



GASB 75 Actuarial Valuation Report

The State of Tennessee

Tennessee Plan

For the Fiscal Year Ending June 30, 2023

Measurement Date June 30, 2022

Introduction

This report documents the results of the actuarial valuation for the fiscal year ending June 30, 2023 of the Tennessee Plan (Medicare Supplement) for The State of Tennessee. All reporting requirements are included in the employer's financial statement. These results are based on a Measurement Date of June 30, 2022 and include benefits provided to the retirees and covered spouses by the State and certain Local Employers. The information provided in this report is intended strictly for documenting information relating to company and plan disclosure and reporting requirements for the State and Local Employers.

Determinations for purposes other than the financial accounting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board. In addition, the valuation results are based on our understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in Government Accounting Standards Board Statement 75 (GASB 75) including any guidance or interpretations provided by the Company and/or its audit partners prior to the issuance of this report. The information in this report is not intended to supersede or supplant the advice and interpretations of The State of Tennessee's auditors. Additional disclosures may be required under GASB 74.

A valuation model was used to develop the liabilities for the July 1, 2022 valuation. The valuation model relies on ProVal software, which was developed by Winklevoss Technologies, LLC. Experts within Aon selected this software and determined it is appropriate for performing valuations. We coded and reviewed the software for the provisions, assumptions, methods, and data of the Tennessee Plan.

Models are also used to develop underlying future trend rates for Medicare Advantage plans. The Aon consulting team leveraged expertise of Health experts within Aon as it relates to reviewing the models developed by experts outside of Aon, and those used for development of future trend rates.

The valuation model outputs various cost scenarios. The "1% increase" and "1% decrease" interest rate scenarios vary only the discount rate assumption, in order to illustrate the impact of a change in that assumption in isolation. In practice, certain other assumptions would also be expected to vary when the discount rate changes. Therefore, the output from these scenarios should be used solely for assessing the impact of the discount rate in isolation and may not represent a realistic set of results for other purposes.

The "1% increase" and "1% decrease" healthcare cost trend scenarios vary only the healthcare cost trend assumption, in order to illustrate the impact of a change in that assumption in isolation. Therefore, the output from these scenarios should be used solely for assessing the impact of the healthcare cost trend in isolation and may not represent a realistic set of results for other purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to (but not limited to) such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in actuarial methods or in economic or demographic assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions or applicable law.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

Funded status measurements shown in this report are determined based on various measures of plan assets and liabilities. For entity and plan disclosure and reporting purposes, funded status is determined using plan assets measured at market value. Plan liabilities are measured based on the interest rates and other assumptions summarized in the Actuarial Assumptions and Methods section of this report.

These funded status measurements may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and funded status measurements for The State of Tennessee and plan disclosure and reporting purposes may not be appropriate for assessing the need for or the amount of future contributions. In conducting the valuation, we have relied on personnel, plan design, health care claim cost, and asset information supplied by The State of Tennessee as of the valuation date. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

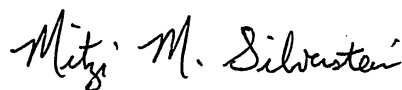
The actuarial assumptions and methods used in this valuation are described in the Actuarial Assumptions and Methods section of this report. The State of Tennessee selected the economic and demographic assumptions and prescribed them for use for purposes of compliance with GASB 75. Aon provided guidance with respect to these assumptions, and it is our belief that the assumptions represent reasonable expectations of anticipated plan experience.

The undersigned are familiar with the near-term and long-term aspects of OPEB valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

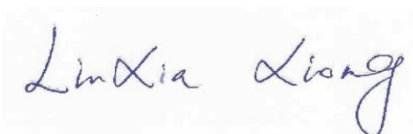
To our knowledge, no colleague of Aon providing services to The State of Tennessee has any material direct or indirect financial interest in The State of Tennessee. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this actuarial report for The State of Tennessee.



Benjamin Law, ASA, EA,MAAA
Aon
+1.707.690.7138
Benjamin.Law@aon.com



Mitzi Silverstein, FSA, EA, MAAA
Aon
+1.336.728.2190
Mitzi.Silverstein@aon.com



Lynn Xiong, FSA, MAAA
Aon
+1.404.240.6142
Lynn.Xiong@aon.com

July 2023

Table of Contents

Accounting Requirements—State Employees

Development of Net OPEB Expense	2
Deferred Outflows/Inflows	3
Sensitivity	4
Disclosure—Changes in Net OPEB Liability and Related Ratios	5

Accounting Requirements—Local Education

Development of Net OPEB Expense	8
Deferred Outflows/Inflows	10
Sensitivity	15
Disclosure—Changes in Net OPEB Liability and Related Ratios	17

Accounting Requirements—Local Government

Development of Net OPEB Expense	20
Deferred Outflows/Inflows	21
Sensitivity	23
Disclosure—Changes in Net OPEB Liability and Related Ratios	24

Appendix

Participant Data	26
Actuarial Assumptions and Methods	27
Actuarial Assumptions and Methods—Discussion	52
Plan Provisions	53

Accounting Requirements— State Employees

Development of GASB 75 Net OPEB Expense—State Employees

Calculation Details

The following table illustrates the Net OPEB Liability under GASB 75.

	Fiscal Year Ending 6/30/2022	Fiscal Year Ending 6/30/2023
(1) OPEB Liability		
(a) Retired Participants and Beneficiaries Receiving Payment	\$ 115,039,844	\$ 102,148,658
(b) Active Participants	<u>62,713,086</u>	<u>48,328,439</u>
(c) Total	\$ 177,752,930	\$ 150,477,097
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 177,752,930	\$ 150,477,097
(4) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	0.00%	0.00%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 8,358,184	8,486,716

Expense

The following table illustrates the OPEB expense under GASB 75.

	Fiscal Year Ending 6/30/2022	Fiscal Year Ending 6/30/2023
(1) Service Cost	\$ 3,767,187	\$ 3,071,832
(2) Interest Cost	4,548,673	3,816,029
(3) Expected Investment Return	0	0
(4) Employee Contributions	0	0
(5) Administrative Expense	0	0
(6) Plan Changes	0	0
(7) Amortization of Unrecognized		
(a) Liability (Gain)/Loss	(1,552,246)	(1,574,635)
(b) Asset (Gain)/Loss	0	0
(c) Assumption Change (Gain)/Loss	<u>(1,087,093)</u>	<u>(5,226,883)</u>
(8) Total Expense	\$ 5,676,521	\$ 86,343

Deferred Outflows/Inflows—State Employees

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2023 under GASB 75.

	Deferred Outflows	Deferred Inflows
(1) Difference Between Actual and Expected Experience	\$ 0	\$ (3,972,630)
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	0	0
(3) Assumption Changes	<u>17,874,138</u>	<u>(41,733,845)</u>
(4) Sub Total	\$ 17,874,138	\$ (45,706,475)
(5) Contributions Made in Fiscal Year Ending 6/30/2023 After Measurement Date	<u>8,486,716</u>	<u>N/A</u>
(6) Total	\$ 26,360,854	\$ (45,706,475)

Amortization of Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2023.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2023	Liability (Gain)/Loss	6.20	5.20	\$ (138,809)	\$ (116,420)	\$ (22,389)
6/30/2023	Assumptions	6.20	5.20	\$(25,666,701)	\$(21,526,911)	\$ (4,139,790)
6/30/2022	Liability (Gain)/Loss	6.20	4.20	\$ (2,366,597)	\$ (1,603,179)	\$ (381,709)
6/30/2022	Assumptions	6.20	4.20	\$(26,068,304)	\$(17,659,174)	\$ (4,204,565)
6/30/2021	Liability (Gain)/Loss	6.40	3.40	\$ (875,930)	\$ (465,338)	\$ (136,864)
6/30/2021	Assumptions	6.40	3.40	\$ 31,410,548	\$ 16,686,854	\$ 4,907,898
6/30/2020	Liability (Gain)/Loss	6.60	2.60	\$ (1,423,094)	\$ (560,614)	\$ (215,620)
6/30/2020	Assumptions	6.60	2.60	\$ 3,013,876	\$ 1,187,284	\$ 456,648
6/30/2019	Liability (Gain)/Loss	6.50	1.50	\$ (5,317,344)	\$ (1,227,079)	\$ (818,053)
6/30/2019	Assumptions	6.50	1.50	\$ (1,234,631)	\$ (284,916)	\$ (189,943)
6/30/2018	Assumptions	7.10	1.10	\$(14,605,630)	\$(2,262,844)	\$ (2,057,131)
	Total Charges				\$(27,832,337)	\$ (6,801,518)

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows:

Year End June 30:

2024	\$ (6,801,518)
2025	\$ (4,446,103)
2026	\$ (3,832,803)
2027	\$ (6,840,037)
2028	\$ (5,079,431)
Total Thereafter	\$ (832,444)

Interest Rate Sensitivity—State Employees

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2022:

	1% Decrease (1.16%)	Current Rate (2.16%)	1% Increase (3.16%)
(1) Total OPEB Liability	\$ 200,995,809	\$ 177,752,930	\$ 158,236,260
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability (Asset)	\$ 200,995,809	\$ 177,752,930	\$ 158,236,260

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2023:

	1% Decrease (2.54%)	Current Rate (3.54%)	1% Increase (4.54%)
(1) Total OPEB Liability	\$ 168,459,405	\$ 150,477,097	\$ 135,274,972
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability (Asset)	\$ 168,459,405	\$ 150,477,097	\$ 135,274,972

Healthcare Cost Trend Sensitivity—State Employees

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2022:

	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 177,752,930	\$ 177,752,930	\$ 177,752,930
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability (Asset)	\$ 177,752,930	\$ 177,752,930	\$ 177,752,930

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2023:

	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 150,477,097	\$ 150,477,097	\$ 150,477,097
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability (Asset)	\$ 150,477,097	\$ 150,477,097	\$ 150,477,097

Disclosure—Changes in the Net OPEB Liability and Related Ratios—State Employees

Changes in the Net OPEB Liability and Related Ratios¹

	Fiscal Year Ending		
	2018	2019	2020
Total OPEB Liability			
Service Cost	\$ 4,111,648	\$ 3,399,466	\$ 2,419,963
Interest Cost	5,548,070	6,297,261	6,201,217
Changes of Benefit Terms	0	0	0
Differences Between Expected and Actual Experiences	0	(5,317,344)	(1,423,094)
Changes of Assumptions	(14,605,630)	(1,234,631)	3,013,876
Benefit Payments	(7,368,000)	(7,541,894)	(8,029,994)
Net Change in Total OPEB Liability	\$ (12,313,912)	\$ (4,397,142)	\$ 2,181,968
Total OPEB Liability (Beginning)	189,574,736	177,260,824	172,863,682
Total OPEB Liability (Ending)	\$ 177,260,824	\$ 172,863,682	\$ 175,045,650
Plan Fiduciary Net Position			
Contributions—Employer	\$ 7,368,000	\$ 7,541,894	\$ 8,029,994
Contributions—Member	0	0	0
Net Investment Income	0	0	0
Benefit Payments	(7,368,000)	(7,541,894)	(8,029,994)
Administrative Expense	0	0	0
Other	0	0	0
Net Change in Plan Fiduciary Net Position	\$ 0	\$ 0	\$ 0
Plan Fiduciary Net Position (Beginning)	0	0	0
Plan Fiduciary Net Position (Ending)	\$ 0	\$ 0	\$ 0
Net OPEB Liability (Ending)	\$ 177,260,824	\$ 172,863,682	\$ 175,045,650
Net Position as a Percentage of OPEB Liability	0.00%	0.00%	0.00%
Covered-Employee Payroll	\$ 3,084,980,820	\$ 3,128,242,102	\$ 3,063,046,226
Net OPEB Liability as a Percentage of Payroll	5.75%	5.53%	5.71%

¹ GASB 75 was effective first for employer fiscal years beginning after June 15, 2017.

