Teachers' Retirement System of the State of Illinois

Actuarial Valuation and Review of Pension Benefits as of June 30, 2023

January 10, 2024

This report has been prepared at the request of the Board of Trustees to assist in administering the System. This valuation report may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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Segal

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January 10, 2024

Board of Trustees
Teachers' Retirement System of the State of Illinois
2815 West Washington Street
Springfield, Illinois 62702

Dear Board Members:

This report presents the results of the annual valuation of the assets and liabilities of the Teachers' Retirement System of the State of Illinois (TRS or System) as of June 30, 2023, prepared in accordance with the funding policy specified under the Illinois Pension Code (40 ILCS 5/16). This valuation takes into account all of the pension benefits to which members are entitled.

Actuarial Assumptions and Methods

The valuation was based on the actuarial assumptions adopted by the Board of Trustees, reflecting the three-year demographic and economic experience review covering the period July 1, 2017, through June 30, 2020, presented at the August 13, 2021, Board meeting, and the economic experience review presented at the August 15, 2023, Board meeting. In our opinion, the actuarial assumptions as approved by the Board are reasonably related to the experience of and the expectations for the System. The actuarial assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice. The methods mandated by the Illinois Pension Code as described in the Funding Adequacy section are inadequate to appropriately fund TRS.

Assets and Membership Data

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results. TRS reported to the actuary the individual data for members of the System as of the prior valuation date. Valuation results are projected, based upon the actuarial assumptions, to account for the one-year difference between the date of the census data and the valuation date. The impact on the valuation due to the census data that lags one year behind the valuation date has been studied and deemed immaterial. The amount of assets in the trust fund as of the valuation date was based on statements prepared by TRS.

Funding Adequacy

The member and employer contribution rates are determined in accordance with the funding policy specified under the Illinois Pension Code (40 ILCS 5/16). The member contribution rate is 9.0%, which is comprised of 7.5% toward the cost of the retirement annuity, 0.5% toward the cost of the automatic annual increase in the retirement annuity, and 1.0% for survivor benefits. The employer contributions are determined such that, together with the member contributions, the plan is projected to achieve 90% funding by 2045. The 2045 funding objective of 90% was set in 1994 as a 50-year objective. TRS members have always contributed their share. **The State funding has been inadequate, resulting in TRS being among the worst funded public employee retirement systems in the United States. We strongly recommend an actuarial funding method that targets 100% funding. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability, and the principal balance**. The funding policy adopted by the Board, referred to as the Board-Adopted Actuarial Funding Policy, meets this standard.

The valuation indicates that for the fiscal year ended June 30, 2023, the actuarial experience of TRS generated a net actuarial loss of $717 million. This loss is the result of a $29 million loss due to investment return experience (on an actuarial value basis; TRS experienced an investment gain of $55 million on a fair value basis) and a loss of $688 million (0.5% of the actuarial accrued liability) due to demographic experience for fiscal 2023.

Actuarial Certification

In preparing the results presented in this report, we have relied upon information TRS staff provided to us regarding the benefit provisions, System members, benefit payments and unaudited plan assets. While the scope of our engagement did not call for us to perform an audit or independent verification of this information, we have reviewed this information for reasonableness. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

In our opinion, the results presented comply with the Illinois Pension Code and, where applicable, the Internal Revenue Code, and the Statements of the Governmental Accounting Standards Board. While all calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board, this does not endorse the funding methodology required by the Illinois Pension Code.

The actuarial calculations were directed under the supervision of Matthew A. Strom. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

Respectfully submitted,

Segal

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Section 1: Actuarial Valuation Summary

Overview of TRS

The Teachers' Retirement System of the State of Illinois (TRS) was established by the State of Illinois on July 1, 1939, to provide retirement, disability, and death benefits to teachers employed by Illinois public elementary and secondary schools outside the City of Chicago. TRS is the administrator of a cost-sharing, multiple-employer defined benefit public employee retirement system. Membership is mandatory for all full-time, part-time, and substitute pubic school personnel employed outside of Chicago in positions requiring certification.

Members of TRS are employed by school districts, special districts, and certain state agencies. As of June 30, 2023, there were 995 employers, comprised of 851 local school districts, 135 special districts, and 9 state agencies. The membership totaled nearly 445,000 members as of June 30, 2022 (member data used in the valuation is as of the prior valuation date). Of the nearly 445,000 members, 130,000 are retirees and survivors to whom TRS paid nearly $7.7 billion and $8.0 billion during the fiscal year ended June 30, 2022, and June 30, 2023, respectively. As of June 30, 2023, the assets of TRS amounted to $66.5 billion on a fair value basis.

The amount of the benefit paid to a member upon retirement, termination, disability, or death is defined by the Illinois Pension Code (40 ILCS 5/16). The contributions to fund these benefits are determined through an annual valuation based upon the funding provisions in the Illinois Pension Code.

Purpose and basis

This report was prepared by Segal to present a valuation of the Plan as of June 30, 2023. The purposes of the annual actuarial valuation are to:

- Calculate the annual contribution as required by the Illinois Pension Code. This contribution is not adequate to fund TRS.
- Calculate an actuarially determined contribution based upon the funding policy adopted by the Board. This contribution, if paid, would be expected to adequately fund TRS.
- Determine the funding progress under the Illinois Pension Code's inadequate funding standard.
- Determine the annual gain and loss amounts by source.
- Satisfy regulatory and accounting requirements.
- Provide information for required disclosures under Governmental Accounting Standards Board (GASB) Statements No. 67.

Certain disclosure information required by GASB Statements No. 68 as of June 30, 2023, for the System is provided in a separate report.

Purpose and basis *continued*

The calculation of Statutory and Board-Adopted Actuarial Funding Policy contributions presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board;
- The characteristics of covered active members, inactive members, and annuitants and survivor annuitants as of June 30, 2022 (member data used in the valuation is as of the prior valuation date), provided by the TRS staff;
- The assets of the Plan as of June 30, 2023, provided by the TRS staff;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc.;
- The funding policy as required by the Illinois Pension Code. As noted throughout this report, this funding policy is not adequate to fund TRS; and
- The alternative funding policy adopted by the Board. This contribution, if paid, would be expected to adequately fund TRS.

Valuation highlights

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The funding policy set in the Illinois Pension Code is to achieve 90% funded by 2045 and does **not** meet this standard.
2. The total contributions made during the year ended June 30, 2023, were insufficient to reduce the unfunded actuarial accrued liability. The unfunded actuarial accrued liability is higher than in the prior valuation, and the increase is mainly due to demographic experience losses.
3. Actual State contributions made during the year ended June 30, 2023, of $6.01 billion were 66% of the actuarially determined contribution (ADC) based on the Board-Adopted Actuarial Funding Policy. In the prior year, actual State contributions were similarly 66% of the prior year ADC.
4. In addition to the statutory State contribution made during fiscal 2023, there was an additional one-time contribution of $115,215,500 appropriated from the Pension Stabilization Fund (PSF) to the Office of the State Comptroller for funding TRS' unfunded liabilities, per Public Act 102-0698.

   Public Act 103-0006 appropriated a supplemental contribution of $115,215,500 from the PSF for fiscal 2023 ($230,431,000 in total), though the $115M supplemental contribution was not received until fiscal 2024 and thus will be first reflected in the June 30, 2024 valuation.

Valuation highlights *continued*

5. This actuarial valuation assumes that buyout provisions, introduced with Public Act 100-0587 (and amended by Public Act 101-0010 and Public Act 102-0718), are effective through fiscal year 2026, such that the initial $650 million share apportioned to TRS is assumed to increase as needed to cover all expected buyout amounts through the program's effective end date of June 30, 2026. Based on current assumptions, the total amount of buyouts expected to be paid through June 30, 2026, is approximately $1.11 billion, reflecting approximately $750 million that has already been claimed as of June 30, 2023.
6. The required State contribution for 2025 is $6.20 billion, an increase from $6.04 billion for 2024. The total projected employer contribution for 2025, including State, Federal, and School Districts, is $6.31 billion. Of this amount, $1.32 billion, or about 21%, is for the employer portion of the normal cost and $4.99 billion, or about 79%, is applied to the unfunded actuarial accrued liability.
7. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of June 30, 2023, was 44.8%, compared to 43.8% as of June 30, 2022. This ratio is a measure of funded status, and its history is a measure of funding progress. Using the fair value of assets, the funded ratio is 44.8%, compared to 43.8% as of the prior valuation date.
8. The unfunded actuarial accrued liability increased from $80.6 billion as of June 30, 2022, to $81.9 billion as of June 30, 2023.
9. For the year ended June 30, 2023, Segal has estimated that the asset return on a fair value basis was 7.09%. After gradual recognition of previous investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 6.95%. This represents a slight experience loss when compared to the assumed rate of 7.00%. As of June 30, 2023, the actuarial value of assets ($66.5 billion) represented 100.0% of the fair value ($66.5 billion).
10. The investment loss on the actuarial value of assets for the year ended June 30, 2023, was $29.4 million. The combined demographic and investment experience resulted in a $717.4 million loss, largely due to unfavorable demographic experience and programming enhancements.
11. The total net investment gain not yet recognized as of June 30, 2023, is $2.4 million. This net deferred gain is comprised of investment gains and losses that occurred over the past five years, which be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This means that earning the assumed rate of investment return of 7.00% per year (net of investment expenses) on a fair value basis will ultimately result in investment gains on the actuarial value of assets in the next few years (though in the interim may result in net investment losses due to timing and magnitude of prior investment losses), to the extent they are not offset by recognition of losses derived from future experience.
12. As mentioned above, the current method used to determine the actuarial value of assets yields an amount that is 100.0% of the fair value of assets as of June 30, 2023. Guidelines in Actuarial Standard of Practice No. 44 (Selection and Use of Asset Valuation Methods for Pension Valuations) recommend that asset values fall within a reasonable range around the corresponding fair value. The actuarial asset method complies with this guideline.

Valuation highlights *continued*

13. The System's cash flow (contributions minus benefit payments, refunds, and expenses) as a percentage of the fair value of assets was −1.1% as of June 30, 2023, compared to −1.0% from the prior year. Negative cash flow drains the assets of the System without investment income and may cause suboptimal investment strategies.

14. This actuarial valuation report as of June 30, 2023, is based on financial data as of that date. Changes in the value of assets subsequent to that date are not reflected.

Risk

15. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2023. The System's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2022 (the census measurement date), due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

16. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We recently performed a stochastic projection analysis in April 2023 of the potential range of impact of investment risk relative to the System's future financial condition. We have not been engaged to perform an additional analysis but have included a brief discussion of some risks that may affect the System in *Section 2*. A more detailed assessment would provide the Board with a better understanding of the inherent risks and could be important for the System because:

    - Relatively small changes in investment performance can produce large swings in the unfunded liabilities.
    - Retired participants account for most of the System's liabilities, leaving limited options for reducing costs in the event of adverse experience.
    - Actual contributions have been less than the ADC for several years, indicating potential funding challenges in the future.

GASB

17. This report constitutes an actuarial valuation for the purpose of determining the ADC under the Board-Adopted Actuarial Funding Policy. The information contained in *Section 7* provides the accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67, for inclusion in the Plan and employer's financial statements as of June 30, 2023.

18. The Net Pension Liability (NPL) is equal to the difference between the Total Pension Liability (TPL) and the Plan's fiduciary net position (equal to the fair value of assets). The NPL increased from $83.8 billion as of June 30, 2022, to $85.0 billion as of June 30, 2023. This is largely due to unfavorable demographic experience.

Summary of key valuation results

		June 30, 2023	June 30, 2022
Present Value of Future Benefits:			
1	Active members	$75,595,180,041	$72,292,007,156
2	Retired members and beneficiaries receiving benefits	92,515,846,612	90,534,637,383
3	Inactive members with deferred benefits	4,421,533,883	4,250,767,299
4	Total: **(1) + (2) + (3)**	$172,532,560,536	$167,077,411,838
Actuarial Accrued Liability:			
1	Active members	$51,460,915,585	$48,738,326,277
2	Retired members and beneficiaries receiving benefits	92,515,846,612	90,534,637,383
3	Inactive members with deferred benefits	4,421,533,883	4,250,767,299
4	Total: **(1) + (2) + (3)**	$148,398,296,080	$143,523,730,959
Funded Status:			
1	Actuarial accrued liability	$148,398,296,080	$143,523,730,959
2	Actuarial value of assets (AVA)	66,502,286,972	62,910,402,178
3	Unfunded actuarial accrued liability (AVA basis): **(1) – (2)**	$81,896,009,108	$80,613,328,781
4	Funded ratio (AVA basis): **(2) ÷ (1)**	44.8%	43.8%
5	Fair value of assets (FVA)	$66,504,717,419	$62,833,626,339
6	Unfunded actuarial accrued liability (FVA basis): **(1) – (5)**	81,893,578,661	80,690,104,620
7	Funded ratio (FVA basis): **(5) ÷ (1)**	44.8%	43.8%
Summary of State Contributions for Fiscal Year:		**2025**	**2024**
1	Based on Statutory Funding Plan	$6,203,922,413	$6,043,454,650
2	Based on Board-Adopted Actuarial Funding Policy	10,105,874,758	9,590,116,087
3	Difference between Board-Adopted Actuarial Funding Policy and Statutory Funding: **(2) – (1)**	$3,901,952,345	$3,546,661,437
4	Normal cost rate based on Statutory Funding Plan		
	(a) Total (including administrative expenses)	19.34%	19.60%
	(b) Member rate	9.00%	9.00%
	(c) Employer: **(4a) – (4b)**	10.34%	10.60%

Summary of key valuation results *continued*

		June 30, 2023	June 30, 2022
Summary of State Contributions for Fiscal Year (continued):		**2025**	**2024**
5	Total normal cost based on Statutory Funding Plan		
	(a) Total	$2,423,836,253	$2,333,351,793
	(b) Administrative expenses	51,392,140	44,851,616
	(c) Expected member contributions	1,151,862,792	1,092,235,571
	(d) Total employer normal cost: **(5a) + (5b) – (5c)**	$1,323,365,601	$1,285,967,838
GASB Information:			
1	Long-term expected rate of return	7.00%	7.00%
2	Municipal bond index[1]	3.65%	3.54%
3	Single equivalent discount rate	7.00%	7.00%
4	Total pension liability	$151,485,294,234	$146,673,960,220
5	Plan fiduciary net position	66,504,717,419	62,833,626,339
6	Net pension liability: **(4) – (5)**	$84,980,576,815	$83,840,333,881
7	Plan fiduciary net position as a percentage of total pension liability: **(5) ÷ (4)**	43.9%	42.8%
Demographic data used for valuation as of June 30[2]:		**2022**	**2021**
1	Number of active members		
	(a) Full-time and regular part-time	141,155	139,144
	(b) Substitute, part-time, and hourly paid	25,559	19,761
	(c) Total	166,714	158,905
2	Number of inactive members		
	(a) Eligible for deferred annuities	18,808	19,308
	(b) Eligible for refunds or single sum benefits only	129,420	132,507
3	Number of annuitants	130,051	128,116
4	Total membership: **(1c) + (2a) + (2b) + (3)**	444,993	438,836
5	Annual salaries		
	(a) Full-time and regular part-time	$11,312,520,457	$10,807,937,150
	(b) Substitute, part-time, and hourly paid	186,176,340	136,562,053
	(c) Total	$11,498,696,797	$10,944,499,203
6	Annual Annuities	$7,764,985,482	$7,477,612,124

[1] *Bond Buyer's 20-Bond GO index.*
[2] *Member data used in the valuation is as of the prior valuation date.*

Significant issues facing TRS

Historical Underfunding by the State

The Illinois Pension Code sets the parameters for funding TRS. The employer contributions are determined such that, together with the member contributions, the System is projected to achieve 90% funded by 2045. The 2045 funding objective of 90% was set in 1994 as a 50-year objective. TRS members have always contributed their share. **The State funding has been inadequate, resulting in TRS being among the worst funded public employee retirement systems in the United States.**

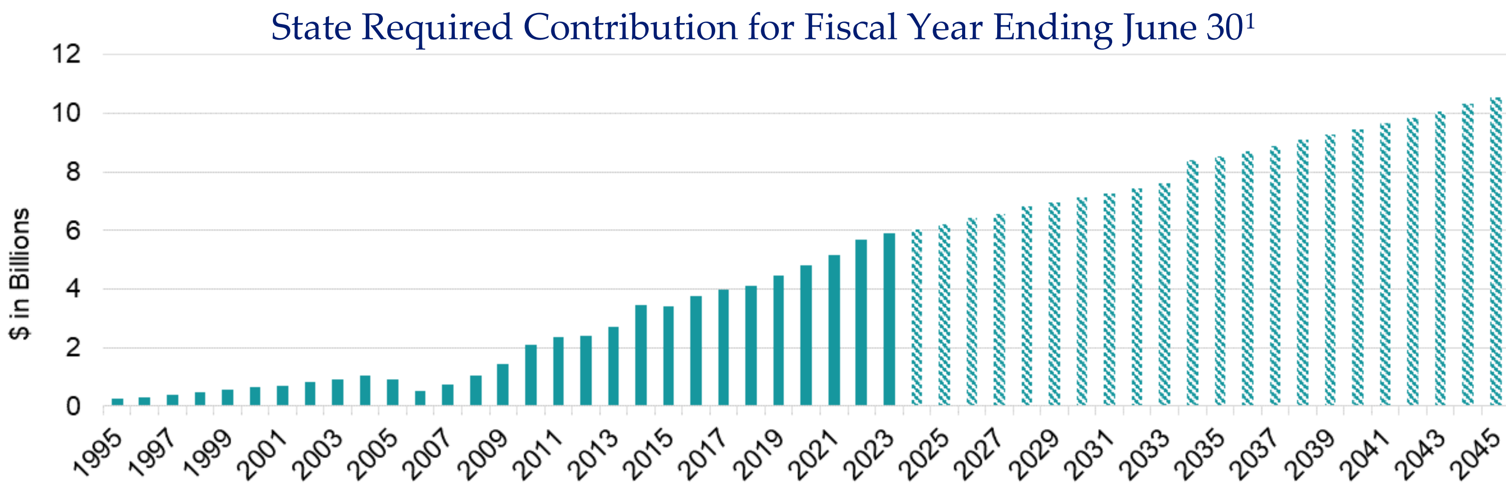
The State has historically underfunded TRS by the use of funding policies that do not provide for adequate funding of TRS, including:

- Establishing a 50-year period in 1994, over which to amortize the Unfunded Actuarial Accrued Liability
- Back loading the 50-year period by requiring a 15-year period to ramp up to full contributions as determined under the Illinois funding policy
- Setting a funding target of 90% of the actuarial accrued liability (as opposed to 100%)
- Requiring the use of the projected unit credit cost method, which further back loads the contributions to TRS as compared to the entry age normal cost method, which is a level cost funding method
- Imposing a maximum contribution based upon Pension Obligation Bond (POB) debt payments despite the fact that not all of the POB proceeds were contributed to TRS
- Reducing contributions for fiscal years ended June 30, 2006, and 2007
- Modifying the asset valuation method to reduce contributions for the fiscal year ended June 30, 2011; further reducing FY 2011 contributions by requiring TRS to recertify the 2009 valuation to assume that Tier 2 had been in effect in 2009
- Requiring Tier 2 benefit provisions for members to be hired in the future be reflected in the determination of the contribution, resulting in reduced and back-loaded contributions
- Reducing contributions by phasing in the effect of increased liabilities as a result of assumption changes

Significant issues facing TRS *continued*

Historical Underfunding by the State *continued*

The following graphs show a history and projection of the State required contributions under the Illinois Pension Code and the unfunded actuarial accrued liability. These graphs illustrate the effect of inadequate State contributions.



