

State Teachers Retirement System of Ohio Retiree Health Care Benefits Plan

**Actuarial Valuation and
GASB 74 and 75 Report
as of June 30, 2023**

Produced by Cheiron

October 2023

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**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
ACTUARIAL VALUATION AND GASB 74/75 REPORTING
FOR JUNE 30, 2023 MEASUREMENT DATE**

SECTION I – VALUATION SUMMARY

The State Teachers Retirement System of Ohio has engaged Cheiron to provide an analysis of its post-employment benefit liabilities as of June 30, 2023. The primary purposes of performing this actuarial valuation are to:

- Determine the Actuarially Determined Contribution (ADC) and the Net OPEB Liability (NOL) of the retiree health benefits using GASB 74 and 75 methodology under the current funding strategy,
- Provide disclosures for financial statements, and
- Provide projections for ADC, Net OPEB Liability (NOL), and Actuarial Liabilities.

We have determined costs, liabilities, and trends for the substantive plan using actuarial assumptions and methods that we consider reasonable. This report has been prepared in accordance with Ohio Revised Code Section 3307.51(E), which requires the Board to have prepared annually a report giving a full accounting of the revenues and costs related to the provision of benefits under section 3307.39 of the Revised Code.

GASB’s OPEB Requirements

GASB’s Statement 74 refers to the financial reporting for post-employment benefit plans other than pension plans, and Statement 75 refers to the employer accounting for these plans. Statement 74 is generally applicable where an entity has a separate trust or fund for OPEB benefits. We understand that the State Teachers Retirement System of Ohio (STRS Ohio) has a trust used to fund future OPEB obligations. The GASB No. 74 Statements are effective for the plan year ending June 30, 2017. The GASB 74 and 75 valuation sections are provided below.

Statement 75, which was adopted in the Fiscal Year Ending (FYE) June 30, 2018, requires the employers to book the actuarial cost (net of employee, retiree, and their dependents’ contributions) of the Plan as an expense on its financial statements. Additional disclosures required by GASB 74 and 75 include a description of the substantive plan, summary of significant accounting policies (which we have not included in this report), contributions, and a statement of funding progress, along with the methods and assumptions used for these disclosures.

Funding Policy

The State Teachers Retirement System of Ohio has a funding policy to contribute the ADC. For this purpose, the ADC is calculated as the Normal Cost determined under the Entry Age Normal actuarial cost method, plus the amortization of the Unfunded Actuarial Liability over a 30-year open level percent of pay, plus anticipated administrative expenses. Currently, the ADC is negative and is projected to remain negative, thus the employer is not expected to make any future contributions to the Health Fund.

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SECTION I – VALUATION SUMMARY

Table I-1 below summarizes the June 30, 2023 and June 30, 2022 actuarial valuation results.

Table I-1 Summary of Key Valuation Results		
Valuation Date	June 30, 2023	June 30, 2022
Discount Rate	7.00%	7.00%
Actuarial Liability		
Pre-Medicare in pay members	261,675,609	195,835,761
Medicare in pay members	924,440,060	963,932,295
Current retirees, beneficiaries, and dependents	\$ 1,186,115,669	\$ 1,159,768,056
Pre-Medicare active members	1,209,428,387	463,484,705
Medicare active members	434,389,662	353,467,709
Current active members	\$ 1,643,818,049	\$ 816,952,414
Pre-Medicare terminated members	7,058,259	3,572,118
Medicare terminated members	1,550,526	415,021
Terminated members entitled but not yet eligible	8,608,785	3,987,139
Pre-Medicare members	1,478,162,255	662,892,584
Medicare members	1,360,380,248	1,317,815,025
Total Actuarial Liability	\$ 2,838,542,503	\$ 1,980,707,609
Health care fund assets	4,783,404,347	4,570,039,934
Unfunded actuarial liability (UAL)	\$ (1,944,861,844)	\$ (2,589,332,325)
Funded Ratio	168.52%	230.73%

The total Actuarial Liability increased from \$1.98 billion under the prior valuation to \$2.84 billion under this valuation. In addition to the expected decrease in liability of \$3.55 million due to normal cost, benefit payments, and interest, the Plan experienced other changes in liability attributable to \$628.67 million increase due to benefit changes, \$3.47 million increase due to population changes, and \$229.25 million increase due to change in health care and trend assumptions. A description of these changes are listed below on page 4 and in Appendix B and C.

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The ADC, calculated in Table I-2 below, is the recommended contribution to the Retiree Health Care Benefits Plan for the reporting period, determined in conformity with Actuarial Standards of Practice. The State Teachers Retirement System of Ohio has elected to define the ADC in a manner consistent with the annual required contribution under the previous GASB 43 accounting rules. The ADC calculation consists of adding the Normal Cost of the Plan to the amortization of the Unfunded Liability. The Normal Cost and Actuarial Liability are determined using a 7.00% discount rate for June 30, 2023 and June 30, 2022, and the Unfunded Liability is amortized using an open 30-year amortization period calculated as a level percent of payroll. The ADC for June 30, 2023 and June 30, 2022 was calculated to be zero due to the Plan being over 100% funded.

Table I-2		
Calculation of Actuarially Determined Contribution (ADC)		
(\$ thousands)		
For Fiscal Year Ending	June 30, 2024	June 30, 2023
Normal cost	\$ 61,724	\$ 26,796
Amortization of UAL	(106,741)	(142,111)
Interest adjustment	(3,151)	(8,072)
Total ADC (not less than \$0)	\$ 0	\$ 0
Projected payroll	\$ 13,274,839	\$ 12,829,357
ADC as a percentage of pay	0.00%	0.00%
Expected/Actual Net Benefit Payments	\$ 158,862	\$ 165,088

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SECTION I – VALUATION SUMMARY

Table I-3 shows a reconciliation of the Actuarial Liability from the prior valuation to this valuation.

Table I-3 Reconciliation of Actuarial Liability (\$ thousands)		
Actuarial Liability at June 30, 2022	\$	1,980,707
Normal Cost		26,796
Net Benefits paid throughout the year		(165,088)
Interest		134,747
Expected Actuarial Liability at June 30, 2023	\$	1,977,162
Actuarial Liability at June 30, 2023		2,838,543
Gain or (Loss)	\$	(861,381)
Gain or (Loss) due to:		
Benefit changes	\$	(628,670)
Census changes		(3,465)
Demographic Assumption changes		-
Claims and Trends Assumption changes		(229,246)
Total changes	\$	(861,381)

Benefit Changes: refers to the change in the subsidy percentage and the base amount for all retiree Non-Medicare Eligible (NME) participants, from 2.2% per year in last year’s valuation to 2.5% per year, capped at 75%, as well as the unfreezing of the NME subsidy, the removal of the 6% cap on the year over year subsidy increase for Medicare Eligible (ME) participants, the changes in deductible and office visits copays for Aetna’s Medicare Advantage plan, and updates in the medical and PBM vendor contracts. In addition, there were benefit changes related to the change in eligibility for unreduced Pension benefits.

Census Changes: refers to the change in population and how it impacts the valuation results. The updated census with trended claims provided a gain to the Plan.

Demographic Assumption Changes: There were no demographic assumption changes.

Claims and Trends Assumption Changes: refers to the change in claim curves and trends from those expected. From Plan Year Ending June 30, 2023 to Plan Year Ending June 30, 2024.

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Table I-4 below summarizes the assets for the OPEB Trust as of June 30, 2023 and June 30, 2022. The actual return on assets for the period ending June 30, 2023 was 8.4%, which was more than the assumed rate of 7.00%.

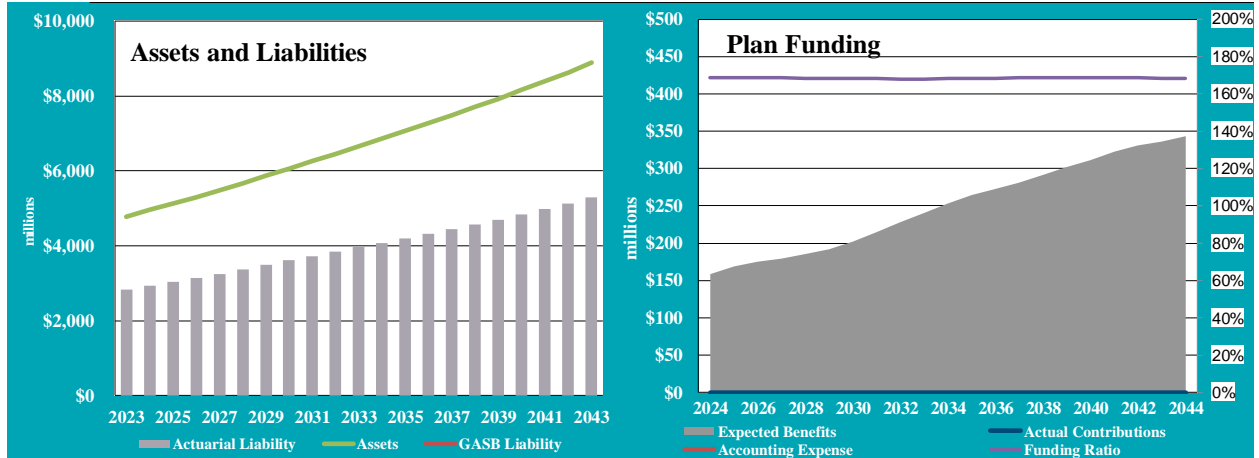
Table I-4 Reconciliation of OPEB Assets		
Fiscal Year Ending	June 30, 2023	June 30, 2022
Additions		
Contributions received		
Employer	\$ 0	\$ 0
Government reimbursements	100,515,326	97,712,437
Total contributions	\$ 100,515,326	\$ 97,712,437
Net investment income	380,700,000	(261,500,000)
Total Additions	\$ 481,215,326	\$ (163,787,563)
Deductions		
Benefit Payments	\$ 376,360,773	\$ 418,103,952
Administrative expense	2,248,067	2,340,013
Benefit recipient healthcare premiums	(110,757,927)	(224,531,684)
Other	0	0
Total Deductions	\$ 267,850,913	\$ 195,912,281
Net increase in net position	\$ 213,364,413	\$ (359,699,844)
Net position restricted to OPEB		
Beginning of Year	\$ 4,570,039,934	\$ 4,929,739,778
End of Year	\$ 4,783,404,347	\$ 4,570,039,934
Asset return for the year	8.43%	-5.40%

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SECTION I – VALUATION SUMMARY

Projected Trends – Asset Return 7.00%

Looking beyond 2023, the charts below project the assets and liabilities and the funding costs for the next 20 years. The projection below assumes the Plan contributes the ADC (Normal Cost plus the amortization of the Unfunded Liability) when the amount is greater than \$0. The projection also assumes the Plan earns 7.00% return each year over the entire period.



