

THE STATE OF TENNESSEE – STATE EMPLOYEE GROUP PLAN

OTHER POST-EMPLOYMENT BENEFITS

ACTUARIAL REPORT AS OF JULY 1, 2013 FOR FISCAL YEAR

ENDING JUNE 30, 2014



July 28, 2014

Mr. Ike Boone
Financial Oversight Coordinator
F&A Division of Accounts
State of Tennessee
14th Floor, William Snodgrass Tower
312 Rosa L. Parks Avenue
Nashville, TN 37243

Re: **GASB Statement No. 45 Actuarial Valuation
Of Other Post-Employment Benefits (OPEB)**

Dear Mr. Boone:

Gabriel, Roeder, Smith & Company (GRS) has been engaged by the State of Tennessee to perform an Actuarial Valuation of Other Post-Employment Benefits (OPEB) provided through the State's group insurance plans. We are pleased to present herein the results of the valuation of benefits provided to retirees covered under the State Employee Group Plan.

The Valuation was performed as of July 1, 2013 with results applicable to the fiscal year ending June 30, 2014 and covers medical (including prescription drug) benefits provided to retirees. This Report presents the cost and liability attributed to employees and retirees of the State government and institutions of higher education.

The actuarial calculations were prepared for the purposes of complying with the requirements of Statement No. 45 of the Governmental Accounting Standards Board (GASB) and have been made on a basis consistent with our understanding of these accounting standards. Determinations of the liability associated with the benefits described in this Report for purposes other than satisfying the financial Reporting requirements of participating governmental entities, may produce significantly different results. This Report may be provided to parties other than the State of Tennessee only in its entirety and only with the permission of the State.

All actuarial calculations were performed on the basis of the Substantive Plan and the Actuarial Assumptions and Methods, as set forth in the respective sections of this Report.

The Valuation was performed on the basis of employee, retiree, premium, plan and financial information supplied by officials of the State and the Tennessee Consolidated Retirement System. Although we did not audit this information, it was reviewed for reasonableness. Results by employer, as reflected on the pages at the end of this Report, are based on data provided by State representatives (including indicators as to what employer the employees and retirees are associated with as of June 30, 2013). We did not audit or validate this census data. Furthermore, while the actuarial assumptions and methods employed are reasonable for the group as a whole, they may not be reasonable for any individual employer.

The calculations are based upon assumptions regarding future events, which may or may not materialize. They are also based upon the current plan provisions that are outlined in this Report. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author(s) of this Report prior to relying on information in the Report.

Future actuarial measurements may differ significantly from the current measurements presented in this Report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions, applicable law, accounting standards and interpretations. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

To the best of our knowledge the information contained in this Report is accurate and fairly presents the actuarial position of the plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. If you have reason to believe that the information provided in this Report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this Report, please contact the author of the Report prior to making such decision.

The signing actuaries are independent of the plan sponsor.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We will be pleased to answer any questions pertaining to the Valuation and to meet with you to review this Report.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY



James J. Rizzo, ASA, MAAA
Senior Consultant & Actuary



Piotr Krekora, ASA, MAAA
Consultant & Actuary

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SECTION A
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The results presented herein are applicable to the year ending June 30, 2014 and are based on an Actuarial Valuation performed as of July 1, 2013. We are also including projected results to be used for the June 30, 2015 reporting in the absence of significant changes.

This Actuarial Valuation and Report covers the OPEBs provided to the retirees through the State Employee Group Plan. The Substantive Plan provisions for the OPEBs provided through the State Employee Group Plan are described in the Section at the end of this Report entitled “Summary of Substantive Plan Provisions.”

GASB’S RATIONALE

Prior to implementation of GASB Statement Nos. 43 and 45, the costs of OPEBs had been reflected in the majority of governmental financial statements on a pay-as-you-go basis of accounting. The issuance of GASB Statement Nos. 43 and 45 reflected GASB’s effort in moving toward full accrual accounting for all governmental entities which issue government-wide financial statements according to generally accepted accounting principles.

The subsidy provided by the State had been recorded as an expense only after employees retire, and then only one year at a time as the subsidy is paid. Statement No. 45 views the subsidy for retiree medical benefits as a form of compensation which must be accrued on the books of the subsidizing governmental entity during an employee’s working life, rather than waiting until the employee’s service to the government has been completed and he or she has retired. So GASB requires the lifetime value of that subsidy to be expensed over the working career of the employees.

DIRECT SUBSIDIES

Retirees covered under the State Employee Group Plan are generally eligible for premium subsidies from the State. Depending on the service at retirement, the State contributes between 60% and 80% of the gross premium published for the Partnership Plan. More details can be found in the section titled “Summary of the Substantive Plan Provisions.”

IMPLICIT RATE SUBSIDY

According to the Summary of Substantive Plan Provisions, retirees and their dependents are permitted to remain covered under the employer’s respective medical plans as long as they pay the required premiums applicable to the plan and coverage elected.

It may appear, at first glance, that there is no obligation on the part of a governmental entity for subsidizing the retiree coverage beyond the direct subsidy referenced above. However, even if the governmental entity were to eliminate any direct subsidy and start charging retirees with the full blended rate developed for the type of coverage elected, there would still be a residual liability. This liability arises because the full published premiums are based on a blending for the experience among younger active employees and older retired employees. Since older retirees generally have higher costs, this means that the governmental entity is actually subsidizing the cost of the retiree and dependent coverage because it pays all or a significant portion of that premium on behalf of the active employees.

GASB No. 45 calls this the “implicit rate subsidy”. Even though it appears that there is no subsidy of retiree and dependent coverage, there really is, and it is not an insignificant amount. A group of 62-year-old retirees or dependents can easily cost over 50% more than the employer is collecting from them for coverage. The

governmental entity, therefore, has assumed an obligation to pay for that implicit subsidy for the covered lifetimes of the current retirees and their dependents, as well for the covered lifetimes of the current employees after they retire.

Measuring the current year's implicit subsidy (and direct subsidy), projecting them for decades into the future and making an allocation of that cost to different years, is the purpose of this Actuarial Valuation and Report.

FUNDED AND UNFUNDED PLANS

Currently, the State's OPEB benefits are unfunded. That is, there is no separate Trust Fund or equivalent arrangement into which the employers make contributions to advance-fund the obligation, as they do for its pension plan, the Tennessee Consolidated Retirement System (TCRS). Therefore, the ultimate subsidies which are provided over time are financed directly by general assets of the employer. These assets are invested in short-term fixed income instruments according to its current investment policy.

Consequently, according to GASB Statement No. 45, the interest discount rate used to calculate the present values and costs of the OPEB must be the long-range expected return on such short-term fixed income instruments. The State selected an interest discount rate of 4.00% for this purpose. If the OPEB Plan were advance-funded with its assets invested in a reasonable mix of stocks and longer bonds and, if the plan adopted a Funding Policy to make fully funding cash deposits into a qualifying OPEB Trust, then a much higher interest discount rate may be used, say, 6% to 7%. This would result in a substantially lower Annual OPEB Cost and a substantially lower Unfunded Actuarial Accrued Liability than if 4.00% were used.

ACTUARIAL ASSUMPTIONS

In any long-term actuarial valuation (such as for Pensions and OPEBs), certain demographic, economic and behavioral assumptions are made concerning the population, the investment discount rates and the benefits provided. Examples include assumptions about future employment, mortality, and participation or acceptance rates. Future determinations of the funded status of the plan and the employer's annual required contributions are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. These actuarial assumptions form the basis for the actuarial model which is used to project the future population, the future benefits provided, and the future contributions collected. Then the investment discount rate assumption is used to discount those projected net OPEB benefits to a present value. This and other related present values are used to calculate the Annual OPEB Cost that will be expensed in the State's financial statements and the unfunded actuarial accrued liability disclosed in the statements as well.

Calculations for financial reporting purposes are based on the benefits provided under terms of the substantive plan (the plan as understood by the employer and the plan members) in effect on the valuation date with provisions for plan changes through the end of the reporting year and on the pattern of sharing costs between the employer and plan members to that point. Projections of benefits for financial reporting purposes are based on the current legal or contractual obligations of employers without making explicit provisions for potential future changes in the pattern of cost sharing between the employer and plan members. Actuarial calculations reflect a long-term perspective. Consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

It would be instructive to review the Section of this Report titled, "Actuarial Assumptions and Methods" for details of all the relevant Actuarial Assumptions used in this Valuation.

ACTUARIAL COST METHODS

GASB Statement No. 45 allows flexibility to governmental employers in the use of various actuarial cost methods. The results presented herein have been obtained with the Projected Unit Credit actuarial cost method with an amortization of the unfunded actuarial accrued liability as a level percent of expected payroll.

SUMMARY

Following is a chart that summarizes the results of this Actuarial Valuation for the OPEBs provided through the State Employee Group Plan. More details can be found on following pages.

| | As of | July 1, 2013 | July 1, 2011 ¹ | July 1, 2011 ¹ |
|--|----------------|----------------------|---------------------------|---------------------------|
| Actuarial Accrued Liability | \$ | 1,225,111,561 | \$ 1,476,198,000 | \$ 1,476,198,000 |
| Actuarial Value of Assets | | - | - | - |
| Unfunded Actuarial Accrued Liability | | 1,225,111,561 | 1,476,198,000 | 1,476,198,000 |
| | For FYE | June 30, 2014 | June 30, 2013 | June 30, 2012 |
| Annual Required Contribution | | 122,640,467 | 149,497,000 | 147,704,000 |
| Per Covered Active Employee | | 1,764 | 2,122 | 2,097 |
| As % of Expected Payroll | | 3.8% | N/A | N/A |
| Annual OPEB Cost | | 123,239,896 | 148,250,000 | 146,623,000 |
| Employer Contribution Toward the OPEB Cost | | TBD | (73,695,000) | (78,754,000) |
| Addition to Net OPEB Obligation | | TBD | 74,555,000 | 67,869,000 |
| Net OPEB Obligation | | TBD | 581,518,000 | 506,963,000 |

¹As reflected in prior Actuarial Valuation Reports and the State's Comprehensive Annual Financial Reports.

ACCRUED LIABILITY AND ANNUAL OPEB COST

The Unfunded Actuarial Accrued Liability represents an actuarial measurement of the obligation that is attributable to prior service, based on the actuarial cost method used to allocate the cost to prior years of employment. This will be displayed in the Notes to Financial Statements and Required Supplementary Information within the State's annual financial statement and the State's CAFR.

The Annual OPEB Cost is the amount that is expensed for the year. Since the State's OPEB plan is currently unfunded, the offset to that expense comes from actual subsidies paid on behalf of the current retirees and their dependents for the current year. This offset is called the Employer Contribution and it represents total costs incurred by the retirees and their dependents for the year (net of the retiree's own premium contribution payments for the year).

The cumulative difference between the Annual OPEB Cost for the year and the Employer Contribution for the year is called the Net OPEB Obligation. This is the amount of the expense charged for the year (per GASB No. 45) which was not yet offset by Employer Contributions. The Net OPEB Obligation will be reflected as a liability in the Statement of Net Position of the State's annual financial statement. It flows right to the balance sheet, remains there, and accumulates each year until fully paid off by future Employer Contributions.