[1] *Assuming 7.00% returns and a level active headcount for all future years. Amounts beginning 2024 are projected amounts based on the June 30, 2023 actuarial valuation.*

Significant issues facing TRS *continued*

Funding Policy Certified by the Board

A funding policy (also known as a contribution allocation policy) outlines the parameters for calculating an actuarially determined contribution rate and ensures the systematic funding of future benefit payments. An actuarially determined contribution is comprised of the Normal Cost and an amortization of the Unfunded Actuarial Accrued Liability. The Board of Trustees adopted a funding policy ("Board-Adopted Actuarial Funding Policy"), comprised of the following components:

- *Actuarial Cost Method*: The entry age normal method, which allocates costs evenly as a level percentage of salary
- *Asset Smoothing Method:* The actuarial value of assets is based on the fair value of assets with a five-year phase-in of investment returns in excess of (or less than) expected investment income
- *Amortization Policy:* The amortization policy is a layered amortization approach. Effective with the June 30, 2015, actuarial valuation, the UAAL is amortized over a closed 20-year period. Sources of UAAL that emerge in subsequent valuations are amortized over closed 20-year periods. The amortization payment increases at the expected rate of future State revenue growth (assumed to be 2.0%, which is conservative but reasonable compared to shorter-term projections of State revenue growth). The minimum contribution is the normal cost.

The Board of Trustees prepares an annual certification, which includes State contributions under the Illinois Pension Code and the Board-Adopted Actuarial Funding Policy. Unlike the current funding policy, the Board-Adopted Actuarial Funding Policy would bring TRS to full funding by decreasing the UAAL every year. **We strongly recommend an actuarial funding method that targets 100% funding where payments ultimately cover interest on the unfunded actuarial accrued liability and a portion of the principal balance.** The funding policy adopted by the Board meets this standard.

Implications of Tier 2

Lower Benefit Structure/Same Contribution Rate as Tier 1

- Tier 2 members are those who first established membership with TRS or a reciprocal system after December 31, 2010. While Tier 2 member contribution rates are the same as Tier 1 member contribution rates, the value of Tier 2 benefits is lower than Tier 1 benefits. This is because Tier 2 members have to work longer to be eligible for retirement, the final average salary period is longer, pensionable salaries are capped, and the cost-of-living adjustments (COLAs) are smaller.
- The Tier 2 salary cap, which applies to benefits and contributions, was established in 2011 at $106,800 and increases each fiscal year by the lesser of 3% or one-half of the CPI-U as of the preceding September. The Tier 2 salary cap history that is used for the actuarial valuation is on the following page.

Significant issues facing TRS *continued*

Implications of Tier 2 *continued*

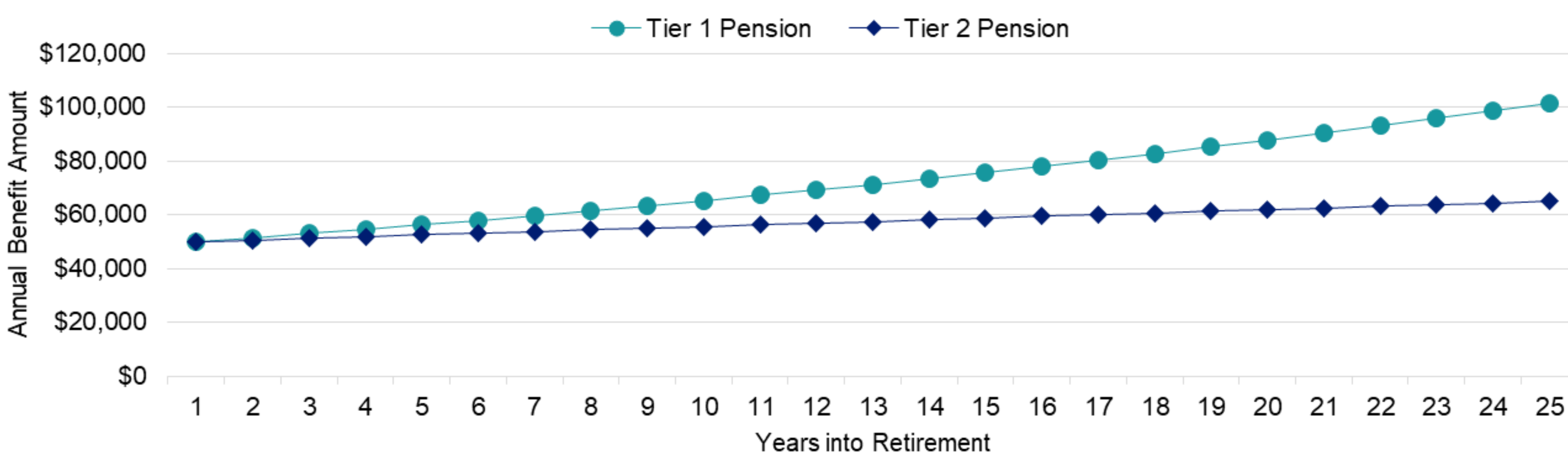
Year	Tier 2 Salary Cap	Year	Tier 2 Salary Cap	Year	Tier 2 Salary Cap
2011	$106,800.00	2016	$111,572.63	2021	$116,740.42
2012	$108,883.60	2017	$112,408.32	2022	$116,740.42
2013	$109,971.43	2018	$113,645.91	2023	$119,892.41
2014	$110,631.26	2019	$114,951.83	2024	$123,489.18
2015	$111,572.63	2020	$115,928.92		

Based upon the current actuarial assumptions, it is projected that the salary cap will affect the majority of full career Tier 2 members' final average salary.

Cost-of-living Adjustment

- The Tier 2 cost-of-living adjustment (COLA) is calculated using the lesser of 3% or one-half of CPI-U, as of the preceding September, of the originally granted retirement annuity (currently, 1.25% annual increase based on assumed inflation of 2.50%) as compared to the Tier 1 COLA, which is a 3% compound COLA. The Tier 2 COLA will not keep pace with inflation, eroding the purchasing power of Tier 2 pensions during retirement. The chart below shows the comparison of a $50,000 pension under the Tier 1 and Tier 2 COLA provisions. In the 25th year of retirement, the Tier 1 pension amount of $101,640 is over 55% higher than the Tier 2 pension amount of $65,000.

Illustration of Tier 1 and Tier 2 COLA Based on Initial Annual Benefit of $50,000



Significant issues facing TRS *continued*

Implications of Tier 2 *continued*

Total Normal Cost Rate Compared to Member Contribution Rate

- The following chart compares the Tier 1 and Tier 2 member contribution rates to the normal cost rates for fiscal year 2025 using the projected unit credit cost method, as required by the Illinois Pension Code. The normal cost rate is the cost of benefits that accrue during the year expressed as a percentage of payroll, based on the actuarial assumptions. Currently, the total normal cost for Tier 1 is approximately three times the normal cost rate for Tier 2, reflecting the differences in the benefits, as well as the relative age composition of the older, closed Tier 1 population compared to the younger, ongoing Tier 2 group. The Tier 2 total normal cost rate is currently less than the member contribution rate. As a result, based upon the actuarial assumptions, Tier 2 members are funding their pension benefit and paying a portion of the interest on the UAAL.

Allocation of Member Contribution Rate

		For Fiscal Year 2025		
		Tier 1	Tier 2	Total
1	Total normal cost rate, including administrative expenses	24.47%	8.06%	19.34%
2	Less: member contribution rate	(9.00%)	(9.00%)	(9.00%)
3	Employer normal cost rate	15.47%	(0.94%)	10.34%
4	Allocation of member contribution rate			
	(a) Normal cost rate	9.00%	8.06%	9.00%
	(b) Unfunded actuarial accrued liability	0.00%	0.94%	0.00%
	(c) Total	9.00%	9.00%	9.00%

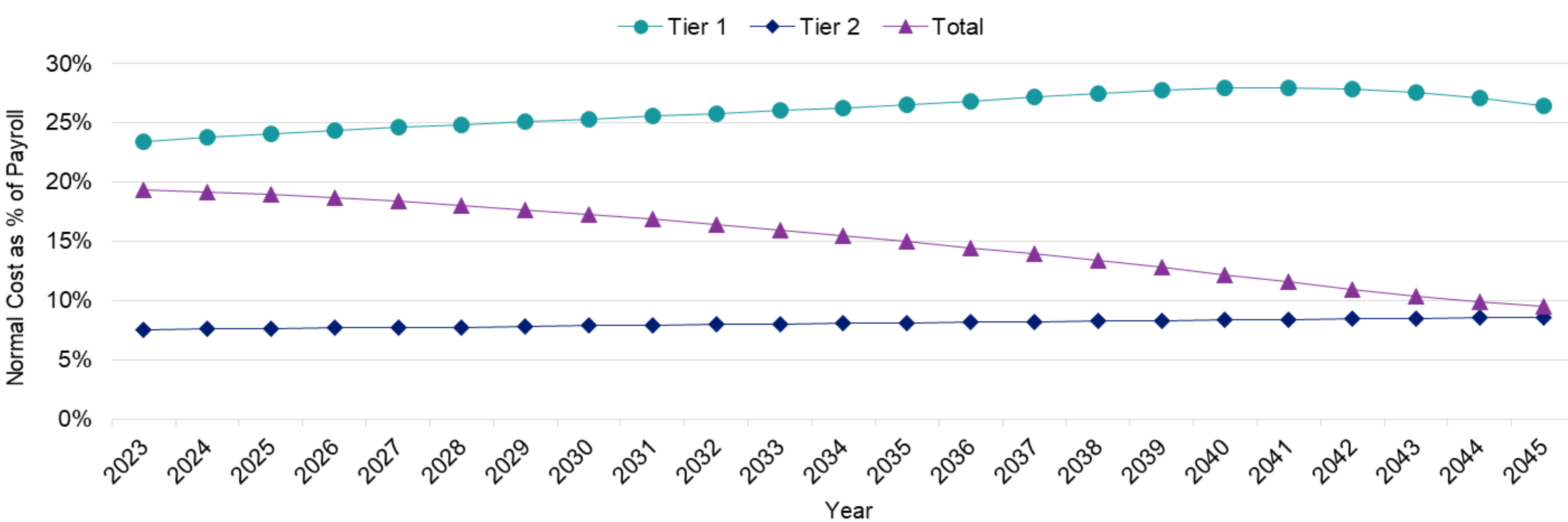
Significant issues facing TRS *continued*

Implications of Tier 2 *continued*

Projection of Total Normal Cost Rate by Tier

- The following graph shows a projection of the total normal cost rates for Tier 1, Tier 2, and in total. The chart shows that the total normal cost rate will decline over time as the Tier 1 members terminate and retire and are replaced by Tier 2 members. The funding policy under the Illinois Pension Code, which targets a 90% funded ratio by 2045, requires the funding and benefit provisions for future Tier 2 members to be reflected in the determination of the contribution. The contributions, as determined by the Illinois Pension Code, are based on a projection of normal cost and actuarial accrued liability for Tier 2 members who will be hired after June 30, 2022 (the census measurement date) through June 30, 2045. This results in a deferral of contributions to later years.

Projection of Total Normal Cost Rate for Fiscal Year Ending June 30



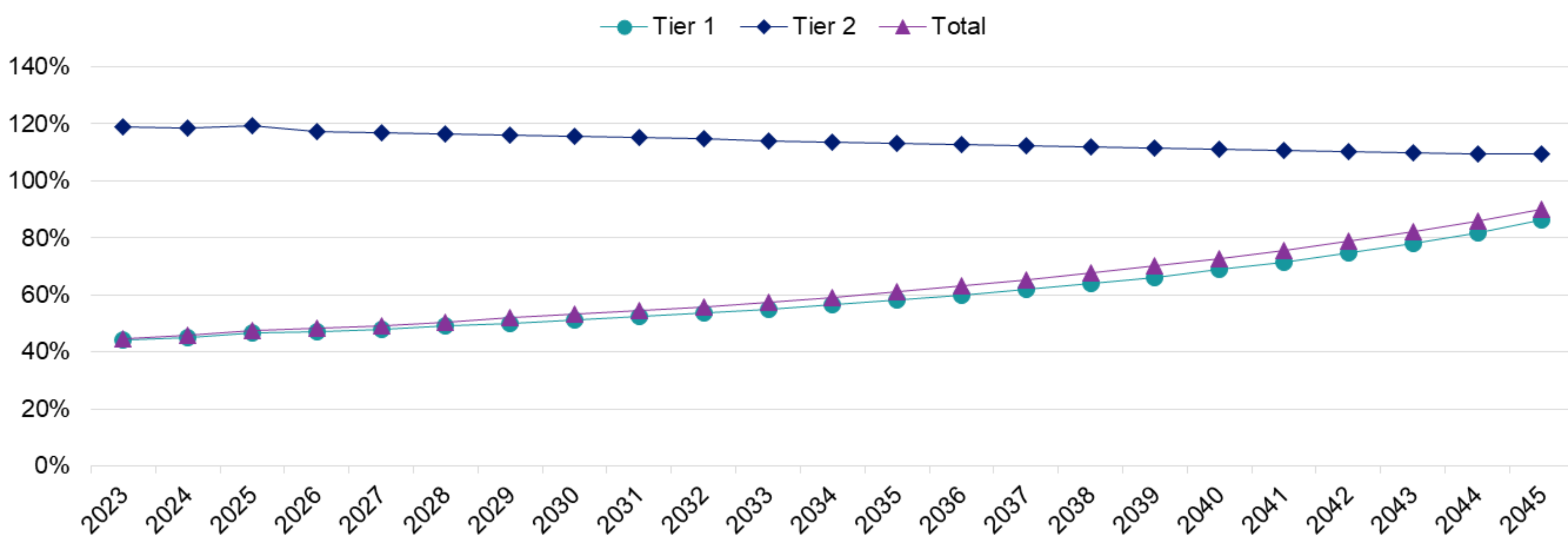
Significant issues facing TRS *continued*

Implications of Tier 2 *continued*

Tier 2 Contribution toward Unfunded Actuarial Accrued Liability

- As described above, Tier 2 members are funding a portion of the interest on the UAAL along with the normal cost of their benefits. Tier 1 and Tier 2 liabilities and assets are not allocated separately for purposes of determining the funded ratio and contribution requirements. However, if the assets and liabilities were allocated separately, a projection of the funded ratio for each tier would show that the Tier 2 funded ratio is 119% as of June 30, 2023, ultimately reducing to a funded ratio of 109% as of June 30, 2045. In contrast, the Tier 1 funded ratio is 44% as of June 30, 2023, increasing to 86% as of June 30, 2045. For the total System, the funded ratio is 45% as of June 30, 2023, increasing to 90% as of June 30, 2045. Tier 2 member contributions assist in increasing the total funded ratio to 90% as of 2045. The graph below illustrates this.

