0.82%	1.00%



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
HEALTH INSURANCE CREDIT PROGRAM – STATE EMPLOYEES
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$76,571	\$73,961	\$71,522	\$63,385	\$59,617	\$60,222	\$57,193	\$66,523	\$67,136	\$64,383
Actual employer contributions	<u>76,571</u>	<u>66,375</u>	<u>64,186</u>	<u>60,366</u>	<u>56,778</u>	<u>7,686</u>	<u>5,396</u>	<u>43,195</u>	<u>64,935</u>	<u>64,383</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>\$7,586</u>	<u>\$7,336</u>	<u>\$3,019</u>	<u>\$2,839</u>	<u>\$52,536</u>	<u>\$51,797</u>	<u>\$23,328</u>	<u>\$2,201</u>	<u>\$0</u>
Covered payroll	\$6,489,070	\$6,321,454	\$6,112,950	\$6,036,628	\$5,677,848	\$5,681,295	\$5,395,597	\$5,452,716	\$5,502,924	\$5,365,246
Actual contributions as a percentage of covered payroll	1.18%	1.05%	1.05%	1.00%	1.00%	0.14%	0.10%	0.79%	1.18%	1.20%



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
HEALTH INSURANCE CREDIT PROGRAM – TEACHERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$97,072	\$89,976	\$87,739	\$85,571	\$83,763	\$75,999	\$74,522	\$79,407	\$80,004	\$79,498
Actual employer contributions	<u>87,601</u>	<u>80,826</u>	<u>78,817</u>	<u>81,183</u>	<u>79,468</u>	<u>42,222</u>	<u>41,401</u>	<u>53,135</u>	<u>77,147</u>	<u>79,498</u>
Annual contribution deficiency (excess)	<u>\$9,471</u>	<u>\$9,150</u>	<u>\$8,922</u>	<u>\$4,388</u>	<u>\$4,295</u>	<u>\$33,777</u>	<u>\$33,121</u>	<u>\$26,272</u>	<u>\$2,857</u>	<u>\$0</u>
Covered payroll	\$7,892,011	\$7,625,071	\$7,435,548	\$7,313,792	\$7,159,267	\$7,036,940	\$6,900,183	\$7,089,930	\$7,143,255	\$6,853,273
Actual contributions as a percentage of covered payroll	1.11%	1.06%	1.06%	1.11%	1.11%	0.60%	0.60%	0.75%	1.08%	1.16%



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
HEALTH INSURANCE CREDIT PROGRAM – PARTICIPATING LOCAL SUBDIVISIONS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$2,088	\$1,923	\$1,859	\$1,875	\$2,035	\$1,974	\$1,940	\$3,026	\$2,907	\$3,643
Actual employer contributions	<u>2,088</u>	<u>1,923</u>	<u>1,859</u>	<u>1,875</u>	<u>2,035</u>	<u>1,974</u>	<u>1,940</u>	<u>3,026</u>	<u>2,907</u>	<u>3,643</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Covered payroll	\$966,611	\$921,923	\$886,366	\$859,540	\$1,019,421	\$980,836	\$965,450	\$971,042	\$919,830	\$822,423
Actual contributions as a percentage of covered payroll	0.22%	0.21%	0.21%	0.22%	0.20%	0.20%	0.20%	0.31%	0.32%	0.44%



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
HEALTH INSURANCE CREDIT PROGRAM – CONSTITUTIONAL OFFICERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$2,280	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actual employer contributions	<u>2,280</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Covered payroll	\$633,397	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actual contributions as a percentage of covered payroll	0.36%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
HEALTH INSURANCE CREDIT PROGRAM – SOCIAL SERVICE EMPLOYEES
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$1,055	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actual employer contributions	<u>1,055</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Covered payroll	\$251,084	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actual contributions as a percentage of covered payroll	0.42%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
HEALTH INSURANCE CREDIT PROGRAM – REGISTRARS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$45	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actual employer contributions	<u>45</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Covered payroll	\$11,047	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actual contributions as a percentage of covered payroll	0.41%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
VIRGINIA SICKNESS AND DISABILITY PROGRAM
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$25,077	\$27,187	\$26,244	\$20,610	\$21,032	\$30,285	\$28,646	\$76,530	\$78,120	\$97,975
Actual employer contributions	<u>25,077</u>	<u>24,580</u>	<u>23,728</u>	<u>16,701</u>	<u>17,043</u>	<u>1,096</u>	<u>0</u>	<u>30,861</u>	<u>71,344</u>	<u>78,380</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>\$2,607</u>	<u>\$2,516</u>	<u>\$3,909</u>	<u>\$3,989</u>	<u>\$29,189</u>	<u>\$28,646</u>	<u>\$45,669</u>	<u>\$6,776</u>	<u>\$19,595</u>
Covered payroll	\$3,799,590	\$3,724,248	\$3,595,080	\$3,553,444	\$3,626,208	\$4,037,955	\$3,819,462	\$3,904,606	\$3,985,719	\$3,918,989
Actual contributions as a percentage of covered payroll	0.66%	0.66%	0.66%	0.47%	0.47%	0.03%	0.00%	0.79%	1.79%	2.00%



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
VIRGINIA LOCAL DISABILITY PROGRAM - TEACHERS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$875	\$536	\$276	\$10	n/a	n/a	n/a	n/a	n/a	n/a
Actual employer contributions	<u>875</u>	<u>536</u>	<u>276</u>	<u>10</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Covered payroll	\$282,200	\$184,729	\$95,328	\$3,549	n/a	n/a	n/a	n/a	n/a	n/a
Actual contributions as a percentage of covered payroll	0.31%	0.29%	0.29%	0.28%	n/a	n/a	n/a	n/a	n/a	n/a



Appendix A – Required Supplementary Information Tables (continued)

Exhibit C (continued)
GASB 74 Paragraph 36.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS
(\$ in Thousands)

Year Ending June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$1,102	\$741	\$377	\$41	n/a	n/a	n/a	n/a	n/a	n/a
Actual employer contributions	<u>1,102</u>	<u>741</u>	<u>377</u>	<u>41</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Annual contribution deficiency (excess)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
Covered payroll	\$183,629	\$123,509	\$62,801	\$6,818	n/a	n/a	n/a	n/a	n/a	n/a
Actual contributions as a percentage of covered payroll	0.60%	0.60%	0.60%	0.60%	n/a	n/a	n/a	n/a	n/a	n/a



GROUP LIFE INSURANCE PROGRAM

The Group Life Insurance Program is administered by the Board of Trustees for the Virginia Retirement System (VRS). Contributions received are held in trust. Premiums for active employees are paid to Minnesota Life which in turn pays the life insurance proceeds to the beneficiaries. Payments for postemployment benefits are made by Minnesota Life and reimbursed by the Trust. The Board sets administrative policy and determines the allocation of the assets held for investment.

The following persons are eligible to participate in the Group Life Insurance Program: Teachers, State Employees, State Police (SPORS), Judicial Employees (JRS), Virginia Law Officers (VaLORS) and those VRS members receiving long-term disability benefits from the Virginia Sickness and Disability Program (VSDP), the Virginia Local Disability Program (VLDP), or, if the employer opted-out of VLDP during the election period, a comparable plan. In addition, local political subdivisions may elect coverage. Substantially all local units covered by VRS have elected coverage in the Group Life Insurance Program, as have other political subdivisions not providing VRS pension benefits. Also, certain members of the Optional Retirement Plan (ORP) have life insurance coverage. Although certain members who were employed at the time of initial coverage under the Group Life Insurance Program may decline coverage, substantially all full-time, permanent employees participate.

Each active member is entitled to a death benefit from this plan equal to two times the member's annual rate of compensation, rounded up to the next higher multiple of \$1,000. This benefit is provided for by the purchase of a group term life insurance contract from an insurance company. Active members may also be covered by Accidental Death and Dismemberment insurance, and they may elect additional amounts of insurance. These benefits are excluded from this valuation.