The left-hand chart shows the projected Actuarial Liability (grey bars) increasing from \$2.8 billion to just under \$5.3 billion over the next 20 years. The red line on the same chart projects the GASB liability (i.e., the figure that appears on the employer’s financial statements). As of June 30, 2023, the Net OPEB Liability (NOL) is currently less than \$0 and is projected to remain less than \$0 over the next 20 years, so doesn’t show on the chart. The green line projects the assets in the Plan increasing from \$4.78 billion to approximately \$8.88 billion.

The right-hand chart shows the annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and are projected to increase from \$158 million to \$343 million over the next 20 years. The blue line represents the State Teachers Retirement System’s assumed contributions to the Trust, the ADC. Currently, the ADC is zero and projected to remain at zero over the next 20 years, thus not shown in the graph above. The accounting expense is the change in the Unfunded Liability plus the change in Deferred Outflows/Inflows plus the employer contributions. The accounting expense, shown by the red line, is projected to remain below zero, thus not shown in the graph above, over the next 20 years. The funding percentage is expected to remain stable from 168% to 167% over the next 20 years.

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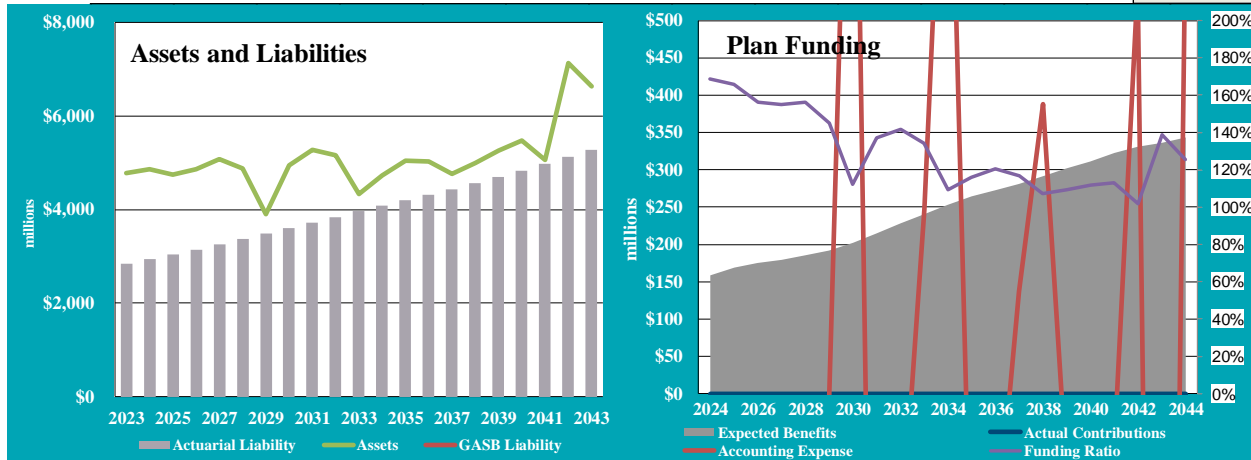
SECTION I – VALUATION SUMMARY

Projected Trends – Variable Asset Returns

The charts below show the expected assets and liabilities for the next 20 years should the fund earn returns that follow those from 1963 to 1983, with 60% invested in equities and 40% in fixed income. This period was chosen to average a 6.75% expected return over the 20-year period.

The assumed returns are:

The assumed returns are:										Average Return	
Fiscal Year Ending	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2022-2032
Expected Return	5.17%	1.21%	6.25%	8.39%	-0.21%	-16.34%	32.62%	11.39%	1.97%	-11.59%	3.14%
Fiscal Year Ending	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2033-2042
Expected Return	15.64%	12.79%	5.30%	0.45%	11.31%	11.81%	10.22%	-1.52%	48.70%	-2.14%	10.49%
											2022-2042
											6.75%



The left-hand chart shows the projected Actuarial Liability (grey bars) increasing from \$2.8 billion to almost \$5.3 billion over the next 20 years. The red line on the same chart projects the GASB liability (i.e., the figure that appears on the employer’s financial statements). As of June 30, 2023, the Net OPEB Liability (NOL) is currently less than \$0 and is projected to remain less than \$0 over the next 20 years, so doesn’t show on the chart. The green line projects the assets in the Plan increasing from \$4.78 billion to approximately \$6.3 billion.

The right-hand chart shows the annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and are projected to increase from \$158 million to \$343 million over the next 20 year period. The blue line represents the State Teachers Retirement System’s assumed contributions to the Trust, the ADC. Currently, the ADC is zero and projected to remain at zero over the next 20 years, thus not shown in the graph above. The accounting expense is the change in the unfunded liability plus the change in Deferred Outflows/Inflows plus the employer contributions. The accounting expense, shown by the red line, is projected to become very volatile due to the investment gains and losses, thus the red spikes. The funding percentage is expected to range from 100% to 168% over the 20 year period.

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Table I-5 below summarizes the expected fiduciary net position and total expected net benefit payments for the next 30 years. The projection below is used to determine the discount rate assuming STRS Ohio continues to not make contributions to the Health Care Fund assets. Based on these assumptions, the OPEB Plan’s Fiduciary Net Position is projected to be available to make all projected future benefit payments of current Plan members.

Table I-5 Expected Fiduciary Net Position and Net Benefit Payments (\$ thousands)									
Fiscal Year Ending June 30	Projected Beginning Fiduciary Net Position (a)	Projected Contributions (b)	Projected Net Benefits Retirees (c)	Projected Net Benefits Future Retirees (d)	Projected Total Net Benefits (e) = (c) + (d)	Projected Administrative Expenses (f)	Projected Investment Earnings (g)	Projected Ending Fiduciary Net Position (h) = (a) + (b) - (e) - (f) + (g)	
2023	\$ 4,570,040				\$ 165,088	\$ 2,248	\$ 380,700	\$ 4,783,404	
2024	4,783,404	\$ 0	\$ 149,041	\$ 9,822	\$ 158,863	\$ 2,316	\$ 329,292	\$ 4,951,517	
2025	4,951,517	0	147,774	21,350	169,124	2,385	340,705	5,120,713	
2026	5,120,713	0	141,042	33,838	174,880	2,457	352,348	5,295,724	
2027	5,295,724	0	131,708	48,138	179,846	2,531	364,425	5,477,772	
2028	5,477,772	0	121,081	64,408	185,489	2,607	376,972	5,666,648	
2029	5,666,648	0	111,267	80,671	191,938	2,685	389,969	5,861,994	
2030	5,861,994	0	103,405	98,723	202,128	2,766	403,290	6,060,390	
2031	6,060,390	0	96,271	118,088	214,359	2,849	416,754	6,259,936	
2032	6,259,936	0	90,390	137,274	227,664	2,934	430,261	6,459,599	
2033	6,459,599	0	86,362	154,593	240,955	3,022	443,777	6,659,399	
2034	6,659,399	0	82,744	170,829	253,573	3,113	457,326	6,860,039	
2035	6,860,039	0	79,054	185,893	264,947	3,206	470,976	7,062,862	
2036	7,062,862	0	74,766	198,165	272,931	3,302	484,896	7,271,525	
2037	7,271,525	0	70,332	210,741	281,073	3,401	499,219	7,486,270	
2038	7,486,270	0	65,886	225,416	291,302	3,503	513,895	7,705,360	
2039	7,705,360	0	61,434	240,907	302,341	3,608	528,848	7,928,259	
2040	7,928,259	0	56,915	254,605	311,520	3,716	544,132	8,157,155	
2041	8,157,155	0	52,457	269,691	322,148	3,827	559,785	8,390,965	
2042	8,390,965	0	48,061	283,120	331,181	3,942	575,837	8,631,679	
2043	8,631,679	0	43,802	292,763	336,565	4,060	592,497	8,883,551	
2044	8,883,551	0	39,692	303,209	342,901	4,182	609,906	9,146,374	
2045	9,146,374	0	35,731	313,203	348,934	4,307	628,092	9,421,225	
2046	9,421,225	0	31,989	324,059	356,048	4,436	647,082	9,707,823	
2047	9,707,823	0	28,463	334,543	363,006	4,569	666,900	10,007,148	
2048	10,007,148	0	25,160	343,290	368,450	4,706	687,661	10,321,653	
2049	10,321,653	0	22,110	355,306	377,416	4,847	709,363	10,648,753	
2050	10,648,753	0	19,282	367,321	386,603	4,992	731,939	10,989,097	
2051	10,989,097	0	16,714	379,893	396,607	5,142	755,413	11,342,761	
2052	11,342,761	0	14,382	395,199	409,581	5,296	779,718	11,707,602	
2053	11,707,602	0	12,279	412,770	425,049	5,455	804,719	12,081,817	

The expected return on the fiduciary net position is assumed to remain at 7.00%. The projected administrative expenses are assumed to grow at 3%.

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SECTION I – VALUATION SUMMARY

Table I-6 below summarizes the expected net benefits payments (open group projection), assets, and Actuarial Liability. The expected ADC is determined to be zero over the entire period. The Plan is expected to remain over-funded during the entire period.

Table I-6 Expected Net Benefits, Assets, AL and ADC Current Funding Policy (\$ thousands)					
Valuation Date as of June 30,	Expected Net Benefit Payments & Administrative Expenses	Expected Actuarial Value of Assets	Expected Actuarial Liability	Fiscal Year Ending June 30,	Expected ADC Amount
2023	\$ 161,179	\$ 4,783,404	\$ 2,838,543	2024	\$ 0
2024	171,510	4,951,519	2,936,770	2025	0
2025	177,337	5,120,713	3,037,220	2026	0
2026	182,377	5,295,724	3,141,630	2027	0
2027	188,096	5,477,773	3,251,230	2028	0
2028	194,622	5,666,649	3,365,800	2029	0
2029	204,894	5,861,996	3,485,010	2030	0
2030	217,208	6,060,391	3,605,470	2031	0
2031	230,598	6,259,937	3,725,320	2032	0
2032	243,977	6,459,600	3,843,560	2033	0
2033	256,685	6,659,401	3,960,270	2034	0
2034	268,154	6,860,041	4,076,220	2035	0
2035	276,234	7,062,864	4,192,810	2036	0
2036	284,474	7,271,526	4,313,790	2037	0
2037	294,806	7,486,271	4,439,510	2038	0

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SECTION II –GASB 74 AND 75 SUMMARY

The purpose of the remainder of this report is to provide accounting and financial disclosure information under the Governmental Accounting Standards Board (GASB) Statement No. 74 and 75 for the Other Postemployment Benefits Plan provided by the State Teachers Retirement System of Ohio. This information includes:

- Determination of the discount rate as of June 30, 2023,
- Sensitivity of the Net OPEB Liability to changes in discount rates and health care cost trend rates,
- Note disclosures and required supplementary information under GASB 74 for the Plan, and
- Note disclosures and required supplementary information under GASB 75 for the collective employers.

Highlights

The OPEB Plan is currently funded in an OPEB trust. As a result, this report also contains disclosures required by GASB 74. The measurement date is June 30, 2023, which is used for the Plan’s GASB 74 reporting. The employer’s GASB 75 reporting as of June 30, 2024, is based on the June 30, 2023 measurement date. Measurements are based on the Total OPEB Liability and the fair value of assets as of June 30, 2023.