Disclosure—Changes in the Net OPEB Liability and Related Ratios—State Employees

Changes in the Net Pension Liability and Related Ratios

	Fiscal Year Ending		
	2021	2022	2023
Total OPEB Liability			
Service Cost	\$ 2,620,186	\$ 3,767,187	\$ 3,071,832
Interest Cost	6,095,094	4,548,673	3,816,029
Changes of Benefit Terms	0	0	0
Differences Between Expected and Actual Experiences	(875,930)	(2,366,597)	(138,809)
Changes of Assumptions	31,410,548	(26,068,304)	(25,666,701)
Benefit Payments	(8,102,746)	(8,320,831)	(8,358,184)
Net Change in Total OPEB Liability	\$ 31,147,152	\$ (28,439,872)	\$ (27,275,833)
Total OPEB Liability (Beginning)	175,045,650	206,192,802	177,752,930
Total OPEB Liability (Ending)	\$ 206,192,802	\$ 177,752,930	\$ 150,477,097
Plan Fiduciary Net Position			
Contributions—Employer	\$ 8,102,746	\$ 8,320,831	\$ 8,358,184
Contributions—Member	0	0	0
Net Investment Income	0	0	0
Benefit Payments	(8,102,746)	(8,320,831)	(8,358,184)
Administrative Expense	0	0	0
Other	0	0	0
Net Change in Plan Fiduciary Net Position	\$ 0	\$ 0	\$ 0
Plan Fiduciary Net Position (Beginning)	0	0	0
Plan Fiduciary Net Position (Ending)	\$ 0	\$ 0	\$ 0
Net OPEB Liability (Ending)	\$ 206,192,802	\$ 177,752,930	\$ 150,477,097
Net Position as a Percentage of OPEB Liability	0.00%	0.00%	0.00%
Covered-Employee Payroll	\$ 3,028,520,623	\$ 3,368,518,020	\$ 3,833,402,231
Net OPEB Liability as a Percentage of Payroll	6.81%	5.28%	3.93%

Accounting Requirements— Local Education

Development of GASB 75 Net OPEB Expense—Local Education

Calculation Details

The following table illustrates the Net OPEB Liability under GASB 75.

Collective	Fiscal Year Ending June 30, 2022	Fiscal Year Ending June 30, 2023
(1) Collective OPEB Liability	\$ 282,928,711	\$ 231,008,383
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 282,928,711	\$ 231,008,383
(4) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	0%	0%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 8,926,427	\$ 9,063,583
	Fiscal Year Ending June 30, 2022	Fiscal Year Ending June 30, 2023
Employer Share		
(1) Employer Share of OPEB Liability	\$ 64,335,770	\$ 51,408,956
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 64,335,770	\$ 51,408,956
(4) Plan Fiduciary Net Position as a Percentage of the Employer Share of OPEB Liability	0%	0%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 1,195,593	\$ 1,253,198
(6) Employer Proportion	22.74%	22.25%
	Fiscal Year Ending June 30, 2022	Fiscal Year Ending June 30, 2023
State Share		
(1) State Share of OPEB Liability	\$ 218,592,941	\$ 179,599,427
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 218,592,941	\$ 179,599,427
(4) Plan Fiduciary Net Position as a Percentage of the Employer Share of OPEB Liability	0%	0%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 7,730,834	\$ 7,810,385
(6) State Proportion	77.26%	77.75%

Development of GASB 75 Net OPEB Expense—Local Education

Expense

The following table illustrates the OPEB expense under GASB 75.

	Fiscal Year Ending June 30, 2022	Fiscal Year Ending June 30, 2023
(1) Service Cost	\$ 9,718,805	\$ 7,234,696
(2) Interest Cost	7,834,803	6,171,640
(3) Expected Investment Return	0	0
(4) Employee Contributions	0	0
(5) Administrative Expense	0	0
(6) Plan Changes	(542)	989,924
(7) Amortization of Unrecognized		
(a) Liability (Gain)/Loss	(5,841,901)	(5,636,485)
(b) Asset (Gain)/Loss	0	0
(c) Assumption Change (Gain)/Loss	<u>(4,021,087)</u>	<u>(11,911,969)</u>
(8) Total Expense	\$ 7,690,078	\$ (3,152,194)
(a) State Share of Expense	\$ 21,184,702	\$ 14,565,447
(b) Employer Share of Expense	\$ (13,494,624)	\$ (17,717,641)

Collective Deferred Outflows/Inflows—Local Education

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2023 under GASB 75.

	Deferred Outflows	Deferred Inflows
(1) Difference Between Actual and Expected Experience	\$ 18,346,162	\$ (35,137,946)
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	0	0
(3) Assumption Changes	<u>52,730,984</u>	<u>(109,337,067)</u>
(4) Sub Total	\$ 71,077,146	\$ (144,475,013)
(5) Contributions Made in Fiscal Year Ending June 30,2023 After Measurement Date	<u>9,063,583</u>	<u>N/A</u>
(6) Total	\$ 80,140,729	\$ (144,475,013)

Amortization of Collective Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2023.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2023	Liability (Gain)/Loss	Varies	Varies	\$ (4,395,359)	\$ (3,521,036)	\$ (874,323)
6/30/2023	Assumptions	Varies	Varies	\$ (52,994,802)	\$ (44,100,396)	\$ (8,894,406)
6/30/2022	Liability (Gain)/Loss	Varies	Varies	\$ (5,725,488)	\$ (3,416,441)	\$ (612,900)
6/30/2022	Assumptions	Varies	Varies	\$ (69,146,262)	\$ (50,515,530)	\$ (8,814,455)
6/30/2021	Liability (Gain)/Loss	Varies	Varies	\$ (11,788,286)	\$ (7,480,060)	\$ (1,476,394)
6/30/2021	Assumptions	Varies	Varies	\$ 71,580,054	\$ 43,599,766	\$ 9,027,998
6/30/2020	Liability (Gain)/Loss	Varies	Varies	\$ 1,315,339	\$ 4,131,760	\$ 586,514
6/30/2020	Assumptions	Varies	Varies	\$ 17,676,853	\$ 9,086,735	\$ 2,128,996
6/30/2019	Liability (Gain)/Loss	Varies	Varies	\$ (25,304,969)	\$ (6,506,007)	\$ (3,259,382)
6/30/2019	Assumptions	Varies	Varies	\$ (5,604,605)	\$ (1,517,373)	\$ (800,274)
6/30/2018	Assumptions	Varies	Varies	\$ (40,520,037)	\$ (13,159,285)	\$ (4,559,828)
	Total Charges				\$ (73,397,867)	\$ (17,548,454)

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows:

Year End June 30:

2024	\$ (16,377,827)
2025	\$ (14,725,367)
2026	\$ (13,188,075)
2027	\$ (8,710,541)
2028	\$ (7,771,740)
Total Thereafter	\$ (12,624,317)

Employer Deferred Outflows/Inflows—Local Education

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2023 under GASB 75.

	Deferred Outflows	Deferred Inflows
(1) Difference Between Actual and Expected Experience	\$ 1,451,723	\$ (7,104,822)
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	0	0
(3) Proportion Changes	4,934,354	(45,930,629)
(4) Assumption Changes	<u>14,590,532</u>	<u>(29,117,271)</u>
(5) Sub Total	\$ 20,976,609	\$ (82,152,722)
(6) Contributions Made in Fiscal Year Ending June 30,2023 After Measurement Date	<u>1,253,198</u>	<u>N/A</u>
(7) Total	\$ 22,229,807	\$ (82,152,722)

Amortization of Employer Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2023.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2023	Change in Proportion	Varies	Varies	\$ (410,368)	\$ (324,586)	\$ (85,782)
6/30/2023	Liability (Gain)/Loss	Varies	Varies	\$ (86,426)	\$ (58,577)	\$ (27,849)
6/30/2023	Assumptions	Varies	Varies	\$ (14,639,218)	\$ (11,941,210)	\$ (2,698,008)
6/30/2022	Change in Proportion	Varies	Varies	\$ 14,501	\$ 15,053	\$ (276)
6/30/2022	Liability (Gain)/Loss	Varies	Varies	\$ (1,179,653)	\$ (719,402)	\$ (230,126)
6/30/2022	Assumptions	Varies	Varies	\$ (21,043,895)	\$ (14,539,834)	\$ (3,252,031)
6/30/2021	Change in Proportion	Varies	Varies	\$ (8,522,940)	\$ (5,133,165)	\$ (1,129,925)
6/30/2021	Liability (Gain)/Loss	Varies	Varies	\$ (1,781,013)	\$ (845,657)	\$ (311,783)
6/30/2021	Assumptions	Varies	Varies	\$ 22,576,917	\$ 12,348,659	\$ 3,409,420
6/30/2020	Change in Proportion	Varies	Varies	\$ 1,659,640	\$ 1,681,852	\$ (5,553)
6/30/2020	Liability (Gain)/Loss	Varies	Varies	\$ (2,007,954)	\$ (488,613)	\$ (379,835)
6/30/2020	Assumptions	Varies	Varies	\$ 5,478,459	\$ 2,239,952	\$ 809,628
6/30/2019	Change in Proportion	Varies	Varies	\$ (107,321,949)	\$ (37,235,429)	\$ (14,017,304)
6/30/2019	Liability (Gain)/Loss	Varies	Varies	\$ (10,854,904)	\$ (3,540,850)	\$ (1,462,811)
6/30/2019	Assumptions	Varies	Varies	\$ (3,255,793)	\$ (680,298)	\$ (515,098)
6/30/2018	Assumptions	Varies	Varies	\$ (8,969,087)	\$ (1,954,008)	\$ (1,169,180)
	Total Charges				\$ (61,176,113)	\$ (21,066,513)

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows:

Year End June 30:

2024	\$	(20,945,189)
2025	\$	(19,485,698)
2026	\$	(11,406,149)
2027	\$	(4,521,423)
2028	\$	(3,409,941)
Total Thereafter	\$	(1,407,713)

State Deferred Outflows/Inflows—Local Education

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2023 under GASB 75.