Projection of Funded Ratio for Fiscal Year Ending June 30



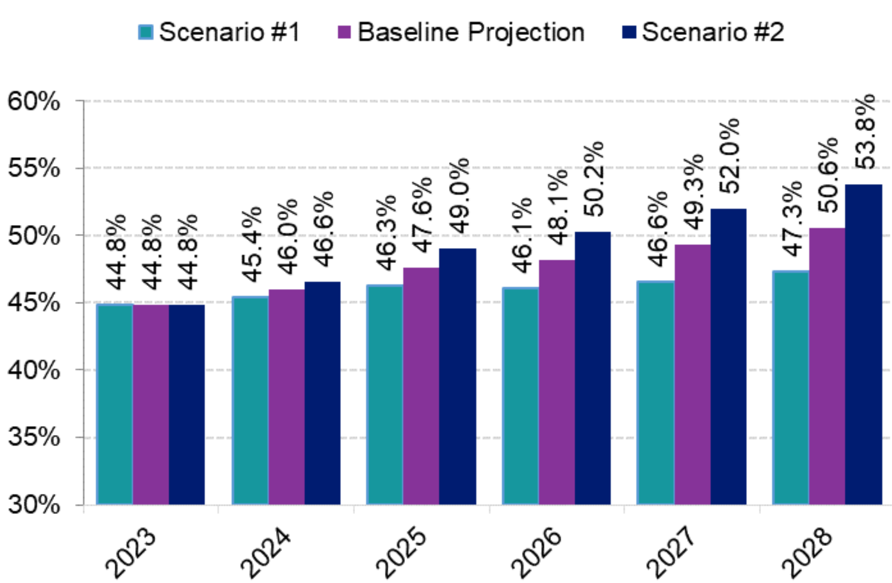
Sensitivity projections

The following charts show projections of valuation results under alternative investment return scenarios and their impact on the funded status and State contributions for the next five years. The projections are based on the current actuarial assumptions and assume that all actuarial assumptions are realized, with the exception of the investment return for the year ending June 30, 2024:

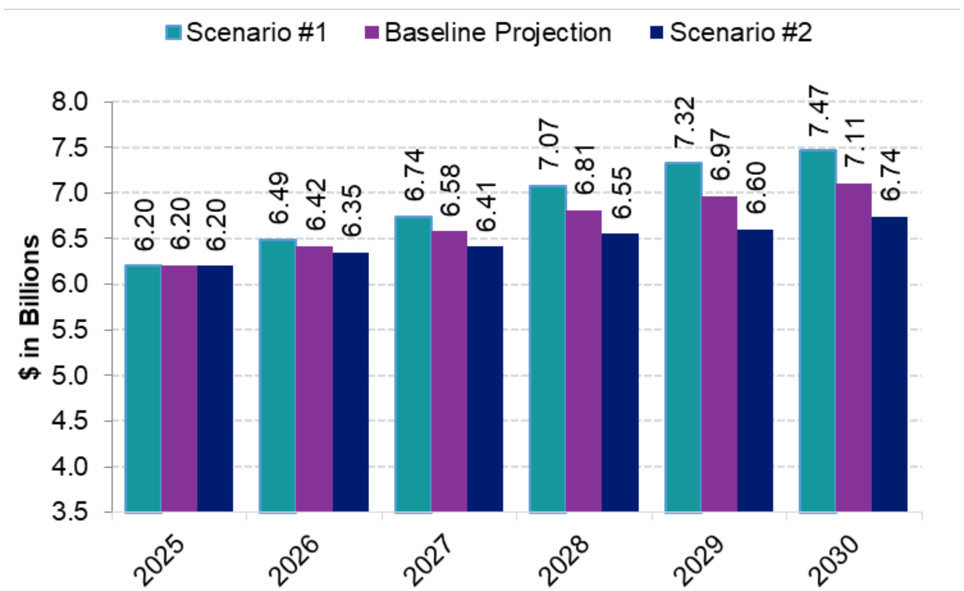
- Scenario 1 assumes a 0% investment return for the year ending June 30, 2024
- Scenario 2 assumes a 14% investment return for the year ending June 30, 2024

Because investment gains and losses are recognized in the actuarial value of assets over a five-year period, the effect on the funded status and State contribution in the first year is small. However, by the fifth year, the investment returns are fully reflected in the valuation. The charts show that investment gains and losses will have a significant effect on the valuation results.

Projection of Funded Ratio for Fiscal Year Ending June 30



Projection of State Contribution for Fiscal Year Ending June 30

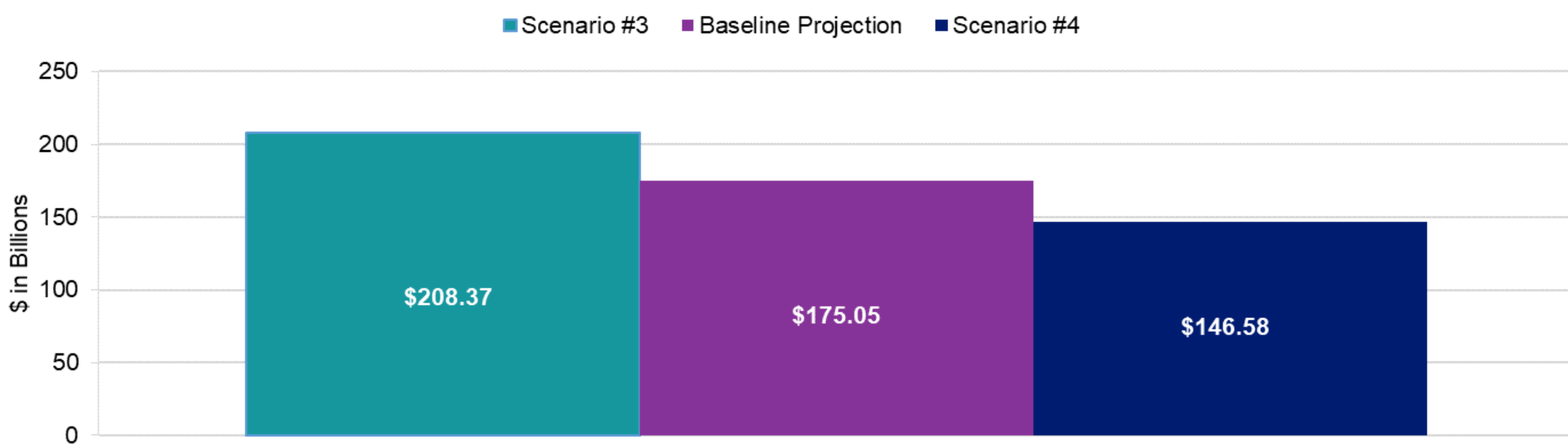


Sensitivity projections *continued*

The following chart shows the total State contributions for the fiscal years June 30, 2025, through June 30, 2045, based on the current actuarial assumptions and assuming that all actuarial assumptions are realized with the exception of the following:

- Scenario 3 assumes a 6.00% net investment return assumption effective June 30, 2023[1]
- Scenario 4 assumes an 8.00% net investment return assumption effective June 30, 2023[1]

Total State Contribution from Year Ending June 30, 2025, through June 30, 2045



Additional sensitivity and stress testing can be found in *Section 2, Risk* of this valuation report.

Note that, under the Board-Adopted Actuarial Funding Policy, the total contribution amounts paid by the System from fiscal year ending June 30, 2025, through June 30, 2045, would be $147.92 billion, which would result in an overall savings of $27.13 billion compared to current Statutory Funding Policy (as shown in the baseline projection scenario above). In addition, the Board-Adopted Actuarial Funding Policy targets 100% funded by June 30, 2045, while the Statutory Funding Policy funding targets 90% by the same date.

[1] Not reflecting the 5-year assumption change phase-in

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by the TRS. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, as reported by TRS. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Important information about actuarial valuations *continued*

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the TRS Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
Actuarial results in this report are not rounded, but that does not imply precision. In addition, in some cases the underlying calculations involve more precision than what is presented in this report and the rounded numbers shown herein may appear not to add as a result.
If the TRS Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. TRS should look to their other advisors for expertise in these areas.
While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
Segal's report shall be deemed to be final and accepted by the TRS Board upon delivery and review. Trustees should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the System, it is not a fiduciary in its capacity as actuaries and consultants with respect to the System.

Section 2: Actuarial Valuation Results

Membership data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active members, inactive members, retirees, and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

Data used for the valuation is as of the prior valuation date. Any changes in liabilities due to demographic experience during the most recent plan year are captured in the subsequent valuation.

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A, B, C, D, E,* and *G*.

Member Population: 2013 – 2022[1]

As of June 30	Full-Time and Regular Part-Time Active Members	Substitutes, Part-Time and Hourly Paid	Inactive Members Eligible for Deferred Annuities	Inactive Members Eligible for Refunds	Annuitants and Survivor Annuitants	Ratio of Full-Time Actives to Annuitants
2013	132,886	28,104	17,250	110,403	109,448	1.21
2014	132,916	26,920	17,575	113,012	112,682	1.18
2015	133,478	26,206	18,362	115,360	115,273	1.16
2016	133,505	26,080	19,038	117,817	117,990	1.13
2017	133,761	26,664	19,531	119,738	120,453	1.11
2018	134,160	26,592	19,726	119,833	122,895	1.09
2019	135,752	27,323	19,363	121,908	124,791	1.09
2020	137,394	25,555	18,632	125,942	126,594	1.09
2021	139,144	19,761	19,308	132,507	128,116	1.09
2022	141,155	25,559	18,808	129,420	130,051	1.09

[1] *Member data used in the valuation is as of the prior valuation date.*

Membership data *continued*

Full-Time and Regular Part-Time Active Members

Census Date as of June 30[1]	2022	2021	Change
Active participants	141,155	139,144	+1.4%
Average age	42.6	42.4	+0.2 years
Average years of service	13.6	13.5	+0.1 years
Average compensation	$80,143	$77,674	+3.2%

Additional information is shown on the following page.

Substitutes, Part-Time, and Hourly Paid Active Members

Census Date as of June 30[1]	2022	2021	Change
Active participants	25,559	19,761	+29.3%
Average age	44.8	44.8	+0.0 years
Average years of service	1.9	2.1	−0.2 years
Average compensation	$7,284	$6,911	+5.4%

Inactive Members

As of June 30, 2022 (the date at which census data is collected for the June 30, 2023, valuation), there were 18,745 participants and 63 survivors with a vested right to a deferred benefit. Inactive members may also be eligible for a refund of their retirement benefit contributions or a single sum benefit.

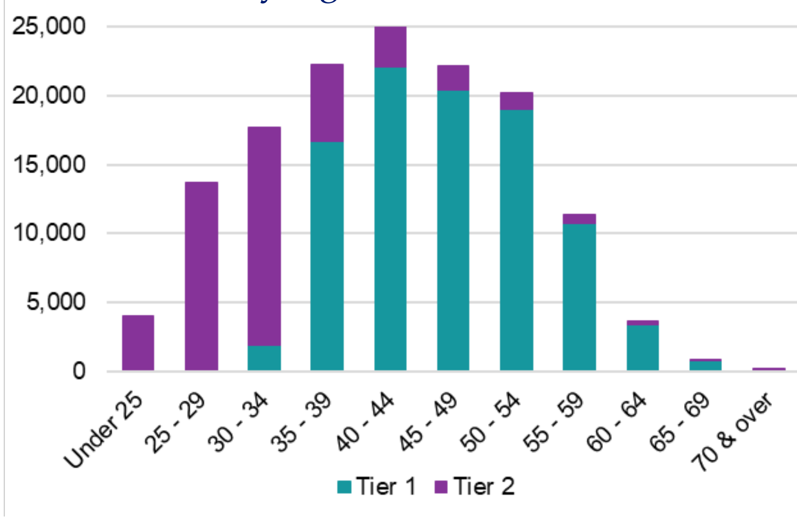
In addition, there were 129,420 participants entitled to a return of their employee contributions.

[1] *Member data used for the valuation is as of the prior valuation date.*

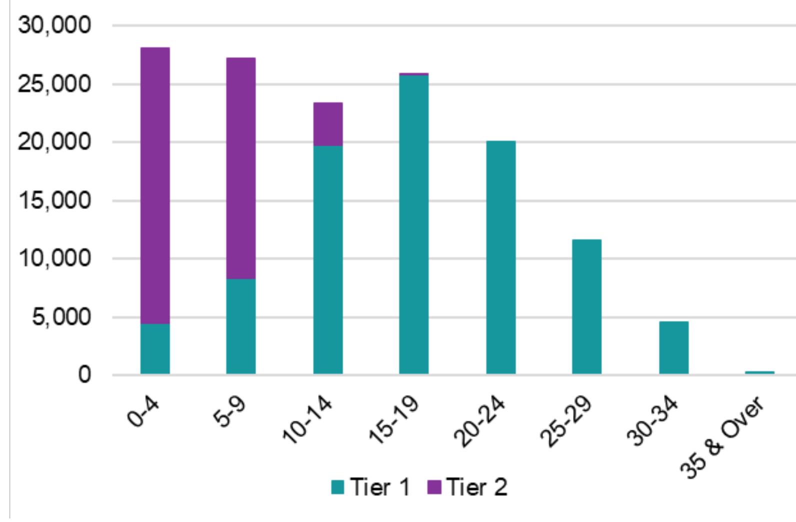
Membership data *continued*

Full-Time and Regular Part-Time Active Participant Data as of June 30, 2022[1]

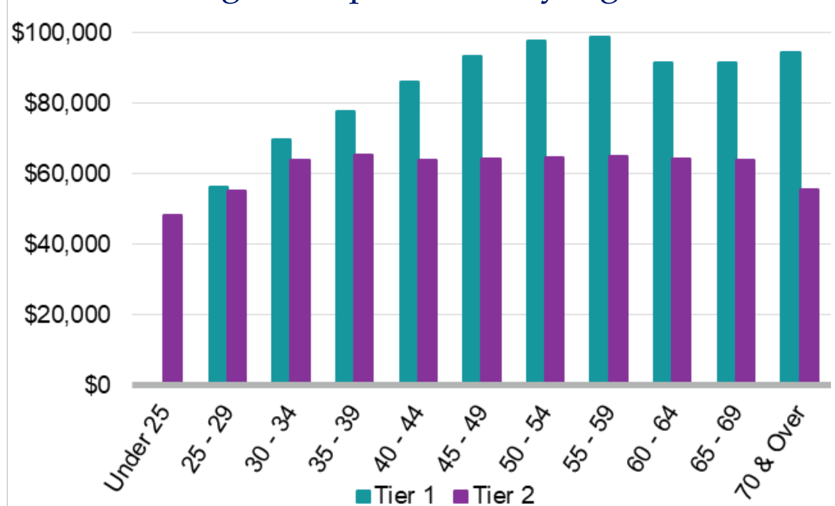
By Age and Tier



By Years of Service and Tier



Average Compensation by Age and Tier



[1] *Member data used for the valuation is as of the prior valuation date.*

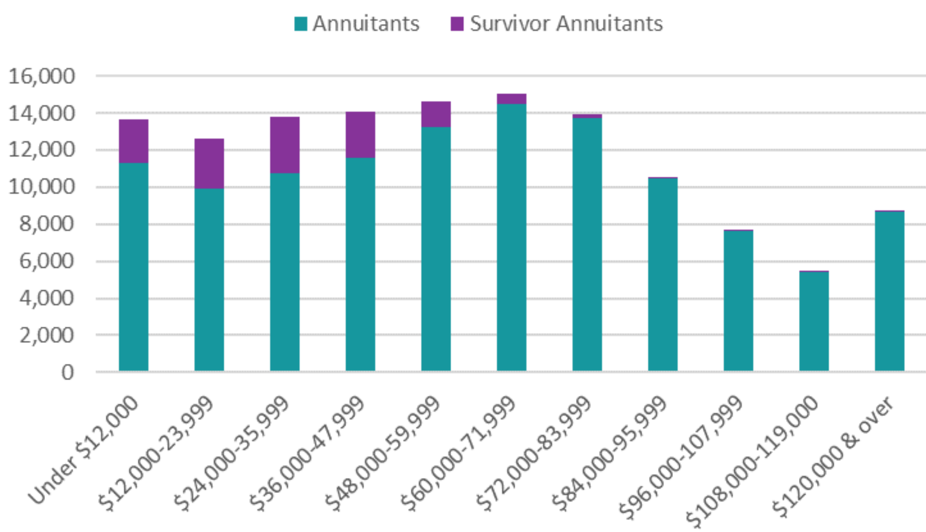
Membership data *continued*

Annuitants and Survivor Annuitants

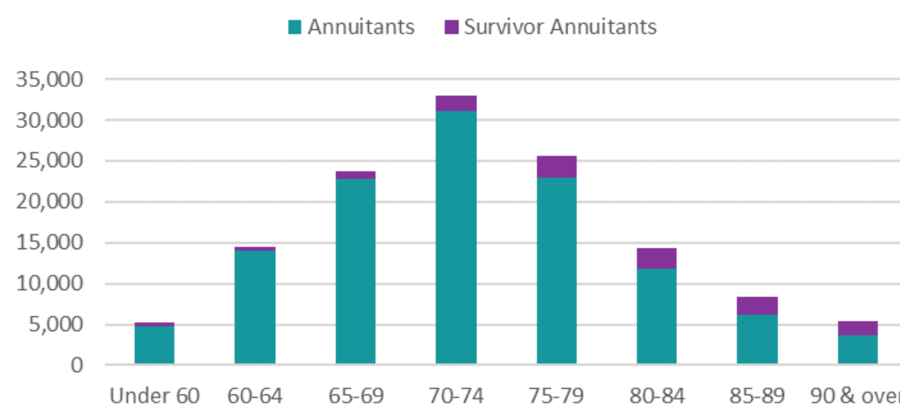
Census Date as of June 30	2022	2021	Change
Annuitants	117,253	115,745	+1.3%
Average age	73.1	72.8	+0.3 years
Average amount	$5,238	$5,120	+2.3%
Survivor Annuitants	12,798	12,371	+3.5%
Total annual benefits	$7,764,985,482	$7,477,612,124	+3.8%

Distribution of Annuitants and Survivor Annuitants

By Annual Benefit as of June 30, 2022[1]



By Age as of June 30, 2022[1]



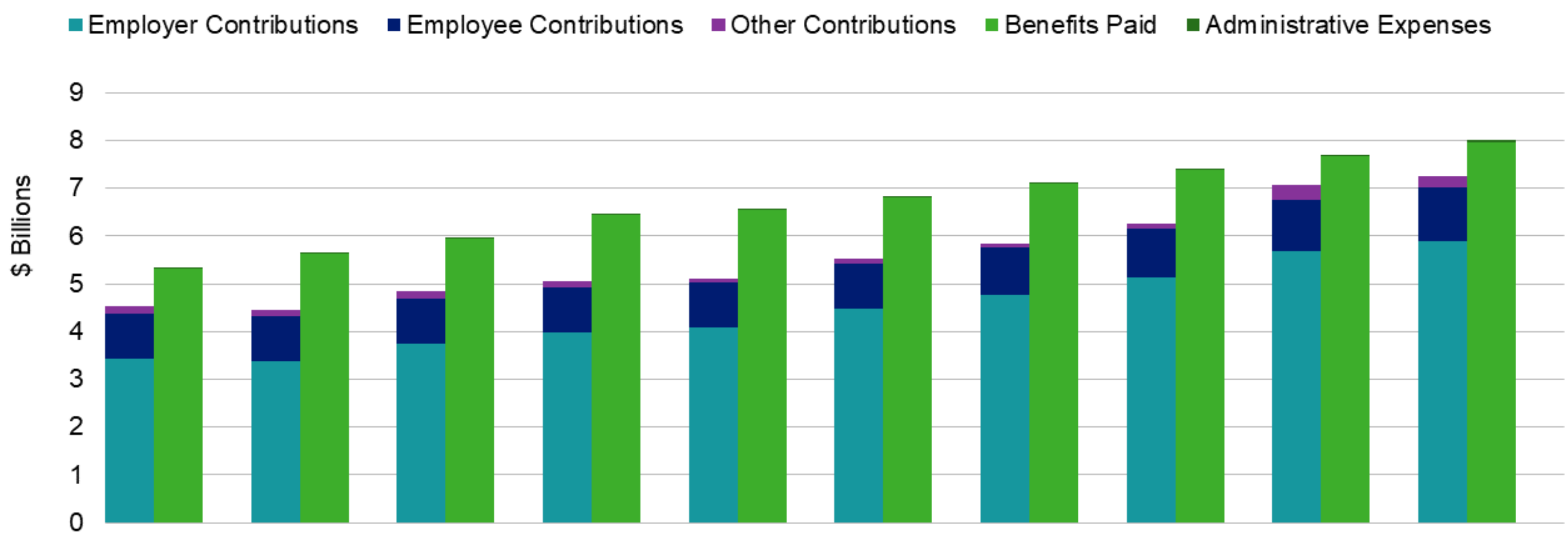
[1] *Member data used in the valuation is as of the prior valuation date.*

Financial information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees) will be needed to cover benefit payments and administrative expenses. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits H, I* and *J*.