CHANGES IN COSTS AND LIABILITIES

The Unfunded Actuarial Accrued Liability and accounting expense have a tendency to increase from one valuation to the next for any ongoing plan with no benefit reductions and no advance funding in a trust. The detailed analysis of root causes of all changes in costs and liabilities is beyond the scope of this Report and is also difficult due to a transition from one actuary to another. Nonetheless below we briefly discuss some of the factors contributing to the changes, to the extent feasible. We did not measure the impact of each individual change and the order does not have any particular significance:

- *Initial cost of coverage:* The average cost of coverage decreased since the prior Valuation was performed. It was previously assumed that the 60 year old retiree would incur an average of \$9,739 in claims and other costs for the fiscal year 2011/2012. In this Actuarial Valuation, for the calendar year 2013, it is assumed that a 60-year old male participant would incur \$8,901 on average and a female would incur \$8,373. This is much lower than projected cost of \$11,096 based on assumptions used in the prior Valuation. This had a major decreasing effect on the costs and liabilities.
- *Changes in covered population:* The number of retirees with medical coverage currently included in the Valuation increased from 8,026 as of 7/1/2011 to 8,067 as of 7/1/2013. At the same time, the number of active employees with medical coverage decreased from 70,437 to 69,517. The combined population changes had a very modest effect on the costs and liabilities.
- *Changes in coverage election assumptions:* Coverage acceptance rates have been revised based on the available data. Retirees eligible for the lowest subsidy level of 60% are assumed to continue coverage into retirement at a 45% rate (down from 55%) and retirees eligible for 70% premium subsidies are assumed to accept coverage at an 80% rate (up from 75%). There are no changes to the 90% acceptance rate for retirees receiving 80% premium subsidies. The changes had a modest impact on the costs and liabilities.
- *Changes in retiree premiums:* In the previous Valuation, the average gross premium charged to retirees covered under the core plan was \$571 per month. The average premium increased to \$617 per month for the 2013 plan year. This premium increase is slower than projected; but at a time of decreasing costs it had an effect of narrowing the gap between costs and premiums and thus decreasing the implicit subsidy. At the same time the explicit subsidy increased at the same rate as the core premiums. The net effect of the OPEB costs and liabilities is a partial offset of decreases from lower initial costs..
- *Medical trend assumption:* The assumed trend of Medical/Rx cost increases has been revised. In the previous Valuation, the trend rates for costs and premiums were assumed to be 8.25% for the year beginning 1/1/2014 (over 2013) and decreasing each year thereafter to the ultimate value of 5.0%. The trend rate for the cost of benefits and premiums charged to retirees has been revised to be based on the forecasting model built and published (December 2007) in *Modeling Long-Term Health Care Cost Trends* sponsored by the Society of Actuaries and authored by Prof. Thomas E. Getzen. Under this model, assumed trend rates decline over a 30-year period from 7.5% assumed for 2014 to the ultimate level of 4.2%. This had a significant decreasing effect on the costs and liabilities.
- *Demographic assumptions:* Demographic assumptions have been revised to reflect changes made by the Tennessee Consolidated Retirement System for its July 1, 2013 actuarial valuation. These assumptions include rates of disability, retirement and termination for all other reasons as well as mortality rate as applicable to disability retirees. In addition, the assumed post-retirement mortality rates have been revised to be taken from the customized TCRS mortality table developed in the recent experience study but with generational mortality improvements from 2010 base year using the Society

of Actuaries' Scale BB. The pre-retirement mortality rates are taken from the RP-2000 mortality tables with generational improvements from 2000 base year using the same Scale BB. Combined impact of these changes is not clear without further analysis.

- *Economic assumptions:* Based on recent forecasts by various sources, the assumed rate of general inflation is set at 2.5% (down from what was presumed to be 3% in the previous Actuarial Valuation). This change had no direct impact on the results presented herein. The assumed payroll growth rate has also been changed from 2.5% to 3%. This change was made for consistency with other economic assumptions (inflation of 2.5% and assumed discount rate of 4%) and it had no effect on the actuarial liability but decreased the accounting expense due to the steeper amortization pattern which starts out lower.
- *Reflecting provisions of the Affordable Care Act:* The cost trend rate was increased for the effective year 2018 by 0.15% and for years 2019 and later by 0.50% to reflect an expected impact of the Excise Tax on High-Cost Employer Health Plans. Additional details can be found on pages B-4 and D-7. This change had an increasing effect on the costs and liabilities.

As can be seen from this summary of changes, there may have been offsetting factors at work to change the results from the last full Valuation to this one. The net effect was a decrease in plan's accounting liabilities and on the plan's accounting expense.

SECTION B

SUMMARY OF ACTUARIAL VALUATION RESULTS

ACTUARIAL VALUATION RESULTS AS OF JULY 1, 2013

| | Total Medical/Rx Costs | Gross Medical/Rx Premiums | Direct Premium Subsidy | Net Employer Costs |
|---|-----------------------------------|--------------------------------------|-----------------------------------|-------------------------------|
| Number of Participants Covered | | | | |
| Active Participants | 69,517 | 69,517 | 69,517 | 69,517 |
| Retired Participants | 8,067 | 8,067 | 8,067 | 8,067 |
| Total Participants | 77,584 | 77,584 | 77,584 | 77,584 |
| Expected Payroll of Active Participants | \$ 3,218,288,721 | \$ 3,218,288,721 | 3,218,288,721 | \$ 3,218,288,721 |
| Actuarial Present Value of Benefits | | | | |
| Active Participants | 2,075,593,434 | (1,816,043,853) | 1,282,883,432 | 1,542,433,013 |
| Retired Participants | 532,410,489 | (446,697,666) | 318,687,834 | 404,400,657 |
| Total Actuarial Present Value of Benefits | 2,608,003,923 | (2,262,741,519) | 1,601,571,266 | 1,946,833,670 |
| Actuarial Accrued Liability (Projected Unit Credit Actuarial Cost Method) | | | | |
| Active Participants | 1,098,931,135 | (961,777,881) | 683,557,650 | 820,710,904 |
| Retired Participants | 532,410,489 | (446,697,666) | 318,687,834 | 404,400,657 |
| Total Actuarial Accrued Liability | 1,631,341,624 | (1,408,475,547) | 1,002,245,484 | 1,225,111,561 |
| Actuarial Value of Assets | - | - | - | - |
| Unfunded Actuarial Accrued Liability | 1,631,341,624 | (1,408,475,547) | 1,002,245,484 | 1,225,111,561 |
| Annual Required Contribution of the Employer (ARC) for YE 6/30/14 (Projected Unit Credit Actuarial Cost Method) | | | | |
| Normal Cost | 84,351,027 | (73,906,996) | 50,945,460 | 61,389,491 |
| Amortization of UAAL | | | | 61,250,976 |
| Interest | | | | - |
| <u>Annual Required Contribution for FYE 6/30/14</u> | | | | \$ 122,640,467 |
| Per Active Participant | | | | \$ 1,764 |
| As % of Expected Payroll | | | | 3.8% |
| Annual OPEB Cost for FYE 6/30/14 | | | | |
| ARC | | | | 122,640,467 |
| Interest on NOO | | | | 23,260,720 |
| Adjustment to ARC | | | | (22,661,291) |
| <u>Total Annual OPEB Cost for FYE 6/30/14</u> | | | | \$ 123,239,896 |
| <u>Net Employer Contrib. for FYE 6/30/14</u> <u>(for crediting against Annual OPEB Cost)</u> | | | | TBD |
| <u>Addition to Net OPEB Obligation at 6/30/14</u> | | | | TBD |
| <u>Net OPEB Obligation at the Beginning of the Year</u> | | | | \$ 581,518,000 |
| <u>Net OPEB Obligation at 6/30/14</u> | | | | TBD |

ACTUARIAL VALUATION RESULTS AS OF JULY 1, 2013

| | Implicit Premium Subsidy | Direct Premium Subsidy | Total State Subsidy |
|---|---|-----------------------------------|--------------------------------|
| Number of Participants Covered | | | |
| Active Participants | 69,517 | 69,517 | 69,517 |
| Retired Participants | 8,067 | 8,067 | 8,067 |
| Total Participants | 77,584 | 77,584 | 77,584 |
| Expected Payroll of Active Participants | 3,218,288,721 | 3,218,288,721 | \$ 3,218,288,721 |
| Actuarial Present Value of Benefits | | | |
| Active Participants | 259,549,581 | 1,282,883,432 | 1,542,433,013 |
| Retired Participants | 85,712,823 | 318,687,834 | 404,400,657 |
| Total Actuarial Present Value of Benefits | 345,262,404 | 1,601,571,266 | 1,946,833,670 |
| Actuarial Accrued Liability (Projected Unit Credit Actuarial Cost Method) | | | |
| Active Participants | 137,153,254 | 683,557,650 | 820,710,904 |
| Retired Participants | 85,712,823 | 318,687,834 | 404,400,657 |
| Total Actuarial Accrued Liability | 222,866,077 | 1,002,245,484 | 1,225,111,561 |
| Actuarial Value of Assets | | | - |
| Unfunded Actuarial Accrued Liability | 222,866,077 | 1,002,245,484 | 1,225,111,561 |
| Annual Required Contribution of the Employer (ARC) for YE 6/30/14 (Projected Unit Credit Actuarial Cost Method) | | | |
| Normal Cost | 10,444,030 | 50,945,460 | 61,389,491 |
| Amortization of UAAL | | | 61,250,976 |
| Interest | | | - |
| <u>Annual Required Contribution for FYE 6/30/14</u> | | | \$ 122,640,467 |
| Per Active Participant | | | \$ 1,764 |
| As % of Expected Payroll | | | 3.8% |
| Annual OPEB Cost for FYE 6/30/14 | | | |
| ARC | | | 122,640,467 |
| Interest on NOO | | | 23,260,720 |
| Adjustment to ARC | | | (22,661,291) |
| <u>Total Annual OPEB Cost for FYE 6/30/14</u> | | | \$ 123,239,896 |
| <u>Net Employer Contr. for FYE 6/30/14</u> <u>(for crediting against Annual OPEB Cost)</u> | | | <u>TBD</u> |
| <u>Addition to Net OPEB Obligation at 6/30/14</u> | | | <u>TBD</u> |
| <u>Net OPEB Obligation at the Beginning of the Year</u> | | | \$ 581,518,000 |
| <u>Net OPEB Obligation at 6/30/14</u> | | | <u>TBD</u> |

| UAAL Amortization Period and Payments | | | | |
|---------------------------------------|----------------------|-----------------------|-----------------|----------------------|
| Date Established | Original UAAL Amount | Remaining UAAL Amount | Years Remaining | Amortization Payment |
| July 1, 2007 ¹ | \$ 1,805,582,000 | \$ 1,771,748,789 | 24 | \$ 83,944,451 |
| July 1, 2009 ¹ | (130,233,000) | (128,767,298) | 26 | (5,684,087) |
| July 1, 2010 ¹ | (185,385,000) | (183,577,727) | 27 | (7,839,589) |
| July 1, 2011 ¹ | (16,664,000) | (16,503,282) | 28 | (682,739) |
| July 1, 2013 | (217,788,921) | (217,788,921) | 30 | (8,487,060) |
| Total | | 1,225,111,561 | | 61,250,976 |

¹As reflected in prior Actuarial Valuation Reports.