	Deferred Outflows	Deferred Inflows
(1) Difference Between Actual and Expected Experience	\$ 16,894,439	\$ (28,033,124)
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	0	0
(3) Proportion Changes	45,930,629	(4,934,354)
(4) Assumption Changes	<u>38,140,452</u>	<u>(80,219,796)</u>
(5) Sub Total	\$ 100,965,520	\$ (113,187,274)
(6) Contributions Made in Fiscal Year Ending June 30,2023 After Measurement Date	<u>7,810,385</u>	<u>N/A</u>
(7) Total	\$ 108,775,905	\$ (113,187,274)

Amortization of Employer Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2023.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2023	Change in Proportion	Varies	Varies	\$ 410,368	\$ 324,586	\$ 85,782
6/30/2023	Liability (Gain)/Loss	Varies	Varies	\$ (4,308,933)	\$ (3,462,459)	\$ (846,474)
6/30/2023	Assumptions	Varies	Varies	\$ (38,355,584)	\$ (32,159,186)	\$ (6,196,398)
6/30/2022	Change in Proportion	Varies	Varies	\$ (14,501)	\$ (15,053)	\$ 276
6/30/2022	Liability (Gain)/Loss	Varies	Varies	\$ (4,545,835)	\$ (2,697,039)	\$ (382,774)
6/30/2022	Assumptions	Varies	Varies	\$ (48,102,367)	\$ (35,975,696)	\$ (5,562,424)
6/30/2021	Change in Proportion	Varies	Varies	\$ 8,522,940	\$ 5,133,165	\$ 1,129,925
6/30/2021	Liability (Gain)/Loss	Varies	Varies	\$ (10,007,273)	\$ (6,634,403)	\$ (1,164,611)
6/30/2021	Assumptions	Varies	Varies	\$ 49,003,137	\$ 31,251,107	\$ 5,618,578
6/30/2020	Change in Proportion	Varies	Varies	\$ (1,659,640)	\$ (1,681,852)	\$ 5,553
6/30/2020	Liability (Gain)/Loss	Varies	Varies	\$ 3,323,293	\$ 4,620,373	\$ 966,349
6/30/2020	Assumptions	Varies	Varies	\$ 12,198,394	\$ 6,846,783	\$ 1,319,368
6/30/2019	Change in Proportion	Varies	Varies	\$ 107,321,949	\$ 37,235,429	\$ 14,017,304
6/30/2019	Liability (Gain)/Loss	Varies	Varies	\$ (14,450,065)	\$ (2,965,157)	\$ (1,796,571)
6/30/2019	Assumptions	Varies	Varies	\$ (2,348,812)	\$ (837,075)	\$ (285,176)
6/30/2018	Assumptions	Varies	Varies	\$ (31,550,950)	\$ (11,205,277)	\$ (3,390,648)
	Total Charges				\$ (12,221,754)	\$ 3,518,059

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows:

Year End June 30:

2024	\$	4,567,362
2025	\$	4,760,331
2026	\$	(1,781,926)
2027	\$	(4,189,118)
2028	\$	(4,361,799)
Total Thereafter	\$	(11,216,604)

Interest Rate Sensitivity—Local Education

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2022:

Collective	1% Decrease (1.16%)	Current Rate (2.16%)	1% Increase (3.16%)
(1) Total OPEB Liability	\$ 332,488,195	\$ 282,928,711	\$ 243,122,095
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 332,488,195	\$ 282,928,711	\$ 243,122,095

Employer	1% Decrease (1.16%)	Current Rate (2.16%)	1% Increase (3.16%)
(1) Total OPEB Liability	\$ 78,060,195	\$ 64,335,770	\$ 53,619,228
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 78,060,195	\$ 64,335,770	\$ 53,619,228

State	1% Decrease (1.16%)	Current Rate (2.16%)	1% Increase (3.16%)
(1) Total OPEB Liability	\$ 254,428,000	\$ 218,592,941	\$ 189,502,867
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 254,428,000	\$ 218,592,941	\$ 189,502,867

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2023:

Collective	1% Decrease (2.54%)	Current Rate (3.54%)	1% Increase (4.54%)
(1) Total OPEB Liability	\$ 267,814,945	\$ 231,008,383	\$ 201,141,139
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 267,814,945	\$ 231,008,383	\$ 201,141,139

Employer	1% Decrease (2.54%)	Current Rate (3.54%)	1% Increase (4.54%)
(1) Total OPEB Liability	\$ 61,364,702	\$ 51,408,956	\$ 43,546,978
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 61,364,702	\$ 51,408,956	\$ 43,546,978

State	1% Decrease (2.54%)	Current Rate (3.54%)	1% Increase (4.54%)
(1) Total OPEB Liability	\$ 206,450,243	\$ 179,599,427	\$ 157,594,161
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 206,450,243	\$ 179,599,427	\$ 157,594,161

Healthcare Cost Trend Sensitivity—Local Education

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2022:

Collective	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 270,902,982	\$ 282,928,711	\$ 299,071,804
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 270,902,982	\$ 282,928,711	\$ 299,071,804

Employer	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 53,870,011	\$ 64,335,770	\$ 78,393,064
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 53,870,011	\$ 64,335,770	\$ 78,393,064

State	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 217,032,971	\$ 218,592,941	\$ 220,678,740
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 217,032,971	\$ 218,592,941	\$ 220,678,740

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2023:

Collective	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 222,332,167	\$ 231,008,383	\$ 242,421,005
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 222,332,167	\$ 231,008,383	\$ 242,421,005

Employer	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 43,905,264	\$ 51,408,956	\$ 61,285,550
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 43,905,264	\$ 51,408,956	\$ 61,285,550

State	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 178,426,903	\$ 179,599,427	\$ 181,135,455
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 178,426,903	\$ 179,599,427	\$ 181,135,455

Disclosure—Changes in the Net OPEB Liability and Related Ratios

Changes in the Net OPEB Liability and Related Ratios¹

	Fiscal Year Ending		
	June 30, 2018	June 30, 2019	June 30, 2020
Total OPEB Liability			
Service Cost	\$ 18,040,730	\$ 14,692,202	\$ 8,266,940
Interest Cost	12,596,955	14,487,447	10,192,516
Changes of Benefit Terms	0	(107,668,188)	21,806
Differences Between Expected and Actual Experiences	0	(25,336,895)	1,315,339
Changes of Assumptions	(41,553,655)	(5,604,605)	17,676,853
Benefit Payments	(9,990,137)	(10,384,065)	(8,762,132)
Net Change in Total OPEB Liability	\$ (20,906,107)	\$ (119,814,104)	\$ 28,711,322
Total OPEB Liability (Beginning)	418,356,791	397,450,684	277,636,580
Total OPEB Liability (Ending)	\$ 397,450,684	\$ 277,636,580	\$ 306,347,902
Proportion Determination			
Employer Proportion	45.89%	25.69%	27.32%
Employer Share of Total OPEB Liability (Beginning)	\$ 188,499,466	\$ 182,406,633	\$ 71,338,419
Employer Share of Total OPEB Liability (End)	\$ 182,406,633	\$ 71,338,419	\$ 83,679,428
State Proportion	54.11%	74.31%	72.68%
State Share of Total OPEB Liability (Beginning)	\$ 229,857,325	\$ 215,044,051	\$ 206,298,161
State Share of Total OPEB Liability (End)	\$ 215,044,051	\$ 206,298,161	\$ 222,668,474
Covered-Employee Payroll	N/A	N/A	N/A
Net OPEB Liability as a Percentage of Payroll	N/A	N/A	N/A

¹ GASB 75 was effective first for fiscal years beginning after June 15, 2017.

Disclosure—Changes in the Net OPEB Liability and Related Ratios

Changes in the Net OPEB Liability and Related Ratios

	Fiscal Year Ending		
	June 30, 2021	June 30, 2022	June 30, 2023
Total OPEB Liability			
Service Cost	\$ 7,608,494	\$ 9,718,805	\$ 7,234,696
Interest Cost	10,857,900	7,834,803	6,171,640
Changes of Benefit Terms	(25,999,226)	(542)	989,924
Differences Between Expected and Actual Experiences	(11,788,286)	(5,725,488)	(4,395,359)
Changes of Assumptions	71,580,054	(69,146,262)	(52,994,802)
Benefit Payments	(9,309,593)	(9,049,850)	(8,926,427)
Net Change in Total OPEB Liability	\$ 42,949,343	\$ (66,368,534)	\$ (51,920,328)
Total OPEB Liability (Beginning)	<u>306,347,902</u>	<u>349,297,245</u>	<u>282,928,711</u>
Total OPEB Liability (Ending)	\$ 349,297,245	\$ 282,928,711	\$ 231,008,383
Proportion Determination			
Employer Proportion	23.82%	22.74%	22.25%
Employer Share of Total OPEB Liability (Beginning)	\$ 83,679,428	\$ 83,203,876	\$ 64,335,770
Employer Share of Total OPEB Liability (End)	\$ 83,203,876	\$ 64,335,770	\$ 51,408,956
State Proportion	76.18%	77.26%	77.75%
State Share of Total OPEB Liability (Beginning)	\$ 222,668,474	\$ 266,093,474	\$ 218,592,941
State Share of Total OPEB Liability (End)	\$ 266,093,369	\$ 218,592,941	\$ 179,599,427
Covered-Employee Payroll	N/A	N/A	N/A
Net OPEB Liability as a Percentage of Payroll	N/A	N/A	N/A

Accounting Requirements— Local Government

Development of GASB 75 Net OPEB Expense—Local Government

Calculation Details

The following table illustrates the Net OPEB Liability under GASB 75.

	Fiscal Year Ending June 30, 2022	Fiscal Year Ending June 30, 2023
(1) Total OPEB Liability	\$ 9,624,057	\$ 11,744,635
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 9,624,057	\$ 11,744,635
(4) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	0%	0%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 306,395	\$ 324,393

Expense

The following table illustrates the OPEB expense under GASB 75.