Each service retiree will be entitled to a death benefit from this plan equal to the amount in effect immediately before his/her termination or retirement, reduced by 25% on January 1 of the first full year following the date the employee is separated from service and each year thereafter. In no event will the death benefit be less than 25% of the amount in effect at the date of termination or retirement or \$8,000 for members who retire with at least 30 years of creditable service (the \$8,000 is increased by the same percentage as any annual post-retirement supplement for retirees, as calculated for employees hired on or after July 1, 2010).

Each disabled member, including those receiving benefits from VSDP or VLDP, will be entitled to a death benefit from this plan, similar to the service retiree benefit, except the 25% per year reduction does not begin until the member reaches Normal Retirement Age, or the retirement date, if later. Members participating in VLDP (or a comparable plan) and State, VaLORS, and SPORS members participating in VSDP and hired on or after July 1, 2009 need at least one year of service before the member is eligible for a non-service related life insurance benefit from the Plan.



The postemployment death benefit is paid for by an addition to the contribution required to provide the active member benefit. While the active member portion of the contribution is used to purchase group term life insurance from an insurance company, the postemployment portion of the contribution is held in a trust until required to pay benefits. The postemployment contribution is actuarially determined by this valuation.

HEALTH INSURANCE CREDIT PROGRAM

If an eligible employee has worked for more than one employer in VRS, for the purpose of this valuation, their most current (or last) employer providing HIC benefits assumes full liability for that employee.

STATE EMPLOYEES (State, SPORS, JRS, VaLORS, ORP, and UVA)

The Commonwealth shall provide a credit toward the cost of health insurance coverage for any former state employee who retired under the Virginia Retirement System (State), State Police Officers' Retirement System (SPORS), Judicial Retirement System (JRS), or Virginia Law Officers' Retirement System (VaLORS) and who rendered at least 15 years of total creditable service under the Retirement System or rendered service as a temporary employee of the General Assembly in 1972 and became a member of the retirement system from 1972 to 1985 immediately following such temporary service. The amount of each monthly health insurance credit shall be \$4 per year of creditable service, which shall be credited monthly to any retired employee participating in the Health Insurance Credit Program. However, such credit shall not exceed a beneficiary's qualified medical expenses.

An employee who retired under an Optional Retirement Plan (ORP) or the University of Virginia (UVA) may qualify for the health insurance credit if the retiree has at least 15 years of coverage under the ORP, UVA, or a combination of VRS service credit and ORP or UVA coverage equal to at least 15 years.

Disabled State retirees and Virginia Sickness and Disability Program (VSDP) beneficiaries shall receive a maximum monthly credit, which is the greater of (i) \$120, (ii) \$4 per year for each year of creditable service at the time of disability retirement, or (iii) \$4 per year for each year of creditable service at the time of eligibility for postemployment disability benefits. State, VaLORS, and SPORS employees participating in VSDP who receive long-term disability benefits from VSDP shall receive a monthly credit of \$120, or \$4 per year of creditable service at the time of disability, whichever is greater. Those employees participating in VSDP and hired on or after July 1, 2009 are required to earn one year of service to be eligible for the non-service related Health Insurance Credit disability benefit.



TEACHERS

A member who retired under the Virginia Retirement System and who rendered at least 15 years of total creditable service under VRS shall receive a health insurance credit to his monthly retirement allowance, which shall be applied to reduce the retired member's health insurance premium cost. The amount of each monthly health insurance credit shall be \$4 for each full year of the retired member's creditable service. However, such credit shall not exceed a beneficiary's qualified medical expenses.

Disabled Teacher retirees and Virginia Local Disability Program (VLDP) beneficiaries (or, if the employer opted-out of VLDP during the election period, a comparable plan) shall receive a monthly health insurance credit of \$4 multiplied by the lesser of (i) twice the amount of his creditable service or (ii) the amount of creditable service he would have completed at age 60 if he had remained in service to that age. Eligibility for the credit shall be determined in a manner prescribed by the Virginia Retirement System. Those employees participating in VLDP (or, if the employer opted-out of VLDP during the election period, a comparable plan) and hired on or after July 1, 2009 are required to earn one year of service to be eligible for the non-service related Health Insurance Credit disability benefit.

POLITICAL SUBDIVISIONS

Political subdivisions participating in the Virginia Retirement System (VRS) may elect to provide a credit toward the cost of health insurance coverage for any former employee who retired under VRS with at least 15 years of total creditable service. The amount of each monthly health insurance credit shall be \$1.50 per year of creditable service, which amount shall be paid monthly to any retired employee participating in the Health Insurance Credit Program. However, such credit shall not exceed the health insurance premium for retiree.

Disabled retirees are eligible to receive a maximum monthly credit of \$45.

In addition to the above mentioned health insurance credit, this locality has chosen to provide an additional health insurance credit of \$1 per month for each full year of the retired member's creditable service, not to exceed a maximum monthly credit of \$30. This additional benefit is available for retired constitutional officers, employees of constitutional officers, general registrars, employees of general registrars, and local social service employees.



SPECIAL COVERGE GROUPS

A local officer, as defined in the Code of Virginia §51.1-124.3, retired under the Virginia Retirement System (VRS) who rendered at least 15 years of total creditable service under VRS shall receive a monthly health insurance credit of \$1.50 per year of creditable service, not to exceed a maximum monthly credit of \$45. However, such credit shall not exceed the health insurance premium for the retiree.

Disabled retirees are eligible to receive a maximum monthly credit of \$45.

VIRGINIA SICKNESS AND DISABILITY PROGRAM

The following employees are eligible for VSDP benefits: full-time and part-time salaried state employees who are active members of the Virginia Retirement System (State), active members of the State Police Officers' Retirement System (SPORS), and active members of the Virginia Law Officers' Retirement System (VaLORS). Newly hired or appointed faculty of state universities of higher education in teaching, research or administrative positions who elect VRS as their retirement plan, may elect coverage under VSDP or any disability plan offered by the institution. If the institution does not offer an alternative disability plan, the faculty member is automatically covered under VSDP. Any eligible employee hired on or after July 1, 2009, shall not be eligible to receive VSDP long-term disability (LTD) benefits for non-work related disabilities prior to the completion of one continuous year of employment.

LTD benefits provide income replacement for members who become disabled and are unable to work for an extended period of time. LTD benefits begin at the expiration of the maximum period of short-term disability. While on long-term disability, members continue to accrue service as a VRS-covered member. LTD recipients are not considered employees of the Commonwealth of Virginia while they are on long-term disability.

Upon attaining the normal retirement age while on LTD, a member is required to retire. However, if the member becomes disabled within five years of the normal retirement age, they will be eligible, for up to five years, to receive VSDP LTD benefits, provided the member remains medically eligible. Once such member receives VSDP LTD benefits for five years, the member must retire.

Members are eligible to receive LTD benefits while working. Long-term disability-working status is in effect if members are able to work at least 20 hours a week, but are restricted from performing the full duties of their job or working a regular schedule. A member must have returned to work with modified duties while on short-term disability to be eligible for long-term disability-working status. The benefit will be adjusted by income or wages a member earns. During the first six months of long-term disability-working, the benefit amount will be adjusted by 60 percent of income or wages earned from employment. After the first six months of long-term disability-working, the benefit amount will be adjusted by 70 percent of income or wages earned from employment.



LTD benefits provide members with an income replacement of 60 percent of a member's pre-disability income, or 80 percent for a catastrophic condition. For valuation purposes, a 2.50% Cost of Living Adjustment (COLA) is assumed for participating Plan 1 members of State, SPORS and VaLORS. For participating Plan 2 and Hybrid Plan members of State, SPORS, and VaLORS, a 2.25% COLA is assumed for the purpose of this valuation. LTD recipients are also eligible for benefits under the Health Insurance Credit Program (HIC) and are eligible for benefits under the Group Life Insurance Program (GLI). The liability associated with HIC and GLI for LTD recipients is not included as a VSDP liability, and is valued under the actuarial valuation of the HIC and GLI plans.

The LTD benefit is adjusted by any payments received as a result of the same disability from wages and salary from employment. Wages and salary include income reported on W-2 forms and income from self-employment. During the first six months on long-term disability, the amount of the adjustment depends on the income replacement level under VSDP.

LTD benefits end if the member: is able to perform the full duties of their job without restrictions, leaves covered employment and takes a refund of their member contributions and interest in their member contribution account, applies for service retirement or reaches normal retirement age, or the member does not cooperate or comply with the requirements of VSDP.