Comparison of Contributions with Benefits and Expenses for Years Ended June 30, 2014 – June 30, 2023



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
State Contributions	$3.44	$3.38	$3.74	$3.99	$4.09	$4.47	$4.76	$5.14	$5.69	$5.89
Employee Contributions	$0.93	$0.94	$0.95	$0.93	$0.94	$0.96	$0.99	$1.02	$1.07	$1.11
Other Contributions[1]	$0.16	$0.14	$0.15	$0.15	$0.08	$0.09	$0.09	$0.10	$0.29	$0.24
Benefit Payments	$5.32	$5.63	$5.93	$6.44	$6.55	$6.82	$7.10	$7.39	$7.67	$7.97
Administrative Expense	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.03	$0.03

[1] *Includes School District and Federal Funds contributions, as well as an additional one-time contribution of $172,823,300 for fiscal 2022 and $115,215,500 for fiscal 2023 per Public Act 102-0696 and Public Act 102-0698, respectively.*

Financial information *continued*

Two actuarial values of assets are used for determining the statutory contribution under the Illinois Pension Code, one that includes the Pension Obligation Bond (POB) and one that excludes the POB. The recommended contribution under the Board's funding policy (Board-Adopted Actuarial Funding Policy) includes the POB. The actuarial value of assets used in determining both contributions gradually adjusts to fair value. Under this asset valuation method, the full value of market fluctuations is recognized over a five-year period as opposed to in a single year. The amount of the adjustment to recognize fair value is treated as income, which may be positive or negative.

Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

To determine the employer contributions, the actuarial value of assets are projected one year from the valuation date to the beginning of the contribution fiscal year.

See charts on the following two pages for additional information.

Financial information *continued*

Determination of Actuarial Value of Assets and Projected Actuarial Value of Assets with POB for June 30, 2023 and June 30, 2022 Actuarial Valuations

				2023		2022
1	Fair value of assets with POB available for benefits			$66,504,717,419		$62,833,626,339
2	Calculation of unrecognized return[1]	Original Amount[2]	% Not Recognized		% Not Recognized	
	(a) Year ended June 30, 2023	$55,147,448	80%	$44,117,958		
	(b) Year ended June 30, 2022	(5,215,663,453)	60%	(3,129,398,072)	80%	($4,172,530,762)
	(c) Year ended June 30, 2021	9,424,254,666	40%	3,769,701,866	60%	5,654,552,800
	(d) Year ended June 30, 2020	(3,409,956,524)	20%	(681,991,305)	40%	(1,363,982,610)
	(e) Year ended June 30, 2019	(974,076,334)		0	20%	(194,815,267)
	(f) Total unrecognized return			$2,430,447		($76,775,839)
3	Actuarial value of assets with POB (Current Assets): **(1) – (2f)**			$66,502,286,972		$62,910,402,178
4	Actuarial value as a percent of fair value: **(3) ÷ (1)**			100.0%		100.1%
5	Projected actuarial value of assets					
	(a) Assumed contributions			$7,240,354,633		$7,045,478,259
	(b) Assumed distributions			8,408,236,556		8,097,483,525
	(c) Expected return at 7.00%			4,614,284,221		4,366,907,968
	(d) Projected actuarial value of assets: **(3) + (5a) – (5b) + (5c)**			$69,948,689,270		$66,225,304,880

[1] *Recognition at 20% per year over 5 years.*
[2] *Total return minus expected return on fair value.*

Financial information *continued*

For determining the actuarial value of assets without the POB, the fair value of assets is estimated by adjusting for the POB. The fair value of assets without the POB as of the valuation date is equal to the fair value of assets without the POB as of the prior valuation date, increased by contributions excluding the POB debt service, decreased by disbursements, and credited with interest based upon the investment return of the fair value of assets with the POB.

Determination of Actuarial Value of Assets and Projected Actuarial Value of Assets without POB for June 30, 2023 and June 30, 2022 Actuarial Valuations

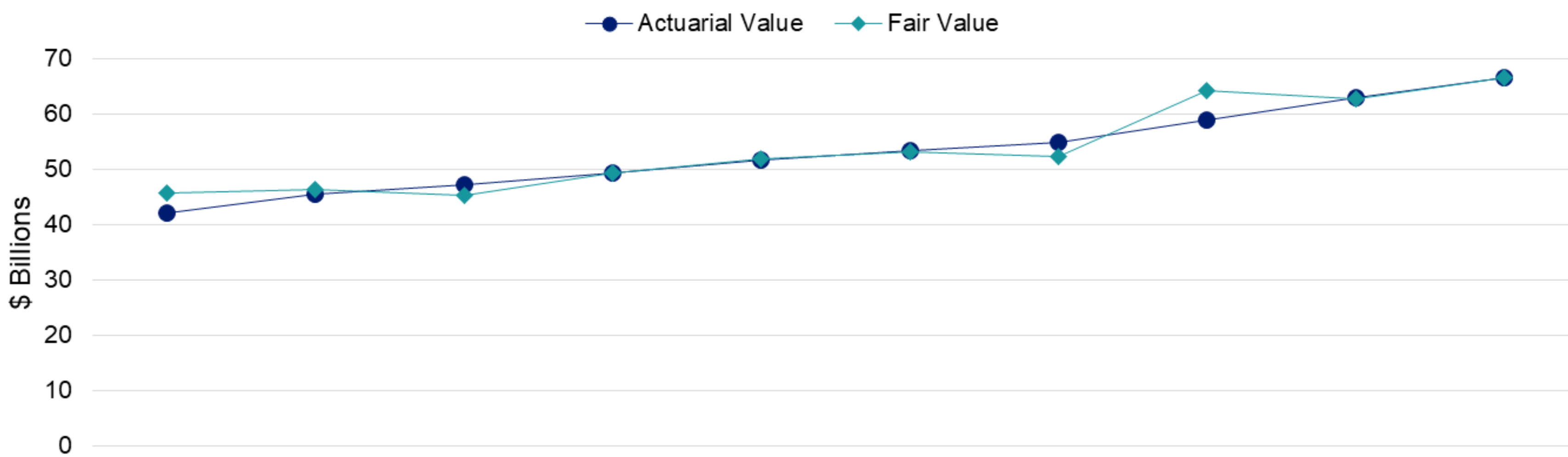
				2023		2022	
1	Estimated fair value of assets without POB available for benefits				$61,907,780,910		$58,092,515,091
2	Calculation of unrecognized return[1]		Original Amount[2]	% Not Recognized		% Not Recognized	
	(a)	Year ended June 30, 2023	$51,165,880	80%	$40,932,704		
	(b)	Year ended June 30, 2022	(4,805,772,954)	60%	(2,883,463,772)	80%	($3,844,618,363)
	(c)	Year ended June 30, 2021	8,630,845,465	40%	3,452,338,186	60%	5,178,507,279
	(d)	Year ended June 30, 2020	(3,102,850,180)	20%	(620,570,036)	40%	(1,277,140,072)
	(e)	Year ended June 30, 2019	(881,437,935)		0	20%	(176,287,587)
	(f)	Total unrecognized return			($10,762,918)		($83,538,743)
3	Actuarial value of assets without POB (Current Assets): **(1) – (2f)**				$61,918,543,828		$58,176,053,834
4	Actuarial value as a percent of fair value: **(3) ÷ (1)**				100.0%		100.1%
5	Projected actuarial value of assets						
	(a)	Assumed contributions			$7,737,555,403		$7,509,279,317
	(b)	Assumed distributions			8,408,236,556		8,097,483,525
	(c)	Expected return at 7.00%			4,310,824,228		4,051,736,621
	(d)	Projected actuarial value of assets: **(3) + (5a) – (5b) + (5c)**			$65,558,686,903		$61,639,586,247

[1] *Recognition at 20% per year over 5 years.*
[2] *Total return minus expected return on fair value.*

Financial information *continued*

Both the actuarial value and fair value of assets are a representation of the TRS financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the fair value of assets. The actuarial asset value is significant because TRS liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Actuarial Value of Assets vs. Fair Value of Assets as of June 30, 2014 – 2023 (with POB)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarial Value	$42.15	$45.44	$47.22	$49.47	$51.73	$53.39	$54.89	$58.98	$62.91	$66.50
Fair Value	$45.82	$46.41	$45.25	$49.38	$51.97	$53.26	$52.32	$64.21	$62.83	$66.50

Actuarial experience

To calculate the actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. Overall favorable experience relative to the assumptions (an actuarial gain) causes a decrease in the contribution requirement. On the other hand, overall less favorable experience relative to the assumptions (an actuarial loss) causes an increase in the contribution requirement.

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single years' experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is approximately $717 million, which includes $29 million from investment losses and $688 million in losses from all other sources. The net experience variation from individual sources other than investments was approximately 0.5% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2023

1	Net gain/(loss) from investments[1]	($29,433,147)
2	Net gain/(loss) from other experience[2]	(688,009,545)
3	Net experience gain/(loss): **(1) + (2)**	($717,442,692)

[1] *Details on page 35.*
[2] *Details on page 38.*

Actuarial experience *continued*

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the TRS investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.0%. The actual rate of return on an actuarial basis for the year ended June 30, 2023, was 6.95%.

Since the actual return for the year was less than the assumed return, TRS experienced an actuarial loss during the fiscal year ended June 30, 2023, with regard to its investments.

Investment Experience for Year Ended June 30, 2023

		Fair Value With POB	Fair Value Without POB	Actuarial Value With POB
1	Value of assets as of June 30, 2022	$62,833,626,339	$58,092,515,091	$62,910,402,178
2	Contributions during fiscal year ended June 30, 2023[1]	7,243,404,006	7,707,205,064[2]	7,243,404,006
3	Benefits and expenses during fiscal year ended June 30, 2023	7,999,355,901	7,999,355,901	7,999,355,901
4	Value of assets as of June 30, 2023	66,504,717,419	61,907,780,910	66,502,286,972
5	Total investment income: **(4) – (1) – (2) + (3)**	4,427,042,975	4,107,416,656	4,347,836,689
6	Average value of assets: **(1) + [(2) – (3)] ÷ 2**	62,455,650,392	57,946,439,673	62,532,426,231
7	Actual rate of return: **(5) ÷ (6)**	7.09%	7.09%	6.95%
8	Assumed rate of return	7.00%	7.00%	7.00%
9	Expected return: **(6) x (8)**	$4,371,895,527	$4,056,250,776	$4,377,269,836
10	Actuarial gain/(loss): **(5) – (9)**	$55,147,448	$51,165,880	($29,433,147)

[1] *Includes additional one-time contribution of $115,215,500 per Public Act 102-0698.*
[2] *Includes POB debt service.*

Actuarial experience *continued*

Investment Rate of Return *continued*

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the fair value investment return for the last twenty years, including five-year, ten-year, fifteen-year, and twenty-year averages.

Note that the actuarial value of assets was equal to the fair value of assets prior to June 30, 2009. Effective June 30, 2009, the actuarial value of assets was changed to a method under which market fluctuations in excess of or below the assumed investment return are recognized over a five-year period. The returns were determined by the actuary and may be different from the returns reported in the Annual Comprehensive Financial Report.

Investment Return
Fair Value vs. Actuarial: 2004 – 2023

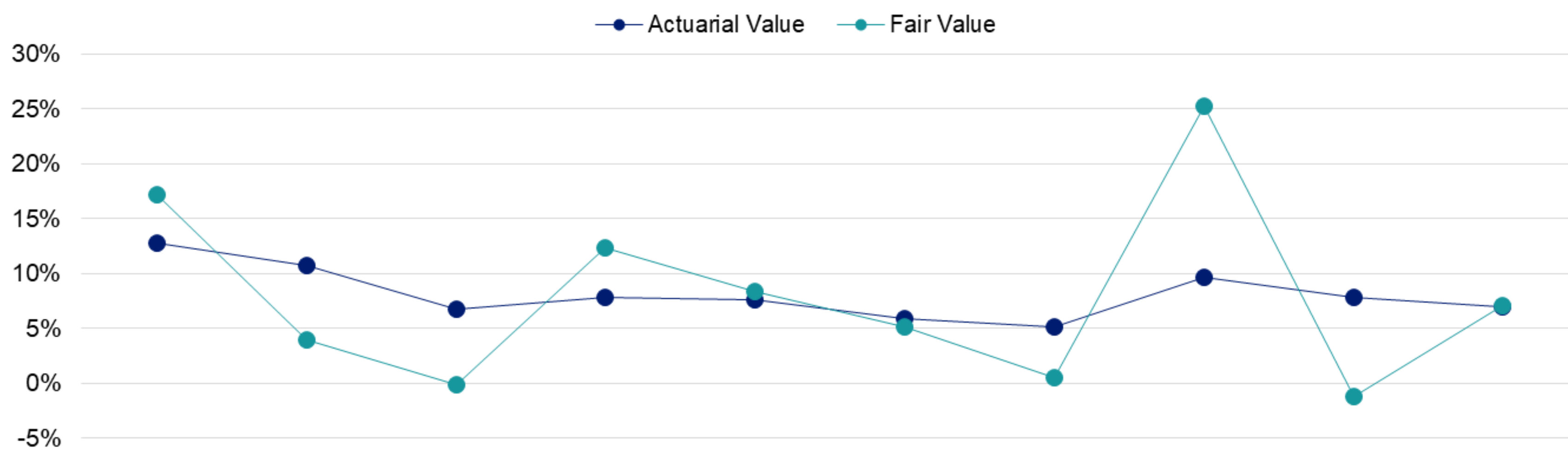
Year Ended June 30	Fair Value	Actuarial Value	Year Ended June 30	Fair Value	Actuarial Value
2004	16.46%	16.46%	2014	17.19%	12.75%
2005	10.69%	10.69%	2015	3.91%	10.76%
2006	11.98%	11.98%	2016	(0.10%)	6.46%
2007	19.07%	19.07%	2017	12.39%	7.83%
2008	(4.89%)	(4.89%)	2018	8.32%	7.63%
2009	(22.89%)	2.22%	2019	5.10%	5.84%
2010	12.97%	0.71%	2020	0.52%	5.16%
2011	23.50%	3.84%	2021	25.21%	9.65%
2012	0.61%	3.64%	2022	(1.16%)	7.78%
2013	12.70%	3.83%	2023	7.09%	6.95%
	Most recent five-year average return			6.96%	7.07%
	Most recent ten-year average return			7.56%	8.09%
	Most recent fifteen-year average return			6.38%	6.31%
	Most recent twenty-year average return			7.38%	7.30%

Actuarial experience *continued*

Investment Rate of Return *continued*

The actuarial asset valuation method gradually takes into account fluctuations in the fair value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs. The chart below illustrates the effect that the asset returns on a fair value basis are more volatile than asset returns on an actuarial basis.

Fair Value and Actuarial Rates of Return for Years Ended June 30, 2014 – 2023



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarial Value	12.75%	10.76%	6.76%	7.83%	7.63%	5.84%	5.16%	9.65%	7.78%	6.95%
Fair Value	17.19%	3.91%	−0.10%	12.39%	8.32%	5.10%	0.52%	25.21%	−1.16%	7.09%
Assumed Rate	8.00%	7.50%	7.50%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%

Actuarial experience *continued*

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include but are not limited to:

- salary increases different than assumed,
- retirement experience (earlier or later than expected),
- disability experience different than assumed,
- the extent of turnover among participants,
- mortality (more or fewer deaths than expected),
- buyout experience different than assumed, and
- new entrants.