	Fiscal Year Ending June 30, 2022	Fiscal Year Ending June 30, 2023
(1) Service Cost	\$ 317,864	\$ 206,842
(2) Interest Cost	266,223	209,057
(3) Expected Investment Return	0	0
(4) Employee Contributions	0	0
(5) Administrative Expense	0	0
(6) Plan Changes	16,728	0
(7) Amortization of Unrecognized		
(a) Liability (Gain)/Loss	84,026	4,523,577
(b) Asset (Gain)/Loss	0	0
(c) Assumption Change (Gain)/Loss	<u>(897,061)</u>	<u>(2,146,248)</u>
(8) Total Expense	\$ (212,220)	\$ 2,793,228

Deferred Outflows/Inflows—Local Government

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2023 under GASB 75.

	Deferred Outflows	Deferred Inflows
(1) Difference Between Actual and Expected Experience	\$ 187,316	\$ (2,583,957)
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	0	0
(3) Assumption Changes	<u>868,292</u>	<u>(2,551,695)</u>
(4) Sub Total	\$ 1,055,608	\$ (5,135,652)
(5) Contributions Made in Fiscal Year Ending June 30,2023 After Measurement Date	<u>324,393</u>	<u>N/A</u>
(6) Total	\$ 1,380,001	\$ (5,135,542)

Amortization of Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2023.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2023	Liability (Gain)/Loss	Varies	Varies	\$ 4,907,091	\$ (204,539)	\$ 5,111,630
6/30/2023	Assumptions	Varies	Varies	\$ (2,896,017)	\$ (908,372)	\$ (1,987,645)
6/30/2022	Liability (Gain)/Loss	Varies	Varies	\$ (43,285)	\$ (526,817)	\$ (96,600)
6/30/2022	Assumptions	Varies	Varies	\$ (2,510,889)	\$(1,315,072)	\$ (225,324)
6/30/2021	Liability (Gain)/Loss	Varies	Varies	\$ (85,527)	\$ (246,247)	\$ (52,066)
6/30/2021	Assumptions	Varies	Varies	\$ 2,121,849	\$ 800,548	\$ 166,674
6/30/2020	Liability (Gain)/Loss	Varies	Varies	\$ (313,266)	\$ (499,048)	\$ (115,426)
6/30/2020	Assumptions	Varies	Varies	\$ 170,733	\$ 67,744	\$ 16,158
6/30/2019	Liability (Gain)/Loss	Varies	Varies	\$ (4,279,965)	\$ (919,990)	\$ (323,961)
6/30/2019	Assumptions	Varies	Varies	\$ (60,764)	\$ (21,415)	\$ (7,589)
6/30/2018	Assumptions	Varies	Varies	\$ (1,173,944)	\$ (306,836)	\$ (108,522)
	Total Charges				\$(4,080,044)	\$ 2,377,329

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows:

Year End June 30:

2024	\$ (911,121)
2025	\$ (907,083)
2026	\$ (804,054)
2027	\$ (499,112)
2028	\$ (449,937)
Total Thereafter	\$ (508,737)

Interest Rate Sensitivity—Local Government

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2022:

	1% Decrease (1.16%)	Current Rate (2.16%)	1% Increase (3.16%)
(1) Total OPEB Liability	\$ 11,035,900	\$ 9,624,057	\$ 8,450,682
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 11,035,900	\$ 9,624,057	\$ 8,450,682

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2023:

	1% Decrease (2.54%)	Current Rate (3.54%)	1% Increase (4.54%)
(1) Total OPEB Liability	\$ 13,723,833	\$ 11,744,635	\$ 10,134,797
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 13,723,833	\$ 11,744,635	\$ 10,134,797

Healthcare Cost Trend Sensitivity – Local Government

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2022:

	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 9,206,445	\$ 9,624,057	\$ 10,114,197
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 9,206,445	\$ 9,624,057	\$ 10,114,197

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2023:

	1% Decrease	Trend Rate	1% Increase
(1) Total OPEB Liability	\$ 10,585,155	\$ 11,744,635	\$ 13,262,864
(2) Plan Fiduciary Net Position	<u>0</u>	<u>0</u>	<u>0</u>
(3) Net OPEB Liability	\$ 10,585,155	\$ 11,744,635	\$ 13,262,864

Disclosure—Changes in the Net OPEB Liability and Related Ratios—Local Government

Changes in the Net OPEB Liability and Related Ratios¹

	Fiscal Year Ending		
	June 30, 2018	June 30, 2019	June 30, 2020
Total OPEB Liability			
Service Cost	\$ 712,428	\$ 608,560	\$ 298,556
Interest Cost	431,487	502,782	407,663
Changes of Benefit Terms	0	4,231,383	(2,312,753)
Differences Between Expected and Actual Experiences	0	(4,749,355)	(313,266)
Changes of Assumptions	(1,604,678)	(353,893)	170,733
Benefit Payments	(89,925)	(88,300)	(257,146)
Net Change in Total OPEB Liability	\$ (550,688)	\$ 151,177	\$ (2,006,213)
Total OPEB Liability (Beginning)	14,109,464	13,558,776	11,090,338
Total OPEB Liability (Ending)	\$ 13,558,776	\$ 13,709,953	\$ 9,084,125
Covered-Employee Payroll	N/A	N/A	N/A
Net OPEB Liability as a Percentage of Payroll	N/A	N/A	N/A

	Fiscal Year Ending		
	June 30, 2021	June 30, 2022	June 30, 2023
Total OPEB Liability			
Service Cost	\$ 194,950	\$ 317,864	\$ 206,842
Interest Cost	320,434	266,223	209,057
Changes of Benefit Terms	544,212	16,728	0
Differences Between Expected and Actual Experiences	(85,527)	(43,285)	4,907,091
Changes of Assumptions	2,121,849	(2,510,889)	(2,896,017)
Benefit Payments	(302,432)	(300,195)	(306,395)
Net Change in Total OPEB Liability	\$ 2,793,486	\$ (2,253,554)	\$ 2,120,578
Total OPEB Liability (Beginning)	9,084,125	11,877,611	9,624,057
Total OPEB Liability (Ending)	\$ 11,877,611	\$ 9,624,057	\$ 11,744,635
Covered-Employee Payroll	N/A	N/A	N/A
Net OPEB Liability as a Percentage of Payroll	N/A	N/A	N/A

¹ GASB 75 was effective first for fiscal years beginning after June 15, 2017.

Appendix

Participant Data

The actuarial valuation was based on personnel information from State of Tennessee records as of July 1, 2022. Following are some of the pertinent characteristics from the personnel data as of that date. Both age and service have been determined using years and months as of the valuation date.

	State Employees	Local Education	Local Government
Health Care Participants			
Active Participants			
Number	40,033	56,177	3,094
Average Age	52.2	47.5	52.0
Average Service	17.3	17.1	15.3
Inactive Participants			
Currently Receiving	17,877	16,850	303
Not Currently Receiving	8,921	8,380	298
Total	26,798	25,230	601
Average Age	70.2	70.0	68.2
Total Participants			
Number	66,831	81,407	3,695

Actuarial Assumptions and Methods

The following outlines the assumptions and methods used in determining the GASB expense calculations for the Tennessee Plan (Medicare Supplement) for the fiscal year ending June 30, 2023.

Actuarial Method	Entry Age Normal Cost Method
Normal Cost	Determined for each active employee as the Actuarial Present Value of benefits allocated to the valuation year. The benefit attributed to the valuation year is that incremental portion of the total projected benefit earned during the year in accordance with the plan provisions. This allocation is based on each individual's service between date of hire and date the individual becomes fully eligible for benefits.
Asset Valuation Method	Market Value of Assets as of the Measurement Date
Discount Rate	3.54% based on Bond Buyer GO 20-Bond Municipal Bond Index as of the Measurement Date
Mortality Rates	<p>Pre-retirement: Local Education: PUB-2010 Headcount-weighted Employee mortality table for Teacher Employees projected generationally with MP-2020 from 2010.</p> <p>Local Government/State: PUB-2010 Headcount-weighted Employee mortality table for General Employees projected generationally with MP-2020 from 2010.</p> <p>Post-retirement: Local Education: Headcount-weighted Teacher Below Median Healthy Annuitant and adjusted with a 19% load for males and an 18% load for females, projected generationally from 2010 with MP-2020</p> <p>Local Government/State: Headcount-weighted Below Median Healthy Annuitant and adjusted with a 6% load for males and a 14% load for females, projected generationally from 2010 with MP-2020</p> <p>Disabled: (All Plans) Reflects 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</p>

10% load, projected generationally from 2018 with MP-2020.

Valuation Date	July 1, 2022
Measurement Date	June 30, 2022
Census Data	July 1, 2022
Fiscal Year Ending	June 30, 2023
Inflation	Long-term price inflation is assumed to be 2.25% per year.
Data Assumptions	In cases of a discrepancy between expected service and service reported for this valuation, imputed service was used.
Salary Increases	Assumed salary increases are the same as used by TCRS: 8.72% at age 20 graded to 3.44% at age 70 (with 4.00% weighted average).
Health Care Cost Trend Rates	The health care cost trend assumptions shown below were based on national average information from a variety of sources, including S&P Healthcare Economic Index, NHCE data, plan renewal data, and vendor Rx reports, with adjustments based on the provisions of the benefits sponsored by the State of Tennessee.

Year	Post-65
2023	8.99%
2024	8.17%
2025	7.35%
2026	6.53%
2027	5.71%
2028	4.90%
2029	4.50%
2030	4.50%
2031	4.50%
2032+	4.50%

Premium subsidies provided by the State and employers that adopted Resolution 31 are assumed to remain unchanged for the entire projection.

Demographic Assumptions- General	Unless noted otherwise, demographic assumptions employed in this Actuarial Valuation were the same
----------------------------------	--

as those employed as of July 1, 2021 for Group I employees in the Pension Actuarial Valuation of the Tennessee Consolidated Retirement System (TCRS). 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 salary increases, termination, mortality, disability, and retirement.

Retirement Rates	See Table 1.
Withdrawal Rates	See Table 2.
Disability Rates	See Table 3.
Coverage Acceptance Rates	See Table 4.
Full Medicare Supplement Premium	\$140.55/Month
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.
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.

Method Changes

There have been no method changes since the prior year.

Assumption Changes

The financial accounting valuation reflects the following assumption changes:

- The discount rate increased from 2.16% to 3.54%.
 - For the State Employees group, this decreased liability by 14.57%.
 - For the Local Education group, this decreased liability by 17.42% for the State portion and 22.71% for the Local portion.
 - For the Local Government group, this decreased liability by 19.51%.
- The medical and drug trend rate assumptions were updated to reflect more recent experience as of the Measurement Date. Given that most participating agencies receive a flat subsidy under the Medicare Supplement Plan, the impact of updated trend assumptions was zero for State Employees and for the State portion of the Local Education Group. The Local portion of the OPEB liability for the Local Education group decreased 0.39% due to this update, and the Local Government liability decreased 0.34%.