The purpose of the long-term care (LTC) benefit under VSDP is to provide members financial assistance towards long-term care services needed as a result of a catastrophic illness, injury or aging. Specifically, the LTC benefit under VSDP provides a \$96 per day indemnity benefit to reimburse qualified nursing home and assisted living costs. Additional LTC benefits are provided for qualified home health care services (50% of the nursing home daily benefit amount), and informal care (25% of the nursing home daily benefit amount). LTC benefits are paid after a 90-day elimination period following a member's certification to be unable to perform two of six activities of daily living or having a severe cognitive impairment. LTC benefits are tax qualified under the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

The LTC benefit has a lifetime maximum benefit of \$70,080 based upon a two-year maximum coverage period with a \$96 daily benefit amount (DBA) paid for nursing home care. At VRS' discretion, the DBA may be increased for inflation every five years in the amount of 5%, compounded annually since the previous increase. Since the LTC benefit's inception, VRS has elected to increase the DBA once (December of 2007). As such, the valuation does not include a provision for increases to the DBA. If the LTC benefit policy is to provide increases at regular intervals, the resulting liability will be materially greater than the results presented (i.e., inflation increases are not assumed to be pre-funded).

While actively employed or receiving LTD benefits, a member receives coverage in the amount currently in place for the actively employed group. Upon termination of employment, a member has the option to port the amount of coverage current for the actively employed group by paying a premium based upon the member's age at entry into VSDP.



VIRGINIA LOCAL DISABILITY PROGRAM

The VLDP provides disability benefits for those Hybrid Plan members of Teachers and Political Subdivisions (excluding members with enhanced hazardous duty coverage) that elect to participate in VLDP.

Long-term disability (LTD) benefits provide income replacement for members who become disabled and are unable to work for an extended period of time. LTD benefits begin at the expiration of the maximum period of short-term disability. While on long-term disability, members continue to accrue service as a VRS-covered member. LTD recipients are not considered employees of their associated employer group while they are on long-term disability.

In addition an income replacement benefit, disabled members participating in the Hybrid Plan may be eligible to receive a one percent employer contribution to their defined contribution account. To be eligible for the one percent mandatory employer contribution, a Hybrid Plan member must be permanently and totally disabled as defined in §22(e)(3) of the Internal Revenue Code (Social Security Definition of Disability).

Upon attaining the normal retirement age while on LTD, a member is required to retire. However, if the member becomes approved for supplemental disability benefits on or after age 60 they will be eligible to receive VLDP LTD benefits, provided the member remains medically eligible, based on the chart below:

Ages Approved for Supplemental Disability Benefits	Supplemental Disability Benefit Eligibility Period*
60 – 64	5 Years
65 – 68	To Age 70
69 and Older	1 Year

*Eligibility period includes short-term disability and long-term disability

Members are eligible to receive LTD benefits while working. Long-term disability-working status is in effect if members are able to work at least 20 hours a week, but are restricted from performing the full duties of their job or working a regular schedule. A member must have returned to work with modified duties while on short-term disability to be eligible for long-term disability-working status. The benefit will be adjusted by income or wages a member earns. During the first six months of long-term disability-working, the benefit amount will be adjusted by 60 percent of income or wages earned from employment. After the first six months of long-term disability-working, the benefit amount will be adjusted by 70 percent of income or wages earned from employment.



Appendix B – Summary of Main Benefit Provisions (continued)

LTD benefits provide members with an income replacement of 60 percent of a member's pre-disability income, or 80 percent for a catastrophic condition. LTD recipients are also eligible for benefits under the Health Insurance Credit Program (HIC) and are eligible for benefits under the Group Life Insurance Program (GLI). The liability associated with HIC and GLI for LTD recipients is not included as a VLDP liability, and is valued under the actuarial valuation of the HIC and GLI plans.

The LTD benefit is adjusted by any payments received as a result of the same disability from wages and salary from employment. Wages and salary include income reported on W-2 forms and income from self-employment. During the first six months on long-term disability, the amount of the adjustment depends on the income replacement level under VLDP.

LTD benefits end if the member: is able to perform the full duties of their job without restrictions, leaves covered employment and takes a refund of their member contributions and interest in their member contribution account, applies for service retirement or reaches normal retirement age, or the member does not cooperate or comply with the requirements of VLDP.

The purpose of the long-term care (LTC) benefit under VLDP is to provide members financial assistance towards long-term care services needed as a result of a catastrophic illness, injury or aging. Specifically, the LTC benefit under VLDP provides a \$96 per day indemnity benefit to reimburse qualified nursing home and assisted living costs. Additional LTC benefits are provided for qualified home health care services (50% of the nursing home daily benefit amount), and informal care (25% of the nursing home daily benefit amount). LTC benefits are paid after a 90-day elimination period following a member's certification to be unable to perform two of six activities of daily living or having a severe cognitive impairment. LTC benefits are tax qualified under the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

The LTC benefit has a lifetime maximum benefit of \$70,080 based upon a two-year maximum coverage period with a \$96 daily benefit amount (DBA) paid for nursing home care. At VRS' discretion, the DBA may be increased for inflation every five years in the amount of 5%, compounded annually since the previous increase. Since the LTC benefit's inception, VRS has elected to increase the DBA once (December of 2007). As such, the valuation does not include a provision for increases to the DBA. If the LTC benefit policy is to provide increases at regular intervals, the resulting liability will be materially greater than the results presented (i.e., inflation increases are not assumed to be pre-funded).

While actively employed or receiving LTD benefits, a member receives coverage in the amount currently in place for the actively employed group. Upon termination of employment, a member has the option to port the amount of coverage current for the actively employed group by paying a premium based upon the member's age at entry into VLDP.



STATE¹

NORMAL RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire with unreduced pension benefits upon Normal Retirement on or after age 65 with credit for five years of service.

Plan 2 and Hybrid Plan Members: A member may retire with unreduced pension benefits upon Normal Retirement once they attain their normal Social Security retirement age and have at least five years of service.

EARLY RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire early with unreduced pension benefits after reaching age 50 with at least 30 years of service credit. A member may retire early with reduced pension benefits after reaching age 50 with at least ten years of service credit, or age 55 with credit for at least five years of service.

Plan 2 and Hybrid Plan Members: A member may retire early with unreduced pension benefits upon the sum of their age and their service being 90 (Rule of 90). A member may retire early with reduced pension benefits after reaching age 60 with at least five years of service credit.

DISABILITY – NON-VSDP: A Plan 1 member hired prior to January 1, 1999 and who has declined VSDP coverage is eligible for disability retirement benefits from the first day of employment.

DISABILITY – VSDP: A Plan 1 member hired prior to January 1, 1999 and who has elected VSDP coverage or any member hired on or after January 1, 1999. Applicable members hired prior to July 1, 2009 are eligible from the first day of employment for work related and non-work related VSDP disability benefits. Applicable members hired on or after July 1, 2009 are eligible from the first day of employment for work-related VSDP disability benefits, but must have a minimum of one year of service to be eligible for non-work related VSDP disability benefits.

¹ The actuarial assumptions for State are also applied to the applicable members of the Optional Retirement Plan (ORP).



TEACHERS¹

NORMAL RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire with unreduced pension benefits upon Normal Retirement on or after age 65 with credit for five years of service.

Plan 2 and Hybrid Plan Members: A member may retire with unreduced pension benefits upon Normal Retirement once they attain their normal Social Security retirement age and have at least five years of service.

EARLY RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire early with unreduced pension benefits after reaching age 50 with at least 30 years of service credit. A member may retire early with reduced pension benefits after reaching age 50 with at least ten years of service credit, or age 55 with credit for at least five years of service.

Plan 2 and Hybrid Plan Members: A member may retire early with unreduced pension benefits upon the sum of their age and their service being 90 (Rule of 90). A member may retire early with reduced pension benefits after reaching age 60 with at least five years of service credit.

DISABILITY – NON-HYBRID: Plan 1 and Plan 2 members are eligible for disability retirement benefits from the first day of employment.