The loss from this other experience for the year ended June 30, 2023, is $688 million, which is approximately 0.5% of the actuarial accrual liability. This is largely due to greater than assumed salary increases, in combination with programming enhancements. A five-year history of the demographic gain/(loss) experience is shown in the chart below.

Experience Due to Changes in Demographics for Years Ended June 30, 2019, to June 30, 2023

		2023	2022	2021	2020	2019
1	Salary increases	($237,171,924)	($32,828,461)	$56,331,439	$41,780,212	$84,011,865
2	Retirement experience	3,778,734	(12,528,909)	(107,023,064)	(178,155,930)	(324,388,173)
3	Disability experience	13,870,284	18,105,257	18,941,923	17,701,086	17,840,394
4	Termination experience	(27,073,060)	(54,266,505)	(49,242,128)	(49,417,489)	(60,351,523)
5	Mortality experience	15,608,188	146,302,767	68,231,169	(14,135,952)	(10,977,383)
6	Rehires	(45,283,039)	(35,416,877)	(41,159,834)	(41,266,774)	(39,508,399)
7	New entrants	154,803	3,326,783	4,382,406	10,456,950	10,851,490
8	Buyout experience	35,490,137	65,234,112	195,467,590	N/A	N/A
9	Other	(447,383,668)[1]	(223,011,784)	88,083,634	166,176,905	(29,494,007)
10	Total	($688,009,545)	($125,083,617)	$234,013,135	($46,860,992)	($352,015,736)

[1] Primarily due to programming enhancements

Development of employer costs

Statutory Funding under Illinois Pension Code

The amount of the employer contribution as determined by the Illinois Pension Code is the amount, which, as a level percentage of member payroll, will result in the System being 90% funded by June 30, 2045, if all assumptions are met and the active population remains level. The employer contributions include contributions from the State, School Districts, and Federal Funds. Federal Funds contributions are based on the assumption that 2.00% of total payroll is attributable to Federal Funds payroll. For fiscal 2025, the School Districts' contributions are expected to equal 0.58% of total payroll under Sec. 16-158(e), approximately 0.05% of total payroll under Sec. 16-158(f), and approximately 0.03% of total payroll under Sec. 16-158(i-5). The actuarial cost method is the projected unit credit method.

The methodology for calculating the Federal Funds contribution and, therefore, the State contribution has been changed effective for fiscal years 2021 and thereafter. Based on the modified approach, the Federal Funds contributions are treated in a similar manner as some School District contributions (i.e., a stream of projected contributions estimated as of the valuation date) resulting in the State contribution being the level percent of payroll required to attain 90% funded by fiscal year 2045.

Recommended Funding under Board-Adopted Actuarial Funding Policy

The actuarially determined contribution under the Board's funding policy, called the Board-Adopted Actuarial Funding Policy, is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. The amortization of the unfunded accrued liability is a closed 20-year period effective June 30, 2015, and will decline by one year in each subsequent valuation. Sources of unfunded actuarial accrued liability that emerge in subsequent valuations are amortized over closed 20-year periods. Contributions toward the unfunded actuarial accrued liability increase by 2% each year, the estimated increase in future State revenue growth. The actuarial cost method is the entry age normal method. The minimum contribution is the normal cost.

The chart on the following page shows the development of employer contributions under Statutory Funding and the Board-Adopted Actuarial Funding Policy.

Development of employer costs *continued*

Employer Contributions

		Fiscal Year Ending June 30	
		2025	2024
Based on Statutory Funding Plan			
1	Benefit Trust Reserve:		
	(a) Employer's cost as percentage of membership payroll	49.90%	51.62%
	(b) Total employer contribution: (1a) x (8)	$6,386,047,520	$6,264,059,062
	(c) School Districts contributions under Sec. 16-158	(84,417,860)	(79,236,196)
	(d) Federal Funds contribution	(26,467,247)	(25,728,216)
	(e) Phase-in of the effect of assumption changes	(71,540,000)	(115,940,000)
	(f) State Contribution: (1b) + (1c) + (1d) + (1e)	$6,203,622,413	$6,043,154,650
2	Guaranteed Minimum Annuity Reserve	300,000	300,000
3	Total State Contribution: (1f) + (2)	$6,203,922,413	$6,043,454,650
Based on Board-Adopted Actuarial Funding Policy (Actuarially Determined Contribution)			
4	Benefit Trust Reserve:		
	(a) Normal cost plus amortization of UAAL	$10,216,459,865	$9,694,780,499
	(b) School Districts contribution under Sec. 16-158	(84,417,860)	(79,236,196)
	(c) Federal Funds contribution	(26,467,247)	(25,728,216)
	(d) State contribution: (4a) + (4b) + (4c)	$10,105,574,758	$9,589,816,087
5	Guaranteed Minimum Annuity Reserve	300,000	300,000
6	Total State Contribution: (4d) + (5)	$10,105,874,758	$9,590,116,087
Difference Between Board-Adopted Actuarial Funding Policy and Statutory Fund			
7	Shortfall/(Excess): (6) – (3)	$3,901,952,345	$3,546,661,437
Expected Membership Payroll			
8	Total membership payroll	$12,798,475,469	$12,135,950,790

Low-Default-Risk Obligation Measure

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) Measuring Pension Obligations and Determining Pension Plan Costs or Contributions. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDROM) when performing a funding valuation. The LDROM presented in this report is calculated using the same methodology and assumptions used to determine the Actuarial Accrued Liability (AAL) used for funding, except for the discount rate. The LDROM is required to be calculated using "*a discount rate…derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future.*"

The LDROM is a calculation assuming a plan's assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer (www.bondbuyer.com), is 3.65% for use effective June 30, 2023. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of such plans. The LDROM is not used to determine a plan's funded status or Actuarially Determined Contribution. The plan's expected return on assets, currently 7.00%, is used for these calculations.

As of June 30, 2023, the LDROM for the system is $236.0 billion, based on the entry age normal cost method. The difference between the plan's AAL of $151.5 billion (based on the entry age normal cost method) and the LDROM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the plan's diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of participant benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the Actuarially Determined Contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a brief discussion of some risks that may affect the System. This discussion is focused on funding-related risks, but similar concerns may apply to risks regarding the level of expense and liabilities reported for Plan accounting purposes as well. There are external factors including legislative or financial reporting changes that could impact the Plan's funding and disclosure requirements. While we do not assume any changes in such external factors, it is important to understand that they could have significant consequences for the Plan.

We performed a detailed analysis in April 2023 of the potential range of the impact of investment risk relative to the System's future financial condition. However, additional detailed risk assessments are important for TRS because:

- The negative cash flow position of the System could be exacerbated by relatively small deviations from assumed future experience.
- Retired and inactive participants account for more than half of the System's liabilities limiting options for reducing plan liabilities in the event of adverse experience.
- The statutory employer contribution has been less than the actuarially determined contribution determined under the Board-Adopted Actuarial Funding Policy, which may indicate additional funding challenges in the future.
- The risks identified below show significant potential for variability.

The following risks could significantly affect the System's future condition:

Economic Risk (the risk that economic factors will be different than expected)

Potential implications for the Plan due to the following economic effects (that were not reflected as of the valuation date) include:

- Volatile financial markets and investment returns lower than assumed
- High inflationary environment impacting salary increases and Tier 2 COLAs
- Lingering direct and indirect effects of the COVID-19 pandemic

Sensitivity testing showing impacts on State Contribution amounts due to various investment returns and salary increases are included later in this section.

Investment Risk (the risk that returns will be different than expected)

If the prior year's investment performance resulted in a fair value of assets that is 10% different than the current value, it would result in a change of $6.7 billion in the asset value. A 10% increase in assets would cause the unfunded liability (fair value basis) to decrease from $81.9 billion to $75.2 billion. Likewise, a 10% decrease in the asset value would cause the unfunded liability to increase from $81.9 billion to $88.6 billion.

Risk *continued*

Since the Plan's assets are much larger than contributions, investment performance may create significant volatility in contribution requirements. For example, if future returns were 1% different than the current 7.0% return assumption, the average annual State contribution from fiscal year 2025 through fiscal year 2045 under Statutory requirements would increase or decrease by approximately $650 million.

The fair value rate of return over the last 10 years has ranged from a low of −1.2% to a high of 25.2%, with an average of 7.6%. However, looking over a longer historical period of 20 years, the fair value rate of return has an average of 7.4%.

See 'Sensitivity Projections' section on pages 21 through 22 of this report for additional information regarding investment risk.

Longevity Risk (the risk that mortality experience will be different than expected)

The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the Board adopted funding policy and statutorily required contribution requirement.

For example, a 10% reduction in the assumed mortality rates results in an increase in the liabilities of roughly 3% for most plans. For TRS, a 3% liability increase would result in an increase in the unfunded actuarially liability of $4.5 billion. The unfunded accrued liability (fair value basis) would increase from $81.9 billion to $86.4 billion.

Contribution Risk (the risk that actual contributions will be different from the actuarially determined contribution)

The Board-adopted Actuarial Funding Policy requires payment of the System's normal cost and an amortization payment according to a schedule sufficient to pay down unfunded actuarial liability over time. If the TRS funding policy contribution were adhered to, contribution risk would be negligible.

However, Plan contributions are set by statute. The statutorily-required amount systematically underfunds TRS. Among other things, it: a) is based on a funding target of 90% of the actuarial accrued liability (as opposed to 100%); b) requires the use of the projected unit credit cost method, which further back loads the contributions to TRS as compared to the entry age normal cost method, which is a level cost funding method; c) imposes a maximum contribution based upon Pension Obligation Bond (POB) debt payments despite the fact that not all of the POB proceeds were contributed to TRS; and d) requires Tier 2 benefit provisions for members to be hired in the future be reflected in the determination of the contribution, resulting in reduced and back-loaded contributions.

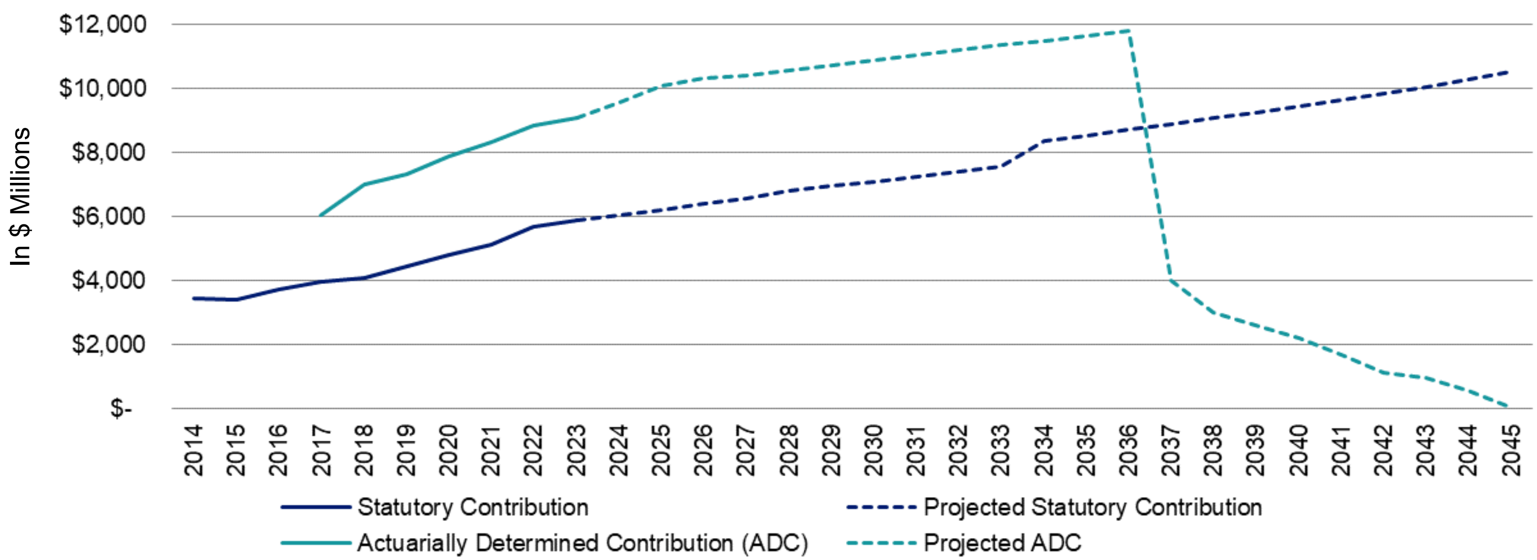
If contributions remain at current level and future experience matches the current assumptions, we project the unfunded actuarial accrued liability will not be paid off.

Risk *continued*

The following chart illustrates the impact on projected total State contributions (under the Statutory Funding Policy and Board-Adopted Actuarial Funding Policy) from fiscal year ending June 30, 2025, through June 30, 2045, assuming fair value returns for the upcoming year vary between −21% and +21%. Statutory and Board-Adopted Actuarial Funding Policy contributions are determined such that the System is projected, by June 30, 2045, to attain 90% funded and 100% funded, respectively.

FYE2024	Total State Contributions (FY25-FY45)		
Assumed Return	Statutory	Board-Adopted	Difference
+21%	$153.9B	$131.3B	$22.6B
+14%	164.4B	139.1B	25.3B
+7%	175.1B	147.9B	27.2B
0%	185.5B	156.6B	28.9B
-7%	196.0B	165.4B	30.6B
-14%	206.6B	174.2B	32.4B
-21%	217.1B	183.0B	34.1B

The following graph depicts the differences in contribution pattern from June 30, 2025, through June 30, 2045, under the Statutory Funding Policy and Board-Adopted Actuarial Funding Policy, assuming 7% future returns.



Risk *continued*

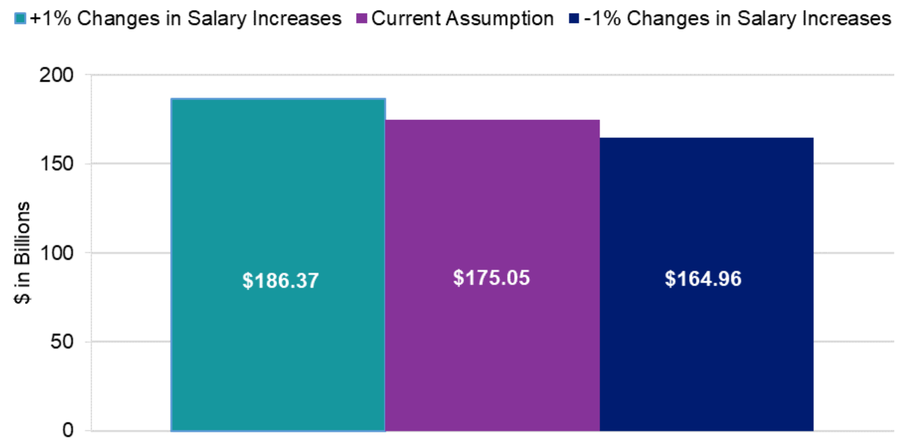
Demographic Risk (the risk that participant experience will be different than assumed)

Examples of this risk include:

- Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
- More or less active participant turnover than assumed.
- Individual salary increases higher or lower than assumed.
- Projected active headcount increases higher or lower than assumed.

The following chart and graph illustrate the impact on projected total State contributions from fiscal year ending June 30, 2025, through June 30, 2045, assuming increases in individual salaries (for both current and future employees) differ by 1% compared to the current assumption. Statutory contributions are determined such that the System is projected, by June 30, 2045, to attain 90% funded.

Changes to Assumed Salary Increases	Total State Contributions (FY25-FY45)	Difference from Current Assumption
+1%	$186.4B	$10.3B
0% (Current)	$175.1B	N/A
−1%	$165.0B	($10.1B)

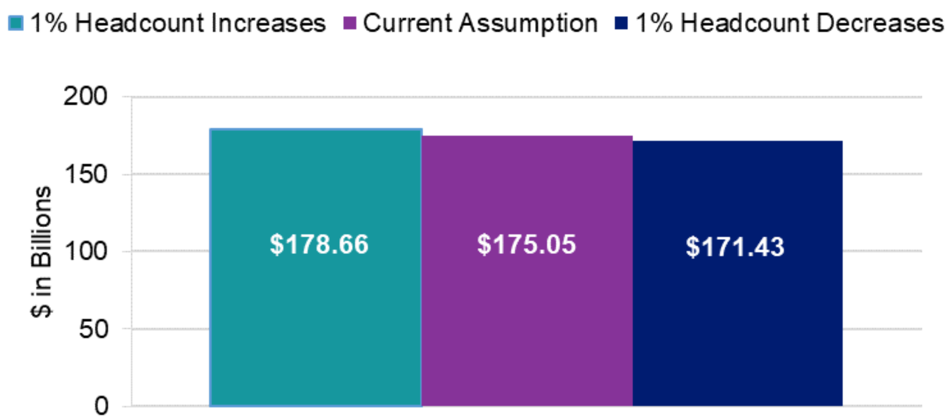


The following chart and graph illustrate the impact on projected total State contributions from fiscal year ending June 30, 2025, through June 30, 2045, assuming the projected active headcount differs by 1% compared to the current assumption.

Risk *continued*

The following chart and graph illustrate the impact on projected total State contributions from fiscal year ending June 30, 2025, through June 30, 2045, assuming the projected active headcount differs by 1% compared to the current assumption.