EFFECT OF THE EXCISE TAX ON HIGH COST HEALTH PLANS

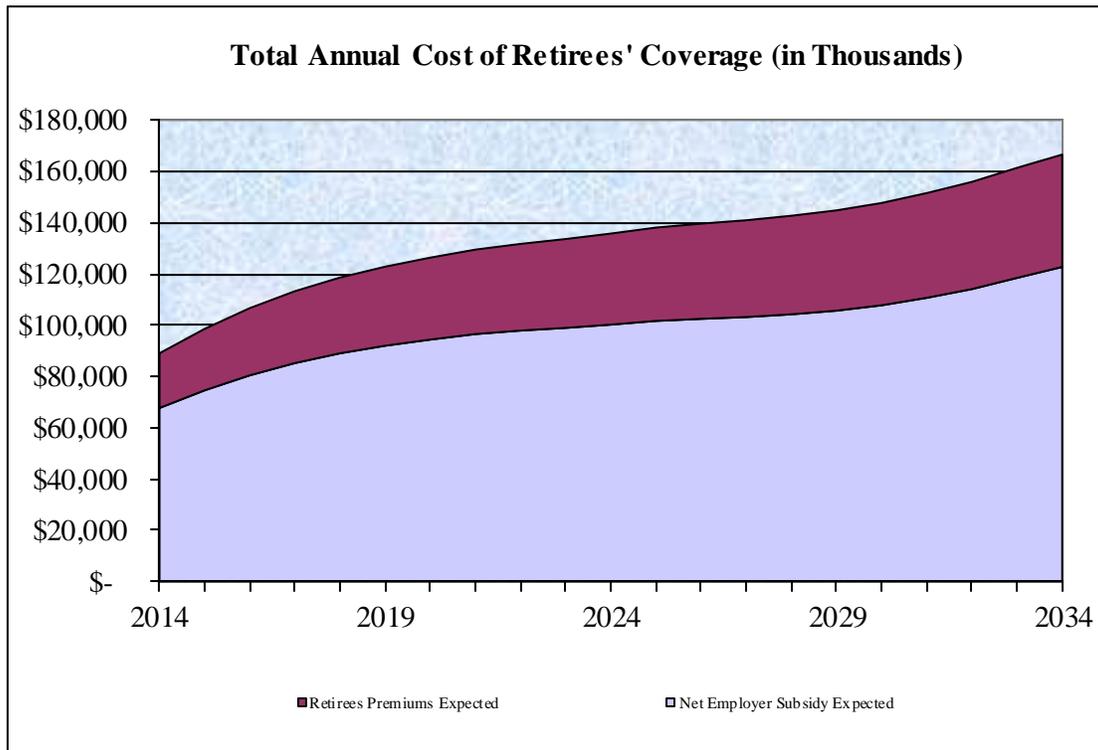
Results presented above reflect the estimated impact of the excise tax on high cost (Cadillac) health plans. As provided by the Patient Protection and Affordable Care Act of 2010, provisions of the law pertaining to the tax will first take effect in 2018. The excise tax will be 40% of costs above a threshold. Under our Valuation assumptions, we anticipate that the Plan will be subject to the excise tax as soon as it becomes effective in 2018. Additional details can be found on page D-7. The following table illustrates an estimated impact of the tax:

| ACTUARIAL VALUATION RESULTS AS OF JULY 1, 2013 | | |
|---|--|--|
| | Results Reflecting Expected Impact of Excise Tax | Original Results (Without Provisions for Excise Tax) |
| Number of Participants Covered | | |
| Active Participants | 69,517 | 69,517 |
| Retired Participants and Surviving Spouses | 8,067 | 8,067 |
| Total Participants | 77,584 | 77,584 |
| Expected Payroll of Active Participants | \$ 3,218,288,721 | \$ 3,218,288,721 |
| Actuarial Present Value of Benefits | | |
| Active Participants | 1,542,433,013 | 1,452,088,001 |
| Retired Participants | 404,400,657 | 398,645,425 |
| Total Actuarial Present Value of Benefits | 1,946,833,670 | 1,850,733,426 |
| Actuarial Accrued Liability (Projected Unit Credit Actuarial Cost Method) | | |
| Active Participants | 820,710,904 | 787,946,449 |
| Retired Participants | 404,400,657 | 398,645,425 |
| Total Actuarial Present Value of Benefits | 1,225,111,561 | 1,186,591,874 |
| Actuarial Value of Assets | - | - |
| Unfunded Actuarial Accrued Liability (PUC) | 1,225,111,561 | 1,186,591,874 |
| Annual Required Contribution of the Employer (ARC) for YE 6/30/14 (Projected Unit Credit Actuarial Cost Method) | | |
| Normal Cost | 61,389,491 | 57,863,481 |
| Amortization of UAAL | 61,250,976 | 59,749,895 |
| <u>Annual Required Contribution for FYE 6/30/14</u> | <u>\$ 122,640,467</u> | <u>\$ 117,613,376</u> |
| Total Annual OPEB Cost for FYE 6/30/14 | \$ 123,239,896 | \$ 118,652,872 |
| Net Employer Contr. for FYE 6/30/14 (for crediting against Annual OPEB Cost) | <u>TBD</u> | <u>TBD</u> |
| <u>Net OPEB Obligation at 6/30/14</u> | <u>TBD</u> | <u>TBD</u> |

TWENTY-YEAR PROJECTION OF UNFUNDED CASH FLOW

Premiums collected from employees and retirees account only for a portion of the cost of the health care provided, with the balance subsidized by the Employer. The table and graph below illustrate, based on a closed group projection, how the cost of the benefits is distributed between the Employer and the retirees.

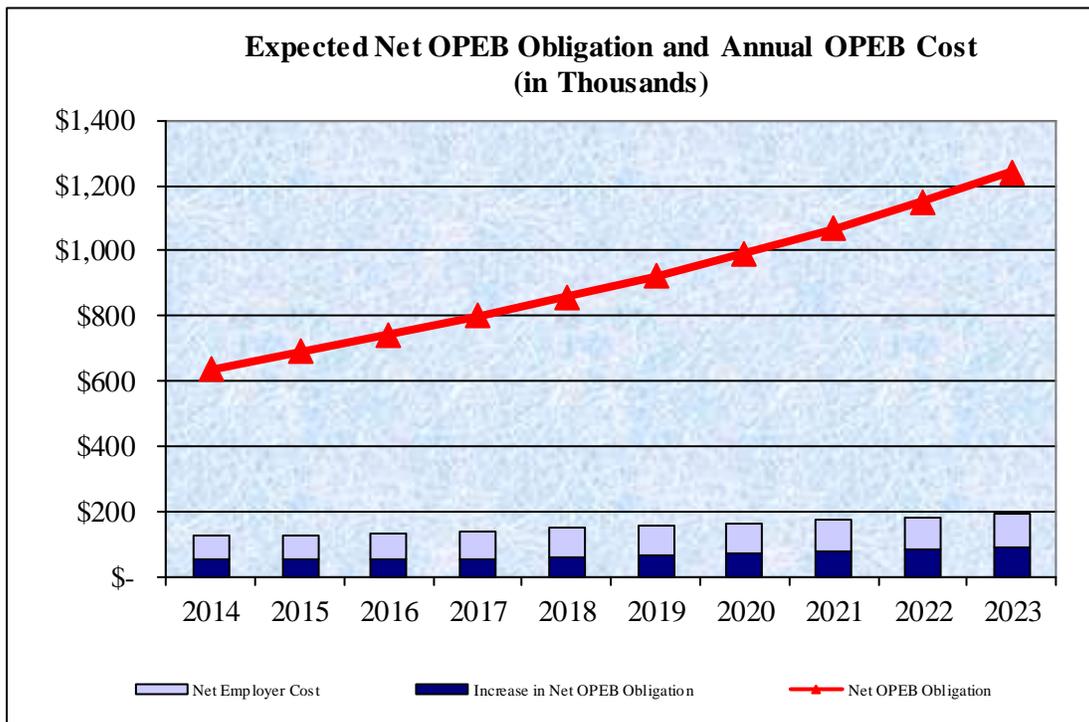
| Fiscal Year Ending on 6/30 | Net Employer Subsidy Expected | Retirees Premiums Expected | Total Benefits Expected |
|-------------------------------|-------------------------------------|----------------------------------|----------------------------|
| 2014 | \$ 67,709,170 | \$ 21,334,994 | \$ 89,044,164 |
| 2019 | 91,990,461 | 30,828,631 | 122,819,092 |
| 2024 | 100,225,327 | 35,520,317 | 135,745,644 |
| 2029 | 105,678,369 | 39,107,577 | 144,785,946 |
| 2034 | 122,724,100 | 43,831,327 | 166,555,427 |



TEN-YEAR PROJECTION OF NET OPEB OBLIGATION

All results presented in this Report assume no advance-funding of the OPEB Plan. It is also assumed that the current design of the Plan will continue without change. The graphics and tables below illustrate, based on simulated open group projection, how the Net OPEB Obligation and the Annual OPEB Cost for the State are expected to grow over the next 10 years assuming no advance-funding (i.e., no change in operation). The Net OPEB Obligation will be presented as a liability in the Statement of Net Assets.

| Fiscal Year Ending on 6/30 | Total Annual OPEB Cost at Fiscal Year End | Current Net Employer Subsidy | Annual Increase in Net OPEB Obligation | Net OPEB Obligation at Fiscal Year End |
|----------------------------|---|------------------------------|--|--|
| 2014 | \$ 123,239,896 | \$ 67,709,170 | \$ 55,530,726 | \$ 637,048,726 |
| 2015 | 127,590,246 | 74,591,442 | 52,998,804 | 690,047,530 |
| 2016 | 134,171,461 | 80,448,693 | 53,722,768 | 743,770,298 |
| 2017 | 141,001,358 | 85,221,843 | 55,779,515 | 799,549,813 |
| 2018 | 148,142,707 | 89,049,826 | 59,092,881 | 858,642,694 |
| 2019 | 155,656,998 | 91,990,461 | 63,666,537 | 922,309,231 |
| 2020 | 163,607,673 | 94,395,174 | 69,212,499 | 991,521,730 |
| 2021 | 172,048,288 | 96,540,886 | 75,507,402 | 1,067,029,132 |
| 2022 | 181,024,869 | 97,913,352 | 83,111,517 | 1,150,140,649 |
| 2023 | 190,607,665 | 98,956,948 | 91,650,717 | 1,241,791,366 |



AGE/SERVICE DISTRIBUTION FOR PLAN PARTICIPANTS

| Age Group | Years of Service to Valuation Date - Active Employees | | | | | | | Total |
|--------------|---|---------------|---------------|--------------|--------------|--------------|--------------|---------------|
| | 0-5 | 6-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30&Up | |
| 0 - 14 | - | - | - | - | - | - | - | - |
| 15 - 19 | 24 | - | - | - | - | - | - | 24 |
| 20 - 24 | 1,213 | 9 | - | - | - | - | - | 1,222 |
| 25 - 29 | 3,414 | 665 | 21 | - | - | - | - | 4,100 |
| 30 - 34 | 3,229 | 2,253 | 601 | 24 | - | - | - | 6,107 |
| 35 - 39 | 2,549 | 2,267 | 1,724 | 435 | 11 | - | - | 6,986 |
| 40 - 44 | 2,271 | 2,343 | 1,847 | 1,297 | 357 | 25 | - | 8,140 |
| 45 - 49 | 1,878 | 2,032 | 1,699 | 1,263 | 1,106 | 689 | 46 | 8,713 |
| 50 - 54 | 1,666 | 1,975 | 1,831 | 1,410 | 1,234 | 1,665 | 708 | 10,489 |
| 55 - 59 | 1,389 | 1,789 | 1,607 | 1,398 | 1,350 | 1,516 | 1,699 | 10,748 |
| 60 - 64 | 846 | 1,356 | 1,207 | 1,014 | 996 | 1,089 | 1,654 | 8,162 |
| 65 - 69 | 248 | 548 | 556 | 445 | 465 | 432 | 842 | 3,536 |
| 70 - 74 | 62 | 134 | 167 | 159 | 167 | 160 | 441 | 1,290 |
| 75 - 99 | - | - | - | - | - | - | - | - |
| Total | 18,789 | 15,371 | 11,260 | 7,445 | 5,686 | 5,576 | 5,390 | 69,517 |

The inner box represents current eligibility for Early or Normal Retirement.

| Age Group | Retirees | | |
|--------------|--------------|--------------|--------------|
| | Male | Female | Total |
| 0 - 44 | 21 | 13 | 34 |
| 45 - 49 | 34 | 39 | 73 |
| 50 - 54 | 209 | 237 | 446 |
| 55 - 59 | 765 | 1,003 | 1,768 |
| 60 - 64 | 2,076 | 2,356 | 4,432 |
| 65 - 69 | 604 | 561 | 1,165 |
| 70 - 74 | 44 | 8 | 52 |
| 75 - 79 | 27 | 8 | 35 |
| 80 - 84 | 24 | 13 | 37 |
| 85 - 89 | 10 | 6 | 16 |
| 90 - 94 | 1 | 6 | 7 |
| 95 - + | 1 | 1 | 2 |
| Total | 3,816 | 4,251 | 8,067 |