DISABILITY – HYBRID: Hybrid Plan members are eligible from the first day of employment for work-related VLDP disability benefits (or, if the employer opted-out of VLDP during the election period, a comparable plan), but must have a minimum of one year of service to be eligible for non-work related VLDP disability benefits.

¹ The actuarial assumptions for Teachers are also applied to the applicable members of the Optional Retirement Plan (ORP).



SPORS

NORMAL RETIREMENT ELIGIBILITY:

A member may retire with an unreduced pension benefit upon Normal Retirement on or after age 60 with credit for five years of service.

EARLY RETIREMENT ELIGIBILITY:

A member may retire early with a reduced pension benefit after reaching age 50 with at least five years of service credit.

DISABILITY – NON-VSDP:

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

DISABILITY – VSDP:

A Plan 1 member hired prior to January 1, 1999 and who has elected VSDP coverage or any member hired on or after January 1, 1999. Applicable members hired prior to July 1, 2009 are eligible from the first day of employment for work related and non-work related VSDP disability benefits. Applicable members hired on or after July 1, 2009 are eligible from the first day of employment for work-related VSDP disability benefits, but must have a minimum of one year of service to be eligible for non-work related VSDP disability benefits.



JRS

WEIGHTED SERVICE CREDIT:

Plan 1 Members: Employees receive credit of one year of service multiplied by a weighting factor of 3.5 (2.5 for judges entering JRS on or after January 1, 1995). Any non-judicial VRS service credit is not weighted.

Plan 2 and Hybrid Plan Members: Employees receive credit of one year of service multiplied by a weighting factor of:

- 1.5 for judges entering JRS before age 45,
- 2.0 for judges entering JRS between ages 45 and 54, or
- 2.5 for judges entering JRS at age 55 or older.

Any non-judicial VRS service credit is not weighted.

NORMAL RETIREMENT ELIGIBILITY:

A member may retire upon Normal Retirement on or after age 65 with credit for five years of service, or age 60 with at least 30 years of service credit. Effective June 1, 2017, the mandatory retirement age for judges is age 73.

EARLY RETIREMENT ELIGIBILITY:

A member may retire early with unreduced pension benefits at age 60 with at least 30 years of service or a member may retire early with reduced pension benefits after reaching age 55 with at least five years of service credit.

DISABILITY – NON-HYBRID: Plan 1 and Plan 2 members are eligible for disability retirement benefits from the first day of employment.

DISABILITY – HYBRID: Hybrid Plan members are eligible from the first day of employment for work-related disability benefits, but must have a minimum of one year of service to be eligible for non-work related disability benefits.



VaLORS

NORMAL RETIREMENT ELIGIBILITY:

A member may retire upon Normal Retirement on or after age 60 with credit for five years of service.

EARLY RETIREMENT ELIGIBILITY:

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

DISABILITY – NON-VSDP:

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

DISABILITY – VSDP:

A Plan 1 member hired prior to January 1, 1999 and who has elected VSDP coverage or any member hired on or after January 1, 1999. Applicable members hired prior to July 1, 2009 are eligible from the first day of employment for work related and non-work related VSDP disability benefits. Applicable members hired on or after July 1, 2009 are eligible from the first day of employment for work-related VSDP disability benefits, but must have a minimum of one year of service to be eligible for non-work related VSDP disability benefits.



**POLITICAL SUBDIVISIONS
GROUP A – General**

NORMAL RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire with unreduced pension benefits upon Normal Retirement on or after age 65 with credit for five years of service.

Plan 2 and Hybrid Plan Members: A member may retire with unreduced pension benefits upon Normal Retirement once they attain their normal Social Security retirement age and have at least five years of service.

EARLY RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire early with unreduced pension benefits after reaching age 50 with at least 30 years of service credit. A member may retire early with reduced pension benefits after reaching age 50 with at least ten years of service credit, or age 55 with credit for at least five years of service.

Plan 2 and Hybrid Plan Members: A member may retire early with unreduced pension benefits upon the sum of their age and their service being 90 (Rule of 90). A member may retire early with reduced pension benefits after reaching age 60 with at least five years of service credit.

DISABILITY – NON-HYBRID: Plan 1 and Plan 2 members are eligible for disability retirement benefits from the first day of employment.

DISABILITY – HYBRID: Hybrid Plan members are eligible from the first day of employment for work-related VLDP disability benefits (or, if the employer opted-out of VLDP during the election period, a comparable plan), but must have a minimum of one year of service to be eligible for non-work related VLDP disability benefits.



**POLITICAL SUBDIVISIONS
GROUP A – LEO/Fire**

NORMAL RETIREMENT ELIGIBILITY:

A member may retire with an unreduced pension benefit upon Normal Retirement on or after age 60 with credit for five years of service.

EARLY RETIREMENT ELIGIBILITY:

A member may retire early with a reduced pension benefit after reaching age 50 with at least five years of service credit.

DISABILITY:

A member is eligible for disability retirement benefits from the first day of employment.



**POLITICAL SUBDIVISIONS
GROUP B¹ – General**

NORMAL RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire with unreduced pension benefits upon Normal Retirement on or after age 65 with credit for five years of service.

Plan 2 and Hybrid Plan Members: A member may retire with unreduced pension benefits upon Normal Retirement once they attain their normal Social Security retirement age and have at least five years of service.

EARLY RETIREMENT ELIGIBILITY:

Plan 1 Members: A member may retire early with unreduced pension benefits after reaching age 50 with at least 30 years service credit. A member may retire early with reduced pension benefits after reaching age 50 with at least ten years of service credit, or age 55 with credit for at least five years of service.

Plan 2 and Hybrid Plan Members: A member may retire early with unreduced pension benefits upon the sum of their age and their service being 90 (Rule of 90). A member may retire early with reduced pension benefits after reaching age 60 with at least five years of service credit.

DISABILITY – NON-VLDP: Plan 1 and Plan 2 members are eligible for disability retirement benefits from the first day of employment.

DISABILITY – VLDP: Hybrid Plan members are eligible from the first day of employment for work-related VLDP disability benefits (or, if the employer opted-out of VLDP during the election period, a comparable plan), but must have a minimum of one year of service to be eligible for non-work related VLDP disability benefits.

¹ The actuarial assumptions for Political Subdivisions Group B are also applied to members of the political subdivisions not providing VRS pension benefits.



**POLITICAL SUBDIVISIONS
GROUP B – LEO/Fire**

NORMAL RETIREMENT ELIGIBILITY:

A member may retire with an unreduced pension benefit upon Normal Retirement on or after age 60 with credit for five years of service.

EARLY RETIREMENT ELIGIBILITY:

A member may retire early with a reduced pension benefit after reaching age 50 with at least five years of service credit.

DISABILITY:

A member is eligible for disability retirement benefits from the first day of employment.



Appendix C – Statement of Actuarial Assumptions

Assumptions and Methods Applicable to all OPEB Plans

Investment Return Rate:	7.00% per annum, compounded annually.
Inflation Assumption:	2.50% per year.
Actuarial Cost Method:	Entry age normal cost method, allocated as a level percent of payroll, from first funding age to last age before terminal retirement age. Actuarial gains and losses, as they occur, are reflected in the unfunded actuarial accrued liability. See Schedule E for a detailed explanation.
Funding Period:	The amortization period of the legacy UAAL began at 30 years on June 30, 2013 and this amortization period is to decrease by one year on each subsequent valuation date until the legacy UAAL is fully amortized (amortization period of 0 years). With each subsequent valuation, a new amortization base will be used to amortize that portion of the UAAL not covered by the current balances of the previously established amortization bases. Here, each valuation's newly allocated share of the UAAL will be amortized over a closed 20-year period. In the event this funding policy produces an effective amortization period of greater than 30 years, a 30 year amortization period for the aggregate UAAL is used in accordance with GASB 43 and 45.
Payroll Growth Rate:	3.00% per annum.
Administrative Expenses:	The employer contribution rates include a rate for anticipated non-investment expenses.
Plan 1:	Members hired prior to July 1, 2010 and who were vested as of January 1, 2013.
Plan 2:	Members hired on or after July 1, 2010 but before January 1, 2014, or members hired prior to July 1, 2010 and who were not vested as of January 1, 2013. Members hired after January 1, 2014 in SPORS, VaLORS, and Political Subdivisions with LEOs/Fire Pension Benefit Coverage are in Plan 2.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to all OPEB Plans (continued)

Hybrid Plan: State, Teachers, JRS, and Political Subdivisions with General Employee Pension Benefit Coverage members hired (for JRS, appointed or elected to an original term) on or after January 1, 2014 or members in Plan 1 or Plan 2 who elected to opt into the plan during the election window held January 1, 2014 through April 30, 2014. Members of SPORS, VaLORS, and Political Subdivisions with LEOs/Fire Pension Benefit Coverage are not eligible to participate in the Hybrid Plan.