Table II-1 provides a summary of the key GASB 74/75 results during this measurement period.

Table II-1 Summary of Key Results			
Reporting Date under GASB 75		6/30/2024	6/30/2023
Reporting Date under GASB 74		6/30/2023	6/30/2022
Measurement Date under GASB 74 and 75		6/30/2023	6/30/2022
Net OPEB Liability	\$	(1,944,861)	\$ (2,589,333)
Deferred Outflows		289,539	192,907
Deferred Inflows		<u>1,576,358</u>	<u>2,224,954</u>
Net Impact on Statement of Net Position	\$	(658,042)	\$ (557,286)
OPEB Expense (\$ Amount)	\$	(100,756)	\$ (467,658)
OPEB Expense (% of Payroll)		(0.79%)	(3.83%)

Amounts in Thousands

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SECTION II –GASB 74 AND 75 SUMMARY

At the June 30, 2023 reporting date, the State Teachers Retirement System will report a Net OPEB Liability (NOL) of (\$1,944.9) million, Deferred Outflows of Resources (DOR) of \$289.5 million, and Deferred Inflows of Resources (DIR) of \$1,576.4 million related to the Plan. Consequently, the net impact on the State Teachers Retirement System's statement of net position due to the Plan would be (\$658.0) million $[(\$658.0) = (\$1,944.9) - \$289.5 + \$1,576.4]$. In addition, any contributions between the measurement date and the reporting date would be reported as Deferred Outflows of Resources to offset the cash outflows reported.

The NOL decreased by approximately \$644.5 million during the measurement period. Changes in NOL due to Plan changes are recognized immediately. Changes in NOL due to actuarial gains and losses as well as assumption changes is recognized over the average remaining service life, determined at the beginning of each measurement period, which is eight years as of the current and seven years as of the prior measurement period for the Plan. The change in NOL due to investment gains and losses is recognized in OPEB expense over five years, beginning in the year of occurrence. Unrecognized amounts are reported as DOR and DIR.

For the reporting year ending June 30, 2023, the annual OPEB expense is (\$100.8) million or (0.79%) of covered-employee payroll. This amount reflects the employer's contributions to the Plan during the measurement period, \$0, plus the change in the net impact on the State Teachers Retirement System's statement of net position $[(\$100.8) = \$0 + (\$658.0) - (\$557.3)]$. Volatility in OPEB expense from year to year is to be expected. A breakdown of the components of the net OPEB expense is shown in Section VI of this report.

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SECTION III – CERTIFICATION

This report presents the most recent annual actuarial valuation as of June 30, 2023 and disclosure information under the Governmental Accounting Standards Board (GASB) Statement Nos. 74 and 75 for the Other Postemployment Benefits (OPEB) Plan provided by the State Teachers Retirement System of Ohio (STRS Ohio). This report is for the use of STRS Ohio and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes. This report has been prepared in accordance with Ohio Revised Code Section 3307.51(E), which requires the board to have prepared annually a report giving a full accounting of the revenues and costs related to the provision of benefits under section 3307.39 of the Revised Code.

The actuary prepared the following supporting schedules including the Financial and Actuarial Sections of the *Annual Comprehensive Financial Report*:

- Financial/Required Supplementary Information
 - Schedule of Changes in Employers' Net OPEB Liability
 - Schedule of Employers' Net OPEB Liability
 - Schedule of Employers' Contributions – OPEB
 - Notes to Required Supplementary Information - OPEB
 - Sensitivity of the Net OPEB Liability to the Discount Rate and Trend Rate Assumptions

- Actuarial
 - Retiree Health Care Member Benefit Coverage Information
 - Key methods and assumptions used in Retiree Health Care Benefits Actuarial Valuation
 - Summary of Membership Data

In preparing our report, we relied on information (some oral and some written) supplied by STRS Ohio. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for funding purposes meet the requirements of the Actuarial Standards of Practice, in particular Standards Nos. 6, 27, 35 and 44.

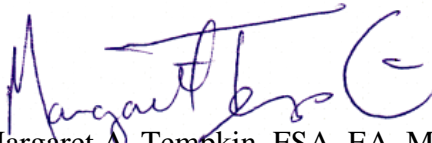
Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, changes in health care assumptions, and changes in plan provisions or applicable law. This report does not reflect future changes in benefit, recoveries, or administrative costs that may be required as a result of the Inflation Reduction Act, the 2021 Consolidated Appropriation Act, related legislation, or regulations.

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SECTION III – CERTIFICATION

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for STRS Ohio for the purposes described herein and for the use by the auditors in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any such other user.



Margaret A. Tempkin, FSA, EA, MAAA
Principal Consulting Actuary



Gaelle Gravot, FSA, MAAA
Principal Consulting Actuary

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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SECTION IV – DETERMINATION OF DISCOUNT RATE

The discount rate as of June 30, 2023 is 7.00%, which is the assumed long-term expected rate of return on plan investments. Projections of the Plan’s Fiduciary Net Position have indicated that it is expected to be sufficient to make projected benefit payments for current plan members following the procedures described in paragraphs 48-53 of GASB Statement 74. As such, the single rate of return, as required by the Statement, is equal to the long-term expected rate of return on the Plan’s assets, which is 7.00%. The prior year’s discount rate was 7.00% based on the assumed long-term expected rate of return on plan investments of 7.00%.

In developing the projection of cash flows used to determine the discount rate, we assumed that no employer contributions would go into the Health Care Fund. Projections indicate that all future net claims will be covered by current plan assets, and trust fund earnings on investments.

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SECTION V – GASB 74 REPORTING INFORMATION

Note Disclosures

The tables below show the changes in the Total OPEB Liability (TOL), the Plan Fiduciary Net Position (i.e., fair value of plan assets) (FNP), and the Net OPEB Liability (NOL) during the measurement period ending on June 30, 2023.

Table V - 1 Change in Net OPEB Liability			
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
Balances at 6/30/2022	\$ 1,980,707	\$ 4,570,040	\$ (2,589,333)
Changes for the year:			
Beginning of year service cost	26,796		26,796
Interest	134,747		134,747
Changes of benefits	628,670		628,670
Differences between expected and actual experience	3,465		3,465
Changes of assumptions	229,246		229,246
Contributions - employer		0	0
On behalf contributions		100,515	(100,515)
Contributions - retired members		0	0
Net investment income		380,700	(380,700)
Benefit payments	(165,088)	(265,603)	100,515
Administrative expense		(2,248)	2,248
Net changes	<u>857,836</u>	<u>213,364</u>	<u>644,472</u>
Balances at 6/30/2023	<u>\$ 2,838,543</u>	<u>\$ 4,783,404</u>	<u>\$ (1,944,861)</u>

Amounts in Thousands

During the measurement year, the NOL increased by approximately \$0.64 billion. The service cost and interest cost increased the NOL by approximately \$0.16 billion, while investment gains and contributions offset by administrative expenses decreased the NOL by approximately \$0.48 billion.

There were changes in benefits during the year, which increased the TOL by approximately \$0.63 billion. There were changes in assumptions during the measurement year, which increased the TOL by approximately \$0.23 billion. There was a liability loss during the year due to experience, which increased the TOL by \$3.5 million.

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SECTION V – GASB 74 REPORTING INFORMATION

Changes in the discount rate affect the measurement of the TOL. Lower discount rates produce a higher TOL, and higher discount rates produce a lower TOL. The table below shows the sensitivity of the NOL to the discount rate.

Table V - 2			
Sensitivity of Net OPEB Liability to Changes in Discount Rate			
	1% Decrease 6.00%	Discount Rate 7.00%	1% Increase 8.00%
Total OPEB Liability	\$ 3,137,333	\$ 2,838,543	\$ 2,578,327
Plan Fiduciary Net Position	<u>4,783,404</u>	<u>4,783,404</u>	<u>4,783,404</u>
Net OPEB Liability	<u>\$ (1,646,071)</u>	<u>\$ (1,944,861)</u>	<u>\$ (2,205,077)</u>
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	152.5%	168.5%	185.5%

Amounts in Thousands

A one percent decrease in the discount rate increases the TOL by approximately 11% and increases the NOL by approximately 15%. A one percent increase in the discount rate decreases the TOL by approximately 9% and decreases the NOL by approximately 13%.

Changes in health care trends also affect the measurement of the TOL. Lower health care trends produce lower TOL, and higher health care trends produce a higher TOL. The table below shows the sensitivity of the NOL to health care trends.

Table V - 3			
Sensitivity of Net OPEB Liability to Changes in Health Care Cost Trend Rates			
	1% Decrease	Health Care Trend	1% Increase
Total OPEB Liability	\$ 2,566,252	\$ 2,838,543	\$ 3,166,511
Plan Fiduciary Net Position	<u>4,783,404</u>	<u>4,783,404</u>	<u>4,783,404</u>
Net OPEB Liability	<u>\$ (2,217,152)</u>	<u>\$ (1,944,861)</u>	<u>\$ (1,616,893)</u>
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	186.4%	168.5%	151.1%

Amounts in Thousands

A one percent decrease in health care trends decreases the TOL by approximately 10% and decreases the NOL by approximately 14%. A one percent increase in health care trends increases the TOL by approximately 12% and increases the NOL by approximately 17%.

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SECTION V – GASB 74 REPORTING INFORMATION

Required Supplementary Information

The schedules of required supplementary information generally start with information as of the implementation of GASB 74 and eventually will build up to 10 years of information. The schedules below show the changes in NOL and related ratios required by GASB.