SECTION C

DEVELOPMENT OF INITIAL PER CAPITA COSTS

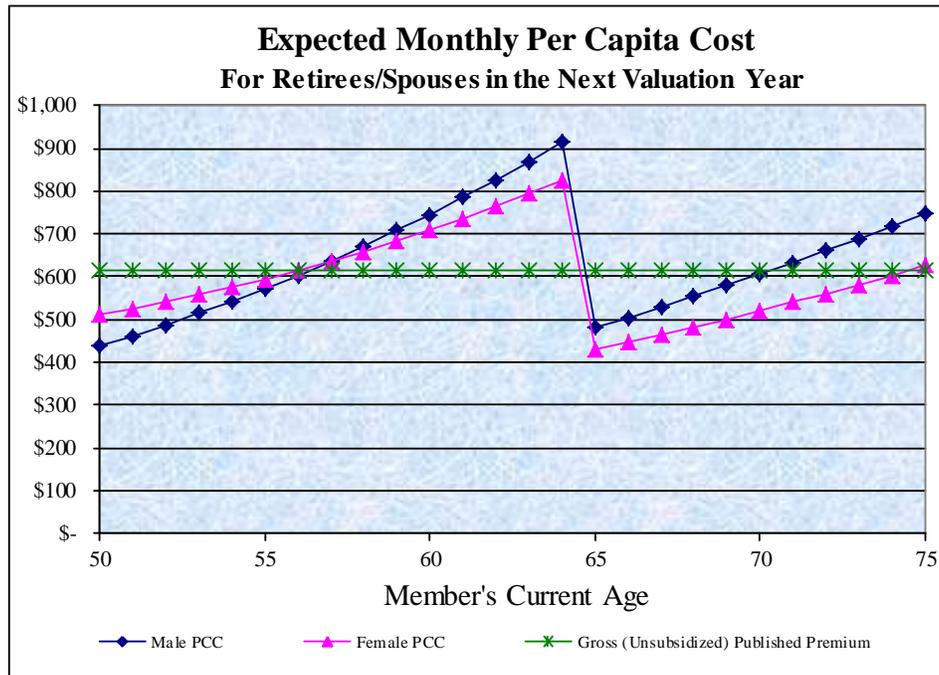
DEVELOPMENT OF INITIAL PER CAPITA COSTS

By offering medical coverage to employees, retirees and their dependents, the employer assumes the responsibility for the total expected premiums charged by the carriers. These costs are partially offset by contributions from employees and retirees. While the total premium amount charged for covering employees and retirees and their dependents is the same without regard to the age or gender of the member, the true costs of medical and prescription coverage in any given year, depends on these factors. As the ages of employees, retirees and dependents in the covered population increase, so do their costs of benefits.

The table and the graph below illustrate the expected initial monthly Per Capita Costs (PCC) applicable to current retirees in the coming year.

| Initial Monthly Per Capita Cost By Age/Sex | | | | | |
|--|-----------|-----------|-----------------------------|-----------|-----------|
| All Retirees | | | Grandfathered Retirees only | | |
| Sample Ages | Male | Female | Sample Ages | Male | Female |
| 45 | \$ 336.25 | \$ 455.92 | 65 | \$ 479.92 | \$ 428.76 |
| 50 | 438.16 | 511.48 | 70 | 606.61 | 519.97 |
| 55 | 572.71 | 595.14 | 75 | 747.37 | 626.18 |
| 57 | 637.00 | 637.00 | 80 | 890.94 | 741.07 |
| 60 | 745.57 | 709.48 | 85 | 1,019.95 | 852.86 |
| 64 | 913.67 | 825.13 | 90 | 1,112.73 | 944.30 |

For comparison, the gross published premiums are also presented on the graph below. The spread between the Per Capita Cost and that gross premium represents the implicit subsidy provided by the employer. The total subsidy is equal to the difference between the Per Capita Cost and premiums actually collected from the retiree (not shown).



The amounts of Per Capita Costs illustrated above have been developed by employing the morbidity tables discussed below. The table shows select values of age grading factors reflecting rates at which medical costs

increase with age of the member. These percentages are separate from the annual Trend, which operates to increase costs independent of and in addition to the Aging Factors. For example, in any single year a group of 61-year old males are expected to cost 5.30% more than a group of 60-year old males.

| Medical/Rx Cost Increase By Age | | | | | |
|---------------------------------|-------|--------|-------------|-------|--------|
| Sample Ages | Male | Female | Sample Ages | Male | Female |
| 30 | 4.10% | 2.92% | 65 | 4.98% | 3.94% |
| 35 | 4.68% | 0.57% | 70 | 4.50% | 3.88% |
| 40 | 5.10% | 0.19% | 75 | 3.88% | 3.61% |
| 45 | 5.38% | 1.90% | 80 | 3.10% | 3.12% |
| 50 | 5.50% | 2.82% | 85 | 2.18% | 2.41% |
| 55 | 5.48% | 3.41% | 90 | 1.10% | 1.49% |
| 60 | 5.30% | 3.78% | 95 | 0.00% | 0.35% |

The total cost expected (for the self-insured health plan) for the covered retiree population was allocated by age/gender, based upon the age/gender distribution of retirees and their covered spouses the morbidity tables above. This procedure resulted in a table of age/gender-specific initial Per Capita Costs for the coming year. These calculations were based upon the benefits provided under the plan options available to employees and retirees as of the Valuation Date.

In the development of the PCC amounts, retirees and dependents age 65 and older are assumed to be Medicare-eligible. This assumption applies only to “grandfathered” retirees as a wide majority of members are required to discontinue coverage under the plan upon attaining age-based eligibility for Medicare benefits. In our work, we assume that the employer’s cost for a claim incurred by a Medicare eligible retiree is lower than the cost of the same claim incurred by a retiree who is not eligible for Medicare benefits. Claim data for post-65 retirees was not credible enough to develop per capita costs for this group based on their own data. Furthermore detailed Medicare eligibility and enrollment data was not readily available and it was assumed that 75% of the grandfathered retirees participated (or would participate upon attaining eligibility) in both Parts A and B under the Medicare program. Consequently it was assumed that cost of benefits for post 65 retirees would be reduced, on average, by 50% due to coordination with Medicare for those of retirees who actually enrolled in Parts A and B.

The Monthly Per Capita Costs (PCC) by age and gender represent the costs of coverage after taking out deductibles, coinsurance, co-pays, and Medicare payments, but before applying any monthly retiree contributions (premiums) charged for coverage. Any Medicare Part D subsidy, if any, has not been given any consideration, since it may not be used to offset the OPEB obligation.

Amounts for each age/gender combination for this Valuation were developed based on census data, claims and other costs for all retired participants and their spouses participating in the Employee Group Insurance plans of the State, Local Education and Local Government groups. The PCCs of each such group were not sufficiently different from each other to justify the loss of credibility inherent in developing and using separate PCCs.

Per Capita Costs applicable to retirees who retire under disability provisions are assumed to be the same as for all other similarly situated retirees. Although disabled retirees are generally more expensive to cover, some of such retirees may qualify for benefits under the Medicare program, which offsets the increased costs. We did not assess the relative magnitude of these factors, but given the fact that they offset each other combined with a relatively low incidence of disability retirements, we believe that overall materiality of this aspect does not warrant more detailed analysis. Consequently, all retirees are subjected to the same model regardless of disability status.

SECTION D
ACTUARIAL ASSUMPTIONS AND METHODS

ACTUARIAL ASSUMPTIONS AND METHODS

| | |
|---|---|
| Actuarial Valuation Date: | July 1, 2013 for employee and retiree population purposes, for development of per capita cost purposes and for Valuation purposes. |
| Actuarial Cost Method: | Projected Unit Credit Cost Method with the total value of the benefit, to which each participant is expected to become entitled, is broken down into units, each associated with a year of past or future credited service. |
| Amortization Period and Method: | The Unfunded Actuarial Accrued Liability, as calculated pursuant to the Projected Unit Credit Actuarial Cost Method, is amortized in a closed amortization, calculated as a level percent of payroll over a 30 year period for each new amortization base created annually. The assumed rate of payroll growth is 3.00%. GASB Statement No. 45 requires that any such payroll growth assumption be based upon no increase in the number of active employees covered by the plan. |
| Investment Discount Rate: | Since there are currently no invested plan assets held in trust to finance the OPEB obligations, the investment return discount rate is the long-term expectation of investment return on assets held in State funds pursuant to its Investment Policy. The State has selected 4.00% compounded annually. |
| Price Inflation: | Long term price inflation is assumed to be 2.5% per year. |
| Tennessee Consolidated Retirement System: | <p>Unless noted otherwise, demographic assumptions employed in this Actuarial Valuation were basically the same as those employed in the July 1, 2013 Pension Actuarial Valuation of the Tennessee Consolidated Retirement System (TCRS) and applicable to Group I employees. These demographic assumptions were developed by TCRS from an Actuarial Experience Study (undertaken on behalf of TCRS), and are considered appropriate for use in this OPEB Actuarial Valuation. These include assumed rates of future termination, mortality, disability, and retirement.</p> <p>In the following pages, we outline assumptions used in this Actuarial Valuation.</p> |
| Mortality Tables: | <p>Mortality tables are used to measure the probabilities of participants dying before and after retirement. The post-retirement rates are the same as those used by TCRS but with added generational mortality improvements from its 2010 mid-point base year using the Society of Actuaries' Scale BB. The pre-retirement rates are based on the RP-2000 Mortality Table with generational improvements from its 2000 base year using the same Scale BB.</p> <p>Mortality rates for impaired (from disability) lives are the same as those used by TCRS and are taken from the gender distinct table published in the IRS Revenue Ruling 96-7 for disabled lives with a 10% load.</p> |
| Rates of Termination from Active Employment: | These rates do not apply to participants eligible for Normal Retirement and do not include separation on account of death or disability. Termination rates are used to measure the probabilities of participants terminating employment for other reasons. The rates are based on the number of years of |

service and age. In addition, any employees terminating with at least 5 years of service and who are within 10 years of Normal Retirement are assumed to commence monthly pension benefits and, thus, become eligible to accept retiree medical coverage.