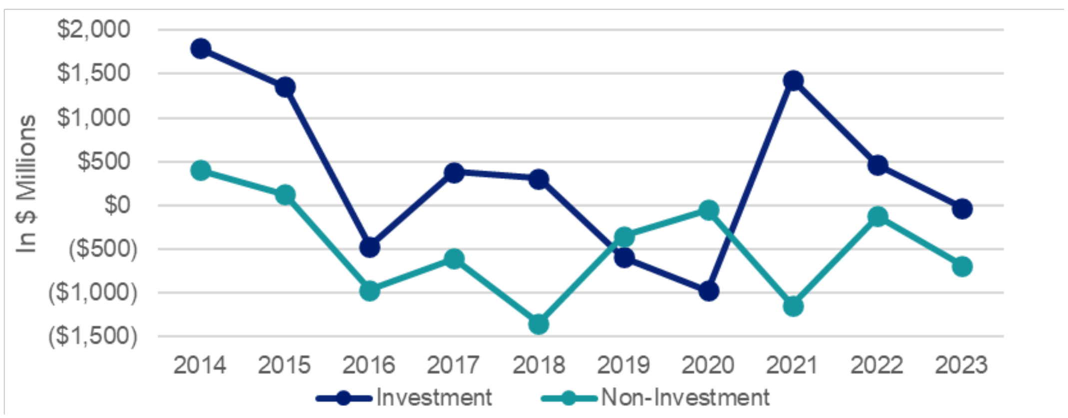
Assumed Annual Change to Active Headcount	Total State Contributions (FY25-FY45)	Difference from Current Assumption
1% Increase	$178.7B	$3.6B
0% (Current)	$175.1B	N/A
1% Decrease	$171.4B	($3.7B)



Actual Experience Over the Last 10 years

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

- The funded percentage on the actuarial value of assets has ranged from a low of 39.8% to a high of 44.8% since 2014. See page 72 for additional details.
- The investment gain/(loss) for a year has ranged from a gain of $1,792 million to a loss of ($973) million.
- The non-investment gain/(loss) for a year has ranged from a gain of $402 million to a loss of ($1,342) million.



Risk *continued*

Maturity Measures

The risk associated with a pension plan increases as it becomes more mature, meaning that the actives represent a smaller portion of the liabilities of the plan. When this happens, there is a greater risk that fluctuations in the experience of the non-active participants or of the assets of the plan can results in large swings in the contribution requirements.

- Over the past ten years, the ratio of full-time actives to non-active participants (excluding inactive members eligible for refunds) has decreased from a high of 1.21 to a low of 1.09. Currently the System has an active to non-active participant ratio of 1.09. See page 25 for more details.
- As of June 30, 2023, the retired life actuarial accrued liability represents 62% of the total actuarial accrued liability. In addition, the actuarial accrued liability for inactive vested participants represents 3% of the total. The higher the non-active actuarial accrued liability as a percent of the total liability, the greater the danger of volatility in results.
- Benefits and administrative expenses less contributions totaled $0.8 billion for the year ending June 30, 2023, 1.1% of the market value of assets. The Plan is dependent upon investment returns in order to pay benefits. See page 29 for additional details.

Section 3: Supplemental Information

Exhibit A – Summary of Membership Data

Category			Valuation as of June 30[1] 2023	2022	Change From Prior Year
Active members:					
1	Number				
	(a)	Full-time and regular part-time			
		Tier 1	95,064	98,045	(3.04%)
		Tier 2	46,091	41,099	12.15%
		Total	141,155	139,144	1.45%
	(b)	Substitutes, part-time, and hourly paid			
		Tier 1	9,060	7,545	20.08%
		Tier 2	16,499	12,216	35.06%
		Total	25,559	19,761	29.34%
	(c)	Total number of active members			
		Tier 1	104,124	105,590	(1.39%)
		Tier 2	62,590	53,315	17.40%
		Total	166,714	158,905	4.91%
2	Annual salaries				
	(a)	Full-time and regular part-time			
		Tier 1	$8,540,534,888	$8,455,234,760	1.01%
		Tier 2	2,771,985,569	2,352,702,390	17.82%
		Total	$11,312,520,457	$10,807,937,150	4.67%
	(b)	Substitutes, part-time, and hourly paid			
		Tier 1	$72,198,853	$55,077,433	31.09%
		Tier 2	113,977,487	81,484,620	39.88%
		Total	$186,176,340	$136,562,053	36.33%
	(c)	Total number of active members			
		Tier 1	$8,612,733,741	$8,510,312,193	1.20%
		Tier 2	2,885,963,056	2,434,187,010	18.56%
		Total	$11,498,696,797	$10,944,499,203	5.06%

[1] *Member data used in the valuation is as of the prior valuation date.*

Exhibit A – Summary of Membership Data *continued*

Category		Valuation as of June 30[1] 2023	2022	Change From Prior Year
Active members (continued):				
3	Average age			
	(a) Full-time and regular part-time	42.6	42.4	+0.2 years
	(b) Substitutes, part-time, and hourly paid	44.8	44.8	+0.0 years
	(c) Total	42.9	42.7	+0.2 years
4	Average service			
	(a) Full-time and regular part-time	13.6	13.5	+0.1 years
	(b) Substitutes, part-time, and hourly paid	1.9	2.1	-0.2 years
	(c) Total	11.8	12.1	-0.3 years
Inactive members:				
	Eligible for deferred annuities	18,808	19,308	(2.59%)
	Eligible for refunds or single sum benefits	129,420	132,507	(2.33%)
	Total	148,228	151,815	(2.36%)
Service retirees:				
1	Number			
	(a) Regular	87,203	84,637	3.03%
	(b) ERI	7,091	7,535	(5.89%)
	(c) ERO	21,994	22,587	(2.63%)
	(d) Total	116,288	114,759	1.33%
2	Annual annuities			
	(a) Regular	$5,055,706,654	$4,795,543,168	5.43%
	(b) ERI	489,776,797	505,540,370	(3.12%)
	(c) ERO	1,793,204,789	1,780,185,918	0.73%
	(d) Total	$7,338,688,240	$7,081,269,456	3.64%
3	Average age	73.2	72.9	+0.3 years
4	Average monthly benefit	$5,259	$5,142	2.27%

[1] *Member data used in the valuation is as of the prior valuation date.*

Exhibit A – Summary of Membership Data *continued*

Category			Valuation as of June 30[1] 2023	2022	Change From Prior Year
Disability Annuitants:					
1	Number				
	(a)	Retirement Allowance	775	802	(3.37%)
	(b)	Occupational	5	4	25.00%
	(c)	Temporary	185	180	2.78%
	(d)	Total	965	986	(2.13%)
2	Annual annuities				
	(a)	Retirement Allowance	$24,578,469	$24,753,047	(0.71%)
	(b)	Occupational	233,038	190,502	22.33%
	(c)	Temporary	6,148,657	5,989,428	2.66%
	(d)	Total	$30,960,164	$30,932,977	0.09%
3	Average age		61.4	61.2	+0.2 years
4	Average monthly benefit		$2,674	$2,614	2.27%
Survivor Annuitants:					
1	Number				
	(a)	Children	71	75	(5.33%)
	(b)	Survivors	12,504	12,083	3.45%
	(c)	Reversionary	223	213	4.69%
	(d)	Total	12,798	12,371	3.45%
2	Annual annuities				
	(a)	Retirement Allowance	$948,439	$965,942	(1.81%)
	(b)	Occupational	384,273,268	355,002,899	8.25%
	(c)	Temporary	10,115,371	9,440,850	7.14%
	(d)	Total	$395,337,078	$365,409,691	8.19%
3	Average age		79.1	78.9	+0.2 years
4	Average monthly benefit		$2,574	$2,461	4.58%
Total number of participants			444,993	438,836	1.40%

[1] *Member data used in the valuation is as of the prior valuation date.*

Exhibit B – Active Membership Data as of June 30, 2022, used in June 30, 2023 Actuarial Valuation (Number and Average Annual Salary)

	Full-Time and Regular Part-Time Years of Service									
Age	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 - 39	40 & over
Under 25	3,999	3,998	1	--	--	--	--	--	--	--
	$48,313	$48,304	$83,109	--	--	--	--	--	--	--
25 – 29	13,694	9,749	3,945	--	--	--	--	--	--	--
	$55,110	$53,242	$59,727	--	--	--	--	--	--	--
30 – 34	17,749	4,417	9,999	3,333	--	--	--	--	--	--
	$64,546	$57,092	$65,220	$72,404	--	--	--	--	--	--
35 – 39	22,223	3,033	4,983	9,707	4,499	1	--	--	--	--
	$74,484	$58,865	$67,721	$77,344	$86,335	$63,441	--	--	--	--
40 – 44	25,031	2,654	3,163	4,296	10,888	4,030	--	--	--	--
	$83,549	$59,155	$68,352	$78,085	$90,235	$99,304	--	--	--	--
45 – 49	22,185	1,788	2,127	2,508	4,392	9,029	2,341	--	--	--
	$91,080	$60,096	$68,061	$77,176	$91,411	$101,830	$108,471	--	--	--
50 – 54	20,178	1,283	1,636	1,849	2,998	4,091	6,507	1,814	--	--
	$95,568	$61,406	$68,634	$76,462	$89,085	$101,034	$109,009	$113,663	--	--
55 – 59	11,389	696	826	1,112	1,996	2,002	2,139	2,480	138	--
	$96,859	$59,495	$67,738	$76,369	$86,835	$99,542	$110,966	$118,126	$129,898	--
60 – 64	3,701	354	376	452	841	773	509	267	112	17
	$89,352	$61,292	$68,073	$76,531	$86,699	$96,623	$105,945	$116,698	$124,889	$125,407
65 – 69	826	104	119	82	187	152	107	39	17	19
	$88,820	$58,110	$68,071	$80,645	$91,850	$99,036	$106,511	$118,393	$110,585	$130,810
70 & Older	180	22	25	21	23	30	17	17	8	17
	$90,480	$52,228	$63,836	$74,197	$84,975	$117,517	$97,414	$118,497	$104,096	$117,652
Total	141,155	28,098	27,200	23,360	25,824	20,108	11,620	4,617	275	53
	$80,143	$55,392	$65,801	$76,634	$89,251	$100,734	$109,087	$116,294	$125,913	$124,857

Exhibit C – 10-Year History of Active Membership Data

Full-Time and Regular Part-Time					
Census Date June 30	Number	Percentage Change in Membership	Total Salaries	Average Annual Salary	Percent Change in Average Salary
2013	132,886	N/A	$8,984,821,118	$67,613	N/A
2014	132,916	0.0%	9,115,480,030	68,581	1.4%
2015	133,478	0.4%	9,286,852,068	69,576	1.5%
2016	133,505	0.0%	9,450,737,426	70,789	1.7%
2017	133,761	0.2%	9,610,001,605	71,845	1.5%
2018	134,160	0.3%	9,807,965,387	73,106	1.8%
2019	135,752	1.2%	10,120,309,474	74,550	2.0%
2020	137,394	1.2%	10,450,326,107	76,061	2.0%
2021	139,144	1.3%	10,807,937,150	77,674	2.1%
2022	141,155	1.4%	11,312,520,457	80,143	3.2%

Substitutes, Part-Time and Hourly Paid					
Census Date June 30	Number	Percentage Change in Membership	Total Salaries	Average Annual Salary	Percent Change in Average Salary
2013	28,104	N/A	$143,217,984	$5,096	N/A
2014	26,920	(4.2%)	143,897,458	5,345	4.9%
2015	26,206	(2.7%)	148,630,024	5,672	6.1%
2016	26,080	(0.5%)	154,723,494	5,933	4.6%
2017	26,664	2.2%	152,390,955	5,715	(3.7%)
2018	26,592	(0.3%)	154,944,377	5,827	2.0%
2019	27,323	2.7%	163,335,209	5,978	2.6%
2020	25,555	(6.5%)	148,633,764	5,816	(2.7%)
2021	19,761	(22.7%)	136,562,053	6,911	18.8%
2022	25,559	29.3%	187,176,340	7,284	5.4%

Exhibit D – History of Active Membership Data

Tier 1					
Census Date June 30	Number	Percentage Change in Membership	Total Salaries	Average Annual Salary	Percent Change in Average Salary
2013	144,987	N/A	$8,975,899,676	$61,908	N/A
2014	138,700	(4.3%)	8,705,746,049	62,767	1.4%
2015	133,498	(3.8%)	8,649,528,420	64,791	3.2%
2016	128,262	(3.9%)	8,587,965,096	66,956	3.3%
2017	123,933	(3.4%)	8,508,107,682	68,651	2.5%
2018	119,572	(3.5%)	8,455,296,068	70,713	3.0%
2019	116,261	(2.8%)	8,485,298,821	72,985	3.2%
2020	112,214	(3.5%)	8,506,275,858	75,804	3.9%
2021	105,590	(5.9%)	8,510,312,193	80,598	6.3%
2022	104,124	(1.4%)	8,612,733,741	82,716	2.6%

Tier 2					
Census Date June 30	Number	Percentage Change in Membership	Total Salaries	Average Annual Salary	Percent Change in Average Salary
2013	16,003	N/A	$360,008,829	$22,496	N/A
2014	21,136	32.1%	553,631,439	26,194	16.4%
2015	26,186	23.9%	785,878,433	30,011	14.6%
2016	31,323	19.6%	1,017,495,824	32,484	8.2%
2017	36,492	16.5%	1,254,284,878	34,372	5.8%
2018	41,180	12.8%	1,507,613,696	36,610	6.5%
2019	46,814	13.7%	1,798,345,863	38,415	4.9%
2020	50,735	8.4%	2,092,684,013	41,247	7.4%
2021	53,315	5.1%	2,434,187,010	45,657	10.7%
2022	62,590	17.4%	2,885,963,056	46,109	1.0%

Note: Membership data by Tier includes substitutes, part-time, and hourly paid members.

Exhibit E – 10-Year History of Annuitant and Survivor Annuitant Membership

Census Date as of June 30	Number	Percentage Change in Number of Recipients	Annual Allowances	Percent Change in Allowances	Average Annual Annuity
2013	109,448	N/A	$5,204,460,272	N/A	$47,552
2014	112,682	3.0%	5,505,783,524	5.8%	48,861
2015	115,273	2.3%	5,728,198,887	4.0%	49,692
2016	117,990	2.4%	6,033,050,890	5.3%	51,132
2017	120,453	2.1%	6,336,471,817	5.0%	52,605
2018	122,895	2.0%	6,639,967,327	4.8%	54,030
2019	124,791	1.5%	6,927,481,533	4.3%	55,513
2020	126,594	1.4%	7,205,635,969	4.0%	56,919
2021	128,116	1.2%	7,477,612,124	3.8%	58,366
2022	130,051	1.5%	7,764,985,482	3.8%	59,707

Exhibit F – Benefit Stream for Guaranteed Minimum Annuity Reserve

Fiscal Year	Projected Benefit Stream for Guaranteed Minimum Annuity Reserve	Fiscal Year	Projected Benefit Stream for Guaranteed Minimum Annuity Reserve
2024	$251,544	2049	$6,131
2025	224,544	2050	4,984
2026	199,040	2051	4,014
2027	175,453	2052	3,201
2028	154,416	2053	2,526
2029	135,576	2054	1,972
2030	118,920	2055	1,523
2032	104,175	2056	1,163
2033	91,091	2057	879
2033	79,471	2058	656
2034	69,297	2059	485
2035	60,292	2060	344
2036	52,349	2062	247
2037	45,347	2062	176
2038	39,178	2063	124
2039	33,782	2064	87
2040	29,049	2065	62
2041	24,911	2066	44
2042	21,277	2067	32
2043	18,103	2068	25
2044	15,353	2069	7
2045	12,954	2070	4
2046	10,868	2071	2
2047	9,059	2072	1
2048	7,474	2073	1

Exhibit G – Reconciliation of Membership Data

		Active Members	Inactive Members Eligible for Allowance	Inactive Members Eligible for Refund	Service Retirees	Disabled Retirees	Beneficiaries	Deferred Beneficiaries	Total
1	Number as of June 30, 2021[1]	158,905	19,275	132,507	114,759	986	12,371	33	438,836
2	New members	13,997	N/A	N/A	N/A	N/A	N/A	N/A	13,997
3	Participant movement								
	(a) Retirements	(3,247)	(725)	(263)	4,235	0	0	0	0
	(b) Disabilities	(101)	0	0	0	101	0	0	0
	(c) Conversion from disability to service pension	N/A	N/A	N/A	36	(36)	N/A	N/A	0
	(d) Died with beneficiary	(44)	(1)	0	(1,027)	(17)	1,208	30	149[2]
	(e) Died without beneficiary	(70)	(39)	(440)	(1,727)	(23)	(769)	0	(3,068)
	(f) Terminations – with vested rights	(1,740)	1,740	0	0	0	0	0	0
	(g) Terminations – without vested rights	(7,062)	0	7,062	0	0	0	0	0
	(h) Refunds	(538)	(116)	(4,098)	N/A	N/A	N/A	0	(4,752)
	(i) IV Buyout	N/A	(199)	N/A	N/A	N/A	N/A	N/A	(199)
	(j) Rehired as active	6,614	(1,218)	(5,361)	(1)	(34)	0	0	0
	(k) Temporary annuity expired	N/A	N/A	NA	N/A	N/A	(6)	N/A	(6)
4	Data adjustment	0	28	13	13	(12)	(6)	0	36
5	Number as of June 30, 2022[1]	166,714	18,745	129,420	116,288	965	12,798	63	444,993

[1] *Member data used in the valuation is as of the prior valuation date.*
[2] *Includes multiple beneficiaries.*