Rationale for Assumptions

For each economic and demographic assumption that has a significant effect on the measurement, and that the actuary has determined does not significantly conflict with what, in the actuary's professional judgment, is reasonable for the purpose of the measurement, the information and analysis used to support this determination are described in more detail in the document entitled "OPEB Assumptions for FYE June 30, 2023" and dated April 13, 2023.

Actuarial Assumptions and Methods

Table 1

Retirement Rates—State Employees

Retirement Rates—Early and Normal Retirement Prior to Age 60 with 10 Years of Service Unreduced Retirement Annual Rates

Age	Male	Female
45	1.9910%	2.4710%
46	2.0160%	2.3870%
47	2.0810%	2.3590%
48	2.1760%	2.3830%
49	2.2830%	2.4580%
50	6.0000%	7.5000%
51	6.0000%	7.5000%
52	6.0000%	7.5000%
53	6.0000%	7.5000%
54	6.5000%	7.5000%
55	6.5000%	7.5000%
56	7.0000%	8.0000%
57	7.0000%	8.0000%
58	7.5000%	8.0000%
59	8.0000%	8.0000%

An additional 9.0% is added to the rates shown above for employees in a year in which they are first eligible for unreduced retirement prior to age 60.

Retirement Rates—Age 60 With 10 Years of Service

Age	Less than 15 YOS		15+ YOS	
	Male	Female	Male	Female
60	8.5%	9.0%	11.5%	12.0%
61	11.0%	11.0%	14.0%	15.0%
62	16.0%	16.0%	19.0%	21.0%
63	12.0%	12.0%	15.0%	15.0%
64	14.0%	14.0%	17.0%	17.0%
65	22.0%	22.0%	25.0%	25.0%
66	15.5%	15.5%	18.5%	20.0%
67	15.5%	15.5%	18.5%	20.0%
68	15.5%	15.5%	18.5%	20.0%
69	15.5%	15.5%	18.5%	20.0%
70	15.5%	15.5%	18.5%	20.0%
71	15.5%	15.5%	18.5%	20.0%
72	15.5%	15.5%	18.5%	20.0%
73	15.5%	15.5%	18.5%	20.0%
74	15.5%	15.5%	18.5%	20.0%
75+	100.0%	100.0%	100.0%	100.0%

Table 1

Retirement Rates—Local Education

Retirement Rates—Early Retirement Eligible

Age	Male	Female
45	1.4627%	1.1130%
46	1.4880%	1.0767%
47	1.5544%	1.1089%
48	1.6594%	1.2107%
49	1.7997%	1.3826%
50	6.5000%	6.5000%
51	7.0000%	7.0000%
52	7.0000%	8.0000%
53	8.5000%	9.0000%
54	9.0000%	10.0000%
55	10.0000%	10.0000%
56	12.0000%	12.0000%
57	12.0000%	14.0000%
58	13.0000%	14.0000%
59	14.0000%	15.0000%

Retirement Rates—30 Years of Service Before Age 60

Age	1st Year Eligible		Year 2+	
	Male	Female	Male	Female
50	19.0%	19.0%	6.5%	6.5%
51	19.5%	19.5%	7.0%	7.0%
52	19.5%	20.5%	7.0%	8.0%
53	21.0%	21.5%	8.5%	9.0%
54	21.5%	22.5%	9.0%	10.0%
55	22.5%	22.5%	10.0%	10.0%
56	24.5%	24.5%	12.0%	12.0%
57	24.5%	26.5%	12.0%	14.0%
58	25.5%	26.5%	13.0%	14.0%
59	26.5%	27.5%	14.0%	15.0%

Retirement Rates—At Least Age 60 With Fewer Than 30 Years of Service

Age	10-15 YOS		15+ YOS	
	Male	Female	Male	Female
60	15.0%	17.0%	22.0%	24.0%
61	16.0%	20.0%	23.0%	27.0%
62	22.0%	26.0%	29.0%	33.0%
63	16.0%	19.5%	23.0%	26.5%
64	18.0%	24.0%	25.0%	31.0%
65	35.0%	37.5%	42.0%	44.5%
66	16.0%	24.0%	23.0%	31.0%
67	16.0%	24.0%	23.0%	31.0%
68	16.0%	24.0%	23.0%	31.0%
69	16.0%	24.0%	23.0%	31.0%
70	16.0%	34.0%	23.0%	41.0%
71	17.0%	40.0%	24.0%	47.0%
72	17.0%	40.0%	24.0%	47.0%
73	17.0%	40.0%	24.0%	47.0%
74	17.0%	40.0%	24.0%	47.0%
75+	100.0%	100.0%	100.0%	100.0%

Table 1

Retirement Rates—Local Government

Retirement Rates—Early Retirement Eligible

Age	Male	Female
45	2.7525%	4.1474%
46	2.6977%	4.0192%
47	2.7194%	3.8992%
48	2.7024%	3.8396%
49	2.7208%	3.8106%
50	9.0000%	8.0000%
51	9.0000%	8.0000%
52	9.0000%	8.0000%
53	9.0000%	8.0000%
54	9.0000%	8.0000%
55	9.0000%	8.0000%
56	9.0000%	9.0000%
57	9.5000%	9.5000%
58	9.5000%	10.0000%
59	10.0000%	11.0000%

Retirement Rates—30 Years of Service Before Age 60

Age	1st Year Eligible		Year 2+	
	Male	Female	Male	Female
50	15.5%	14.5%	9.0%	8.0%
51	15.5%	14.5%	9.0%	8.0%
52	15.5%	14.5%	9.0%	8.0%
53	15.5%	14.5%	9.0%	8.0%
54	15.5%	14.5%	9.0%	8.0%
55	15.5%	14.5%	9.0%	8.0%
56	15.5%	15.5%	9.0%	9.0%
57	16.0%	16.0%	9.5%	9.5%
58	16.0%	16.5%	9.5%	10.0%
59	16.5%	17.5%	10.0%	11.0%

Retirement Rates—At Least Age 60 With Fewer Than 30 Years of Service

Age	10-15 YOS		15+ YOS	
	Male	Female	Male	Female
60	10.5%	11.0%	13.5%	14.0%
61	15.0%	13.0%	18.0%	16.0%
62	20.0%	18.0%	23.0%	21.0%
63	17.5%	16.0%	20.5%	19.0%
64	17.5%	16.0%	20.5%	19.0%
65	24.0%	22.0%	27.0%	25.0%
66	18.5%	19.0%	21.5%	22.0%
67	16.0%	19.0%	19.0%	22.0%
68	16.0%	19.0%	19.0%	22.0%
69	16.5%	19.0%	19.5%	22.0%
70	18.0%	19.0%	21.0%	22.0%
71	18.0%	19.0%	21.0%	22.0%
72	18.0%	19.0%	21.0%	22.0%
73	18.0%	19.0%	21.0%	22.0%
74	18.0%	19.0%	21.0%	22.0%
75+	100.0%	100.0%	100.0%	100.0%

Table 2
 Withdrawal Rates—State Employees
 Termination Rates—Male (1 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
15	34.4627%	27.6444%	18.9810%	18.9810%	0.0000%
16	34.4627%	27.6444%	18.9810%	18.9810%	0.0000%
17	33.7684%	27.1827%	19.5320%	19.5320%	0.0000%
18	33.0232%	26.1688%	19.7840%	19.7840%	0.0000%
19	31.4693%	25.3790%	19.7710%	19.7710%	0.0000%
20	29.9867%	24.6302%	19.5270%	19.5270%	0.0000%
21	28.5673%	23.9177%	19.4280%	19.4280%	0.0000%
22	26.8252%	23.2376%	19.0360%	19.0360%	0.0000%
23	25.9758%	22.5860%	18.4880%	18.4880%	0.0000%
24	25.9096%	21.9596%	17.2760%	17.2760%	0.0000%
25	25.3658%	21.3551%	15.8910%	15.8910%	0.0000%
26	24.8508%	20.7697%	14.8680%	14.8680%	0.0000%
27	24.3593%	20.2012%	13.8020%	13.8020%	0.0000%
28	23.8866%	19.6472%	12.7120%	12.7120%	0.0000%
29	23.4284%	19.1062%	11.6170%	11.6170%	0.0000%
30	22.9807%	18.5765%	10.5340%	10.5340%	0.0000%
31	22.5405%	18.0570%	9.4770%	9.4770%	0.0000%
32	22.1048%	17.5471%	8.4610%	8.4610%	0.0000%
33	21.6714%	17.0461%	7.4970%	7.4970%	0.0000%
34	21.2384%	16.5541%	6.5950%	6.5950%	0.0000%
35	20.8046%	16.0712%	5.7630%	5.7630%	0.0000%
36	20.3691%	15.5979%	5.0090%	5.0090%	0.0000%
37	19.9316%	15.1352%	4.3370%	4.3370%	0.0000%
38	19.4923%	14.6842%	3.7510%	3.7510%	0.0000%
39	19.0518%	14.2465%	3.2530%	3.2530%	0.0000%
40	18.6113%	13.8239%	2.8420%	2.8420%	0.0000%
41	18.1724%	13.4187%	2.5180%	2.5180%	0.0000%
42	17.7373%	13.0335%	2.2760%	2.2760%	0.0000%
43	17.3086%	12.6710%	2.1130%	2.1130%	0.0000%
44	16.8895%	12.3345%	2.0200%	2.0200%	0.0000%

Termination Rates—Male (2 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
45	16.4836%	12.0275%	1.9910%	1.9910%	0.0000%
46	16.0951%	11.7538%	2.0160%	2.0160%	0.0000%
47	15.7285%	11.5178%	2.0810%	2.0810%	0.0000%
48	15.3890%	11.3239%	2.1760%	2.1760%	0.0000%
49	15.0822%	11.1770%	2.2830%	2.2830%	0.0000%
50	14.8142%	11.0823%	2.3880%	2.3880%	0.0000%
51	14.7861%	11.0453%	2.4710%	2.4710%	0.0000%
52	14.8104%	11.0720%	2.5130%	2.5130%	0.0000%
53	14.8948%	11.1684%	2.4920%	2.4920%	0.0000%
54	15.0475%	11.3411%	2.6760%	2.6760%	0.0000%
55	15.2769%	11.5970%	2.8600%	2.8600%	0.0000%
56	15.5921%	11.9434%	3.4650%	3.4650%	0.0000%
57	16.0555%	12.3876%	4.0700%	4.0700%	0.0000%
58	16.5189%	12.9376%	4.6750%	4.6750%	0.0000%
59	17.1511%	13.6016%	4.6750%	4.6750%	0.0000%
60	17.9104%	14.3882%	4.6750%	4.6750%	0.0000%
61	18.8084%	15.3061%	4.6750%	4.6750%	0.0000%
62	19.8571%	16.3645%	4.6750%	4.6750%	0.0000%
63	21.0690%	17.5714%	4.6750%	4.6750%	0.0000%
64	22.4572%	18.9389%	4.6750%	4.6750%	0.0000%
65	24.0352%	20.4783%	0.0000%	0.0000%	0.0000%
66	25.8171%	22.2013%	0.0000%	0.0000%	0.0000%
67	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
68	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
69	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
70	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
71+	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%