Table V - 4 Schedule of Changes in Net OPEB Liability and Related Ratios							
	FYE 2023	FYE 2022	FYE 2021	FYE 2020	FYE 2019	FYE 2018	FYE 2017
Total OPEB Liability							
Beginning of year service cost (including retired member contributions for FYE2021 and prior)	\$ 26,796	\$ 38,323	\$ 30,123	\$ 324,526	\$ 338,776	\$ 633,316	\$ 225,094
Interest (includes interest on service cost)	134,747	196,820	167,884	174,040	164,544	320,157	277,562
Changes of benefit terms	628,670	246,059	556,994	428,480	53,985	(3,340,847)	(1,065,892)
Differences between expected and actual experience	3,465	(94,797)	(116,611)	(329,525)	(7,285)	(109,227)	262,764
Changes of assumptions	229,246	(1,131,159)	130,045	(264,958)	40,616	(2,248,888)	(366,671)
Benefit payments + expenses, including refunds of member contributions	(165,088)	(95,860)	(86,912)	(408,683)	(489,169)	(517,470)	(489,101)
Net change in total OPEB liability	\$ 857,836	\$ (840,614)	\$ 681,523	\$ (76,120)	\$ 101,467	\$ (5,262,959)	\$ (1,156,244)
Total OPEB liability - beginning	1,980,707	2,821,321	2,139,798	2,215,918	2,114,451	7,377,410	8,533,654
Total OPEB liability - ending	\$ 2,838,543	\$ 1,980,707	\$ 2,821,321	\$ 2,139,798	\$ 2,215,918	\$ 2,114,451	\$ 7,377,410
Plan fiduciary net position							
Contributions - employer	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ -
On behalf contributions	100,515	97,712	96,478	81,876	84,789	107,197	79,357
Contributions - retired members	0	0	-	295,779	312,842	329,305	339,056
Net investment income	380,700	(261,500)	1,121,700	140,299	244,699	328,965	440,196
Benefit payments, including refunds of member contributions	(265,603)	(193,572)	(183,390)	(490,559)	(489,169)	(517,470)	(565,962)
Administrative expense	(2,248)	(2,340)	(2,344)	(2,257)	(2,352)	(2,427)	(2,496)
Net change in plan fiduciary net position	\$ 213,364	\$ (359,700)	\$ 1,032,444	\$ 25,138	\$ 150,809	\$ 245,570	\$ 290,151
Plan fiduciary net position - beginning	4,570,040	4,929,740	3,897,296	3,872,158	3,721,349	3,475,779	3,185,628
Plan fiduciary net position - ending	\$ 4,783,404	\$ 4,570,040	\$ 4,929,740	\$ 3,897,296	\$ 3,872,158	\$ 3,721,349	\$ 3,475,779
Net OPEB liability - ending	\$ (1,944,861)	\$ (2,589,333)	\$ (2,108,419)	\$ (1,757,498)	\$ (1,656,240)	\$ (1,606,898)	\$ 3,901,631
Plan fiduciary net position as a percentage of the total OPEB liability	168.52%	230.73%	174.73%	182.13%	174.74%	176.00%	47.11%
Covered employee payroll	\$ 12,733,104	\$ 12,224,438	\$ 11,610,016	\$ 11,392,013	\$ 11,088,785	\$ 10,775,526	\$ 10,767,964
Net OPEB liability as a percentage of covered employee payroll	-15.27%	-21.18%	-18.16%	-15.43%	-14.94%	-14.91%	36.23%

Amounts in Thousands



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SECTION V – GASB 74 REPORTING INFORMATION

We have provided the FYE 2017 through FYE 2022 columns in the schedule of employer contributions below. An additional year will be added each year until a full ten-year history is shown in this schedule.

Table V - 5 Schedule of Employer Contributions							
	FYE 2023	FYE 2022	FYE 2021	FYE 2020	FYE 2019	FYE 2018	FYE 2017
Actuarially Determined Contribution (ADC)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 239,430
Actual Contribution related to ADC	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Contribution Deficiency/(Excess) relative to ADC	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 239,430</u>
Covered-Employee Payroll (Pay)	\$ 12,733,104	\$ 12,224,438	\$ 11,610,016	\$ 11,392,013	\$ 11,088,785	\$ 10,775,526	\$ 10,767,964
Actual Contributions as % of Pay	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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SECTION VI – GASB 75 REPORTING INFORMATION

The schedules in this section provide the information the State Teachers Retirement System needs to report under GASB 75. The impact of experience gains or losses and assumption changes on the TOL are recognized in the expense over the average expected remaining service life of all active and inactive members of the Plan. As of the measurement date, this recognition period was seven years.

The table below summarizes the current balances of Deferred Outflows of Resources (DOR) and Deferred Inflows of Resources (DIR) related to the Plan along with the net recognition over the next five years and the total recognition thereafter if any.

Table VI - 1		
Schedule of Deferred Inflows and Outflows of Resources as of June 30, 2023 Measurement Date		
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 3,032	\$ 296,639
Changes in assumptions	286,507	1,283,191
Net difference between projected and actual earnings on OPEB plan investments	3,472	0
Total	\$ 293,011	\$ 1,579,830
Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:		
Year ended June 30:		
2024	(570,131)	
2025	(262,036)	
2026	(99,866)	
2027	(135,566)	
2028	(124,156)	
Thereafter \$	(95,064)	

Amounts in Thousands

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
ACTUARIAL VALUATION AND GASB 74/75 REPORTING
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SECTION VI – GASB 75 REPORTING INFORMATION

During the year, benefit changes increased the TOL by approximately \$628.7 million. Benefit changes are recognized immediately.

During the year, actual experience differed from assumed experience increasing the TOL by approximately \$3.5 million. One-eighth of this was recognized in the current year, and an identical amount will be recognized in each of the next seven years, resulting in a DOR of approximately \$3.0 million. In addition, assumption changes (including a change in health care cost and trends) increased the TOL by approximately \$229.2 million. Approximately \$28.7 million was recognized in the current year, and an identical amount will be recognized in each of the next seven years, resulting in a DIR of approximately \$200.6 million.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of \$66.7 million. Of that gain, \$13.3 million was recognized in the current year, and an identical amount will be recognized in each of the next four years, resulting in a DIR as of June 30, 2023 of \$53.3 million.

Please refer to table VI – 2 for the complete schedule of DOR and DIR.

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
ACTUARIAL VALUATION AND GASB 74/75 REPORTING
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SECTION VI – GASB 75 REPORTING INFORMATION

The table below shows the schedule of DOR and DIR since inception of GASB 74/75.

Table VI - 2 Schedule of Deferred Inflows and Outflows of Resources as of June 30, 2023 Projected Fiscal Year End June 30, 2023 Measurement Date													
Recognition of Experience (Gains) and Losses													
Experience	Recognition	Total	BOY Remaining	EOY Remaining	Recognition Year								
Year	Period	Amount	Amount	Amount	2023	2024	2025	2026	2027	2028	2029	2030	
2023	8.00	\$ 3,465	\$ 3,465	\$ 3,032	\$ 433	\$ 433	\$ 433	\$ 433	\$ 433	\$ 433	\$ 433	\$ 433	
2022	8.00	\$ (94,797)	\$ (82,947)	\$ (71,097)	\$ (11,850)	\$ (11,850)	\$ (11,850)	\$ (11,850)	\$ (11,850)	\$ (11,850)	\$ (11,850)	\$ (11,847)	
2021	7.00	\$ (116,611)	\$ (83,293)	\$ (66,634)	\$ (16,659)	\$ (16,659)	\$ (16,659)	\$ (16,659)	\$ (16,657)	\$ -	\$ -	\$ -	
2020	7.00	\$ (329,525)	\$ (188,300)	\$ (141,225)	\$ (47,075)	\$ (47,075)	\$ (47,075)	\$ (47,075)	\$ -	\$ -	\$ -	\$ -	
2019	7.00	\$ (7,285)	\$ (3,121)	\$ (2,080)	\$ (1,041)	\$ (1,041)	\$ (1,039)	\$ -	\$ -	\$ -	\$ -	\$ -	
2018	7.00	\$ (109,227)	\$ (31,207)	\$ (15,603)	\$ (15,604)	\$ (15,603)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2017*	7.00	\$ 262,764	\$ 37,536	\$ -	\$ 37,536	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Recognition of liability gains and losses			\$ (347,867)	\$ (293,607)	\$ (54,260)	\$ (91,795)	\$ (76,190)	\$ (75,151)	\$ (28,074)	\$ (11,417)	\$ (11,414)	\$ 434	
Recognition of Assumption Changes													
Experience	Recognition	Total	BOY Remaining	EOY Remaining	Recognition Year								
Year	Period	Amount	Amount	Amount	2023	2024	2025	2026	2027	2028	2029	2030	
2023	8.00	\$ 229,246	\$ 229,246	\$ 200,590	\$ 28,656	\$ 28,656	\$ 28,656	\$ 28,656	\$ 28,656	\$ 28,656	\$ 28,656	\$ 28,654	
2022	8.00	\$ (1,131,159)	\$ (989,764)	\$ (848,369)	\$ (141,395)	\$ (141,395)	\$ (141,395)	\$ (141,395)	\$ (141,395)	\$ (141,395)	\$ (141,394)	\$ -	
2021	7.00	\$ 130,045	\$ 92,889	\$ 74,311	\$ 18,578	\$ 18,578	\$ 18,578	\$ 18,578	\$ 18,577	\$ -	\$ -	\$ -	
2020	7.00	\$ (264,958)	\$ (151,405)	\$ (113,554)	\$ (37,851)	\$ (37,851)	\$ (37,851)	\$ (37,852)	\$ -	\$ -	\$ -	\$ -	
2019	7.00	\$ 40,616	\$ 17,408	\$ 11,606	\$ 5,802	\$ 5,802	\$ 5,804	\$ -	\$ -	\$ -	\$ -	\$ -	
2018	7.00	\$ (2,248,888)	\$ (642,538)	\$ (321,268)	\$ (321,270)	\$ (321,268)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2017*	7.00	\$ (366,671)	\$ (52,379)	\$ -	\$ (52,379)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Recognition of assumption changes			\$ (1,496,543)	\$ (996,684)	\$ (499,859)	\$ (447,478)	\$ (126,208)	\$ (132,013)	\$ (94,162)	\$ (112,739)	\$ (112,738)	\$ 28,654	
Recognition of Investment (Gains) and Losses													
Experience	Recognition	Total	BOY Remaining	EOY Remaining	Recognition Year								
Year	Period	Amount	Amount	Amount	2023	2024	2025	2026	2027	2028	2029	2030	
2023	5	\$ (66,654)	\$ (66,654)	\$ (53,323)	\$ (13,331)	\$ (13,331)	\$ (13,331)	\$ (13,331)	\$ (13,330)	\$ -	\$ -	\$ -	
2022	5	\$ 603,145	\$ 482,516	\$ 361,887	\$ 120,629	\$ 120,629	\$ 120,629	\$ 120,629	\$ -	\$ -	\$ -	\$ -	
2021	5	\$ (834,676)	\$ (500,806)	\$ (333,871)	\$ (166,935)	\$ (166,935)	\$ (166,936)	\$ -	\$ -	\$ -	\$ -	\$ -	
2020	5	\$ 143,887	\$ 57,556	\$ 28,779	\$ 28,777	\$ 28,779	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2019	5	\$ 29,044	\$ 5,808	\$ -	\$ 5,808	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Recognition of investment gains and losses			\$ (21,580)	\$ 3,472	\$ (25,052)	\$ (30,858)	\$ (59,638)	\$ 107,298	\$ (13,330)	\$ -	\$ -	\$ -	
Total (Gains) and Losses		Total Amount	Remaining Amounts		Recognition Year								
		Amount	BOY	EOY	2023	2024	2025	2026	2027	2028	2029	2030	
Total (Gains) and Losses		\$ (4,128,239)	\$ (1,865,990)	\$ (1,286,819)	\$ (579,171)	\$ (570,131)	\$ (262,036)	\$ (99,866)	\$ (135,566)	\$ (124,156)	\$ (124,152)	\$ 29,088	

* 2017 was calculated by the prior actuary

Amounts in Thousands



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SECTION VI – GASB 75 REPORTING INFORMATION

Annual OPEB Expense

The annual OPEB expense can be calculated in two different ways. First, it is the change in the amounts reported on the State Teachers Retirement System’s Statement of Net Position that relate to the Plan and are not attributable to employer contributions. That is, it is the change in the NOL minus the change in Deferred Outflows plus the change in Deferred Inflows plus employer contributions during the year.