Exhibit H – Summary Statement of Income and Expenses on a Fair Value Basis

	Year Ended June 30, 2023		Year Ended June 30, 2022	
Net assets at fair value at the beginning of the year		$62,833,626,339		$64,212,505,020
Contribution income:				
Members	$1,109,497,833		$1,072,639,330	
State of Illinois[1]	6,009,158,073		5,866,799,836	
Employers:				
Federal funds	43,131,719		44,470,352	
2.2 Benefit formula	69,549,642		67,679,341	
Excess salary/sick leave	12,066,739		8,726,877	
Total contribution income		7,243,404,006		7,060,315,736
Investment income:				
Net appreciation (depreciation)	$3,142,048,720		($1,822,405,587)	
Alternative	1,201,253,640		1,100,265,053	
Interest and dividends	1,007,810,906		913,528,907	
Other	8,540,734		4,644,932	
Securities lending	8,128,567		8,460,584	
Less alternatives expense	(448,515,213)		(476,452,397)	
Less direct investment expense	(491,736,657)		(470,576,250)	
Less securities lending management fees	(487,722)		(507,615)	
Net investment income		4,427,042,975		(743,042,373)
Total income available for benefits		$11,670,446,981		$6,317,273,363
Less benefit payments and administrative expenses:				
Retirement benefits	($7,450,997,920)		($7,188,187,839)	
Survivor benefits	(416,259,400)		(386,984,571)	
Disability benefits	(31,885,365)		(31,847,092)	
Refund of contributions	(68,186,830)		(62,556,744)	
Administrative expenses	(32,026,386)		(26,575,798)	
Net benefit payments and administrative expenses		(7,999,355,901)		(7,696,152,044)
Net assets at fair value at the end of the year		$66,504,717,419		$62,833,626,339

[1] *Includes the additional one-time contributions of $172,823,300 and $115,215,500 for fiscal 2022 and fiscal 2023 per Public Act 102-0696 and Public Act 102-0698, respectively.*

Exhibit I – Summary Statement of System Assets

	Year Ended June 30, 2023		Year Ended June 30, 2022	
Cash equivalents		$16,768,356		$19,555,845
Accounts receivable and prepaid expenses:				
Member contributions	$150,527,513		$111,156,404	
Employer contributions	21,529,465		14,122,831	
State of Illinois	429,877		379,510	
Investment income	178,530,783		208,865,252	
Other receivables	3,141,515		1,796,573	
Investments sold	2,027,262,378		4,954,586,143	
Total accounts receivable and prepaid expenses		2,381,421,531		5,290,906,713
Investments at fair value:				
Fixed income	$7,747,947,907		$8,729,837,455	
Public equities	22,725,959,017		20,060,816,480	
Alternative investments	34,394,570,955		32,685,826,413	
Derivatives	(6,255,095)		(4,884,136)	
Short-term investments	1,307,235,638		959,097,903	
Foreign currency	97,273,223		97,615,510	
Total investments		66,266,731,645		62,528,309,625
Invested securities lending collateral		1,874,005,888		2,183,903,100
Capital assets, net of accumulated depreciation		9,947,467		8,238,075
Total assets		$70,548,874,887		$70,030,913,358
Less accounts payable:				
Benefits and refunds payable	($6,812,182)		($7,896,219)	
Administrative and investment expenses payable	(113,322,289)		(99,067,234)	
Pending investment purchases	(2,047,490,671)		(4,906,430,051)	
Deferred outflow – Leased obligations	(3,013,095)		0	
Securities lending collateral	(1,873,519,231)		(2,183,893,515)	
Total accounts payable		(4,044,157,468)		(7,197,287,019)
Net assets at fair value		$66,504,717,419		$62,833,626,339

Exhibit J – History of System Revenue and Expenses

Year Ending June 30	Fair Value of Assets Beginning of Year	Member Contributions	Employer Contributions	Net Investment Return	Admin Expenses	Benefit Payments	Fair Value of Assets End of Year	Investment Return[1]
2014	$39,858,768,499	$928,745,853	$3,596,717,490	$6,782,031,720	$21,218,069	$5,320,662,979	$45,824,382,514	17.2%
2015	45,824,382,514	935,451,049	3,523,256,530	1,770,549,533	21,686,860	5,625,037,173	46,406,915,593	3.9%
2016	46,406,915,593	951,809,398	3,890,510,012	(44,103,178)	22,967,917	5,931,207,177	45,250,956,731	(0.1%)
2017	45,250,956,731	929,130,165	4,135,859,276	5,520,453,001	22,728,735	6,438,005,920	49,375,664,518	12.4%
2018	49,375,664,518	938,037,245	4,179,758,475	4,049,271,728	21,550,896	6,551,634,376	51,969,546,694	8.3%
2019	51,969,546,694	963,972,120	4,554,535,473	2,617,831,332	24,335,680	6,818,760,572	53,262,789,367	5.1%
2020	53,262,789,367	994,400,416	4,906,109,917	275,669,398	22,966,372	7,099,524,955	52,316,477,771	0.5%
2021	52,316,477,771	1,023,531,951	5,238,242,437	13,046,153,685	23,758,112	7,388,142,712	64,212,505,020	25.2%
2022	64,212,505,020	1,072,639,330	5,987,676,406	(743,042,373)	26,575,798	7,669,576,246	62,833,626,339	(1.2%)
2023	62,833,636,339	1,109,497,833	6,133,906,173	4,427,042,975	32,026,386	7,967,329,515	66,504,717,419	7.1%

[1] *Calculated by the actuary and may not match the investment return reported in the Annual Comprehensive Financial Report.*

Exhibit K – Development of Unfunded Actuarial Accrued Liability

		Year Ended June 30			
		2023		2022	
1	Unfunded actuarial accrued liability at beginning of year		$80,613,328,781		$79,934,351,951
2	Total normal cost at beginning of year		2,259,253,955		2,169,473,297
3	Total member and employer contributions[1]		7,241,639,722		7,059,610,961
4	Interest on:				
	(a) Unfunded actuarial accrued liability and normal cost	$5,801,080,792		$5,747,267,767	
	(b) Total contributions	253,457,390		247,086,384	
	(c) Total interest: **(4a) – (4b)**		5,547,623,402		5,500,181,383
5	Expected unfunded actuarial accrued liability: **(1) + (2) – (3) + (4c)**		$81,178,566,416[2]		$80,544,395,670
6	Changes due to (gain)/loss from:				
	(a) Investments	$29,433,147		($459,975,183)	
	(b) Demographics	688,009,545		125,083,617	
	(c) Total changes due to (gain)/loss: **(6a) + (6b)**		717,442,692		(334,891,566)
7	Change in plan provisions		0		0
8	Change in actuarial assumptions		0		403,824,677
9	Unfunded actuarial accrued liability at end of year: **(5) + (6c) + (7) + (8)**		$81,896,009,108		$80,613,328,781

[1] *Excludes guaranteed minimum annuity contributions, excess sick leave contributions, and penalty contributions.*

[2] *The unfunded actuarial accrued liability increased $1,282,680,327 during the year ended June 30, 2023 due to total contributions being less than total normal cost plus interest on the unfunded actuarial accrued liability in addition to demographic and investment experience losses.*

Exhibit L – Schedule of Funding Progress

($ in thousands)

(1) Valuation Date	(2) Actuarial Value of Assets (AVA)	(3) Actuarial Accrued Liability (AAL)	(4) Unfunded Actuarial Accrued Liability (UAAL) (3) – (2)	(5) Funded Ratio (2) / (3)	(6) Covered Payroll	(7) UAAL as a % of Payroll (4) / (6)
6/30/2014	$42,150,765	$103,740,377	$61,589,612	40.6%	$9,512,810	647.4%
6/30/2015	45,435,193	108,121,825	62,686,632	42.0%	9,641,171	650.2%
6/30/2016	47,222,098	118,629,890	71,407,792	39.8%	9,811,614	727.8%
6/30/2017	49,467,525	122,904,034	73,436,509	40.2%	9,965,570	736.9%
6/30/2018	51,730,890	127,019,330	75,288,440	40.7%	10,163,980	740.7%
6/30/2019	53,391,193	131,456,969	78,065,776	40.6%	10,450,452	747.0%
6/30/2020	54,890,976	135,598,547	80,707,571	40.5%	10,827,439	745.4%
6/30/2021	58,979,923	138,914,275	79,934,352	42.5%	11,120,776	718.8%
6/30/2022	62,910,402	143,523,731	80,613,329	43.8%	11,647,248	692.1%
6/30/2023	66,502,287	148,398,296	81,896,009	44.8%	12,382,202	661.4%

Exhibit M – Solvency Test

($ in thousands)

Valuation as of June 30	Actuarial Accrued Liability for: (1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member (Employer Financed Portion)	Valuation Assets	Portion of Actuarial Accrued Liability Covered by Valuation Assets (1)	(2)	(3)
2014	$8,890,558	$65,614,627	$29,235,192	$42,150,765	100%	51%	0%
2015	9,281,893	70,545,782	28,294,150	45,435,193	100%	51%	0%
2016	9,629,934	77,688,075	31,311,881	47,222,098	100%	48%	0%
2017	9,683,095	80,882,353	32,338,586	49,467,525	100%	49%	0%
2018	10,057,427	82,968,465	33,993,438	51,730,890	100%	50%	0%
2019	10,474,097	85,788,806	35,194,066	53,391,193	100%	50%	0%
2020	10,902,747	88,185,983	36,509,817	54,890,976	100%	50%	0%
2021	11,320,352	88,788,971	38,804,952	58,979,923	100%	54%	0%
2022	11,804,784	90,534,637	41,184,310	62,910,402	100%	56%	0%
2023	12,276,856	92,515,847	43,605,593	66,502,287	100%	59%	0%

Section 4: Reporting Information

Exhibit I – Derivation of Employer Contributions under Illinois Pension Code

			Fiscal Year Ending June 30, 2025	As Percentage of Total Payroll
1	Assumed Payroll:			
	(a)	Total payroll	$12,798,475,469	
	(b)	Less Federal Funds payroll	(255,969,509)	
	(c)	State payroll	$12,542,505,960	
2	Employer contribution that would have been required without funds provided by Sec. 7.2(d) of General Obligation Bond Act			
	(a)	Employer's cost	$6,914,051,480	54.02%
	(b)	Less School Districts' contributions under Sec. 16-158	(84,417,860)	(0.66%)
	(c)	Less Federal Funds contribution	(26,467,247)	(0.21%)[1]
	(d)	Less State debt service for TRS portion of all funds provided under Sec 7.2 of General Obligation Bond Act	(528,003,960)	(4.12%)
	(e)	Maximum State contribution under PA 94-0004	$6,275,162,413	49.03%
3	Employer contribution recognizing all system assets, before limiting State contribution			
	(a)	Employer's cost	$6,589,059,072	51.48%
	(b)	Less School Districts' contributions under Sec. 16-158	(84,417,860)	(0.66%)
	(c)	Less Federal Funds contribution	(26,467,247)	(0.21%)[1]
	(d)	State contribution	$6,478,173,965	50.61%
4	State contribution under PA 100-0023			
	(a)	Lesser of amounts under **(2)** and **(3)**	$6,275,162,413	49.03%
	(b)	Phase-in of the effect of assumption changes	(71,540,000)	(0.56%)
	(c)	State contribution[2]	$6,203,622,413	48.47%
5	Employer contributions			
	(a)	State contribution	$6,203,622,413	48.47%
	(b)	Plus School Districts' contributions under Sec. 16-158	84,417,860	0.66%
	(c)	Plus Federal Funds contribution	26,467,247	0.21%[1]
	(d)	Total employer contribution	$6,314,507,520	49.34%

[1] *Federal Funds contribution is equal to 10.34% of assumed Federal Funds payroll.*
[2] *The Benefit Trust Reserve State Contribution does not include the Guaranteed Minimum Annuity Reserve contribution. See page 40 for more details.*

Exhibit I – Derivation of Employer Contributions under Illinois Pension Code *continued*

Notes about employer contributions

1) **Assumed Payrolls**

   TRS staff estimated that Federal Funds payroll for the fiscal year ending June 30, 2025 would be 2.00% of total payroll.

2) **Determination of Maximum State Contribution under Public Act 94-0004**

   Under Section 7.2(d) of the General Obligation Bond Act (GOBA), TRS received $4.33 billion on July 2, 2003. Commencing with fiscal year 2005, the maximum State contribution under the Act equals the State contribution that would have been required had the $4.33 billion contribution not been made, reduced, but not below zero, by the State's debt service on the TRS portion of the full $10 billion of Pension Obligation Bonds issued under Section 7.2 of the GOBA.

3) **Employer Contribution Recognizing $4.33 Billion Received July 2, 2003**

   A gross employer contribution is determined that recognizes all System assets, and that meets the cost of maintaining and administering the System on a 90% funded basis by June 30, 2045, with a level percentage of payroll contribution after a 15-year phase-in beginning in fiscal year 1996.

4) **State and Federal Funds Contribution under Public Act 100-0023**

   The State contribution is the lesser of the maximum contribution determined under (2) or the contribution determined under (3), adjusted to reflect the phase-in of the effect of assumption changes. In accordance with Public Act 100-0340, the Federal Funds contribution rate is equal to the employer normal cost rate.

5) **Employer Contributions**

   The required employer contribution equals the sum of the State, Federal, and School Districts' contributions. For fiscal year 2025, the expected School Districts' contributions under Sec. 16-158(e), 16-158(f), and 16-158(i-5) are $74,231,158, $6,945,300, and $3,241,402, respectively.

6) **State Contribution Amount for FY 2006 and FY 2007 under Public Act 94-0004**

   PA 94-0004 specified actual contribution amounts for fiscal years 2006 and 2007 made by the State to the Benefit Trust Reserve.

Exhibit I – Derivation of Employer Contributions under Illinois Pension Code *continued*

Notes about employer contributions *continued*

Additional information:

The following contributions made to the Benefit Trust Reserve are not shown on Exhibit I:

a) **From Members:**

   i) Sec. 16-128 payments for the purchase of optional service credit

   ii) Sec. 16-152 career contributions of 9.0% of salary

b) **From School Districts:**

   i) Sec. 16-128(d-10) payments for excess sick leave service credit

Although these types of contributions are not shown in the exhibits, they are all, with the exception of Sec. 16-128(d-10) payments and Sec. 16-128 member payments for the purchase of optional service credit, taken into account in the actuarial projection of the assets and funded status of the system. The actuarial projection is performed after the above contributions have been taken into account.

Payments under Sec. 16-158(f) have been included since the recertified June 30, 2004, valuation. There are no current assumptions for excess sick leave service credit, and therefore the actuarial projections do not currently include projected payments under Sec. 16-128(d-10).

The methodology for calculating the Federal Funds contribution and, therefore, the State contribution has been changed effective for fiscal years 2021 and thereafter. Based on the modified approach, the Federal Funds contributions are treated in a similar manner as some School District contributions (i.e., a stream of projected contributions estimated as of the valuation date) resulting in the State contribution being the level percent of payroll required to attain 90% funded by fiscal year 2045.

Exhibit II – Development of Statutory State Contribution under Illinois Pension Code

		Fiscal Year Ending June 30, 2025
1	Present value as of June 30, 2024, of future obligations to fund:	
	(a) 90% of June 30, 2045, Actuarial Accrued Liability	$47,224,391,815
	(b) Benefit disbursements and administrative expenses through June 30, 2045	127,176,399,446
	(c) Total	$174,400,791,261
2	Projected actuarial value of assets as of June 30, 2024	
	(a) With POB proceeds	69,948,689,270
	(b) Without POB proceeds	65,558,686,903
3	Present value as of June 30, 2024, of future member contributions through June 30, 2045	15,559,380,044
4	Present value as of June 30, 2024, of future School District contributions through June 30, 2045	
	(a) 2.2% formula under §16-158(e)	$1,002,715,603
	(b) 6% FAS cap increases under §16-158(f)	98,643,132
	(c) Salaries above the Governor's salary under §16-158(i-5)	46,331,773
	(d) Total	$1,147,690,508
5	Present value as of June 30, 2024, of future Federal Funds contributions through June 30, 2045	237,759,400
6	Present value as of June 30, 2024, of future State contributions through June 30, 2045	
	(a) Including POB proceeds: **(1c) – (2a) – (3) – (4d) – (5)**	87,507,272,039
	(b) Excluding POB proceeds: **(1c) – (2b) – (3) – (4d) – (5)**	91,897,274,406
7	Present value as of June 30, 2024, of future covered payroll through June 30, 2045	172,882,000,488
8	Determination of contribution rates for State and Federal Funds for year ended June 30, 2024	
	(a) Including POB proceeds: **(6a) ÷ (7)**	50.62%
	(b) Excluding POB proceeds: **(6b) ÷ (7)**	53.16%

Exhibit II – Development of Statutory State Contribution under Illinois Pension Code *continued*

			Fiscal Year Ending June 30, 2025
9	Determination of State contribution for year ending June 30, 2025:		
	(a) Projected payroll:		$12,798,475,469
	(b) State contribution before maximum:		
		(i) Gross contribution: **(8a) x (9a)**	$6,478,173,965
		(ii) Phase-in of the effect of assumption changes	71,540,000
		(iii) Net contribution: **(i) – (ii)**	$6,406,633,965
	(c) State contribution maximum:		
		(i) Gross maximum: **(8b) x (9a)**	$6,803,166,373
		(ii) State's debt service	528,003,960
		(iii) Phase-in of the effect of assumption changes	71,540,000
		(iv) Net contribution: **(i) – (ii) – (iii)**	$6,203,622,413
	(d) State contribution after maximum[1]: minimum of **(9b)(iii)** and **(9c)(iv)**		$6,203,622,413

[1] *The Benefit Trust Reserve State Contribution does not include the Guaranteed Minimum Annuity Reserve contribution. See page 40 for more details.*

Exhibit III – Development of State Contribution Based on Board-Adopted Actuarial Funding Policy