Termination Rates—Female (3 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
15	34.4627%	27.6444%	21.8610%	21.8610%	0.0000%
16	34.4627%	27.6444%	21.8610%	21.8610%	0.0000%
17	33.7684%	27.1827%	21.8610%	21.8610%	0.0000%
18	33.0232%	26.1688%	21.8610%	21.8610%	0.0000%
19	31.4693%	25.3790%	21.0310%	21.0310%	0.0000%
20	29.9867%	24.6302%	20.1510%	20.1510%	0.0000%
21	28.5673%	23.9177%	19.7910%	19.7910%	0.0000%
22	26.8252%	23.2376%	18.9400%	18.9400%	0.0000%
23	25.9758%	22.5860%	18.1170%	18.1170%	0.0000%
24	25.9096%	21.9596%	17.2330%	17.2330%	0.0000%
25	25.3658%	21.3551%	16.3010%	16.3010%	0.0000%
26	24.8508%	20.7697%	15.3370%	15.3370%	0.0000%
27	24.3593%	20.2012%	14.3510%	14.3510%	0.0000%
28	23.8866%	19.6472%	13.3550%	13.3550%	0.0000%
29	23.4284%	19.1062%	12.3600%	12.3600%	0.0000%
30	22.9807%	18.5765%	11.3770%	11.3770%	0.0000%
31	22.5405%	18.0570%	10.4150%	10.4150%	0.0000%
32	22.1048%	17.5471%	9.4820%	9.4820%	0.0000%
33	21.6714%	17.0461%	8.5850%	8.5850%	0.0000%
34	21.2384%	16.5541%	7.7330%	7.7330%	0.0000%
35	20.8046%	16.0712%	6.9300%	6.9300%	0.0000%
36	20.3691%	15.5979%	6.1820%	6.1820%	0.0000%
37	19.9316%	15.1352%	5.4940%	5.4940%	0.0000%
38	19.4923%	14.6842%	4.8690%	4.8690%	0.0000%
39	19.0518%	14.2465%	4.3110%	4.3110%	0.0000%
40	18.6113%	13.8239%	3.7670%	3.7670%	0.0000%
41	18.1724%	13.4187%	3.3880%	3.3880%	0.0000%
42	17.7373%	13.0335%	3.0700%	3.0700%	0.0000%
43	17.3086%	12.6710%	2.8110%	2.8110%	0.0000%
44	16.8895%	12.3345%	2.6120%	2.6120%	0.0000%

Termination Rates—Female (4 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
45	16.4836%	12.0275%	2.4710%	2.4710%	0.0000%
46	16.0951%	11.7538%	2.3870%	2.3870%	0.0000%
47	15.7285%	11.5178%	2.3590%	2.3590%	0.0000%
48	15.3890%	11.3239%	2.3830%	2.3830%	0.0000%
49	15.0822%	11.1770%	2.4580%	2.4580%	0.0000%
50	14.8142%	11.0823%	2.5790%	2.5790%	0.0000%
51	14.7861%	11.0453%	2.7440%	2.7440%	0.0000%
52	14.8104%	11.0720%	2.9490%	2.9490%	0.0000%
53	14.8948%	11.1684%	3.1890%	3.1890%	0.0000%
54	15.0475%	11.3411%	3.4600%	3.4600%	0.0000%
55	15.2769%	11.5970%	3.7550%	3.7550%	0.0000%
56	15.5921%	11.9434%	4.0700%	4.0700%	0.0000%
57	16.0555%	12.3876%	4.3980%	4.3980%	0.0000%
58	16.5189%	12.9376%	4.7320%	4.7320%	0.0000%
59	17.1511%	13.6016%	5.0660%	5.0660%	0.0000%
60	17.9104%	14.3882%	5.3920%	5.3920%	0.0000%
61	18.8084%	15.3061%	5.7020%	5.7020%	0.0000%
62	19.8571%	16.3645%	5.7490%	5.7490%	0.0000%
63	21.0690%	17.5714%	5.8700%	5.8700%	0.0000%
64	22.4572%	18.9389%	5.9760%	5.9760%	0.0000%
65	24.0352%	20.4783%	0.0000%	0.0000%	0.0000%
66	25.8171%	22.2013%	0.0000%	0.0000%	0.0000%
67	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
68	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
69	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
70	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%
71+	26.5000%	22.2137%	0.0000%	0.0000%	0.0000%

Table 2
 Withdrawal Rates—Local Education Employees
 Termination Rates—Male (1 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
15	16.2000%	13.5000%	10.0000%	10.0000%	0.0000%
16	16.2000%	13.5000%	10.0000%	10.0000%	0.0000%
17	16.2000%	13.5000%	10.0000%	10.0000%	0.0000%
18	16.2000%	13.5000%	10.0000%	10.0000%	0.0000%
19	16.2000%	13.5000%	10.0660%	10.0660%	0.0000%
20	16.2000%	13.5000%	9.9922%	9.9922%	0.0000%
21	16.2000%	13.5000%	9.8260%	9.8260%	0.0000%
22	16.2000%	13.5000%	9.5798%	9.5798%	0.0000%
23	16.2000%	13.5000%	9.2650%	9.2650%	0.0000%
24	16.2000%	13.5000%	8.8930%	8.8930%	0.0000%
25	16.2000%	13.5000%	8.4741%	8.4741%	0.0000%
26	16.2000%	13.5000%	8.0184%	8.0184%	0.0000%
27	16.2000%	13.5000%	7.5353%	7.5353%	0.0000%
28	16.2000%	13.5000%	7.0336%	7.0336%	0.0000%
29	16.2000%	13.5000%	6.5216%	6.5216%	0.0000%
30	16.2000%	13.5000%	6.0070%	6.0070%	0.0000%
31	16.2000%	13.5000%	5.4968%	5.4968%	0.0000%
32	16.2000%	13.5000%	4.9977%	4.9977%	0.0000%
33	16.2000%	13.5000%	4.5157%	4.5157%	0.0000%
34	16.2000%	13.5000%	4.0561%	4.0561%	0.0000%
35	16.2000%	13.5000%	3.6238%	3.6238%	0.0000%
36	16.2000%	13.5000%	3.2231%	3.2231%	0.0000%
37	16.2000%	13.5000%	2.8577%	2.8577%	0.0000%
38	16.2000%	13.5000%	2.5307%	2.5307%	0.0000%
39	16.2000%	13.5000%	2.2448%	2.2448%	0.0000%
40	16.2000%	13.5000%	2.0019%	2.0019%	0.0000%
41	16.2000%	13.5000%	1.8034%	1.8034%	0.0000%
42	16.2000%	13.5000%	1.6502%	1.6502%	0.0000%
43	16.2720%	13.5000%	1.5426%	1.5426%	0.0000%
44	16.3980%	13.5000%	1.4804%	1.4804%	0.0000%

Termination Rates—Male (2 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
45	16.5510%	13.5000%	1.4627%	1.4627%	0.0000%
46	16.7320%	13.5000%	1.4880%	1.4880%	0.0000%
47	16.9420%	13.5000%	1.5544%	1.5544%	0.0000%
48	17.1830%	13.6031%	1.6594%	1.6594%	0.0000%
49	17.4560%	13.8644%	1.7997%	1.7997%	0.0000%
50	17.7630%	14.1800%	1.9718%	1.9718%	0.0000%
51	18.1050%	14.5555%	2.1714%	2.1714%	0.0000%
52	18.4840%	14.9964%	2.3936%	2.3936%	0.0000%
53	18.9000%	15.5089%	2.6331%	2.6331%	0.0000%
54	19.3540%	16.0990%	2.8838%	2.8838%	0.0000%
55	19.8480%	16.7730%	3.1393%	3.1393%	0.0000%
56	20.3820%	17.5376%	3.3924%	3.3924%	0.0000%
57	20.9570%	18.3996%	4.0562%	4.0562%	0.0000%
58	21.5750%	19.3659%	4.5206%	4.5206%	0.0000%
59	22.2350%	20.4438%	4.6014%	4.6014%	0.0000%
60	22.9390%	21.6408%	4.6639%	0.0000%	0.0000%
61	23.6870%	22.9646%	5.0000%	0.0000%	0.0000%
62	24.4800%	23.5000%	5.0000%	0.0000%	0.0000%
63	25.2000%	23.5000%	5.0000%	0.0000%	0.0000%
64	25.2000%	23.5000%	5.0000%	0.0000%	0.0000%
65	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
66	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
67	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
68	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
69	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
70	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
71+	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%

Termination Rates—Female (3 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
15	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
16	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
17	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
18	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
19	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
20	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
21	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
22	16.2000%	13.5000%	10.5000%	10.5000%	0.0000%
23	16.2000%	13.5000%	10.5153%	10.5153%	0.0000%
24	16.2000%	13.5000%	10.2970%	10.2970%	0.0000%
25	16.2000%	13.5000%	9.9913%	9.9913%	0.0000%
26	16.2000%	13.5000%	9.6109%	9.6109%	0.0000%
27	16.2000%	13.5000%	9.1678%	9.1678%	0.0000%
28	16.2000%	13.5000%	8.6737%	8.6737%	0.0000%
29	16.2000%	13.5000%	8.1395%	8.1395%	0.0000%
30	16.2000%	13.5000%	7.5757%	7.5757%	0.0000%
31	16.2000%	13.5000%	6.9924%	6.9924%	0.0000%
32	16.2000%	13.5000%	6.3991%	6.3991%	0.0000%
33	16.2000%	13.5000%	5.8046%	5.8046%	0.0000%
34	16.2000%	13.5000%	5.2173%	5.2173%	0.0000%
35	16.2000%	13.5000%	4.6452%	4.6452%	0.0000%
36	16.2000%	13.5000%	4.0956%	4.0956%	0.0000%
37	16.2000%	13.5000%	3.5752%	3.5752%	0.0000%
38	16.2000%	13.5000%	3.0905%	3.0905%	0.0000%
39	16.2000%	13.5000%	2.6472%	2.6472%	0.0000%
40	16.2000%	13.5000%	2.2505%	2.2505%	0.0000%
41	16.2000%	13.5000%	1.9052%	1.9052%	0.0000%
42	16.2000%	13.5000%	1.6153%	1.6153%	0.0000%
43	16.2720%	13.5000%	1.3847%	1.3847%	0.0000%
44	16.3980%	13.5000%	1.2164%	1.2164%	0.0000%