Alternatively, annual OPEB expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table on the next page, we believe it helps to understand the level and volatility of the OPEB expense.

In the calculation of OPEB expense by individual components, there are three separate sections. First, there are components referred to as operating expenses. These are items directly attributable to the operation of the Plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the measurement year, and administrative expenses are the cost of operating the Plan for the year.

Second, there are the financing expenses: the interest on the TOL less the expected return on assets.

The final category is changes. This category will drive most of the volatility in OPEB expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TOL, and investment gains or losses.

The table on the following page shows the development of the OPEB expense through both of these methodologies. In addition, to the information shown below, any contributions between the measurement date and the reporting date would be reported as Deferred Outflows of Resources to offset the cash outflows reported.

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SECTION VI – GASB 75 REPORTING INFORMATION

**Table VI - 3
Calculation of OPEB Expense**

Fiscal Year	Measurement Year Ending	
	2023	2022
Change in Net OPEB Liability	\$ 644,472	\$ (480,914)
Change in Deferred Outflows	(96,632)	16,844
Change in Deferred Inflows	(648,596)	(3,588)
Employer Contributions	<u>0</u>	<u>0</u>
OPEB Expense	\$ (100,756)	\$ (467,658)
OPEB Expense as % of Payroll	(0.79%)	(3.83%)
Operating Expenses		
Service cost	\$ 26,796	\$ 38,323
On behalf contributions	(100,515)	(97,712)
Retired members contributions	-	-
Benefits Paid by on Behalf	100,515	97,712
Administrative expenses	<u>2,248</u>	<u>2,340</u>
Total	\$ 29,044	\$ 40,663
Financing Expenses		
Interest cost	\$ 134,747	\$ 196,820
Expected return on assets	<u>(314,046)</u>	<u>(341,645)</u>
Total	\$ (179,299)	\$ (144,825)
Changes		
Benefit changes	\$ 628,670	\$ 246,059
Recognition of assumption changes	(499,859)	(528,518)
Recognition of liability gains and losses	(54,260)	(54,691)
Recognition of investment gains and losses	<u>(25,052)</u>	<u>(26,346)</u>
Total	\$ 49,499	\$ (363,496)
OPEB Expense	\$ (100,756)	\$ (467,658)

Amounts in Thousands

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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APPENDIX A – MEMBERSHIP INFORMATION

The census data used to develop the Total OPEB Liability (TOL) as of June 30, 2023 was provided by the State Teachers Retirement System.

	June 30, 2023	June 30, 2022	% Change
Active Participants			
Number	175,028	174,031	0.6%
Average age	44.40	44.24	0.4%
Average years of service	13.34	13.31	0.2%
Projected payroll (in thousands)	\$ 13,274,839	\$ 12,829,357	3.5%
Average expected retirement age	62.6	62.6	0.0%
Retirees Enrolled in Health Care			
Number of retirees	93,578	94,349	-0.8%
Average age of retirees	75.3	75.0	0.4%
Numbers of spouses and dependents (excluding children)	11,496	11,868	-3.1%
Average age of spouses	75.6	75.3	0.4%
Surviving Spouses Enrolled in Health Care			
Number	4,045	4,143	-2.4%
Average age	83.3	82.9	0.5%
Terminated Members Entitled but Not Yet Eligible			
Number	20,908	20,190	3.6%
Average age	50.5	50.8	-0.6%
Number of terminated members eligible	2,432	2,317	5.0%
Average age	57.2	57.6	-0.7%

Active Member Data as of June 30, 2023

Age	COUNTS BY AGE/SERVICE										Total
	Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25	3,246	3,795	0	0	0	0	0	0	0	0	7,041
25 to 29	1,852	9,332	3,839	0	0	0	0	0	0	0	15,023
30 to 34	1,487	4,645	9,047	3,466	0	0	0	0	0	0	18,645
35 to 39	1,569	3,909	4,785	8,521	3,650	0	0	0	0	0	22,434
40 to 44	1,421	3,644	3,925	4,479	9,328	4,491	2	0	0	0	27,290
45 to 49	1,048	2,719	2,743	2,784	3,663	9,572	3,694	0	0	0	26,223
50 to 54	853	2,234	2,233	2,279	2,679	4,166	8,676	2,675	0	0	25,795
55 to 59	555	1,417	1,382	1,465	1,924	2,476	3,118	4,325	463	0	17,125
60 to 64	419	881	894	938	1,173	1,780	1,770	1,510	529	71	9,965
65 to 69	368	529	451	325	343	462	407	348	198	81	3,512
70 & up	367	425	264	165	100	152	116	126	142	118	1,975
Total	13,185	33,530	29,563	24,422	22,860	23,099	17,783	8,984	1,332	270	175,028

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APPENDIX A – MEMBERSHIP INFORMATION

Reconciliation of Members							
	Active	Retired	Surviving Spouse	Disabled	Spouse of Retiree	Term Vested	Total
June 30, 2022	174,031	91,294	4,143	3,055	11,868	20,190	304,581
Changes due to:							
Active							
To Retired	(2,058)	2,058	-	-	-	-	-
To Disabled	(25)	-	-	25	-	-	-
To Death	(4)	-	-	-	-	-	(4)
To Term Vested	(3,182)	-	-	-	-	3,182	-
Retired							
To Active	-	-	-	-	-	-	-
To Term Vested	-	-	-	-	-	-	-
To Disabled	-	-	-	-	-	-	-
Disabled							
To Active	-	-	-	-	-	-	-
To Retired	-	12	-	(12)	-	-	-
To Death	-	-	-	(2)	-	-	(2)
To Term Vested	-	-	-	-	-	-	-
Spouse of Retiree							
To Surviving Spouse	-	-	299	-	(299)	-	-
Term Vested							
To Active	1,159	-	-	-	-	(1,159)	-
To Retired	-	80	-	-	-	(80)	-
To Surviving Spouse	-	-	-	-	-	-	-
To Disabled	-	-	-	3	-	(3)	-
To Death	-	-	-	-	-	(4)	(4)
Additions-New Hires	15,731	-	-	-	-	-	15,731
Additions-Other	3,518	1,100	43	56	647	89	5,453
Departures	(14,142)	(3,875)	(440)	(216)	(720)	(1,307)	(20,700)
June 30, 2023	175,028	90,669	4,045	2,909	11,496	20,908	305,055

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions for this valuation were selected based on recent experience and expectations for the future. Demographic assumptions were reviewed and adopted by the Board on February 17, 2022 as part of an experience study performed (report dated and accepted March 11, 2022) covering the period from July 1, 2015 to June 30, 2021, with changes going into effect June 30, 2022. In addition, eligibility for unreduced Pension was updated to reflect the Board’s decision to delay the requirement of 35 years of service to 2028.

Economic Assumptions

- 1. Expected Return on Assets** 7.00% per year net of administrative and investment expenses, based on the long-term rate of return on invested plan assets

- 2. Municipal Bond Yield** 3.65% as of June 30, 2023
Bond Buyer 20-Bond GO Index as of June 30, 2023

- 3. Discount Rate** 7.00%, based on a blend of 3.65% municipal bond yield rate and the expected return on invested plan assets. The assets are sufficient to cover all expected benefits, thus the long-term rate of return is used.

- 4. Payroll Increase Rate** 3.00% per year for purposes of attributing individual costs under the Entry Age actuarial cost method

- 5. Salary Increase Rate** Varies by service from 2.5% to 8.5%

- 6. Per Person Health Care Cost Trends**

Medical trend assumptions used were developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model. The SOA model was released in December 2007, and version 2023_1f was used for this valuation. The following assumptions were used as input variables into this model:

Trend Assumption Inputs	
Variable	Rate
Rate of Inflation	2.70%
Rate of Growth in Real Income/GDP per capita 2032+	1.40%
Extra Trend due to Taste/Technology 2032+	0.80%
Expected Health Share of GDP 2032	19.8%
Health Share of GDP Resistance Point	19.0%
Year for Limiting Cost Growth to GDP Growth	2043

The SOA Long-Run Medical Cost Trend Model and its baseline projection are based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of the SOA Project Oversight Group.

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Short-term trends, i.e., the first 4 years of trends that were inputted in the SOA Long-Run Medical Cost Trend Model were set based on STRS historical trends for medical and Rx, and anticipated health care market changes. The table below summarizes the short-term trends by year and coverage type. Note that trends are applicable to underlying gross cost, meaning prior to recognizing any recoveries or subsidies for the Part D Employee Group Waiver Program (EGWP) plans, and prior to recognizing the CMS revenue for the Medicare Advantage plans.

Year	Medical Non-Medicare	Rx Non-Medicare	Medical Medicare	Rx Medicare	CMS Revenue
2023	7.5%	8.0%	7.0%	8.0%	6.8%
2024	7.0%	7.5%	6.5%	7.5%	6.6%
2025	6.2%	6.2%	6.2%	6.2%	6.2%
2026	5.6%	5.6%	5.6%	5.6%	5.6%

The CMS revenue trend is assumed match the medical Medicare trend thereafter.

Year	Medical + Prescription		Premium Trends		Subsidy	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare	Pre-Medicare	Medicare
2023	4.54%	5.25%	3.95%	5.22%	3.95%	6.42%
2024	7.06%	9.23%	7.08%	8.22%	7.08%	8.22%
2025	6.20%	8.43%	6.20%	7.87%	6.20%	7.87%
2026	5.60%	6.12%	5.60%	6.03%	5.60%	6.03%
2027	5.50%	5.41%	5.50%	5.43%	5.50%	5.43%
2028	5.39%	6.09%	5.39%	5.89%	5.39%	5.89%
2029	5.29%	6.68%	5.50%	6.29%	5.50%	6.29%
2030	5.18%	6.47%	5.18%	5.89%	5.18%	6.11%
2031	5.08%	6.26%	5.08%	5.94%	5.08%	6.29%
2032	4.97%	6.07%	4.97%	5.77%	4.97%	5.77%
2033	4.80%	5.85%	4.80%	5.58%	4.80%	5.58%
2034	4.57%	4.57%	4.57%	4.57%	4.57%	4.57%
2035	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%
2036	4.39%	4.39%	4.39%	4.39%	4.39%	4.39%
2037	4.35%	4.35%	4.35%	4.35%	4.35%	4.35%
2038	4.32%	4.32%	4.32%	4.32%	4.32%	4.32%
2039	4.29%	4.29%	4.35%	4.29%	4.35%	4.29%
2040	4.28%	4.28%	4.28%	4.32%	4.28%	4.28%
2041	4.26%	4.26%	4.26%	4.26%	4.26%	4.29%
2042	4.20%	4.20%	4.20%	4.20%	4.20%	4.20%
2043+	4.14%	4.14%	4.14%	4.14%	4.14%	4.14%

The ultimate trend rate reflects an assumed nominal per capita GDP growth.