Assumptions and Methods Applicable to the Group Life Insurance Program

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 asset value cannot be less than 80% or more than 120% of the market value of assets.

Minimum Benefit: In no event will the death benefit be less than \$8,000 for members who retire with at least 30 years of creditable service. The \$8,000 minimum is assumed to apply to the fiscal year ending June 30, 2016 and is assumed to increase annually, effective July 1, by 2.25% (the same annual increase percentage for any annual post-retirement supplement for retirees, as calculated for employees hired on or after July 1, 2010).

“Life Insurance Only” Retirees: Results include an estimate of retiree liability for those groups not providing retiree census data. A liability equaling 10% of the active employee liability times the average retiree to active liability ratio is assumed.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Health Insurance Credit Program State Employees and Teachers

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 asset value cannot be less than 80% or more than 120% of the market value of assets.

Participation Rates:

95% of eligible future service retirees from active status are assumed to utilize the benefit plan.

Eligible future service retirees from deferred vested status are assumed to utilize the benefit plan as follows:

Duration Since Retirement	Participation Rate
First Year	55.0%
Second Year	65.0%
Third Year	70.0%
Fourth Year	75.0%
Fifth Year	80.0%
Sixth Year	85.0%
Seventh Year	90.0%
Eighth Year and Beyond	95.0%

Participation Rates (continued):

Eligible future disabled benefit recipients from active status are assumed to utilize the benefit plan as follows:

System	Participation
State/JRS	95%
Teachers	90%
SPORS/VaLORS	75%



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Health Insurance Credit Program State Employees and Teachers (continued)

Percentage Not Utilizing the Maximum Benefit:

The percentage of eligible future benefit recipients assumed to utilize the benefit plan, but not receive the maximum benefit for which they are eligible is as follows:

System	Percentage
State/JRS	10%
Teachers	20%
SPORS/VaLORS	20%

Percentage of Maximum Benefit Received:

Eligible future benefit recipients assumed to utilize the benefit plan, but not receive the maximum benefit for which they are eligible are assumed to initially receive 70% of the maximum benefit for which they are eligible.

Annual Increase in Benefit for Those Not Receiving the Maximum Benefit:

Benefit recipients assumed to utilize the benefit plan, but not receiving the maximum benefit for which they are eligible are assumed to have their benefit increase at the following rates:

Duration Since Retirement	Annual Increase in HIC benefit
1 Year	6.50%
2 – 3 Years	4.25%
4 or More Years	3.00%

Percentage of Future Eligible Deferred Vested Members Electing to Withdraw from VRS:

The percentage of future eligible deferred vested members assumed to withdraw from VRS is as follows:

System	Percentage
State/JRS	50%
Teachers	35%
SPORS/VaLORS	70%



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Health Insurance Credit Program State Employees and Teachers (continued)

Deferred Vested Deferral Period: Eligible deferred vested members are assumed to begin receiving benefits at the following ages:

System	Age of Initial Benefit Receipt
State/JRS/Teachers	
Plan 1 Members	60
Plan 2 and Hybrid Plan Members	
Born prior to 1938	60
Born after 1937 and before 1960	61
Born after 1959	62
SPORS/VaLORS	
Members with less than 25 years of service	55
Members with 25 or more years of service	50

ORP and UVA Retirees:

Results include an estimate of retiree liability for those groups not providing retiree census data. A liability equaling 10% of the active employee liability times the average retiree to active liability ratio is assumed.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Health Insurance Credit Program Political Subdivisions and Special Coverage Groups

Asset Valuation Method: Market value of assets.

Participation Rates: 85% of eligible future service retirees from active status are assumed to utilize the benefit plan. 45.00% of eligible future disability retirees will utilize the benefit.

Eligible future service retirees from deferred vested status are assumed to utilize the benefit plan as follows:

Duration Since Retirement	Participation Rate
First Year	55.0%
Second Year	65.0%
Third Year	70.0%
Fourth Year	75.0%
Fifth Year	80.0%
Sixth Year	85.0%
Seventh Year	90.0%
Eighth Year and Beyond	95.0%

Percentage Not Utilizing the Maximum Benefit: 10% of eligible future benefit recipients are assumed to utilize the benefit plan, but not receive the maximum benefit for which they are eligible.

Percentage of Maximum Benefit Received: Eligible future benefit recipients assumed to utilize the benefit plan, but not receive the maximum benefit for which they are eligible are assumed to initially receive 70% of the maximum benefit for which they are eligible.

Annual Increase in Benefit for Those Not Receiving the Maximum Benefit: Benefit recipients assumed to utilize the benefit plan, but not receiving the maximum benefit for which they are eligible are assumed to have their benefit increase at the following rates:

Duration Since Retirement	Annual Increase in HIC benefit
1 Year	6.50%
2 – 3 Years	4.25%
4 or More Years	3.00%



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Health Insurance Credit Program Political Subdivisions and Special Coverage Groups (continued)

Percentage of Future Eligible Deferred Vested Members Electing to Withdraw from VRS: 45% of future eligible deferred vested members are assumed to withdraw from VRS.

Deferred Vested Deferral Period: Eligible deferred vested members with LEOs/Fire Pension Benefit Coverage are assumed to receive benefits at age 55 (if the member has less than 25 years of service at retirement) and at age 50 (if the member has 25 or more years of service at retirement). Eligible deferred vested members with General Employee Pension Benefit Coverage are assumed to receive benefits as follows:

Political Subdivisions and Special Coverage Groups	Age of Initial Benefit Receipt
Plan 1 Members	60
Plan 2 and Hybrid Plan Members	
Born prior to 1938	60
Born after 1937 and before 1960	61
Born after 1959	62

Employer Groups: The political subdivisions have been divided into two groups. Group A consists of: City of Virginia Beach, Henrico County, Prince William County, Chesterfield County, City of Chesapeake, City of Alexandria, City of Hampton, Loudoun County, City of Lynchburg, and the City of Portsmouth. Group B is all other political subdivisions not included in Group A.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Disability Benefits and Long-Term Care Benefits

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 asset value cannot be less than 80% or more than 120% of the market value of assets.
Health Insurance Credit and Group Life Insurance Benefits	Health Insurance Credit and Group Life Insurance benefits provided by VSDP are valued under the respective plans.
Disability:	A Plan 1 Member hired prior to January 1, 1999 and who has elected VSDP coverage or any member hired on or after January 1, 1999. Applicable members hired prior to July 1, 2009 are eligible from the first day of employment for work related and non-work related VSDP disability benefits. Applicable members hired on or after July 1, 2009 are eligible from the first day of employment for work-related VSDP disability benefits, but must have a minimum of one year of service to be eligible for non-work related VSDP disability benefits.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Disability Benefits

Cost-Of-Living Increase:

Plan 1 Members: 2.50% per year, compounded annually.

Plan 2 and Hybrid Members: 2.25% per year, compounded annually.

Liability Assumed for Disabled Members in Waiting Period:

The liability associated for those disabled and not yet eligible to receive benefits was based upon the development method in which plan experience was applied to those claims reported in the second half of the most recent fiscal year.

Income Replacement for Future Disabled Members:

61% of a member's pre-disability income.

Percentage of Members with Social Security Offsets:

70.5% of members are assumed to meet the Social Security definition of Disability, and are thus eligible for an additional 1% of Income Replacement.