| % Separating Within Next Year - Group I - Teachers | | | | | | | | | | |
|---|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Years of Service | Male | | | | | | | | | |
| | Attained Age | | | | | | | | | |
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| 0 | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% | 18.4% | 19.7% | 22.1% | 25.5% | 28.0% |
| 1 | 13.5% | 13.5% | 13.5% | 13.5% | 13.5% | 13.5% | 14.2% | 16.8% | 21.6% | 23.5% |
| 2 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 3 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 4 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 5 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 6 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 7 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 8 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 9 | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| 10 or more | 10.0% | 8.5% | 6.0% | 3.6% | 2.0% | 1.5% | 2.0% | 3.1% | 4.7% | -- |
| Years of Service | Female | | | | | | | | | |
| | Attained Age | | | | | | | | | |
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| 0 | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% | 18.4% | 19.7% | 22.1% | 25.5% | 28.0% |
| 1 | 13.5% | 13.5% | 13.5% | 13.5% | 13.5% | 13.5% | 14.2% | 16.8% | 21.6% | 23.5% |
| 2 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 3 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 4 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 5 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 6 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 7 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 8 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 9 | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |
| 10 or more | 10.5% | 10.0% | 7.6% | 4.6% | 2.3% | 1.1% | 1.6% | 3.8% | 5.0% | -- |

| % Separating Within Next Year - Group I - General Employees | | | | | | | | | | | |
|--|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| Years of Service | Male | | | | | | | | | | |
| | Attained Age | | | | | | | | | | |
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | |
| 0 | 30.0% | 25.4% | 23.0% | 20.8% | 18.6% | 16.5% | 14.8% | 15.3% | 17.9% | 24.0% | |
| 1 | 24.6% | 21.4% | 18.6% | 16.1% | 13.8% | 12.0% | 11.1% | 11.6% | 14.4% | 20.5% | |
| 2 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 3 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 4 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 5 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 6 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 7 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 8 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 9 | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| 10 or more | 17.8% | 14.4% | 9.6% | 5.2% | 2.6% | 1.8% | 2.2% | 2.6% | 4.3% | -- | |
| Female | | | | | | | | | | | |
| Years of Service | Female | | | | | | | | | | |
| | Attained Age | | | | | | | | | | |
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | |
| 0 | 30.0% | 25.4% | 23.0% | 20.8% | 18.6% | 16.5% | 14.8% | 15.3% | 17.9% | 24.0% | |
| 1 | 24.6% | 21.4% | 18.6% | 16.1% | 13.8% | 12.0% | 11.1% | 11.6% | 14.4% | 20.5% | |
| 2 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 3 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 4 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 5 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 6 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 7 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 8 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 9 | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |
| 10 or more | 18.3% | 14.8% | 10.3% | 6.3% | 3.4% | 2.2% | 2.3% | 3.4% | 4.9% | -- | |

| % Separating Within Next Year - Group I - Political Subdivision | | | | | | | | | | |
|--|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Years of Service | Male | | | | | | | | | |
| | Attained Age | | | | | | | | | |
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| 0 | 26.2% | 23.0% | 21.8% | 20.7% | 19.2% | 17.7% | 17.0% | 17.4% | 20.4% | 26.3% |
| 1 | 21.8% | 19.1% | 17.9% | 17.0% | 15.9% | 14.1% | 13.0% | 13.0% | 14.9% | 19.1% |
| 2 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 3 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 4 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 5 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 6 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 7 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 8 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 9 | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |
| 10 or more | 13.7% | 10.3% | 7.4% | 5.1% | 3.5% | 2.8% | 2.8% | 3.6% | 4.6% | -- |

| Years of Service | Female | | | | | | | | | |
|-------------------------|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Attained Age | | | | | | | | | |
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| 0 | 26.2% | 23.0% | 21.8% | 20.7% | 19.2% | 17.7% | 17.0% | 17.4% | 20.4% | 26.3% |
| 1 | 21.8% | 19.1% | 17.9% | 17.0% | 15.9% | 14.1% | 13.0% | 13.0% | 14.9% | 19.1% |
| 2 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 3 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 4 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 5 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 6 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 7 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 8 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 9 | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |
| 10 or more | 19.6% | 15.1% | 11.1% | 7.7% | 5.4% | 4.1% | 3.8% | 4.3% | 5.3% | -- |

Rates of Disability:

Disability rates are used to measure the probabilities of active participants becoming disabled.

| % Becoming Disabled Within Next Year - Group I | | | | | | |
|---|-----------------|---------------|----------------|---------------|------------------------------|---------------|
| Sample Ages | Teachers | | General | | Political Subdivision | |
| | Male | Female | Male | Female | Male | Female |
| 20 | 0.01% | 0.01% | 0.06% | 0.03% | 0.03% | 0.03% |
| 25 | 0.01% | 0.01% | 0.06% | 0.03% | 0.03% | 0.03% |
| 30 | 0.01% | 0.01% | 0.07% | 0.04% | 0.03% | 0.03% |
| 35 | 0.03% | 0.03% | 0.11% | 0.06% | 0.03% | 0.03% |
| 40 | 0.08% | 0.08% | 0.16% | 0.14% | 0.08% | 0.08% |
| 45 | 0.14% | 0.14% | 0.22% | 0.24% | 0.20% | 0.20% |
| 50 | 0.17% | 0.17% | 0.27% | 0.33% | 0.38% | 0.38% |
| 55 | 0.17% | 0.17% | 0.27% | 0.38% | 0.49% | 0.49% |
| 60 | -- | -- | -- | -- | -- | -- |
| 65 | -- | -- | -- | -- | -- | -- |

Rates of Retirement:

Rates of retirement are used to measure the probabilities of an eligible active employee retiring during the next year.

| Unreduced Retirement Annual Rates | | | | | | |
|-----------------------------------|----------|--------|--------|--------|-----------------------|--------|
| Sample Ages | Group I | | | | | |
| | Teachers | | State | | Political Subdivision | |
| | Male | Female | Male | Female | Male | Female |
| 50 | 6.5% | 6.5% | 6.0% | 7.5% | 9.0% | 8.0% |
| 55 | 10.0% | 10.0% | 6.5% | 7.5% | 9.0% | 8.0% |
| 60 | 15.0% | 17.0% | 8.5% | 9.0% | 10.5% | 11.0% |
| 65 | 35.0% | 37.5% | 22.0% | 22.0% | 24.0% | 22.0% |
| 70 | 16.0% | 34.0% | 15.5% | 17.0% | 18.0% | 19.0% |
| 75 | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

| Additional increments for retirees who have 15 or more years of service at retirement on or after age 60 | | | | | |
|--|--------|-------|--------|-----------------------|--------|
| Teachers | | State | | Political Subdivision | |
| Male | Female | Male | Female | Male | Female |
| 8.0% | 8.0% | 2.0% | 2.0% | 2.0% | 2.0% |

| Additional increments for retirees in the year in which they are first eligible for unreduced retirement prior to age 60 | | | | | |
|--|--------|-------|--------|-----------------------|--------|
| Teachers | | State | | Political Subdivision | |
| Male | Female | Male | Female | Male | Female |
| 12.5% | 12.5% | 7.5% | 7.5% | 7.5% | 7.5% |

General Inflation:

Long term general price inflation is assumed to be 2.5% per year.

HEALTH COVERAGE ASSUMPTIONS

Coverage Acceptance Rates: Not all retirees will accept coverage and pay the required premium upon retirement. Following are the assumptions as to future Medical Coverage Acceptance Rates. Acceptance rates, presented below, result from an analysis of the choice pattern exhibited by employees retiring in recent years. Retirees changing coverage to The Tennessee Plan are considered lapsing coverage for the purpose of this Valuation.

| Coverage Acceptance for Pre-65 Elections | | |
|--|---------------------|-------------------------------------|
| Subsidy Level | Last OPEB Valuation | Recommended for this OPEB Valuation |
| 80% | 90% | 90% |
| 70% | 75% | 80% |
| 60% | 55% | 45% |

Future participation: Active employees currently declining coverage are assumed to opt into the plan in the future and accept retiree coverage at a 10% rate. Covered employees are assumed to remain covered until retirement.

Expenses: Expenses are included in the Per Capita Costs.

Expected Retiree Contributions: Members are required to make monthly contributions in order to maintain their coverage. For the purpose of this Valuation a weighted average has been used with weights derived from the current distribution of members among plans offered. Such average expected retiree premium contributions for the first year, before any direct State subsidies, are shown in the table below.

| Average Premium (as of Valuation Date) | |
|--|-----------|
| Retiree | \$ 617.00 |
| Spouse | \$ 677.00 |

Health Care Cost Trend Rates: Monthly Per Capita Costs (PCC) and Retiree Contributions for Medical and Rx benefits are assumed to increase each year according to the rates set forth in the following table. For example, the Per Capita Costs for a year beginning on 1/1/2014 are expected to increase by 7.50% over the rates for the year beginning on 1/1/2013.

The trend rate for the cost of benefits and premiums charged to retirees has been revised for this Actuarial Valuation to be based on the forecasting model built and published (December 2007) in *Modeling Long-Term Health Care Cost Trends* sponsored by the Society of Actuaries and authored by Prof. Thomas E. Getzen.

The rates presented below illustrate assumed medical cost inflation in the absence of the Excise Tax on High-Cost Employer Health Plans.

| Annual Increase Rates | | | | | |
|-----------------------|------------|--------------|------------------|------------|--------------|
| Year of Increase | Medical/Rx | Contribution | Year of Increase | Medical/Rx | Contribution |
| 2014 | 7.50% | 7.50% | 2022 | 5.81% | 5.81% |
| 2015 | 7.00% | 7.00% | 2023 | 5.76% | 5.76% |
| 2016 | 6.50% | 6.50% | 2024 | 5.72% | 5.72% |
| 2017 | 6.10% | 6.10% | 2025 | 5.67% | 5.67% |
| 2018 | 6.03% | 6.03% | 2026 | 5.63% | 5.63% |
| 2019 | 5.97% | 5.97% | ... | ... | ... |
| 2020 | 5.92% | 5.92% | 2044 | 4.19% | 4.19% |
| 2021 | 5.86% | 5.86% | Ultimate | 4.19% | 4.19% |

CONSIDERATION OF HEALTH CARE REFORM

Summary of Selected Provisions and their effects

Excise Tax on High-Cost Employer Health Plans (aka Cadillac Tax) Effective 1/1/2018 The “Cadillac” tax is a 40% excise tax paid by the coverage provider (employer and/or insurer) on the value of health plan costs in excess of certain thresholds. The thresholds for active employees and Medicare eligible retirees are \$10,200 for single coverage or \$27,500 for family coverage in 2018. Respective thresholds for retirees not eligible for Medicare are \$11,850 and \$30,950 for year 2018. Many plans are below the thresholds today, but are likely to exceed them in the next decade. The thresholds will be indexed at CPI-U, which is lower than the expected medical trend rates affecting the cost of the plans. There is considerable uncertainty about how the tax would be applied, and considerable latitude in grouping of participants for tax purposes. Combining early retiree and Medicare eligible retiree costs is allowed and can keep plans under the thresholds for a longer period of time.

Should the excise tax become applicable, the Plan will be the coverage provider paying the tax which will be passed on to the employers and participants in the form of increased premiums applicable to employees and retirees. The State will need to decide whether to reduce benefits to avoid the tax, or how the additional cost will be allocated between the employer and the members. GASB does not permit recognition of future plan changes in a valuation, so the net claims growth assumption (reflected in the long-term trends) will be based on the current plan design.

Based on the assumptions used for this Valuation, premiums applicable to retirees are projected to become subject to excise tax as soon as it becomes effective in 2018. Although the amount of tax initially assessed on the health insurance premiums is not expected to be significant, it will increase over time. We are modeling the impact of the tax by adding 0.15% to the assumed medical trend rates for the 2018 plan year, followed by a 0.50% increase of the assumed trends for 2019 and all subsequent years.

Comparative Effectiveness Research Fee: PPACA established the Patient-Centered Outcomes Research Institute (the Institute) to conduct research to determine which of two or more treatments works best when applied to actual patients in the “real world.” The work of the Institute is partially funded by a fee on health insurers and self-funded group health plans. This is deemed to be included in the initial per capita trend with no further adjustments.

Health Insurance Industry Fee: This fee on health insurers (including HMOs) starts at \$8 billion in 2014 and increases year over year before reaching \$14.3 billion in 2018. After 2018, it will continue to increase with premium growth. The fee, which applies only to insured business, will be based on each insurer’s share of the taxable health insurance premium base (among all health insurers of U.S. health risks). This fee does not apply to the self-insured plans and is not affecting plans administered by the State.

Reinsurance Assessment: This assessment on health plans totals \$25 billion, which will be collected over the three-year period from 2014 through 2016. The majority of the money will be used to fund a reinsurance program, which is intended to lessen the impact of high-dollar claims in the individual market. The assessment applies to both insured and self-funded commercial major medical plans. For an insured plan, the assessment is the responsibility of the health insurer. For a self-funded plan, the

assessment is the employer's responsibility, but an employer may choose to have a third party administrator facilitate the payment on behalf of the plan. This is deemed to be included in the initial per capita trend with no further adjustments.