7. Changes Since the Last Valuation

Health care trends were updated to reflect emerging claims and recoveries experience as well as benefit changes effective January 1, 2024.

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Demographic Assumptions

1. Retirement Rates

Pension eligibility requirements are age 60 with five years of service or 30 years of service regardless of age for reduced retirement and age 65 with five years of service for unreduced retirement, or according to the following schedule:

Retirement Effective Date	Reduced Retirement	Unreduced Retirement
7/1/2015	Age 55 and 26 years	30 years
8/1/2015 - 7/1/2017	Age 55 and 26 years	31 years
8/1/2017 - 7/1/2019	Age 55 and 27 years	32 years
8/1/2019 - 7/1/2021	Age 55 and 28 years	33 years
8/1/2021 - 7/1/2023	Age 55 and 29 years	34 years
8/1/2023 - 7/1/2028	Age 55 and 30 years	34 years
8/1/2028	Age 55 and 30 years	35 years

After meeting pension eligibility requirements, the following rates apply based on the Plan and type of retirement (reduced or unreduced).

Combined Plan		
Age	Male	Female
60	10.00%	10.00%
61-63	10.00%	15.00%
64	18.00%	20.00%
65	25.00%	30.00%
66	10.00%	25.00%
67	10.00%	15.00%
68	10.00%	15.00%
69-74	15.00%	15.00%
75	100.00%	100.00%

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Age	Reduced Retirement		Unreduced Retirement	
	Male	Female	Male	Female
50-51	2.00%	2.00%	N/A	N/A
52	3.00%	3.00%	N/A	N/A
53	5.00%	5.00%	N/A	N/A
54	9.00%	9.00%	N/A	N/A
55	12.00%	13.00%	23.00%	18.00%
56	10.00%	11.00%	20.00%	20.00%
57	10.00%	11.00%	18.00%	20.00%
58	8.00%	10.00%	22.00%	22.00%
59	11.00%	10.00%	23.00%	26.00%
60	6.50%	9.00%	21.00%	28.00%
61	8.00%	10.00%	20.00%	28.00%
62	8.00%	11.00%	20.00%	28.00%
63	10.00%	12.00%	20.00%	30.00%
64	15.00%	25.00%	24.00%	30.00%
65	N/A	N/A	28.00%	36.00%
66	N/A	N/A	23.00%	28.00%
67	N/A	N/A	22.00%	26.00%
68	N/A	N/A	20.00%	25.00%
69	N/A	N/A	21.00%	25.00%
70-71	N/A	N/A	22.00%	25.00%
72	N/A	N/A	24.00%	25.00%
73	N/A	N/A	20.00%	25.00%
74	N/A	N/A	23.00%	28.00%
75+	N/A	N/A	100.00%	100.00%

For terminated members: we assumed 100% at age 62 or the first age at which unreduced benefits are available.

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

2. Rates of Termination/Withdrawal

Vested Termination Rate Withdrawal***			
Age	Male	Female	Disability
20	6.00%	6.00%	0.007%
30	2.70%	3.55%	0.007%
40	1.75%	1.40%	0.035%
50	1.95%	1.60%	0.126%
60	4.00%	3.60%	0.175%

**Termination rates stop at first retirement eligibility.*

*** During the first five years of service, the following rates apply:*

Non-Vested Termination Rate		
Service	Male	Female
< 1 Year	40.00%	35.00%
1-2 Years	16.00%	15.00%
2-3 Years	12.00%	8.00%
3-5 Years	9.00%	8.00%

3. Rates of Mortality

Pre-Retirement: Pub-2010 Teachers Employee Table adjusted 95% for females, projected forward generationally using mortality improvement scale MP-2020.

Healthy Mortality: Pub-2010 Teachers Healthy Annuitant Mortality Table, adjusted 110% for males, projected forward generationally using mortality improvement scale MP-2020.

Disabled Mortality: Pub-2010 Teachers Disabled Annuitant Table projected forward generationally using mortality improvement scale MP-2020.

4. Percent of Retirees Electing Coverage

- 65% of future eligible service retirees and 65% of future eligible disabled retirees are assumed to elect coverage.
- 100% of combined plan and 20% of defined benefit plan future inactive vested participants are assumed to cash out.
- 30% of inactive vested participants who do not cash out are assumed to elect coverage.
- Current and future participants for whom the value of the benefits received is less than their contribution are assumed to drop coverage.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

5. Benefit Elections

Below is a summary of the medical plan election rates for future retirees by Medicare status.

Pre-Medicare Medical Plans	Benefit Election Rate
Aetna Basic PPO	100.0%

Medicare Medical Plans	Benefit Election Rate
Aetna Medicare Advantage	96.5%
Aetna Basic PPO	3.5%

These weights were used to blend premium rates developed by Wakely, less applicable subsidies, discounts, and rebates (the “Recoveries”), to estimate individual retiree and spouse costs by age and gender.

6. Spousal Coverage

Of those future retirees who elect to continue health coverage, 20% were assumed to have an eligible spouse who also opts for health coverage at that time.

7. Dependent Age

For current retirees, the actual spouse date of birth was used when available.

For future retirees, male retirees are assumed to be three-years older than their partners, and female retirees are assumed to be one-year younger than their partners.

8. Administrative Expenses

Health plan administrative expenses are included in the per capita claims costs.

9. Changes Since the Last Valuation

The eligibility for unreduced Pension was updated to reflect the delayed implementation of the 35 years or service requirement to August 2028.

10. Rationale for Assumptions

The assumptions were adopted by the Board of Trustees at their February 17, 2022 meeting. The demographic assumptions adopted are based on an experience study covering the period from July 1, 2015 through June 30, 2021 (report dated and accepted March 11, 2022).

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Claim and Expense Assumptions

The claims costs are developed based on CY 2023 and CY 2024 projected premiums provided by STRS Ohio and developed by its vendor (Wakely, Aetna, CVS). For the Part D EGWP plans, claims costs are defined as the Plan cost net of all recoveries (i.e., net of Rx rebates, Gap Discount rebates, Part D direct subsidy, Low-income cost share, and Federal Reinsurance), using the gross paid claims Per Member Per Month (PMPM), the Rx rebates and pharma Gap Discounts PMPM, and the CMS Part D Direct subsidy and Federal Reinsurance payment PMPM as projected by Wakely and documented in Wakely’s 2024 Final Self Funded Rates memo dated August 5, 2023. For each plan (e.g., Basic vs. Aetna vs. AultCare vs. Paramount), each benefit (i.e., medical vs. Rx), and each population (i.e., Non-Medicare vs Medicare A&B vs. Medicare B only) we calculate the projected FYE 2024 rate PMPM as the average of the CY 2023 and CY 2024 rate. Using the June 30, 2023 retiree membership distribution by plan and population, we calculate four rates: a Non-Medicare Eligible (NME) medical rate, a NME Rx rate, a Medicare Eligible (ME) medical rate, and a ME Rx rate. The resulting PMPM rates are then adjusted using Cheiron’s proprietary age curves.

1. Average Annual Claims and Expense Assumptions

The following 7/1/2023-6/30/2024 claims costs were developed based on:

- The average of the 2023 and 2024 premium rates the State Teachers Retirement System pays its vendors,
- The average Wakely’s projected 2023 and 2024 Employer Group Waiver Program (EGWP) Recoveries that the State Teachers Retirement System is expected to receive for CY 2023 and CY 2024 prescription filled dates, and
- An estimate of the additional Rx rebates PMPM for the Non-Medicare population-based of \$75 for CY 2023.

All rates were converted from a Per Adult or Per Child rate to a composite Per Person rate. A child load of 3.1% for medical and 1.9% for Rx was added onto the NME pre-65 claims and expenses to account for the fact that only adults are inputted in the valuation system, ProVal.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

**Average Claim and Expense Assumptions:
For Fiscal Year 7/1/2023-6/30/2024:**

Fiscal Year Ending 6/30/2024 Average Claim and Expense Assumptions				
Age	Non-Medicare		Medicare	
	Male	Female	Male	Female
40	\$4,533	\$7,756	\$1,487	\$1,431
45	\$5,967	\$8,192	\$2,142	\$2,061
50	\$7,777	\$9,466	\$2,718	\$2,616
55	\$9,964	\$11,511	\$2,979	\$2,866
60	\$12,527	\$13,525	\$2,809	\$2,702
64	\$14,848	\$13,938	\$2,363	\$2,273
65	\$14,745	\$13,846	\$1,431	\$1,402
70	\$16,389	\$15,424	\$1,603	\$1,459
75	\$18,190	\$17,164	\$1,535	\$1,412
80	\$20,161	\$19,081	\$1,350	\$1,305
85	\$22,312	\$21,190	\$1,144	\$1,176

2. Retiree Contributions

In 2023, Non-Medicare and Medicare AMA retirees receive a subsidy of 2.5% and 2.2% per year of service, respectively, capped at 75% and 66%, respectively. There is no change to the subsidy multiplier in 2024. However last year valuation reflected a 2.2% subsidy multiplier for all retirees as the NME multiplier was increased after the completion of the FYE 2022 valuation.

For those who retire on or after August 2023, the first five years of service do not count towards the subsidy, so subsidy percentages are shifted five years, and those with less than 20 years of service receive no subsidy. The following table shows the blended medical and Rx premium for Pre-Medicare and Medicare plans.

Sample monthly premium subsidies paid by STRS Ohio for Eligible Retirees for the year beginning January 1, 2024 are shown on the next page.

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2024 Rates		Pre-Medicare Plans		Medicare Plans	
		Aetna Basic PPO		Aetna Medicare Advantage	Aetna Basic PPO
Years of Service					
Total Cost¹		\$1,117		\$161	\$273
Retire before 8/1/2023	Retire on or after 8/1/2023				
15	20	\$419		\$53	\$53
16	21	\$447		\$57	\$57
17	22	\$475		\$60	\$60
18	23	\$503		\$64	\$64
19	24	\$531		\$67	\$67
20	25	\$559		\$71	\$71
21	26	\$586		\$74	\$74
22	27	\$614		\$78	\$78
23	28	\$642		\$81	\$81
24	29	\$670		\$85	\$85
25	30	\$698		\$89	\$89
26	31	\$726		\$92	\$92
27	32	\$754		\$96	\$96
28	33	\$782		\$99	\$99
29	34	\$810		\$103	\$103
30 +	35 +	\$838		\$106	\$106
Cost Per Child		\$296		\$161	\$273

¹ Also applies to spousal coverage, retirees not eligible for premium subsidy, and disabled adult child (sponsored dependent)

The \$30 per month Medicare Part B premium credit is not shown in the table above. STRS Medicare subsidies are \$30 more than the rates shown in the table above for retirees and eligibles surviving spouses.

A weighted average total cost across the Plans shown above is used as the STRS Ohio subsidy. These amounts are assumed to increase with health trend.