Offsets for Disabled Members:

It is assumed that the offset amounts reported by the administrator will continue to apply to each member's benefit until the benefit expires. For members with less than eight years of disability and no current benefit offsets, benefit amounts are adjusted to reflect future offsets as follows:

Year of Long-Term Disability	Percentage Receiving Offsets in the Next Year if Currently Not in Receipt	Average Percentage of Full Benefit Paid if in Receipt of Offsets
1	35%	25%
2	30%	26%
3	24%	27%
4	14%	27%
5	14%	27%
6	9%	27%
7	6%	27%
8 and Longer	0%	30%



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Disability Benefits (continued)

Offsets for Active Members:

The following benefit adjustments are assumed for the expected future monthly benefits to be paid to future disabled members. The benefit adjustments are consistent with recent experience.

Year of Long-Term Disability	Benefit Adjustment Factor
1	0.723
2	0.575
3	0.465
4	0.403
5	0.367
6-9	0.342
10-13	0.404
14	0.411
15 and Longer	0.450

Rates of Termination of Benefits Due to Death or Recovery:

2012 Group Long Term Disability Valuation Table (2012 GLDT) as proposed by the Society of Actuaries' Group Disability Experience Committee for use by the National Association of Insurance Commissioners. Used as a basis those rates applicable to plans with a six-month elimination period, "Own Occupation" definition of disability in the first twenty-four months and "Any Occupation" definition of disability for the twenty-fifth month onward, initial maximum guaranteed benefit of \$1,900, "No Diagnosis" cause of disability, 15% margin for recovery, 28% margin for deaths, and adjusted for prior five years of VRS experience with the following adjustment factors:

Month of Disability	Male	Female
4 - 24	0.904	0.908
25 - 60	0.891	0.943
61 - 120	1.052	1.025
121 and over	1.021	0.999



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Care Benefits

Disabled Life Reserve:

The liability associated for those participants assumed to be in a current benefit period was based upon the development method in which prior experience was applied to the current claim duration and prior payments made for each individual.

Incurred But Not Reported Reserve:

The liability associated for those participants with claims that have been incurred but not reported (IBNR), as of the valuation date, to the administrator was based upon the development method in which prior experience for claim incidence and expected benefits payments was applied to the covered population.

Morbidity:

CMC reviewed the rates developed by the prior actuary against rates developed using the Society of Actuaries (SOA) Long Term Care basic experience rate tables and made no modifications. While separate rates for assisted living facility claims are not used, our review indicates the nursing facility rates are reasonable based upon the benefit structure and a comparison to the combined experience produced by the SOA's tables. As experience develops the rates will need to be reviewed and adjusted accordingly.

Unadjusted Claim Incidence Rates				
Attained Age	Nursing Facility		Home Health	
	Male	Female	Male	Female
25	0.00001	0.00001	0.00008	0.00008
30	0.00003	0.00002	0.00010	0.00010
35	0.00008	0.00005	0.00012	0.00013
40	0.00013	0.00009	0.00018	0.00015
45	0.00021	0.00014	0.00028	0.00017
50	0.00031	0.00020	0.00039	0.00029
55	0.00047	0.00029	0.00053	0.00047
60	0.00060	0.00065	0.00085	0.00092
65	0.00100	0.00107	0.00150	0.00162
70	0.00210	0.00191	0.00249	0.00295
75	0.00480	0.00507	0.00482	0.00541
80	0.01023	0.01327	0.00895	0.00917
85	0.02155	0.03171	0.01541	0.01511
90	0.04111	0.06180	0.02249	0.02042
95	0.05844	0.08370	0.02522	0.02190
100	0.07276	0.09756	0.02598	0.02198
105	0.09059	0.11372	0.02677	0.02206
110+	0.11279	0.13255	0.02758	0.02213



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Care Benefits (continued)

Morbidity (continued):

For actively employed members, the unadjusted claim incidence rates are adjusted by the following selection factors based upon length of VSDP membership and age of entry into VSDP.

Claim Incidence Selection Factors			
Actively Employed Members			
Years of VSDP Membership	VSDP Entry Age		
	<50	50 - 64	65+
1	0.133	0.138	0.164
2	0.217	0.222	0.256
3	0.284	0.289	0.342
4	0.334	0.341	0.438
5	0.367	0.375	0.520
6	0.439	0.447	0.547
7	0.473	0.482	0.573
8	0.500	0.511	0.593
9	0.527	0.538	0.612
10	0.561	0.573	0.634
11	0.599	0.612	0.673
12	0.643	0.658	0.719
13	0.702	0.718	0.755
14	0.769	0.787	0.797
15	0.836	0.836	0.840
16	0.851	0.851	0.855
17	0.869	0.869	0.872
18	0.890	0.890	0.893
19	0.915	0.915	0.918
20+	0.945	0.945	0.947



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Care Benefits (continued)

Morbidity (continued):

For ported members, the unadjusted claim incidence rates are adjusted based upon the likelihood of porting and the number of years since porting.

Claim Incidence Selection Factors		
Ported Members		
Porting Rate	Initial Year Of Porting	Ultimate Rate*
0%	2.35	1.19
5%	2.29	1.18
10%	2.22	1.18
15%	2.16	1.17
20%	2.09	1.16
25%	2.03	1.16
30%	1.96	1.15
35%	1.90	1.14
40%	1.83	1.13
45%	1.77	1.13
50%	1.70	1.12
55%	1.64	1.11
60%	1.57	1.11
65%	1.51	1.10
70%	1.44	1.09
75%	1.38	1.09
80%	1.31	1.08
85%	1.25	1.07
90%	1.18	1.06
95%	1.12	1.06
100%	1.05	1.05

* The selection factors are assumed to decrease linearly over a 10 year period.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Care Benefits (continued)

Morbidity (continued):

The duration of a claim is based upon the attained age at incidence, gender, and type of claim.

Attained Age	Length of Stay (Months)			
	Nursing Facility		Home Health	
	Male	Female	Male	Female
25	11.15	13.96	19.14	12.54
30	11.60	14.42	18.81	12.47
35	12.04	14.98	18.67	12.45
40	12.29	14.87	16.77	13.48
45	12.50	14.77	14.99	14.56
50	12.90	14.16	15.36	13.78
55	13.30	13.52	15.77	13.02
60	12.99	14.12	15.15	12.40
65	13.36	14.30	12.84	12.80
70	14.00	14.32	11.80	13.53
75	13.99	15.09	11.50	13.50
80	13.76	15.61	10.90	13.18
85	13.62	15.90	10.05	12.86
90	13.09	16.19	8.78	12.70
95	12.30	16.51	8.23	12.66
100	11.32	16.10	8.70	13.34
105	9.84	14.77	9.56	14.60
110+	8.31	13.32	9.33	14.89

Daily Benefit Amount:

\$96 per day indemnity benefit paid for service in a nursing home. The daily benefit for home health care coverage is 50% of the nursing home benefit.

Daily Benefit Amount Increases:

The valuation does not include a provision for increases (i.e., 5% compound increase every five years). If the benefit policy is to provide increases at regular intervals, the resulting liability will be materially greater than the results presented (i.e., inflation increases are not assumed to be pre-funded).

Benefit Maximums:

A lifetime maximum benefit of \$70,080 (reflects a two year maximum coverage period based upon a \$96 per day indemnity benefit).



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Care Benefits (continued)

Porting Rates:

Porting rate assumptions are based upon experience over the first five years of the program, with substantial increases over the life of the program. CMC reviewed the rates developed by the prior actuary and made no modifications. As the porting rates have a significant impact on results, experience, as it develops, will need to be reviewed and the rates adjusted accordingly. Porting rates by age of entry into VSDP and length of VSDP membership are provided in the following table.