Implementation of the new requirements: We have not identified any other specific provision of health care reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued we will review and monitor the impact.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

| | |
|------------------------------|--|
| Decrement Timing: | Decrements of all types are assumed to occur at the middle of the year. |
| Eligibility Testing: | Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur. |
| Decrement Relativity: | Decrement rates are treated as absolute rates of decrement. |
| Adjustments: | None. |
| Decrement Operation: | All decrements operate simultaneously. Disability and termination rates cease upon eligibility for normal or early retirement |

DEFINITIONS OF TECHNICAL TERMS

| | |
|---|--|
| Actuarial Accrued Liability: | Actuarial Accrued Liability is the actuarial present value of projected future benefits that are attributable to an employees' service to date. Sometimes it's expressed as the difference between the actuarial present value of all future benefit payments and the actuarial present value of future normal costs. |
| Actuarial Assumptions: | These are factors for estimating expected future experience with respect to occurrences of mortality, disability, turnover, retirement, rates of investment income and salary increases, coverage acceptance, trend, aging, etc. |
| Actuarial Cost Method: | This is a mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefit payments" between future normal costs and actuarial accrued liabilities. It is often referred to as the "Actuarial Funding Method" or "Actuarial Valuation Cost Method". |
| Actuarial Present Value: | Actuarial Present Value of a series of expected payments (or a single payment) is the amount of funds currently required to provide those expected payments in the future. This amount is determined by discounting future payments at predetermined rates of interest, taking into account the probability of payment. It is also referred to as "Present Value." |
| Amortization: | Amortization is a process of paying off, or recognizing, an interest-discounted amount with periodic payments of interest and principal, (similar to paying off an installment loan) -- as opposed to paying it off with a single sum. |
| Annual Required Contribution (ARC): | The ARC is the portion of the present value of projected benefits that is attributable to the current period. Usually it is determined as the normal cost (as defined below) plus the portion of the unfunded actuarial accrued liability amortized in the current period. The ARC is an amount that is actuarially determined to ensure that, if paid on an ongoing basis, it would provide sufficient resources for future benefit payments. |
| Normal Cost: | Normal Cost is the actuarial cost of a portion of projected future benefits allocated to the current year by the actuarial cost method. It is sometimes referred to as "Current Service Cost." |
| Unfunded Actuarial Accrued Liability (UAAL): | UAAL is the difference between actuarial accrued liability and the actuarial value of plan assets. |

SECTION E

SUMMARY OF SUBSTANTIVE PLAN PROVISIONS

STATE EMPLOYEE GROUP INSURANCE PLAN

SUMMARY OF SUBSTANTIVE PLAN PROVISIONS

AS OF JULY 1, 2013

ELIGIBILITY FOR RETIREMENT

All full-time state and higher education employees, retirees and vested terminated participants of the State of Tennessee who satisfy the Disability, Vested Termination, Early or Normal Retirement provisions of the Tennessee Consolidated Retirement System (TCRS) may be eligible for certain post-employment benefits under the Tennessee State Employees Group Plan. Any employee, with exception of state judges, becoming members of TCRS on or after July 1, 1976 enters TCRS *Group I* regardless of employment classification. The following outlines the *Group I* eligibility requirements for retirement under the Tennessee Consolidated Retirement System (TCRS):

| | |
|---------------------------|---|
| VESTED TERMINATION | Full vesting starts after 5 years of creditable service. However, no other postemployment benefits are available under the State Employees Group Plan to employees not meeting criteria described below. |
| 25-YEAR RETIREMENT | Reduced pension benefit upon completion of 25 years of service at any age. |
| EARLY RETIREMENT | Age 55 and vested. |
| SERVICE RETIREMENT | Earlier of (i) Age 60 with 5 years of creditable service, or (ii) Any age with 30 years of creditable service. |

ELIGIBILITY FOR RETIREE INSURANCE COVERAGE

| | |
|---------------------------|--|
| TCRS PARTICIPANTS | 10 years employment with the employer and 3 continuous years of insurance coverage in a state-sponsored insurance plan immediately prior to final termination for retirement, or 20 or more years employment with the employer and 1 year insurance coverage in a state-sponsored insurance plan immediately prior to final termination for retirement If the individual is retiring through TCRS, they must be receiving a monthly retirement benefit to continue coverage as a retiree. TCRS participants who choose a lump-sum retirement benefit are not eligible to continue insurance at retirement. |
| OTHER PARTICIPANTS | For ORP (Optional Retirement Program) participants, non-elects (individuals who declined optional membership in the Tennessee Consolidated Retirement System), and state employees on federal appointment not eligible for federal insurance programs, the following rules apply: |

Age 55 with at least 10 but less than 20 total years of employment with the employer and 3 continuous years of insurance coverage in a state-sponsored insurance plan immediately prior to final termination for retirement, or

Age 55 and 20 or more years of employment with the employer and 1 year of insurance coverage in a state-sponsored insurance plan immediately prior to final termination for retirement, or

25 years of employment with the employer and 1 year of insurance coverage in a state-sponsored insurance plan immediately prior to final termination for retirement

DISABLED RETIREES

Retirees who were participants in a state-sponsored plan at the time of the injury or illness which resulted in their disability may continue coverage provided that no lapse in medical coverage has occurred by meeting either the requirements for TCRS participants, ORP (Optional Retirement Program) participants and other non-TCRS participants outlined above, or by having at least five years employment with the employer immediately prior to final termination due to disability.

OTHER POST-EMPLOYMENT BENEFITS- FOR MEDICAL COVERAGE UNDER “THE STATE EMPLOYEES GROUP PLAN”

Certain Other Post-Employment Benefits (OPEB) are available to current retirees and all employees retiring from the State under the provisions of Disability, Early or Normal Retirement, as described above. With exception of a small group of grandfathered individuals, retirees are required to discontinue coverage under the plan upon attaining age 65. In addition to State-provided subsidies for retiree premiums the OPEB benefits include access to coverage for the retiree and dependents under the Medical, Prescription, Dental, Vision, Long Term Care and Life Insurance Plans as described below.

HEALTH-RELATED BENEFITS

Eligible retirees may choose among the same Medical Plan options available for similarly situated active employees of the State. Dependents of retirees who continue to meet eligibility requirements may be covered at the retiree's option the same as dependents of active employees, provided those dependents were already enrolled in the Plan when the retiree's active coverage was terminated or they become eligible based on a special enrollment provision. Prescription Drug coverage is automatically extended to retirees and their dependents who continue coverage under any one of the Medical Plan options. Covered retirees and their dependents are subject to the same Medical and Prescription benefits as are active employees. Totally and permanently disabled pre-65 retirees may continue medical coverage. Disabled retirees under age 65 who are eligible for Medicare must maintain at least Part B coverage. Retirees and their dependents that are age-eligible for Medicare benefits are not eligible to remain in the State Employee Group Insurance Plan and may apply for the Medicare Supplement plan (The Tennessee Plan).

DENTAL, VISION AND LONG TERM CARE BENEFITS

Dental, vision and long term care benefits for retirees and their dependents are fully paid by the retirees, as they are by employees and their dependents. Consequently, these benefits are not considered as other post-employment benefits for the purposes of GASB Statement No. 45.

LIFE INSURANCE

Retiring state employees have an option of converting their Employer sponsored group basic-term life certificate to an individual life insurance policy with age-based premiums. Consequently, life insurance benefits are not considered as other post-employment benefits for the purposes of GASB Statement No. 45.

SURVIVORSHIP BENEFITS

The surviving dependents of a retiree may stay in the plan at no cost for up to six months. Afterwards, the surviving dependents are eligible to continue coverage under the State Employees Group Plan subject to payments of the applicable premiums. The surviving dependents must continue to meet eligibility requirements to remain enrolled in the plan.

RETIREE CONTRIBUTIONS FOR MEDICAL/PRESCRIPTION COVERAGE

In order to begin and maintain retiree Medical/Prescription coverage, premium contributions are required from the retiree. For dependent coverage, the retiree is required to pay a premium as well. If any required amounts are not paid timely, the coverage for the retiree and/or the dependent(s) will cease. Annual plan premium increases impact the amount of contributions required for retiree and dependent coverage .

The chart below summarizes the current total gross monthly premium amounts used to determine contributions required from retirees and their dependents to maintain medical/prescription coverage. These rates went into effect on January 1, 2013. Coverage for children of retirees is available (until their limiting age). However, for measuring the long term costs, the relatively few children covered by retirees coupled with the short duration of their coverage remaining results in costs that are not material in the long term.

| | EAST AND MIDDLE TENNESSEE | | WEST TENNESSEE | |
|-------------------------------|--------------------------------------|--------------|-----------------------|-------------------|
| | BCBST | CIGNA | BCBST | CIGNA |
| | PARTNERSHIP PPO | | | |
| Retiree Only | \$602.90 | \$622.90 | \$622.90 | \$602.90 |
| Retiree + Child(ren) | \$904.35 | \$924.35 | \$924.35 | \$904.35 |
| Retiree + Spouse | \$1,266.05 | \$1,306.05 | \$1,306.05 | \$1,266.05 |
| Retiree + Spouse + Child(ren) | \$1,567.50 | \$1,607.50 | \$1,607.50 | \$1,567.50 |
| Spouse Only | \$663.15 | \$683.15 | \$683.15 | \$663.15 |
| Child(ren) Only | \$301.45 | \$301.45 | \$301.45 | \$301.45 |
| Spouse + Child(ren) | \$964.60 | \$984.60 | \$984.60 | \$964.60 |
| | STANDARD PPO | | | |
| Retiree Only | \$627.90 | \$647.90 | \$647.90 | \$627.90 |
| Retiree + Child(ren) | \$929.35 | \$949.35 | \$949.35 | \$929.35 |
| Retiree + Spouse | \$1,316.05 | \$1,356.05 | \$1,356.05 | \$1,316.05 |
| Retiree + Spouse + Child(ren) | \$1,617.50 | \$1,657.50 | \$1,657.50 | \$1,617.50 |
| Spouse Only | \$688.15 | \$708.15 | \$708.15 | \$688.15 |
| Child(ren) Only | \$301.45 | \$301.45 | \$301.45 | \$301.45 |
| Spouse + Child(ren) | \$989.60 | \$1,009.60 | \$1,009.60 | \$989.60 |

EMPLOYER-PROVIDED SUBSIDY FOR MEDICAL/PRESCRIPTION COVERAGE

Amounts illustrated above represent total monthly rates charged by the Plan. The current State policy is to subsidize retiree premiums for medical/prescription based on the service at retirement. Subsidy amount is based on the premium rates applicable to coverage under the lower cost plan and carrier (bold faced in the table above). The subsidy percentage depends on the retiree's years of service as outlined below:

| State Subsidy as a Percent of Base Premium | |
|---|------------------------|
| Service at Retirement | Retiree Subsidy |
| 30+ years of service | 80% |
| 20-29 years of service | 70% |
| Less than 20 years of service | 60% |

COBRA BENEFITS

Former employees, retirees and dependents may be eligible for an extended benefit under COBRA, regardless of the terms of the employer's other post-employment benefits. COBRA benefits are not considered as other post-employment benefits for the purposes of GASB Statement No. 45.

FUNDING VEHICLE

There is no separate trust through which benefits for retirees are funded. No assets are currently accumulated or earmarked for this purposes. All approved benefits are paid by the State when due.

TERMINATION AND AMENDMENT

The post-employment benefits are extended to retirees and continued at the discretion of the State, which reserves the right (subject to State Statute and any collective bargaining agreements) to change or terminate benefits and to change contributions required from retirees in the future as circumstances change.