Weighted Average Premiums	
Pre-65 retirees	\$ 13,560.00
Retirees age 65+	\$ 2,098.98

3. Medicare Part D Subsidy

The Medicare Part D subsidy is expected to be positive in CY 2024. We assumed the Part D Direct subsidy decreases by \$12 annually for the first 2 years, then increase by 3% for the next 13 years; subsequently, the Part D Direct subsidy is implicitly trended when the trends showed above in this report are applied to the net Medicare Rx claims and expenses. Per GASB guidance, RDS Part D Subsidies are not reflected in valuations.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

4. Medicare Part B Premium Credit

Service retirees, disabled retirees and surviving spouses who are enrolled in a Medicare STRS Ohio medical plan must be enrolled in Medicare Part B. They receive \$30.00 monthly credit towards the Part B premiums. The credit is bundled with the retiree premium, effectively reducing the monthly Medicare Eligible Retiree contribution by \$30.

5. Medicare Eligibility

All retirees who turn age 65 are assumed to be eligible for Medicare.

6. Geography

Implicitly assumed to remain the same as current retirees.

7. Changes Since the Last Valuation

The subsidy percentage for NME retirees was increased effective January 1, 2023 from 2.2% to 2.5%. The freeze on the Non-Medicare subsidy base premium was removed effective January 1, 2024. The 6% cap on the year over year increase in ME subsidy was removed effective January 1, 2024.

Disclosure of Models Used

ProVal

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, Normal Costs, and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Getzen Trend Model

Medical Trend assumptions were developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model version 2023_1f. We have relied on the Society of Actuaries as the developer of the Model. We have reviewed the Model and have a basic understanding of the Model and have used the Model in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of the Model that would affect this report.

Projection Model

Projections in this report were developed using H-Scan, our proprietary tool for developing deterministic projections to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan.

The H-Scan projection uses standard roll-forward techniques that implicitly assume a stable active population. Changes in the demographic characteristics of the active population will lead to different results.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Summary of Key Substantive Plan Provisions

Eligibility

The eligibility requirements for access to retiree health care benefits coverage and premium subsidies are as follows:

Service Retiree Who Retires Before August 2023

If with 15 or more years of service, then retiree receives access to health care coverage and a premium subsidy if they enroll.

If with less than 15 years of service and a benefit effective date prior to January 1, 2004, then the retiree receives access to health care coverage but no premium subsidy.

If with less than 15 years of service and a benefit effective date on or after January 1, 2004, then the retiree is not eligible for health care coverage.

Service Retiree Who Retires After August 2023

If with 20 or more years of service, then retiree receives access to health care coverage and a premium subsidy if they enroll.

If with less than 20 years of service and a benefit effective date on or after January 1, 2004, then the retiree is not eligible for health care coverage.

Disabled Retiree

Receives access to health care coverage and a premium subsidy if they enroll.

Effective Date of Coverage

Service Retirement Benefit of Survivor Benefit Recipients

The first of the month following the date the STRS Ohio Retirement Board approves the application, or the effective date of retirement, whichever is later.

Service Retirement Benefit of Disability Benefit Recipients

The first of the month following the date the STRS Ohio Retirement Board approves the disability benefits, or the first of the month following the date the application is received by STRS Ohio, whichever is later.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Duration of Coverage

Lifetime

Dependent Benefits

Same as retirees, except for no partial reimbursement towards Medicare Part B premium.

Dependent Coverage

Dependents of retirees and survivors are eligible to enroll in health care coverage but do not receive a premium subsidy. Individuals who become surviving spouses prior to January 1, 2015 receive a premium subsidy at the same level as the deceased member for five years with first-year beginning the later of January 1, 2004, or the effective date of benefit commencement. After five years, surviving spouses receive access to coverage with no premium subsidy. Individuals who become surviving spouses on or after January 1, 2015, do not receive a premium subsidy.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Summary of 2023 Benefit Plans

State Teachers Retirement System of Ohio - Non Medicare Retirees			
Plan	Medical Mutual (Ohio) / Aetna (outside Ohio)	AultCare PPO	Paramount Health Care HMO (NW Ohio, S Michigan)
	Indemnity ¹ or PPO		
<u>In-Network (INN) Benefits</u>			
Deductible per Enrollee	\$2,500	\$2,500	\$2,000
Plan Coinsurance	80%	80%	80%
Out-of-Pocket Max per Enrollee	\$6,500	\$6,500	\$4,000
Coverages			
Preventive Care	Fully Covered	Fully Covered	Fully Covered
Well Woman	Fully Covered	Fully Covered	Fully Covered
Office Visit (OV)-Primary Care	\$20 Copay	\$20 Copay for first 2 Visits, DC* After	\$10 Copay
OV - Specialist Care Provider (SCP)	DC*	DC*	\$20 Copay
Hospital Emergency Room (ER)	\$150 Copay + DC*	\$150 Copay + DC*	\$150 Copay + DC*
Urgent Care (UC)	\$40 Copay + DC*	\$40 Copay + DC*	\$40 Copay + DC*
Outpatient Surgery	DC*	DC*	DC*
Hospital Inpatient	DC*	DC*	DC*
Lifetime Max	No Limit	No Limit	No Limit
<u>Out-of-Network (OON) Benefits</u>			
Deductible per Enrollee	\$5,000	\$5,000	
Plan Coinsurance	50%	50%	
Out-of-Pocket Max per Enrollee	\$13,000	\$13,000	
Office Visit (OV)-Primary Care (PCP)	DC*	DC*	
OV - Specialist Care Provider (SCP)	DC*	DC*	
<u>Mental Health and Substance Abuse</u>			
Mental Health and Substance Abuse Inpatient	DC*	DC*	DC*
Mental Health and Substance Abuse Outpatient	DC*	DC*	\$20
<u>Prescription Drug Benefits</u>			
Deductible (Brand and Specialty Only)	\$275	\$275	\$275
Out-of-Pocket Max per Person	\$4,000	\$4,000	\$4,000
Preferred Pharmacy Coverage:			
Retail: Generic / Preferred Brand / non-Preferred Brand / Specialty	\$10 / \$30 / \$75 / 8% up to max \$450 **	\$10 / \$30 / \$75 / 8% up to max \$450 **	\$10 / \$30 / \$75 / 8% up to max \$450 **
Mail Order: Low-Cost Generic / Generic / Preferred Brand / non-Preferred Brand / Specialty	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **
Non-Preferred Pharmacy Coverage:			
Retail	Preferred Pharmacy copays + \$10	Preferred Pharmacy copays + \$10	Preferred Pharmacy copays + \$10

*DC = Deductible and Coinsurance

** Specific max is \$450 for 1-30, \$900 for 31-60 and \$1,350 for 61-90 day script

¹ No network, benefits same as in-network benefits

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

State Teachers Retirement System of Ohio - Medicare Retirees				
Plan	Aetna Medicare Plan (Medicare Advantage PPO)	Medical Mutual Basic (Indemnity ¹ or PPO)	AultCare PPO	Paramount Elite HMO (Medicare Advantage)
<u>In-Network (INN) Benefits</u>				
Deductible per Enrollee	\$150	\$2,500	\$150	\$150
Plan Coinsurance	96%	80%	96%	96%
Out-of-Pocket Max per Enrollee	\$1,500	\$6,500	\$1,500	\$1,500
Coverages				
Preventive Care	Fully Covered	Fully Covered	Fully Covered	Fully Covered
Well Woman	Fully Covered	Fully Covered	Fully Covered	Fully Covered
Office Visit (OV)-Primary Care	\$15 Copay	\$20 Copay	\$15 Copay	\$15 Copay
OV - Specialist Care Provider (SCP)	\$25 Copay	DC*	\$25 Copay	\$25 Copay
Hospital Emergency Room (ER)	\$75 Copay	\$150 Copay + DC*	\$75 Copay	\$75 Copay
Urgent Care (UC)	\$40 Copay	\$40 Copay + DC*	\$40 Copay	\$40 Copay
Outpatient Surgery	DC*	DC*	DC*	DC*
Hospital Inpatient	DC*	DC*	DC*	DC*
Lifetime Max	No Limit	No Limit	No Limit	No Limit
<u>Out-of-Network (OON) Benefits</u>				
Deductible per Enrollee	\$500	\$5,000	\$500	
Plan Coinsurance	92%	50%	92%	
Out-of-Pocket Max per Enrollee	\$2,500	\$13,000	\$2,500	
Office Visit (OV)-Primary Care (PCP)	\$40 after deductible	Same as In-Network	\$40	
OV - Specialist Care Provider (SCP)	\$55 after deductible	Same as In-Network	\$55	
<u>Mental Health and Substance Abuse</u>				
Mental Health and Substance Abuse Inpatient	DC*	DC*	DC*	DC*
Mental Health and Substance Abuse Outpatient	\$25 Copay	DC*	\$25 Copay	\$20 Copay
<u>Prescription Drug Benefits</u>				
Deductible (Brand and Specialty Only)	\$275	\$275	\$275	\$275
Out-of-Pocket Max per Person	\$4,000	\$4,000	\$4,000	\$4,000
Preferred Pharmacy Coverage:				
Retail: Generic / Preferred Brand / non-Preferred Brand / Specialty	\$10 / \$30 / \$75 / 8% up to max \$450 **	\$10 / \$30 / \$75 / 8% up to max \$450 **	\$10 / \$30 / \$75 / 8% up to max \$450 **	\$10 / \$30 / \$75 / 8% up to max \$450 **
Mail Order: Low-Cost Generic / Generic / Preferred Brand / non-Preferred Brand / Specialty	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **
Non Preferred Pharmacy Coverage:				
Retail	Preferred Pharmacy copays + \$10	Preferred Pharmacy copays + \$10	Preferred Pharmacy copays + \$10	Preferred Pharmacy copays + \$10

*DC = Deductible and Coinsurance

** Specific max is \$450 for 1-30, \$900 for 31-60 and \$1,350 for 61-90 day script

¹ No network, benefits same as in-network benefits

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Summary of 2024 Benefit Plans

State Teachers Retirement System of Ohio Medicare Retirees		
Plan	Aetna Medicare Plan (Medicare Advantage PPO)	Aetna Basic PPO
<u>In-Network (INN) Benefits</u>		
Deductible per Enrollee	\$0	\$2,500
Plan Coinsurance	96%	80%
Out-of-Pocket Max per Enrollee	\$4,000	\$6,500
Coverages		
Preventive Care	Fully Covered	Fully Covered
Well Woman	Fully Covered	Fully Covered
Office Visit (OV)-Primary Care	\$0 Copay	\$20 Copay
OV - Specialist Care Provider (SCP)	\$25 Copay	DC*
Hospital Emergency Room (ER)	\$75 Copay	\$150 Copay + DC*
Urgent Care (UC)	\$40 Copay	\$40 Copay + DC*
Outpatient Surgery	DC*	DC*
Hospital Inpatient	DC*	DC*
Lifetime Max	No Limit	No Limit
<u>Out-of-Network (OON) Benefits</u>		
Deductible per Enrollee	\$500	\$5,000
Plan Coinsurance	92%	50%
Out-of-Pocket Max per Enrollee	\$2,500	\$13,000
Office Visit (OV)-Primary Care (PCP)	\$40 after deductible	Same as In-Network
OV - Specialist Care Provider (SCP)	\$55 after deductible	Same as In-Network
<u>Mental Health and Substance Abuse</u>		
Mental Health and Substance Abuse Inpatient	DC*	DC*
Mental Health and Substance Abuse Outpatient	\$25 Copay	DC*
<u>Prescription Drug Benefits</u>		
Deductible (Brand and Specialty Only)	\$275	\$275
Out-of-Pocket Max per Person	\$4,000	\$4,000
Preferred Pharmacy Coverage:		
Retail: Generic / Preferred Brand / non-Preferred Brand / Specialty	\$10 / \$30 / \$75 / 8% up to max \$450 **	\$10 / \$30 / \$75 / 8% up to max \$450 **
Mail Order: Low-Cost Generic / Generic / Preferred Brand / non-Preferred Brand / Specialty	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **
Non Preferred Pharmacy Coverage:		
Retail	Preferred Pharmacy copays + \$0	Preferred Pharmacy copays + \$0