Termination Rates—Female (4 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
45	16.5510%	13.5000%	1.1130%	1.1130%	0.0000%
46	16.7320%	13.5000%	1.0767%	1.0767%	0.0000%
47	16.9420%	13.5000%	1.1089%	1.1089%	0.0000%
48	17.1830%	13.6031%	1.2107%	1.2107%	0.0000%
49	17.4560%	13.8644%	1.3826%	1.3826%	0.0000%
50	17.7630%	14.1800%	1.6246%	1.6246%	0.0000%
51	18.1050%	14.5555%	1.9361%	1.9361%	0.0000%
52	18.4840%	14.9964%	2.3160%	2.3160%	0.0000%
53	18.9000%	15.5089%	2.7627%	2.7627%	0.0000%
54	19.3540%	16.0990%	3.2741%	3.2741%	0.0000%
55	19.8480%	16.7730%	3.8475%	3.8475%	0.0000%
56	20.3820%	17.5376%	4.4798%	4.4798%	0.0000%
57	20.9570%	18.3996%	5.0000%	5.0000%	0.0000%
58	21.5750%	19.3659%	5.0000%	5.0000%	0.0000%
59	22.2350%	20.4438%	5.0000%	5.0000%	0.0000%
60	22.9390%	21.6408%	5.0000%	0.0000%	0.0000%
61	23.6870%	22.9646%	5.0000%	0.0000%	0.0000%
62	24.4800%	23.5000%	5.0000%	0.0000%	0.0000%
63	25.2000%	23.5000%	5.0000%	0.0000%	0.0000%
64	25.2000%	23.5000%	5.0000%	0.0000%	0.0000%
65	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
66	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
67	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
68	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
69	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
70	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%
71+	25.2000%	23.5000%	0.0000%	0.0000%	0.0000%

Table 2
 Withdrawal Rates—Local Government Employees
 Termination Rates—Male (1 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
15	27.4990%	20.7000%	16.3558%	16.3558%	0.0000%
16	27.4990%	20.7000%	16.3558%	16.3558%	0.0000%
17	26.8800%	20.7000%	15.6981%	15.6981%	0.0000%
18	26.6630%	20.1600%	15.0408%	15.0408%	0.0000%
19	25.9310%	20.1630%	14.3857%	14.3857%	0.0000%
20	25.1920%	19.5950%	13.7344%	13.7344%	0.0000%
21	24.4460%	19.0120%	13.0887%	13.0887%	0.0000%
22	23.6930%	18.4120%	12.4500%	12.4500%	0.0000%
23	22.7570%	17.7960%	11.8202%	11.8202%	0.0000%
24	22.4100%	17.5100%	11.2006%	11.2006%	0.0000%
25	22.1070%	17.2260%	10.2858%	10.2858%	0.0000%
26	21.8400%	16.6400%	9.6138%	9.6138%	0.0000%
27	21.6000%	16.4880%	8.9633%	8.9633%	0.0000%
28	21.3780%	16.3460%	8.3366%	8.3366%	0.0000%
29	21.1660%	16.2090%	7.8437%	7.8437%	0.0000%
30	20.9600%	16.0730%	7.3626%	7.3626%	0.0000%
31	20.7530%	15.9340%	6.8963%	6.8963%	0.0000%
32	20.5410%	15.7900%	6.4479%	6.4479%	0.0000%
33	20.3200%	15.6370%	6.0199%	6.0199%	0.0000%
34	20.0880%	15.4740%	5.5392%	5.5392%	0.0000%
35	19.8430%	15.3010%	5.0962%	5.0962%	0.0000%
36	19.5840%	15.1160%	4.6917%	4.6917%	0.0000%
37	19.3120%	14.9190%	4.3260%	4.3260%	0.0000%
38	19.0280%	14.7120%	3.9998%	3.9998%	0.0000%
39	18.7330%	14.4950%	3.7164%	3.7164%	0.0000%
40	18.4310%	14.2700%	3.4720%	3.4720%	0.0000%
41	18.1250%	14.0400%	3.2662%	3.2662%	0.0000%
42	17.8200%	13.8090%	3.0987%	3.0987%	0.0000%
43	17.5220%	13.0890%	2.9687%	2.9687%	0.0000%
44	17.2380%	12.8650%	2.8420%	2.8420%	0.0000%

Termination Rates—Male (2 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
45	16.9750%	12.6460%	2.7525%	2.7525%	0.0000%
46	16.7410%	12.4350%	2.6977%	2.6977%	0.0000%
47	16.5470%	12.2350%	2.7194%	2.7194%	0.0000%
48	16.4020%	12.0500%	2.7024%	2.7024%	0.0000%
49	16.3170%	11.8830%	2.7208%	2.7208%	0.0000%
50	16.3050%	11.7390%	2.7752%	2.7752%	0.0000%
51	16.3800%	11.6210%	2.8660%	2.8660%	0.0000%
52	16.2090%	11.5340%	2.9935%	2.9935%	0.0000%
53	16.2460%	11.4830%	3.1582%	3.1582%	0.0000%
54	16.4560%	11.5860%	3.3604%	3.3604%	0.0000%
55	16.7400%	11.7350%	3.6002%	3.6002%	0.0000%
56	17.1060%	11.9370%	3.8780%	3.8780%	0.0000%
57	17.5640%	12.1970%	4.1939%	4.1939%	0.0000%
58	18.1240%	12.5230%	4.5481%	4.5481%	0.0000%
59	18.7960%	12.9190%	4.6200%	4.6200%	0.0000%
60	19.5900%	13.3950%	4.6200%	0.0000%	0.0000%
61	20.5190%	13.9560%	4.6200%	0.0000%	0.0000%
62	21.5930%	14.6110%	4.6200%	0.0000%	0.0000%
63	22.8240%	15.3670%	4.6200%	0.0000%	0.0000%
64	24.2260%	16.2330%	4.6200%	0.0000%	0.0000%
65	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
66	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
67	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
68	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
69	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
70	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
71+	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%

Termination Rates—Female (3 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
15	27.4990%	20.7000%	23.7911%	23.7911%	0.0000%
16	27.4990%	20.7000%	23.7911%	23.7911%	0.0000%
17	26.8800%	20.7000%	22.6978%	22.6978%	0.0000%
18	26.6630%	20.1600%	21.6369%	21.6369%	0.0000%
19	25.9310%	20.1630%	20.6079%	20.6079%	0.0000%
20	25.1920%	19.5950%	19.6101%	19.6101%	0.0000%
21	24.4460%	19.0120%	18.6431%	18.6431%	0.0000%
22	23.6930%	18.4120%	17.7063%	17.7063%	0.0000%
23	22.7570%	17.7960%	16.7994%	16.7994%	0.0000%
24	22.4100%	17.5100%	15.9221%	15.9221%	0.0000%
25	22.1070%	17.2260%	15.0742%	15.0742%	0.0000%
26	21.8400%	16.6400%	14.2554%	14.2554%	0.0000%
27	21.6000%	16.4880%	13.4656%	13.4656%	0.0000%
28	21.3780%	16.3460%	12.7048%	12.7048%	0.0000%
29	21.1660%	16.2090%	11.8475%	11.8475%	0.0000%
30	20.9600%	16.0730%	11.0655%	11.0655%	0.0000%
31	20.7530%	15.9340%	10.3184%	10.3184%	0.0000%
32	20.5410%	15.7900%	9.6082%	9.6082%	0.0000%
33	20.3200%	15.6370%	8.9368%	8.9368%	0.0000%
34	20.0880%	15.4740%	8.3055%	8.3055%	0.0000%
35	19.8430%	15.3010%	7.7157%	7.7157%	0.0000%
36	19.5840%	15.1160%	7.1682%	7.1682%	0.0000%
37	19.3120%	14.9190%	6.6638%	6.6638%	0.0000%
38	19.0280%	14.7120%	6.2030%	6.2030%	0.0000%
39	18.7330%	14.4950%	5.7858%	5.7858%	0.0000%
40	18.4310%	14.2700%	5.4122%	5.4122%	0.0000%
41	18.1250%	14.0400%	5.0818%	5.0818%	0.0000%
42	17.8200%	13.8090%	4.7941%	4.7941%	0.0000%
43	17.5220%	13.0890%	4.5480%	4.5480%	0.0000%
44	17.2380%	12.8650%	4.3129%	4.3129%	0.0000%

Termination Rates—Female (4 of 4)

Age	Years of Service				
	0	1	2-10	11-29	30+
45	16.9750%	12.6460%	4.1474%	4.1474%	0.0000%
46	16.7410%	12.4350%	4.0192%	4.0192%	0.0000%
47	16.5470%	12.2350%	3.8992%	3.8992%	0.0000%
48	16.4020%	12.0500%	3.8396%	3.8396%	0.0000%
49	16.3170%	11.8830%	3.8106%	3.8106%	0.0000%
50	16.3050%	11.7390%	3.7905%	3.7905%	0.0000%
51	16.3800%	11.6210%	3.8086%	3.8086%	0.0000%
52	16.2090%	11.5340%	3.8499%	3.8499%	0.0000%
53	16.2460%	11.4830%	3.9155%	3.9155%	0.0000%
54	16.4560%	11.5860%	4.1110%	4.1110%	0.0000%
55	16.7400%	11.7350%	4.3322%	4.3322%	0.0000%
56	17.1060%	11.9370%	4.5802%	4.5802%	0.0000%
57	17.5640%	12.1970%	4.8557%	4.8557%	0.0000%
58	18.1240%	12.5230%	5.1596%	5.1596%	0.0000%
59	18.7960%	12.9190%	5.3884%	5.3884%	0.0000%
60	19.5900%	13.3950%	5.3201%	0.0000%	0.0000%
61	20.5190%	13.9560%	5.2517%	0.0000%	0.0000%
62	21.5930%	14.6110%	5.1834%	0.0000%	0.0000%
63	22.8240%	15.3670%	5.1150%	0.0000%	0.0000%
64	24.2260%	16.2330%	5.1150%	0.0000%	0.0000%
65	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
66	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
67	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
68	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
69	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
70	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%
71+	24.2260%	16.2330%	0.0000%	0.0000%	0.0000%

Table 3

Disability Rates—State Employees

The following table shows sample annual rates of disability:

% Becoming Disabled Within Next Year		
Sample Ages	Male	Female
20	0.06%	0.03%
25	0.06%	0.03%
30	0.07%	0.04%
35	0.11%	0.06%
40	0.16%	0.14%
45	0.22%	0.24%
50	0.27%	0.33%
55	0.27%	0.38%
60	--	--
65	--	--

Disability Rates—Local Education Employees

The following table shows sample annual rates of disability.