SECTION F
GASB DISCLOSURES

**Required Actuarial Information - Plan Total
(GASB STATEMENT NO. 45)**

| Employer FYE June 30 | 2014 | 2013 ¹ | 2012 ¹ |
|--|---------------|-------------------|-------------------|
| Normal Cost (service cost for one year) | \$ 61,389,491 | \$ 76,110,000 | \$ 76,110,000 |
| Amortization of Unfunded Actuarial Accrued Liability | 61,250,976 | 73,387,000 | 71,594,000 |
| Annual Required Contribution (ARC) | 122,640,467 | 149,497,000 | 147,704,000 |
| Net OPEB Obligation (NOO) at beginning of the year | 581,518,000 | 506,963,000 | 439,094,000 |
| Annual Required Contribution (ARC) | 122,640,467 | 149,497,000 | 147,704,000 |
| Interest on NOO | 23,260,720 | 20,279,000 | 17,563,000 |
| Adjustment to ARC | (22,661,291) | (21,526,000) | (18,644,000) |
| Annual OPEB Cost (Expense) | 123,239,896 | 148,250,000 | 146,623,000 |
| Employer Contributions Made | TBD | (73,695,000) | (78,754,000) |
| Increase (decrease) in NOO | TBD | 74,555,000 | 67,869,000 |
| NOO at end of year | TBD | 581,518,000 | 506,963,000 |

Schedule of Funding Progress (Plan Total)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) - Projected Unit Credit (b) | Unfunded AAL (UAAL) (b - a) | Funded Ratio (a / b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ((b - a) / c) |
|--------------------------|-------------------------------|---|-----------------------------|----------------------|---------------------|---|
| 7/1/2010 ¹ | \$0 | \$1,496,018,000 | \$1,496,018,000 | 0.00% | \$2,922,645,000 | 51.19% |
| 7/1/2011 ¹ | \$0 | \$1,476,198,000 | \$1,476,198,000 | 0.00% | \$3,058,492,000 | 48.27% |
| 7/1/2013 | \$0 | \$1,225,111,561 | \$1,225,111,561 | 0.00% | \$3,218,288,721 | 38.07% |

Schedule of Employer Contributions (Plan Total)

| Fiscal Year Ending | Annual OPEB Cost | Amount Contributed | Percentage of Annual OPEB Cost Contributed | Net OPEB Obligation |
|------------------------|------------------|--------------------|--|---------------------|
| 6/30/2012 ¹ | \$146,623,000 | \$78,754,000 | 53.71% | \$506,963,000 |
| 6/30/2013 ¹ | \$148,250,000 | \$73,695,000 | 49.71% | \$581,518,000 |
| 6/30/2014 | \$123,239,896 | TBD | TBD | TBD |

¹As reflected in prior Actuarial Valuation Reports and the State's Comprehensive Annual Financial Reports.

**Required Actuarial Information - Primary Government
(GASB STATEMENT NO. 45)**

| Employer FYE June 30 | 2014 | 2013¹ | 2012¹ |
|--|---------------|-------------------------|-------------------------|
| Normal Cost (service cost for one year) | \$ 38,428,063 | \$ 48,120,000 | \$ 48,120,000 |
| Amortization of Unfunded Actuarial Accrued Liability | 42,778,860 | 50,883,000 | 49,638,000 |
| Annual Required Contribution (ARC) | 81,206,923 | 99,003,000 | 97,758,000 |
| Net OPEB Obligation (NOO) at beginning of the year | 397,024,000 | 340,296,000 | 288,584,000 |
| Annual Required Contribution (ARC) | 81,206,923 | 99,003,000 | 97,758,000 |
| Interest on NOO | 15,880,960 | 13,612,000 | 11,543,000 |
| Adjustment to ARC | (15,471,707) | (14,449,000) | (12,253,000) |
| Annual OPEB Cost (Expense) | 81,616,176 | 98,166,000 | 97,048,000 |
| Employer Contributions Made | TBD | (41,438,000) | (45,336,000) |
| Increase (decrease) in NOO | TBD | 56,728,000 | 51,712,000 |
| NOO at end of year | TBD | 397,024,000 | 340,296,000 |

Schedule of Funding Progress (Primary Government)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) - Projected Unit Credit (b) | Unfunded AAL (UAAL) (b - a) | Funded Ratio (a / b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ([b - a] / c) |
|--------------------------|-------------------------------|---|-----------------------------|----------------------|---------------------|---|
| 7/1/2010 | \$0 | \$977,935,000 | \$977,935,000 | 0.00% | \$1,560,085,000 | 62.68% |
| 7/1/2011 | \$0 | \$1,023,529,000 | \$1,023,529,000 | 0.00% | \$1,613,128,000 | 63.45% |
| 7/1/2013 | \$0 | \$855,641,455 | \$855,641,455 | 0.00% | TBD | TBD |

Schedule of Employer Contributions (Primary Government)

| Fiscal Year Ending | Annual OPEB Cost | Amount Contributed | Percentage of Annual OPEB Cost Contributed | Net OPEB Obligation |
|--------------------|------------------|--------------------|--|---------------------|
| 6/30/2012 | \$97,048,000 | \$45,336,000 | 46.72% | \$340,296,000 |
| 6/30/2013 | \$98,166,000 | \$41,438,000 | 42.21% | \$397,024,000 |
| 6/30/2014 | \$81,616,176 | TBD | TBD | TBD |

¹As reflected in prior Actuarial Valuation Reports and the State's Comprehensive Annual Financial Reports.

**Required Actuarial Information - Component Units
(GASB STATEMENT NO. 45)**

| Employer FYE June 30 | 2014 | 2013¹ | 2012¹ |
|--|---------------|-------------------------|-------------------------|
| Normal Cost (service cost for one year) | \$ 22,961,428 | \$ 27,990,000 | \$ 27,990,000 |
| Amortization of Unfunded Actuarial Accrued Liability | 18,472,116 | 22,504,000 | 21,956,000 |
| Annual Required Contribution (ARC) | 41,433,544 | 50,494,000 | 49,946,000 |
| Net OPEB Obligation (NOO) at beginning of the year | 184,494,000 | 166,667,000 | 150,510,000 |
| Annual Required Contribution (ARC) | 41,433,544 | 50,494,000 | 49,946,000 |
| Interest on NOO | 7,379,760 | 6,667,000 | 6,020,000 |
| Adjustment to ARC | (7,189,584) | (7,077,000) | (6,391,000) |
| Annual OPEB Cost (Expense) | 41,623,720 | 50,084,000 | 49,575,000 |
| Employer Contributions Made | TBD | (32,257,000) | (33,418,000) |
| Increase (decrease) in NOO | TBD | 17,827,000 | 16,157,000 |
| NOO at end of year | TBD | 184,494,000 | 166,667,000 |

Schedule of Funding Progress (Component Units)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) - Projected Unit Credit (b) | Unfunded AAL (UAAL) (b - a) | Funded Ratio (a / b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ([b - a] / c) |
|--------------------------|-------------------------------|---|-----------------------------|----------------------|---------------------|---|
| 7/1/2010 | \$0 | \$518,083,000 | \$518,083,000 | 0.00% | \$1,362,560,000 | 38.02% |
| 7/1/2011 | \$0 | \$452,669,000 | \$452,669,000 | 0.00% | \$1,445,364,000 | 31.32% |
| 7/1/2013 | \$0 | \$369,470,106 | \$369,470,106 | 0.00% | TBD | TBD |

Schedule of Employer Contributions (Component Units)

| Fiscal Year Ending | Annual OPEB Cost | Amount Contributed | Percentage of Annual OPEB Cost Contributed | Net OPEB Obligation |
|--------------------|------------------|--------------------|--|---------------------|
| 6/30/2012 | \$49,575,000 | \$33,418,000 | 67.41% | \$166,667,000 |
| 6/30/2013 | \$50,084,000 | \$32,257,000 | 64.41% | \$184,494,000 |
| 6/30/2014 | \$41,623,720 | TBD | TBD | TBD |

¹As reflected in prior Actuarial Valuation Reports and the State's Comprehensive Annual Financial Reports.

**Required Actuarial Information
(GASB STATEMENTS NO. 43 & 45)**

| Reporting Year | 2014 | 2013 | 2012 |
|---|-----------------------|-----------------------|-----------------------|
| Contribution rate | TBD | 2.4% | 2.6% |
| Actuarial valuation date | 07/01/2013 | 07/01/2011 | 07/01/2011 |
| Annual OPEB cost | \$123,239,896 | \$148,250,000 | \$146,623,000 |
| Contributions made | TBD | \$73,695,000 | \$78,754,000 |
| Actuarial cost method | Projected Unit Credit | Projected Unit Credit | Projected Unit Credit |
| Amortization method | Level % closed | Level % closed | Level % closed |
| Single equivalent amortization period | 23 years | 24 years | 25 years |
| Asset valuation method | Unfunded | Unfunded | Unfunded |
| Actuarial assumptions: | | | |
| Investment rate of return * | 4.00% | 4.00% | 4.00% |
| Projected salary increases * | N/A | N/A | N/A |
| Payroll growth assumptions | 3.0% | 2.5% | 2.5% |
| Initial Per Capita Cost trend rate | 7.5% | 9.25% | 9.25% |
| Second Year Per Capita Cost trend rate | 7.0% | 8.75% | 8.75% |
| Third Year Per Capita Cost trend rate | 6.5% | 8.25% | 8.25% |
| Ultimate Per Capita Cost trend rate | 4.7%** | 5.00% | 5.00% |
| Years to Ultimate rate | 30 | 9 | 9 |
| * Includes general price inflation at | 2.5% | 3.0% | 3.0% |
| ** Includes an additional 0.50% representing our estimate of the ultimate effect of the Federal Excise Tax. | | | |

DISCLOSURES FOR FISCAL YEAR ENDING 6/30/2015

GASB allows for performing actuarial valuations biennially with results applicable to two reporting years (per paragraph 12 of GASB Statement 45). However, a new fully compliant valuation would need to be performed if significant changes have occurred since the previous valuation that affect the valuation results, including significant changes in benefit provisions, the size or composition of the membership, or other factors that impact long-term actuarial assumptions through the reporting date. Refer also to Q&A 8.17.5 of the 2011-2012 Comprehensive Implementation Guide. In the absence of such changes, following disclosures can be used in your 2014/2015 fiscal year reporting.

| Required Actuarial Information - Plan Total (GASB STATEMENT NO. 45) | | | |
|--|---------------|---------------|-------------------------|
| Employer FYE June 30 | 2015 | 2014 | 2013¹ |
| Normal Cost (service cost for one year) | \$ 63,845,071 | \$ 61,389,491 | \$ 76,110,000 |
| Amortization of Unfunded Actuarial Accrued Liability | 63,088,505 | 61,250,976 | 73,387,000 |
| Annual Required Contribution (ARC) | 126,933,576 | 122,640,467 | 149,497,000 |
| Net OPEB Obligation (NOO) at beginning of the year | TBD | 581,518,000 | 506,963,000 |
| Annual Required Contribution (ARC) | 126,933,576 | 122,640,467 | 149,497,000 |
| Interest on NOO | TBD | 23,260,720 | 20,279,000 |
| Adjustment to ARC | TBD | (22,661,291) | (21,526,000) |
| Annual OPEB Cost (Expense) | TBD | 123,239,896 | 148,250,000 |
| Employer Contributions Made | TBD | TBD | (73,695,000) |
| Increase (decrease) in NOO | TBD | TBD | 74,555,000 |
| NOO at end of year | TBD | TBD | 581,518,000 |

Schedule of Funding Progress (Plan Total)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) - Projected Unit Credit (b) | Unfunded AAL (UAAL) (b - a) | Funded Ratio (a / b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ((b - a) / c) |
|-----------------------------|-------------------------------------|--|-----------------------------------|-------------------------|------------------------|--|
| 7/1/2010 ¹ | \$0 | \$1,496,018,000 | \$1,496,018,000 | 0.00% | \$2,922,645,000 | 51.19% |
| 7/1/2011 ¹ | \$0 | \$1,476,198,000 | \$1,476,198,000 | 0.00% | \$3,058,492,000 | 48.27% |
| 7/1/2013 | \$0 | \$1,225,111,561 | \$1,225,111,561 | 0.00% | \$3,218,288,721 | 38.07% |

Schedule of Employer Contributions (Plan Total)

| Fiscal Year Ending | Annual OPEB Cost | Amount Contributed | Percentage of Annual OPEB Cost Contributed | Estimated Net OPEB Obligation ² |
|------------------------|------------------|-----------------------|--|--|
| 6/30/2013 ¹ | \$148,250,000 | \$73,695,000 | 49.71% | \$581,518,000 |
| 6/30/2014 | \$123,239,896 | TBD | TBD | TBD |
| 6/30/2015 | \$127,590,246 | TBD | TBD | TBD |