*DC = Deductible and Coinsurance

** Specific max is \$450 for 1-30, \$900 for 31-60 and \$1,350 for 61-90 day script

¹ No network, benefits same as in-network benefits

State Teachers Retirement System of Ohio Non Medicare Retirees	
Plan	Aetna Non-Medicare Basic Plan
<u>In-Network (INN) Benefits</u>	
Deductible per Enrollee	\$2,500
Plan Coinsurance	80%
Out-of-Pocket Max per Enrollee	\$6,500
Coverages	
Preventive Care	Fully Covered
Well Woman	Fully Covered
Office Visit (OV)-Primary Care	\$20 Copay
OV - Specialist Care Provider (SCP)	DC*
Hospital Emergency Room (ER)	\$150 Copay + DC*
Urgent Care (UC)	\$40 Copay + DC*
Outpatient Surgery	DC*
Hospital Inpatient	DC*
Lifetime Max	No Limit
<u>Out-of-Network (OON) Benefits</u>	
Deductible per Enrollee	\$5,000
Plan Coinsurance	50%
Out-of-Pocket Max per Enrollee	\$13,000
Office Visit (OV)-Primary Care (PCP)	DC*
OV - Specialist Care Provider (SCP)	DC*
<u>Mental Health and Substance Abuse</u>	
Mental Health and Substance Abuse Inpatient	DC*
Mental Health and Substance Abuse Outpatient	\$20 Copay
<u>Prescription Drug Benefits</u>	
Deductible (Brand and Specialty Only)	\$275
Out-of-Pocket Max per Person	\$4,000
Preferred Pharmacy Coverage:	
Retail: Generic / Preferred Brand / non-Preferred Brand / Specialty	\$10 / \$30 / \$75 / 8% up to max \$450 **
Mail Order: Low-Cost Generic / Generic / Preferred Brand / non-Preferred Brand / Specialty	\$9 / \$25 / \$75 / \$187.50 / 8% up to max \$1,350 **
Non-Preferred Pharmacy Coverage:	
Retail	Preferred Pharmacy copays + \$0

*DC = Deductible and Coinsurance

** Specific max is \$450 for 1-30, \$900 for 31-60 and \$1,350 for 61-90 day script

¹ No network, benefits same as in-network benefits

Highlighted cells denote the main benefits changes from 2023 to 2024.

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APPENDIX D – GLOSSARY OF TERMS

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of OPEB plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

4. Actuarial Gain (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

5. Actuarial Liability

The portion of the Actuarial Present Value of projected benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

6. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments, the Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe \$100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you will not be obligated to pay him. If the assumed investment return is 10%, the Actuarial Present Value is:

$$\frac{\text{Amount}}{\$100} \times \frac{\text{Probability of Payment}}{(1 - .01)} \times \frac{1}{(1+0.10)} = \frac{\text{Present Value}}{\$90}$$

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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APPENDIX D – GLOSSARY OF TERMS

7. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer’s reporting date.

8. Actuarial Value of Assets

The value of cash, investments, and other property belonging to an OPEB plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

9. Amortization Payment

The portion of the OPEB plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between Entry Age and assumed exit ages.

11. Normal Cost

That portion of the Actuarial Present Value of OPEB plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

12. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.

13. Funded Percentage

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

14. Mortality Table

A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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APPENDIX D – GLOSSARY OF TERMS

15. Discount Rate

The assumed interest rate used for converting projected dollar related values to a present value as of the valuation date.

16. Medical Trend

The assumed increase in dollar related values in the future due to the increase in the cost of health care.

17. Deferred Inflow of Resources (DIR)

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 75, these are experience gains on the Total OPEB Liability, assumption changes reducing the Total OPEB Liability, or investment gains that are recognized in future reporting periods.

18. Deferred Outflow of Resources (DOR)

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 75, these are experience losses on the Total OPEB Liability, assumption changes increasing the Total OPEB Liability, or investment losses that are recognized in future reporting periods.

19. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 74 and 75 calculations. Under this method, the Actuarial Present Value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between Entry Age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the service cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future service costs is called the Total OPEB Liability.

20. Measurement Date

The date as of which the Total OPEB Liability and Plan Fiduciary Net Position are measured, the Total OPEB Liability may be projected from the actuarial valuation date to the measurement date. The measurement date must be the same as the reporting date for the Plan.

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APPENDIX D – GLOSSARY OF TERMS

21. Net OPEB Liability (NOL)

The liability of employers and non-employer contributing entities for employees for benefits provided through a defined benefit OPEB plan. It is calculated as the Total OPEB Liability less the Plan Fiduciary Net Position.

22. Plan Fiduciary Net Position

The fair or Market Value of Assets.

23. Reporting Date

The last day of the Plan or employer's fiscal year.

24. Service Cost

The portion of the Actuarial Present Value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 74 and 75. The service cost is the Normal Cost calculated under the Entry Age actuarial cost method.

25. Total OPEB Liability

The portion of the Actuarial Present Value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 74 and 75. The Total OPEB Liability is the Actuarial Liability calculated under the Entry Age actuarial cost method.

**STATE TEACHERS RETIREMENT SYSTEM OF OHIO
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APPENDIX E – SUPPORTING SCHEDULES

Health Care Schedule of Funded Liabilities by Type, 2015 - 2023 (dollars in thousands)							
Actuarial Valuation Date	Accrued Liability For:			Fair Market Value of Assets	Portion of Accrued Liability Covered by Fair Value of Assets:		
	(1) Active Members	(2) Inactive Members	(3) Retirees, Survivors & Dependents		(1)	(2)	(3)
Jan 1, 2015	\$1,742,597	\$15,459	\$2,918,167	\$3,454,000	100%	100%	58%
Jan 1, 2016	\$1,830,799	\$19,435	\$3,303,997	\$3,258,197	100%	100%	43%
Jan 1, 2017	\$2,596,979	\$18,783	\$3,271,404	\$3,222,093	100%	100%	19%
Jan 1, 2018	\$777,500	\$2,424	\$1,636,026	\$3,691,399	100%	100%	178%
June 30, 2018	\$784,921	\$1,965	\$1,327,565	\$3,721,349	100%	100%	221%
June 30, 2019	\$872,892	\$2,251	\$1,340,775	\$3,872,158	100%	100%	224%
June 30, 2020	\$930,668	\$2,279	\$1,206,851	\$3,897,296	100%	100%	246%
June 30, 2021	\$1,137,505	\$2,989	\$1,680,827	\$4,929,740	100%	100%	225%
June 30, 2022	\$816,952	\$3,987	\$1,159,768	\$4,570,040	100%	100%	323%
June 30, 2023	\$1,643,818	\$8,609	\$1,186,116	\$4,783,404	100%	100%	264%

Key Methods and Assumptions Used in Health Care Actuarial Valuation	
Valuation Date	6/30/2023
Actuarial cost method	Entry Age Normal, Level Percent of Pay
Amortization method	30 year open level percent of pay
Asset valuation method	Fair Market Value
Actuarial Assumptions:	
Investment Rate of Return	7.00%
Discount rate	7.00%
Amortization growth rate	3.00%
Salary increases	Varies by age from 2.5% to 12.5%

Health Care Cost Trend Rates									
Year	Medical		Prescription Drugs		Year	Medical		Prescription Drugs	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare		Pre-Medicare	Medicare	Pre-Medicare	Medicare
2023	7.50%	-10.94%	-11.95%	1.33%	2033	4.80%	4.80%	4.80%	4.80%
2024	7.00%	-11.93%	7.50%	8.13%	2034	4.57%	4.57%	4.57%	4.57%
2025	6.20%	4.21%	6.20%	7.52%	2035	4.46%	4.46%	4.46%	4.46%
2026	5.60%	13.05%	5.60%	6.05%	2036	4.39%	4.39%	4.39%	4.39%
2027	5.50%	-7.50%	5.50%	5.68%	2037	4.35%	4.35%	4.35%	4.35%
2028	5.39%	-29.63%	5.39%	5.57%	2038	4.32%	4.32%	4.32%	4.32%
2029	5.29%	-43.54%	5.29%	5.45%	2039	4.29%	4.29%	4.29%	4.29%
2030	5.18%	-79.64%	5.18%	5.34%	2040	4.28%	4.28%	4.28%	4.28%
2031	5.08%	-403.35%	5.08%	5.23%	2041	4.26%	4.26%	4.26%	4.26%
2032	4.97%	136.92%	4.97%	5.12%	2041	4.20%	4.20%	4.20%	4.20%
					2043+	4.14%	4.14%	4.14%	4.14%

Summary of Membership Data									
Valuation Date:	Jan 1, 2017	Jan 1, 2018	June 30, 2018	June 30, 2019	June 30, 2020	June 30, 2021	June 30, 2022	June 30, 2023	June 30, 2023
Active Members	169,205	168,132	170,327	170,004	167,838	166,424	174,031	175,028	
Inactive Members	17,011	17,694	18,384	18,762	19,415	20,430	20,190	20,908	

STRS Ohio Health Care Program Enrollees									
	June 30, 2019	June 30, 2020	June 30, 2021	June 30, 2022	Added	Terminated	June 30, 2023		
Retirees	96,235	94,456	93,045	91,294	3,250	3,875	90,669		
Disabled Retirees	3,639	3,469	3,277	3,055	84	230	2,909		
Survivors	4,498	4,377	4,237	4,143	342	440	4,045		
Spouses and Dependents (excluding Children)	14,154	13,321	12,605	11,868	647	1,019	11,496		
Total	118,526	115,623	113,164	110,360	4,323	5,564	109,119		
Annual Allowance (\$thousands)	\$326,560	\$320,907	\$348,642	\$290,710	\$18,380	\$103,036	\$206,054		
Valuation Date	June 30, 2018	June 30, 2019	June 30, 2020	June 30, 2021	June 30, 2022	June 30, 2023			
Average per health care participant annual benefit	\$667	\$772	\$976	\$768	\$869	\$1,513			