VSDP Entry Age	Years of VSDP Membership										
	0	5	10	15	20	25	30	35	40	45	50+
25	0.1000	0.1010	0.1144	0.1313	0.1739	0.2555	0.3693	0.5263	0.6812	0.8874	1.0000
30	0.1000	0.1019	0.1234	0.1534	0.2185	0.3194	0.4537	0.5822	0.7574	0.9609	1.0000
35	0.1000	0.1021	0.1303	0.1778	0.2683	0.3935	0.5001	0.6454	0.8406	1.0000	1.0000
40	0.1000	0.1063	0.1608	0.2383	0.3423	0.4320	0.5526	0.7169	0.9230	1.0000	1.0000
45	0.1001	0.1177	0.2001	0.2931	0.3754	0.4755	0.6119	0.7978	0.9983	1.0000	1.0000
50	0.1027	0.1304	0.2244	0.3262	0.4116	0.5247	0.6790	0.8833	1.0000	1.0000	1.0000
55	0.1072	0.1410	0.2422	0.3585	0.4524	0.5804	0.7549	0.9624	1.0000	1.0000	1.0000
60	0.1162	0.1596	0.2667	0.3924	0.4986	0.6434	0.8407	1.0000	1.0000	1.0000	1.0000
65	0.1329	0.1887	0.2999	0.4307	0.5508	0.7146	0.9257	1.0000	1.0000	1.0000	1.0000
70	0.1485	0.2129	0.3308	0.4741	0.6099	0.7952	0.9985	1.0000	1.0000	1.0000	1.0000
75	0.1700	0.2444	0.3693	0.5231	0.6768	0.8863	1.0000	1.0000	1.0000	1.0000	1.0000
80	0.1875	0.2682	0.4043	0.5786	0.7524	0.9645	1.0000	1.0000	1.0000	1.0000	1.0000
85	0.1941	0.2770	0.4310	0.6413	0.8379	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
90	0.2012	0.2863	0.4601	0.7123	0.9347	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
95	0.2088	0.2960	0.4917	0.7925	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	0.2171	0.3063	0.5261	0.8833	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
105	0.2259	0.3171	0.5635	0.9860	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
110	0.2354	0.3284	0.6042	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
115	0.2457	0.3404	0.6485	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
120	0.2567	0.3529	0.6966	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Sickness and Disability Program Long-Term Care Benefits (continued)

Porting Premiums:

While actively employed or receiving LTD benefits, a member receives coverage in the amount currently in place for the entire actively employed group. Upon termination of employment, a member has the option to port the amount of coverage current for the group by paying a premium. CMC reviewed the rates developed by the prior actuary for adequacy and made no modifications. As experience develops the rates may need to be reviewed and adjusted accordingly.

Monthly Porting Premium Rates Per \$1 of Daily Benefit Amount							
VSDP Entry Age	Rate	VSDP Entry Age	Rate	VSDP Entry Age	Rate	VSDP Entry Age	Rate
20	0.018	38	0.070	56	0.233	74	1.212
21	0.019	39	0.075	57	0.255	75	1.331
22	0.020	40	0.078	58	0.278	76	1.466
23	0.022	41	0.084	59	0.305	77	1.619
24	0.023	42	0.089	60	0.335	78	1.786
25	0.025	43	0.095	61	0.368	79	1.968
26	0.028	44	0.100	62	0.406	80	2.153
27	0.030	45	0.106	63	0.448	81	2.329
28	0.033	46	0.112	64	0.497	82	2.503
29	0.035	47	0.121	65	0.539	83	2.676
30	0.038	48	0.128	66	0.596	84	2.835
31	0.041	49	0.136	67	0.662	85	2.971
32	0.046	50	0.144	68	0.717	86	3.134
33	0.050	51	0.155	69	0.777	87	3.277
34	0.053	52	0.166	70	0.845	88	3.405
35	0.057	53	0.180	71	0.922	89	3.522
36	0.061	54	0.196	72	1.007	90	3.610
37	0.065	55	0.213	73	1.105		



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Disability Benefits and Long-Term Care Benefits

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 asset value cannot be less than 80% or more than 120% of the market value of assets.
Health Insurance Credit and Group Life Insurance Benefits:	Health Insurance Credit (if applicable) and Group Life Insurance benefits provided under VLDP are valued under the respective plans.
Disability:	Applicable members covered under the Hybrid Plan are eligible from the first day of employment for work-related VLDP disability benefits, but must have a minimum of one year of service to be eligible for non-work related VLDP disability benefits.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Disability Benefits

Cost-Of-Living Increase:	0.00% per year, compounded annually.
Liability Assumed for Disabled Members in Waiting Period:	The liability associated for those disabled and not yet eligible to receive benefits was based upon the expected number of long-term disabilities incurred during the period of January 1, 2016 and June 30, 2016.
Income Replacement for Future Disabled Members:	61% of a member's pre-disability income.
Percentage of Members with Social Security Offsets:	70.5% of members are assumed to meet the Social Security definition of Disability, and are thus eligible for an additional 1% of Income Replacement.
Offsets for Disabled Members:	It is assumed that the offset amounts reported by the administrator will continue to apply to each member's benefit until the benefit expires. For members with less than six years of disability and no current benefit offsets, benefit amounts are adjusted to reflect future offsets as follows:

Year of Long-Term Disability	Percentage Receiving Offsets in the Next Year if Currently Not in Receipt	Average Percentage of Full Benefit Paid if in Receipt of Offsets
1	35%	25%
2	30%	26%
3	24%	27%
4	14%	27%
5	14%	27%
6	9%	27%
7	6%	27%
8 and Longer	0%	30%



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Disability Benefits (continued)

Offsets for Active Members:

The following benefit adjustments are assumed for the expected future monthly benefits to be paid to future disabled members. The benefit adjustments are consistent with recent experience.

Year of Long-Term Disability	Benefit Adjustment Factor
1	0.723
2	0.575
3	0.465
4	0.403
5	0.367
6-9	0.342
10-13	0.404
14	0.411
15 and Longer	0.450

Rates of Termination of Benefits Due to Death or Recovery:

2012 Group Long Term Disability Valuation Table (2012 GLDT) as proposed by the Society of Actuaries' Group Disability Experience Committee for use by the National Association of Insurance Commissioners. Used as a basis those rates applicable to plans with a six-month elimination period, "Own Occupation" definition of disability, initial maximum guaranteed benefit of \$1,900, "No Diagnosis" cause of disability, 15% margin for recovery, 28% margin for deaths, and adjusted for prior five years of VRS experience with the following adjustment factors:

Adjustment Factor

Month of Disability	Male	Female
4 - 24	0.904	0.907
25 - 60	0.891	0.943
61 - 120	1.052	1.025
121 and over	1.021	0.999



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Care Benefits

Disabled Life Reserve:

The liability associated for those participants assumed to be in a current benefit period was based upon the development method in which prior experience was applied to the current claim duration and prior payments made for each individual.

Incurred But Not Reported Reserve:

The liability associated for those participants with claims that have been incurred but not reported (IBNR) as of the valuation date to the administrator was based upon the development method in which prior experience for claim incidence and expected benefits payments was applied to the covered population.

Morbidity:

CMC reviewed the rates developed by the prior actuary against rates developed using the Society of Actuaries (SOA) Long Term Care basic experience rate tables and made no modifications. While separate rates for assisted living facility claims are not used, our review indicates the nursing facility rates are reasonable based upon the benefit structure and a comparison to the combined experience produced by the SOA's tables. As experience develops the rates will need to be reviewed and adjusted accordingly.

Unadjusted Claim Incidence Rates				
Attained Age	Nursing Facility		Home Health	
	Male	Female	Male	Female
25	0.00001	0.00001	0.00008	0.00008
30	0.00003	0.00002	0.00010	0.00010
35	0.00008	0.00005	0.00012	0.00013
40	0.00013	0.00009	0.00018	0.00015
45	0.00021	0.00014	0.00028	0.00017
50	0.00031	0.00020	0.00039	0.00029
55	0.00047	0.00029	0.00053	0.00047
60	0.00060	0.00065	0.00085	0.00092
65	0.00100	0.00107	0.00150	0.00162
70	0.00210	0.00191	0.00249	0.00295
75	0.00480	0.00507	0.00482	0.00541
80	0.01023	0.01327	0.00895	0.00917
85	0.02155	0.03171	0.01541	0.01511
90	0.04111	0.06180	0.02249	0.02042
95	0.05844	0.08370	0.02522	0.02190
100	0.07276	0.09756	0.02598	0.02198
105	0.09059	0.11372	0.02677	0.02206
110+	0.11279	0.13255	0.02758	0.02213



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Care Benefits (continued)

Morbidity (continued):

For actively employed members, the unadjusted claim incidence rates are adjusted by the following selection factors based upon length of VLDP membership and age of entry into VLDP.