¹As reflected in Actuarial Valuation Reports and the State's Comprehensive Annual Financial Reports.

| Required Actuarial Information - Primary Government (GASB STATEMENT NO. 45) | | | |
|--|---------------|---------------|-------------------------|
| Employer FYE June 30 | 2015 | 2014 | 2013¹ |
| Normal Cost (service cost for one year) | \$ 39,965,186 | \$ 38,428,063 | \$ 48,120,000 |
| Amortization of Unfunded Actuarial Accrued Liability | 44,062,226 | 42,778,860 | 50,883,000 |
| Annual Required Contribution (ARC) | 84,027,412 | 81,206,923 | 99,003,000 |
| Net OPEB Obligation (NOO) at beginning of the year | TBD | 397,024,000 | 340,296,000 |
| Annual Required Contribution (ARC) | 84,027,412 | 81,206,923 | 99,003,000 |
| Interest on NOO | TBD | 15,880,960 | 13,612,000 |
| Adjustment to ARC | TBD | (15,471,707) | (14,449,000) |
| Annual OPEB Cost (Expense) | TBD | 81,616,176 | 98,166,000 |
| Employer Contributions Made | TBD | TBD | (41,438,000) |
| Increase (decrease) in NOO | TBD | TBD | 56,728,000 |
| NOO at end of year | TBD | TBD | 397,024,000 |

| Required Actuarial Information - Component Units (GASB STATEMENT NO. 45) | | | |
|---|---------------|---------------|-------------------------|
| Employer FYE June 30 | 2015 | 2014 | 2013¹ |
| Normal Cost (service cost for one year) | \$ 23,879,885 | \$ 22,961,428 | \$ 27,990,000 |
| Amortization of Unfunded Actuarial Accrued Liability | 19,026,279 | 18,472,116 | 22,504,000 |
| Annual Required Contribution (ARC) | 42,906,164 | 41,433,544 | 50,494,000 |
| Net OPEB Obligation (NOO) at beginning of the year | TBD | 184,494,000 | 166,667,000 |
| Annual Required Contribution (ARC) | 42,906,164 | 41,433,544 | 50,494,000 |
| Interest on NOO | TBD | 7,379,760 | 6,667,000 |
| Adjustment to ARC | TBD | (7,189,584) | (7,077,000) |
| Annual OPEB Cost (Expense) | TBD | 41,623,720 | 50,084,000 |
| Employer Contributions Made | TBD | TBD | (32,257,000) |
| Increase (decrease) in NOO | TBD | TBD | 17,827,000 |
| NOO at end of year | TBD | TBD | 184,494,000 |

¹As reflected in Actuarial Valuation Reports and the State's Comprehensive Annual Financial Reports.

APPENDIX
RESULTS BY EMPLOYER

Appendix

Results by Employer (Dollars in Thousands)

| Employer | Count | | Actuarial Liability | | Normal Cost | ARC | Roll-Forward ARC |
|---|----------|--------|---------------------|---------|-------------|--------|------------------|
| | Inactive | Active | Inactive | Active | | | |
| Austin Peay State University | 23 | 895 | 1,084 | 7,531 | 713 | 1,143 | 1,185 |
| Capitol Print Shop* | - | - | - | - | - | - | - |
| Chattanooga State Technical Comm College | 15 | 608 | 515 | 4,461 | 407 | 655 | 679 |
| Cleveland State Community College | 18 | 199 | 1,071 | 1,946 | 174 | 324 | 336 |
| Columbia State Community College | 11 | 243 | 364 | 2,410 | 193 | 331 | 343 |
| Division of Accounts* | 10 | 123 | 382 | 1,710 | 116 | 220 | 228 |
| Dyersburg State Community College | 11 | 219 | 389 | 1,731 | 162 | 268 | 278 |
| East Tennessee State University | 96 | 2,253 | 3,662 | 18,527 | 1,706 | 2,815 | 2,917 |
| Edison* | 6 | 97 | 455 | 1,003 | 96 | 169 | 175 |
| Governor's Books from Birth* | - | 4 | - | 0 | 1 | 1 | 1 |
| GS Printing* | 1 | 48 | 52 | 447 | 34 | 59 | 61 |
| GS Purchasing* | 2 | 61 | 15 | 355 | 44 | 63 | 65 |
| GS Warehousing and Distribution* | 6 | 26 | 470 | 312 | 25 | 64 | 66 |
| Human Resources* | 14 | 98 | 674 | 1,296 | 94 | 192 | 199 |
| Jackson State Community College | 17 | 245 | 808 | 2,932 | 215 | 402 | 416 |
| Middle Tennessee State University | 66 | 2,176 | 2,630 | 20,622 | 1,757 | 2,919 | 3,024 |
| Motlow State Community College | 15 | 207 | 441 | 2,172 | 166 | 297 | 307 |
| Motor Vehicle Management* | 3 | 25 | 147 | 532 | 28 | 62 | 64 |
| Nashville State Technical Community College | 14 | 376 | 427 | 3,144 | 289 | 468 | 485 |
| Northeast State Technical Community College | 7 | 367 | 345 | 3,338 | 301 | 485 | 503 |
| Office of Information Resources* | 23 | 302 | 1,253 | 4,677 | 321 | 617 | 639 |
| Pellissippi State Technical Community College | 10 | 504 | 255 | 4,358 | 356 | 587 | 608 |
| Postal Service* | 7 | 41 | 258 | 384 | 30 | 62 | 64 |
| Records Management* | - | 6 | - | 65 | 6 | 9 | 10 |
| Roane State Community College | 26 | 350 | 1,147 | 4,116 | 285 | 548 | 567 |
| Southwest State Community College | 67 | 562 | 3,138 | 5,452 | 413 | 842 | 872 |
| State of Tennessee* | 6,079 | 40,292 | 311,906 | 527,835 | 37,549 | 79,533 | 82,294 |
| Tennessee Board of Regents Central Office | 40 | 121 | 1,829 | 1,479 | 105 | 270 | 279 |
| Tennessee Foreign Language Institute* | - | 14 | - | 76 | 12 | 15 | 16 |
| Tennessee State University | 34 | 1,216 | 1,207 | 8,847 | 851 | 1,354 | 1,403 |
| Tennessee Technological University | 62 | 1,025 | 3,200 | 12,020 | 895 | 1,656 | 1,714 |
| TN Housing Development Agency | 12 | 216 | 860 | 2,104 | 196 | 344 | 356 |
| TN Student Assistance Corporation | 7 | 48 | 274 | 485 | 40 | 78 | 81 |
| TN Technical Center at Athens | 4 | 23 | 255 | 242 | 18 | 43 | 44 |
| TN Technical Center at Chattanooga | 2 | 50 | 59 | 440 | 39 | 64 | 67 |
| TN Technical Center at Covington | 1 | 17 | 71 | 154 | 13 | 24 | 25 |
| TN Technical Center at Crossville | 3 | 31 | 59 | 312 | 23 | 42 | 43 |
| TN Technical Center at Crump | 2 | 21 | 50 | 229 | 17 | 31 | 32 |
| TN Technical Center at Dickson | 3 | 45 | 49 | 371 | 38 | 59 | 61 |
| TN Technical Center at Elizabethton | 2 | 32 | 56 | 331 | 28 | 47 | 49 |
| TN Technical Center at Harriman | - | 21 | - | 208 | 20 | 31 | 32 |

*Indicates Primary Government Employers. All other employers are Component Units.

Amounts in the "Roll-Forward ARC" column are developed by increasing the Normal Cost with interest and increasing the amortization payment with the assumed payroll growth rate. Under the current assumptions, 30-year amortization factor used in calculating the adjustment to ARC is 25.66.

Appendix (continued)

Results by Employer (Dollars in Thousands)

| Employer | Count | | Actuarial Liability | | Normal Cost | ARC | Roll-Forward ARC |
|-------------------------------------|--------------|---------------|---------------------|----------------|---------------|----------------|------------------|
| | Inactive | Active | Inactive | Active | | | |
| TN Technical Center at Hartsville | 1 | 31 | 12 | 369 | 27 | 46 | 48 |
| TN Technical Center at Hohenwald | 2 | 29 | 145 | 313 | 25 | 48 | 50 |
| TN Technical Center at Jacksboro | 1 | 17 | 49 | 197 | 15 | 27 | 28 |
| TN Technical Center at Jackson | 3 | 49 | 48 | 582 | 44 | 75 | 78 |
| TN Technical Center at Knoxville | 7 | 46 | 386 | 232 | 32 | 63 | 66 |
| TN Technical Center at Livingston | 6 | 26 | 131 | 403 | 25 | 52 | 54 |
| TN Technical Center at McKenzie | 1 | 19 | 111 | 152 | 12 | 25 | 26 |
| TN Technical Center at McMinnville | 2 | 20 | 63 | 82 | 6 | 13 | 14 |
| TN Technical Center at Memphis | 5 | 61 | 183 | 562 | 47 | 84 | 87 |
| TN Technical Center at Morristown | 4 | 48 | 95 | 580 | 39 | 73 | 75 |
| TN Technical Center at Murfreesboro | 2 | 37 | 84 | 248 | 22 | 38 | 40 |
| TN Technical Center at Nashville | 4 | 61 | 177 | 514 | 49 | 83 | 86 |
| TN Technical Center at Newbern | 2 | 20 | 56 | 246 | 18 | 33 | 34 |
| TN Technical Center at Oneida | 3 | 23 | 96 | 335 | 26 | 48 | 49 |
| TN Technical Center at Paris | 1 | 31 | 0 | 402 | 28 | 48 | 50 |
| TN Technical Center at Pulaski | 1 | 28 | 5 | 365 | 27 | 46 | 47 |
| TN Technical Center at Ripley | 1 | 18 | 3 | 253 | 17 | 29 | 30 |
| TN Technical Center at Shelbyville | 3 | 30 | 63 | 248 | 19 | 34 | 35 |
| TN Technical Center at Whiteville | 1 | 18 | 45 | 188 | 14 | 25 | 26 |
| TRICOR* | 15 | 110 | 485 | 852 | 73 | 140 | 145 |
| Univ of Tennessee System | 1,142 | 12,209 | 55,998 | 137,053 | 10,515 | 20,166 | 20,877 |
| University of Memphis | 99 | 2,549 | 4,680 | 19,217 | 1,857 | 3,052 | 3,162 |
| Volunteer State Community College | 14 | 403 | 496 | 3,909 | 316 | 536 | 556 |
| Walters State Community College | 28 | 427 | 1,130 | 4,755 | 365 | 659 | 683 |
| Total | 8,067 | 69,517 | 404,401 | 820,711 | 61,389 | 122,640 | 126,934 |

*Indicates Primary Government Employers. All other employers are Component Units.

Note: Totals above may differ from other totals in the Report due to rounding.

Amounts in the “Roll-Forward ARC” column are developed by increasing the Normal Cost with interest and increasing the amortization payment with the assumed payroll growth rate. Under the current assumptions, 30-year amortization factor used in calculating the adjustment to ARC is 25.66.

Actuarial liability, benefit payments and normal cost results are calculated directly by individual. Amortization of UAAL is prorated to each employer by the total actuarial liability for individuals associated with the employer. The actuarial assumptions outlined in the Report were selected for use for measurement of the obligation for the plan as a whole, rather than based on experience for any individual employer. Thus, the results shown could be different than a calculation of the actuarial liability performed separately for a particular employer or component.

Results by employer, as reflects on these pages, are based on data provided by State representatives (including indicators as to what employer the employees and retirees are associated with as of June 30, 2013). We did not audit or validate this census data. Furthermore, while the actuarial assumptions and methods employed are reasonable for the group as a whole, they may not be reasonable for any individual employer.