% Becoming Disabled Within Next Year		
Sample Ages	Male	Female
20	0.01%	0.01%
25	0.01%	0.01%
30	0.01%	0.01%
35	0.03%	0.03%
40	0.08%	0.08%
45	0.14%	0.14%
50	0.17%	0.17%
55	0.17%	0.17%
60	--	--
65	--	--

Table 3

Disability Rates—Local Government Employees

The following table shows sample annual rates of disability.

% Becoming Disabled Within Next Year		
Sample Ages	Male	Female
20	0.03%	0.03%
25	0.03%	0.03%
30	0.03%	0.03%
35	0.03%	0.03%
40	0.08%	0.08%
45	0.20%	0.20%
50	0.38%	0.38%
55	0.49%	0.49%
60	--	--
65	--	--

Table 4
Coverage Acceptance Rates

Subsidy Level	State	Local Government and Local Education (No Local Subsidy)	Local Education (Local Subsidy)	Local Education (Full Subsidy)
\$50.00+	65%	60%	75%	85%
\$37.50	45%	40%	55%	65%
\$25.00	35%	30%	40%	50%
None	25%	15%	20%	30%

Actuarial Assumptions and Methods

Discussion of Actuarial Assumptions and Methods

The State of Tennessee selected the economic, demographic and health care claim cost assumptions and prescribed them for use for purposes of compliance with GASB 75. Aon provided guidance with respect to these assumptions, and it is our belief that the assumptions represent reasonable expectations of anticipated plan experience. Mortality, retirement, withdrawal, and disability rates as well as assumed salary increases were developed by TCRS from the 2021 Actuarial Experience Study. An evaluation of the reasonability and consistency of these assumptions is beyond the scope of the assignment. Coverage acceptance rates were reviewed and updated by Aon for the prior valuation based on recent plan experience.

Calculation of Normal Costs and Liabilities

The method used to calculate the service cost and accumulated postretirement benefit obligation for determining OPEB expense is the entry age normal cost method. Under this cost method, the actuarial accrued liability is based on a prorated portion of the present value of all benefits earned to date over expected future working lifetime as defined by GASB. The proration is determined so that the cost with respect to service accrued from date of hire is recognized as a level percentage of pay each year. The Normal Cost is equal to the prorated cost for the year of the valuation.

Accounting Information under GASB 75

Benefit obligations and expense/(income) are calculated under U.S. Generally Accepted Accounting Principles as set forth in Government Accounting Standards Board Statement 75.

The total OPEB liability represents the actuarial present value of benefits based on the entry age normal cost method as of the measurement date. The service cost represents the actuarial present value of benefits that are attributed to the 2023 fiscal year, reflecting the effect of assumed future health care claim cost and/or pay increases.

The OPEB expense is the annual amount to be recognized in the income statement as the cost of OPEB benefits for this plan for the period ending June 30, 2023.

Plan Provisions

Eligibility to Participate	All full-time state and higher education employees (hired before July 1, 2015), retirees and vested terminated participants of the State of Tennessee. Local Education Agencies and certain Local Government Agencies 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 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.
Eligibility for Retirement Normal Retirement	Earlier of (i) Age 60 with five years of creditable service, or (ii) Any age with 30 years of creditable service.
Early Retirement	Age 55 with five years of creditable service or 10 years for members of political subdivisions unless the governing body passes a resolution authorizing five-year vesting, or any age upon completion of 25 years of service.
Disability Retirement	Retirees who have a date of hire prior to July 1, 2015 and were approved for disability retirement.
Eligibility for The Tennessee Plan Insurance	<p>All State, Higher Education, Local Education and Local Government retirees hired before July 1, 2015 and are receiving a monthly TCRS benefit based on their own service and upon attaining Medicare-eligibility.</p> <p>All retirees of the State of Tennessee's Higher Education institutions hired before July 1, 2015, who participated in an optional retirement plan, instead of TCRS, may also be eligible for the post-employment benefits under The Tennessee Plan upon attaining Medicare-eligibility.</p> <p>The Tennessee Plan coverage may commence upon the retiree's attainment of Medicare eligibility (whether due to disability or at age 65), even if the former employee chooses not to enroll in pre-65 retiree health coverage under the State program.</p>
Plan Benefits	Certain Other Post-Employment Benefits (OPEB) are available to current retirees and all employees (hired before July 1, 2015) retiring from the State under the provisions of Disability, Early or Normal Retirement, as described above (except some grandfathered employees and retirees). The OPEB benefits include

lifetime access to coverage for the retiree eligible for Medicare Part A under the Medicare Supplement (The Tennessee Plan), State provided subsidy for retiree premiums, as well as additional subsidies for retiree premiums provided by some local government or education employers.

- Medicare-eligible retirees may choose to participate in the State-sponsored Medicare Supplement plan, called “The Tennessee Plan”. Dependents of retirees may be covered at the retiree’s option upon reaching Medicare eligibility. Beginning January 1, 2015 only dependents of covered retirees will be offered coverage under the plan. Retirees and their dependents eligible for the Medicare benefits are required to enroll in Part A under Medicare.
- Retired teachers in the Bartlett Municipal Schools, Collierville Municipal Schools, Davidson County Schools, Germantown Municipal School District, Rutherford County Schools, and Shelby County Schools are additionally offered participation in a local-sponsored Medicare Supplement Plan.
- The surviving dependent of a retiree is eligible to continue coverage under The Tennessee Plan subject to payments of the applicable premiums at the unsubsidized rate.
- There is no separate trust through which benefits for retirees are funded. No assets are currently accumulated or earmarked for these purposes. All approved benefits are paid by the State or the employer when due.

Duration of Benefits

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.

Premium Subsidies

State Subsidies

Retired state, higher education and teachers covered under the Tennessee Plan are eligible for a premium subsidy from the State. The amount of this subsidy depends on the creditable service at time of retirement based on the table below.

Years of Service	Monthly Subsidy
Less than 15	\$ 0
15 through 19	\$ 25.00
20 through 29	\$ 37.50
30 and more	\$ 50.00

There are no provisions for automatic escalation of the amounts illustrated above and they may not be increased without legislative approval. Consequently, this benefit is considered a flat dollar subsidy for the purpose of this valuation.

Resolution 31 Employers

The following employers have passed a resolution to make contributions towards the premium cost of coverage for retirees that are not eligible for any premium subsidy from the State under Resolution 31. The amount of subsidy match those provided by the State to similarly situated State retirees.

Association of County Mayors	Overton Co Highway Dept
Bells City Board of Education	Overton Co Nursing Home
Bells, City Of	Overton County
Bloomingdale Utility District	Overton County 911 District
Bolivar, City Of	Portland, City Of
Clay Co Board of Education	Rutherford County Library (Formerly Linebaugh Public Library)
Clinton City Schools	Scott Co Ambulance Service
Clinton, Town Of	Scott Co Board of Education
Greeneville City Schools	Scott Co General Fund
Greeneville, Town Of	Scott Co Rd Dept
Hamblen Co Board of Education	Sevier Co Board Members
Hamblen Co Courthouse	Sevier County
Hartsville Trousdale County Government	Sumner Co Board of Education
Humboldt City Schools	Sevier County Dept. of Education
Humboldt, City Of	Sumner County
Jackson Co Board of Education	Tennessee Secondary School Athletic Association
Jefferson City	Tennessee Co Commissioners Association
Kingston Springs	Tennessee Co Hwy Official Association
Lawrence County Government	Tennessee Education Association
Milan, City Of	Tennessee State Employees Association
Monroe Co Board of Education	Union Co Board of Education
Monroe County	Union County General Fund
Morristown Schools	Woodbury, Town Of
Overton Co Board Of Education	

Premium Subsidies

Additional Subsidies

Some local employers offer premium subsidies in addition to the amounts contributed by the state. Specific amounts by employer are identified in the following table:

Employer	Local Subsidy Provided
Bristol City Schools	Support staff and teachers receive a maximum \$500 per year. To receive this benefit, the employee must have 30 years of service, with at least eight years of service with Bristol TN City Schools and be at least age 65 at retirement.
Dekalb County 911	Employees receive a 50% subsidy for 30 plus years of service and a 25% subsidy for 20 to 29 years of service. Only years with Dekalb Co. 911 are counted toward the subsidy.
Hardeman-Fayette Utility District	Employees receive a 75% subsidy for 30 plus years of service and a 50% subsidy for 20 to 29 years of service.
Hawkins County Schools	Support staff receive a \$100.00 subsidy for 30 plus years of service, \$75.00 for 20 to 29 years of service, and \$50.00 for at least 15 years of service. Teachers receive an additional subsidy of \$50.00 for 30 plus years of service, \$37.50 for 20 to 29 years of service, and \$25.00 for at least 15 years of service. To receive this benefit, employee must be age 65 at retirement.
Hickman County Schools	Teachers receive a subsidy of \$90.55 for 30 plus years of service, \$36.07 for 20 to 29 years of service, and \$35.14 for at least 10 years of service. Employees must be state Medicare eligible and retired after July 1, 2010. Employees are directly reimbursed monthly amounts on the state Medicare plan. Checks are written to the employees once a year.
Jackson County Schools	There is currently one individual receiving a \$25 monthly subsidy. This plan policy is no longer in effect.
Kingsport	All eligible employees receive the difference between the full premium and the State Subsidy. For support staff to be eligible, they must also be TCRS eligible and hired before July 1, 2015.
McNairy County School System	Teachers receive a subsidy for 30 plus years of service at \$20.77, \$18.01 for 20 to 29 years of service, and \$15.23 for at least 15 years of service. Employees must be eligible for the state subsidy and retired after 2007.
Millington Municipal School	Instructional staff with 30 plus years of service receive the difference between the full premium and the State Subsidy. Instructional staff with less than 30 years of service and support staff, regardless of service, receive a \$100 subsidy.

Premium Subsidies

Additional Subsidies

Employer	Local Subsidy Provided
Sullivan County Board of Education	All eligible employees receive the difference between the full premium and the State Subsidy. For support staff to be eligible, they must be age 55 with 25 Years of Service, with at least 15 of those years with Sullivan County Board of Education. For teachers, 30 years are required, with at least 15 of those years with Sullivan County.
Wilson County MS	Full premium for eligible employees.