Claim Incidence Selection Factors			
Actively Employed Members			
Years of VLDP Membership	VLDP Entry Age		
	<50	50 - 64	65+
1	0.133	0.138	0.164
2	0.217	0.222	0.256
3	0.284	0.289	0.342
4	0.334	0.341	0.438
5	0.367	0.375	0.520
6	0.439	0.447	0.547
7	0.473	0.482	0.573
8	0.500	0.511	0.593
9	0.527	0.538	0.612
10	0.561	0.573	0.634
11	0.599	0.612	0.673
12	0.643	0.658	0.719
13	0.702	0.718	0.755
14	0.769	0.787	0.797
15	0.836	0.836	0.840
16	0.851	0.851	0.855
17	0.869	0.869	0.872
18	0.890	0.890	0.893
19	0.915	0.915	0.918
20+	0.945	0.945	0.947



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Care Benefits (continued)

Morbidity (continued):

For ported members, the unadjusted claim incidence rates are adjusted based upon the likelihood of porting and the number of years since porting.

Claim Incidence Selection Factors		
Ported Members		
Porting Rate	Initial Year Of Porting	Ultimate Rate*
0%	2.35	1.19
5%	2.29	1.18
10%	2.22	1.18
15%	2.16	1.17
20%	2.09	1.16
25%	2.03	1.16
30%	1.96	1.15
35%	1.90	1.14
40%	1.83	1.13
45%	1.77	1.13
50%	1.70	1.12
55%	1.64	1.11
60%	1.57	1.11
65%	1.51	1.10
70%	1.44	1.09
75%	1.38	1.09
80%	1.31	1.08
85%	1.25	1.07
90%	1.18	1.06
95%	1.12	1.06
100%	1.05	1.05

* The selection factors are assumed to decrease linearly over a 10 year period.



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Care Benefits (continued)

Morbidity (continued):

The duration of a claim is based upon the attained age at incidence, gender, and type of claim.

Attained Age	Length of Stay (Months)			
	Nursing Facility		Home Health	
	Male	Female	Male	Female
25	11.15	13.96	19.14	12.54
30	11.60	14.42	18.81	12.47
35	12.04	14.98	18.67	12.45
40	12.29	14.87	16.77	13.48
45	12.50	14.77	14.99	14.56
50	12.90	14.16	15.36	13.78
55	13.30	13.52	15.77	13.02
60	12.99	14.12	15.15	12.40
65	13.36	14.30	12.84	12.80
70	14.00	14.32	11.80	13.53
75	13.99	15.09	11.50	13.50
80	13.76	15.61	10.90	13.18
85	13.62	15.90	10.05	12.86
90	13.09	16.19	8.78	12.70
95	12.30	16.51	8.23	12.66
100	11.32	16.10	8.70	13.34
105	9.84	14.77	9.56	14.60
110+	8.31	13.32	9.33	14.89

Daily Benefit Amount:

\$96 per day indemnity benefit paid for service in a nursing home. The daily benefit for home health care coverage is 50% of the nursing home benefit.

Daily Benefit Amount Increases:

The valuation does not include a provision for increases (i.e., 5% compound increase every five years). If the benefit policy is to provide increases at regular intervals, the resulting liability will be materially greater than the results presented (i.e., inflation increases are not assumed to be pre-funded).

Benefit Maximums:

A lifetime maximum benefit of \$70,080 (reflects a two year maximum coverage period based upon a \$96 per day indemnity benefit).



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Care Benefits (continued)

Porting Rates:

Porting rate assumptions are based upon experience over the first five years of the program, with substantial increases over the life of the program. CMC reviewed the rates developed by the prior actuary and made no modifications. As the porting rates have a significant impact on results, experience, as it develops, will need to be reviewed and the rates adjusted accordingly. Porting rates by age of entry into VLDP and length of VLDP membership are provided in the following table.

VLDP Entry Age	Years of VLDP Membership										
	0	5	10	15	20	25	30	35	40	45	50+
25	0.1000	0.1010	0.1144	0.1313	0.1739	0.2555	0.3693	0.5263	0.6812	0.8874	1.0000
30	0.1000	0.1019	0.1234	0.1534	0.2185	0.3194	0.4537	0.5822	0.7574	0.9609	1.0000
35	0.1000	0.1021	0.1303	0.1778	0.2683	0.3935	0.5001	0.6454	0.8406	1.0000	1.0000
40	0.1000	0.1063	0.1608	0.2383	0.3423	0.4320	0.5526	0.7169	0.9230	1.0000	1.0000
45	0.1001	0.1177	0.2001	0.2931	0.3754	0.4755	0.6119	0.7978	0.9983	1.0000	1.0000
50	0.1027	0.1304	0.2244	0.3262	0.4116	0.5247	0.6790	0.8833	1.0000	1.0000	1.0000
55	0.1072	0.1410	0.2422	0.3585	0.4524	0.5804	0.7549	0.9624	1.0000	1.0000	1.0000
60	0.1162	0.1596	0.2667	0.3924	0.4986	0.6434	0.8407	1.0000	1.0000	1.0000	1.0000
65	0.1329	0.1887	0.2999	0.4307	0.5508	0.7146	0.9257	1.0000	1.0000	1.0000	1.0000
70	0.1485	0.2129	0.3308	0.4741	0.6099	0.7952	0.9985	1.0000	1.0000	1.0000	1.0000
75	0.1700	0.2444	0.3693	0.5231	0.6768	0.8863	1.0000	1.0000	1.0000	1.0000	1.0000
80	0.1875	0.2682	0.4043	0.5786	0.7524	0.9645	1.0000	1.0000	1.0000	1.0000	1.0000
85	0.1941	0.2770	0.4310	0.6413	0.8379	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
90	0.2012	0.2863	0.4601	0.7123	0.9347	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
95	0.2088	0.2960	0.4917	0.7925	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	0.2171	0.3063	0.5261	0.8833	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
105	0.2259	0.3171	0.5635	0.9860	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
110	0.2354	0.3284	0.6042	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
115	0.2457	0.3404	0.6485	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
120	0.2567	0.3529	0.6966	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000



Appendix C – Statement of Actuarial Assumptions (continued)

Assumptions and Methods Applicable to the Virginia Local Disability Program Long-Term Care Benefits (continued)

Porting Premiums:

While actively employed or receiving LTD benefits, a member receives coverage in the amount currently in place for the entire actively employed group. Upon termination of employment, a member has the option to port the amount of coverage current for the group by paying a premium. CMC reviewed the rates developed by the prior actuary for adequacy and made no modifications. As experience develops the rates may need to be reviewed and adjusted accordingly.

Monthly Porting Premium Rates Per \$1 of Daily Benefit Amount

VLDP Entry Age	Rate	VLDP Entry Age	Rate	VLDP Entry Age	Rate	VLDP Entry Age	Rate
20	0.018	38	0.070	56	0.233	74	1.212
21	0.019	39	0.075	57	0.255	75	1.331
22	0.020	40	0.078	58	0.278	76	1.466
23	0.022	41	0.084	59	0.305	77	1.619
24	0.023	42	0.089	60	0.335	78	1.786
25	0.025	43	0.095	61	0.368	79	1.968
26	0.028	44	0.100	62	0.406	80	2.153
27	0.030	45	0.106	63	0.448	81	2.329
28	0.033	46	0.112	64	0.497	82	2.503
29	0.035	47	0.121	65	0.539	83	2.676
30	0.038	48	0.128	66	0.596	84	2.835
31	0.041	49	0.136	67	0.662	85	2.971
32	0.046	50	0.144	68	0.717	86	3.134
33	0.050	51	0.155	69	0.777	87	3.277
34	0.053	52	0.166	70	0.845	88	3.405
35	0.057	53	0.180	71	0.922	89	3.522
36	0.061	54	0.196	72	1.007	90	3.610
37	0.065	55	0.213	73	1.105		



Appendix D – Actuarial Cost Method

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 or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future investment rate of return. 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.

The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal contribution and an actuarial accrued liability contribution.

The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for OPEB 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.