		Fiscal Year Ending June 30, 2025
1	Projected employer Normal Cost for year ending June 30, 2025	
	(a) Total	$2,361,824,206
	(b) Administrative expenses	51,392,140
	(c) Member contributions	1,151,862,792
	(d) Employer Normal Cost: **(a) + (b) – (c)**	$1,261,353,554
2	Projected Unfunded Actuarial Accrued Liability as of June 30, 2024	
	(a) Actuarial Accrued Liability	$155,848,200,012
	(b) Actuarial Value of Assets	69,948,689,270
	(c) Unfunded Actuarial Accrued Liability: **(a) – (b)**	$85,899,510,742
3	Payment toward projected Unfunded Actuarial Accrued Liability for year ending June 30, 2025 (see Exhibit IV)	8,955,106,311
4	Total employer contribution for year ending June 30, 2025: **(1d) + (3)**	$10,216,459,865
5	Projected School District contributions for year ending June 30, 2025	
	(a) 2.2% formula under §16-158(e)	$74,231,158
	(b) 6% FAS cap increases under §16-158(f)	6,945,300
	(c) Salaries above the Governor's salary under §16-158(i-5)	3,241,402
	(d) Total	84,417,860
6	Estimated Federal Funds contribution for year ending June 30, 2025	26,467,247
7	State contribution for year ending June 30, 2025: **(4) – (5d) – (6)**	$10,105,574,758

Exhibit IV – Components of Unfunded Liability Bases and Amortization Payment under Board-Adopted Actuarial Funding Policy

	Original Amount	Balance as of June 30, 2024	Remaining Amortization Period	2025 Amortization
June 30, 2015 valuation base:				
Projected UAAL as of June 30, 2016	$68,126,860,208	$56,706,036,952	12	6,273,931,966
June 30, 2016 valuation base:				
Projected (gain)/loss as of June 30, 2017	8,625,889,107	7,450,580,545	13	777,499,991
June 30, 2017 valuation base:				
Projected (gain)/loss as of June 30, 2018	3,216,359,048	2,871,142,226	14	284,224,083
June 30, 2018 valuation base:				
Projected (gain)/loss as of June 30, 2019	3,150,844,586	2,892,548,837	15	272,975,180
June 30, 2019 valuation base:				
Projected (gain)/loss as of June 30, 2020	4,015,729,497	3,775,095,956	16	341,083,301
June 30, 2020 valuation base:				
Projected (gain)/loss as of June 30, 2021	4,329,096,839	4,151,943,127	17	360,489,928
June 30, 2021 valuation base:				
Projected (gain)/loss as of June 30, 2022	1,156,211,108	1,127,604,082	18	94,391,481
June 30, 2022 valuation base:				
Projected (gain)/loss as of June 30, 2023	2,923,719,908	2,891,066,513	19	234,008,297
June 30, 2023 valuation base:				
Projected (gain)/loss as of June 30, 2024	4,033,492,504	4,033,492,504	20	316,502,084
Total		$85,899,510,742		$8,955,106,311

Exhibit V – Components of Phase-in of the Effect of Assumption Changes

Valuation Date June 30	Fiscal Year State Contribution First Affected	Effect on State Contribution	Phase in of the Effect of Assumption Changes for Fiscal Year				
			2024	2025	2026	2027	2028
2019	2021	$8,500,000	($1,700,000)	-	-	-	-
2020	2022	-	-	-	-	-	-
2021	2023	282,800,000	(169,680,000)	($113,120,000)	($56,560,000)	-	-
2022	2024	(69,300,000)	55,440,000	41,580,000	27,720,000	$13,860,000	-
2023	2025	-	-	-	-	-	-
Total			($115,940,000)	($71,540,000)	($28,840,000)	$13,860,000	-

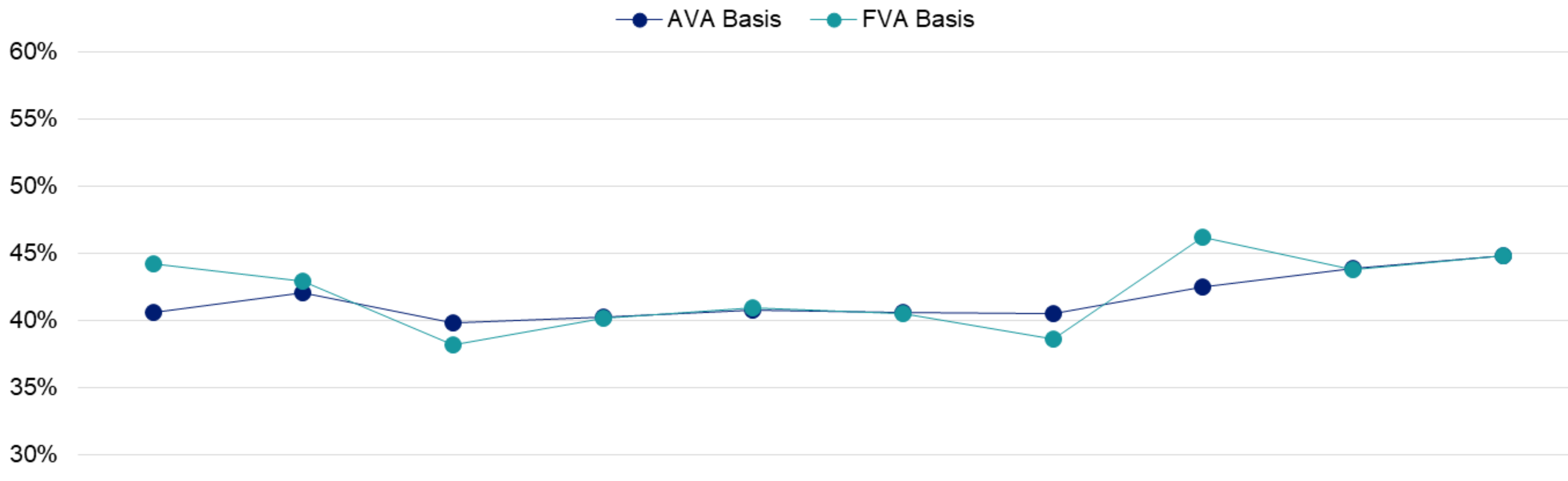
Exhibit VI – 10-Year History of Unfunded Actuarial Liability and Funded Ratio ($ in thousands)

		Assets		Unfunded Liability Using Assets Based on		Funded Ratio Using Assets Based on	
As of June 30	Actuarial Accrued Liability	Actuarial Value of Assets	Fair Value of Assets	Actuarial Value of Assets	Fair Value of Assets	Actuarial Value of Assets	Fair Value of Assets
2014	$103,740,377	$42,150,765	$45,824,383	$61,589,612	$57,915,994	40.6%	44.2%
2015	108,121,825	45,435,193	46,406,916	62,686,632	61,714,909	42.0	42.9
2016	118,629,890	47,222,098	45,250,957	71,407,792	73,378,934	39.8	38.1
2017	122,904,034	49,467,525	49,375,665	73,436,509	73,528,370	40.2	40.2
2018	127,019,330	51,730,890	51,969,547	75,288,440	75,049,783	40.7	40.9
2019	131,456,969	53,391,193	53,262,789	78,065,776	78,194,180	40.6	40.5
2020	135,598,547	54,890,976	52,316,478	80,707,571	83,282,069	40.5	38.6
2021	138,914,275	58,979,923	64,212,505	79,934,352	74,701,770	42.5	46.2
2022	143,523,731	62,910,402	62,833,626	80,613,329	80,690,105	43.8	43.8
2023	148,398,296	66,502,287	66,504,717	81,896,009	81,893,579	44.8	44.8

Exhibit VII – Funded Ratio

A critical piece of information regarding the System's financial status is the funded ratio. This ratio compares the actuarial value and fair value of assets to the actuarial accrued liabilities of the System as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

The chart below depicts a history of the funded ratios for this System.



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AVA Basis	40.6%	42.0%	39.8%	40.2%	40.7%	40.6%	40.5%	42.5%	43.8%	44.8%
FVA Basis	44.2%	42.9%	38.1%	40.2%	40.9%	40.5%	38.6%	46.2%	43.8%	44.8%

Exhibit VIII – Department of Insurance Information

	June 30, 2023	June 30, 2022
Actuarial Accrued Liabilities:		
Service Retirement	$88,944,495,813	$87,153,225,989
Disability Retirement	418,228,166	420,593,188
Survivor	3,153,122,633	2,960,818,206
Subtotal	$92,515,846,612	$90,534,637,383
Inactive	4,421,533,883	4,250,767,299
Active	51,460,915,585	48,738,326,277
Total	$148,398,296,080	$143,523,730,959
Headcounts and Salaries for Active Members:		
Male		
Count	38,249	36,537
Salaries	$3,025,565,194	$2,882,967,710
Female		
Count	128,465	122,368
Salaries	$8,473,131,603	$8,061,531,493
Total		
Count	166,714	158,905
Salaries	$11,498,696,797	$10,944,499,203

Exhibit IX – Roll Forward of Actuarial Accrued Liability and Normal Cost

	Actuarial Accrued Liabilities Developed for June 30, 2023 Valuation	Amount
1	Actuarial Accrued Liability measured as of June 30, 2022	$143,931,789,659
2	Normal Cost measured for fiscal year ended June 30, 2023	2,259,041,934
3	Expected benefit payments for fiscal year ended June 30, 2023	8,083,165,440
4	Interest on (1), (2), and (3) to June 30, 2023	9,950,447,421
5	Adjustment for future AAI and APB buyouts as of June 30, 2023	340,182,506
6	Actuarial Accrued Liability as of June 30, 2023: **(1) + (2) – (3) + (4) + (5)**	$148,398,296,080
7	Normal Cost measured for fiscal year ended June 30, 2024	2,303,665,179
8	Expected benefit payments for fiscal year ended June 30, 2024[1]	8,363,384,940
9	Interest on **(6)**, **(7)**, and **(8)** to June 30, 2024	10,256,418,815
10	Actuarial Accrued Liability as of June 30, 2024: **(6) + (7) – (8) + (9)**	$152,594,995,134

Based on member census as of June 30, 2022, assumptions and methods as of June 30, 2023, including the Projected Unit Credit actuarial cost method.

[1] *Includes $119,958,130 of projected buyout payments expected to be paid via additional state funds not included in the FY2024 State contribution amount.*

Exhibit X – State's Share of the Contribution to TRS Necessary to Fund Normal Cost Plus Interest on the Unfunded Actuarial Accrued Liability (UAAL)

		Fiscal Year 2025
1	Employer normal cost plus interest on UAAL	
	(a) Employer normal cost	$1,323,365,601
	(b) Interest on the projected June 30, 2024 UAAL	5,569,647,908
	(c) Total employer normal cost plus interest on UAAL	$6,893,013,509
2	Contributions from sources other than State and Federal Funds	
	(a) School District contributions under §16-158(e)	($74,231,158)
	(b) School District contributions under §16-158(f)	(6,945,300)
	(c) School District contributions under §16-158(i-5)	(3,241,402)
	(d) Federal Funds contribution	(26,467,247)
	(e) Total contributions from sources other than State and Federal Funds	($110,885,107)
3	State share of normal cost plus interest on UAAL: **(1c) + (2e)**	$6,782,128,402
4	State contribution requirement (per Section 22-1001 of Illinois Pension Code)	
	(a) State's share of normal cost plus interest on UAAL	$6,782,128,402
	(b) Guaranteed Minimum Annuity Reserve contribution	300,000
	(c) Total State contribution requirement	$6,782,428,402

Exhibit XI – Development of Actuarial Determined Contribution (ADC)

		Fiscal Year Ended June 30, 2023
Development of the ADC:		
1	Projected employer Normal Cost	$2,134,956,983
2	Administrative expenses	39,887,064
3	Member contributions	1,051,430,802
4	Employer Normal Cost: **(1) + (2) – (3)**	$1,123,413,245
5	Amortization of Unfunded Actuarial Accrued Liability	8,078,235,227
6	Actuarially Determined Contribution: **(4) + (5)**	$9,201,648,472

The ADC for fiscal year ended June 30, 2023, is based on the valuation date of June 30, 2021, prepared by Segal.

Actuarial Cost Method:	Entry Age Normal
Amortization Method:	Layered
Amortization Period:	20 years
Payroll Growth Assumption:	2% (assumed rate of future State revenue growth)
Asset Valuation Method:	5-Year Smoothing
Investment Rate of Return:	7.00%
Projected Salary Increases:	3.50% – 8.50%; composite approximately 4.48%
Includes Inflation at:	2.25%
Post-retirement Increase:	Tier 1: 3% compounded Tier 2: 1.125% not compounded (lesser of 3% or 1/2 CPI increase, but not less than zero)

Section 5: Projections

Overview

Based on the results of the June 30, 2023, actuarial valuation, we have projected valuation results to June 30, 2046, commencing with Fiscal Year 2024.

Our projections of contributions, liabilities, and assets are based on the actuarial assumptions, membership data and benefit provisions that were used for the regular actuarial valuation.

In order to determine projected contributions, liabilities, and assets, certain calculations needed to be made that are not normally required in a regular actuarial valuation. Benefit payout requirements, actuarial liabilities, and payroll were estimated over the period from 2024 through 2046 by projecting the membership of TRS over the period, taking into account the impact of new entrants into the System.

To make the required projections, assumptions needed to be made regarding the age and salary distribution of new entrants as well as the size of the active membership of TRS. The characteristics regarding the profile of new entrants to TRS were revised for the June 30, 2023, valuation, to reflect the attributes of new hires over the past five years. The size of the active membership of the System was assumed to remain constant over the projection period. The results of our projections are shown on the following pages.

The assets haven been allocated by Tier for illustration purposes. Estimated Tier 2 assets were initially based on the June 30, 2013, accumulated member contributions of $70,783,523, and have been rolled forward each year with expected member contributions, expected benefit payments, and the proportionate share of investment earnings.

Table 1 – Projection of Funded Ratio to 2046

Amounts above the black line are based on prior valuations and amounts below the line are based on the current valuation.

Year Ended June 30	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Tier 1 Funded Ratio	Tier 2 Funded Ratio	Total Funded Ratio
1995	$23,980,566,000	$12,641,865,000	$11,338,701,000			52.7%
1996	26,141,794,000	13,829,711,000	12,312,083,000			52.9%
1997	26,951,585,000	17,393,108,000	9,558,477,000			64.5%
1998	29,908,241,000	19,965,887,000	9,942,354,000			66.8%
1999	33,205,513,000	22,237,709,000	10,967,804,000			67.0%
2000	35,886,404,000	24,481,413,000	11,404,991,000			68.2%
2001	39,166,697,000	23,315,646,000	15,851,051,000			59.5%
2002	43,047,674,000	22,366,285,000	20,681,389,000			52.0%
2003	46,933,432,000	23,124,823,000	23,808,609,000			49.3%
2004	50,947,451,000	31,544,729,000	19,402,722,000			61.9%
2005	56,075,029,000	34,085,218,000	21,989,811,000			60.8%
2006	58,996,913,000	36,584,889,000	22,412,024,000			62.0%
2007	65,648,395,000	41,909,318,000	23,739,077,000			63.8%
2008	68,632,367,000	38,430,723,000	30,201,644,000			56.0%
2009	73,027,198,000	38,026,043,512	35,001,154,488			52.1%
2010	77,293,198,000	37,439,091,771	39,854,106,229			48.4%
2011	81,299,745,000	37,769,752,971	43,529,992,029			46.5%
2012	90,024,945,000	37,945,397,211	52,079,547,789			42.1%
2013	93,886,988,785	38,155,191,497	55,731,797,288			40.6%
2014	103,740,377,267	42,150,765,261	61,589,612,006	40.6%	120.5%	40.6%
2015	108,121,825,171	45,435,192,645	62,686,632,526	41.9%	162.8%	42.0%
2016	118,629,890,305	47,222,097,809	71,407,792,496	39.6%	153.9%	39.8%
2017	122,904,034,268	49,467,525,209	73,436,509,059	40.0%	144.0%	40.2%
2018	127,019,330,164	51,730,889,960	75,288,440,204	40.4%	130.9%	40.7%
2019	131,456,968,953	53,391,192,733	78,065,776,220	40.3%	124.7%	40.6%

Table 1 – Projection of Funded Ratio to 2046 *continued*

Year Ended June 30	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Tier 1 Funded Ratio	Tier 2 Funded Ratio	Total Funded Ratio
2020	$135,598,547,013	$54,890,975,829	$80,707,571,184	40.1%	121.0%	40.5%
2021	138,914,274,917	58,979,922,966	79,934,351,951	41.9%	126.5%	42.5%
2022	143,523,730,959	62,910,402,178	80,613,328,781	43.2%	121.2%	43.8%
2023	148,398,296,080	66,502,286,971	81,896,009,109	44.1%	118.8%	44.8%
2024	152,470,838,470	70,119,615,827	82,351,222,643	45.1%	118.7%	46.0%
2025	156,553,859,856	74,577,971,496	81,975,888,360	46.6%	119.5%	47.6%
2026	160,640,782,742	77,347,966,415	83,292,816,327	47.0%	117.4%	48.1%
2027	164,854,902,804	81,304,886,108	83,550,016,696	48.0%	116.9%	49.3%
2028	169,103,664,976	85,530,240,876	83,573,424,100	49.1%	116.5%	50.6%
2029	173,301,916,643	89,883,895,830	83,418,020,813	50.2%	116.0%	51.9%
2030	177,435,082,258	94,358,712,096	83,076,370,163	51.3%	115.6%	53.2%
2031	181,484,336,834	98,956,712,371	82,527,624,463	52.4%	115.1%	54.5%
2032	185,428,368,965	103,696,589,888	81,731,779,077	53.6%	114.6%	55.9%
2033	189,235,110,381	108,586,078,169	80,649,032,212	54.8%	114.2%	57.4%
2034	192,881,733,484	114,258,933,570	78,622,799,914	56.5%	113.7%	59.2%
2035	196,343,363,346	120,126,644,826	76,216,718,519	58.2%	113.3%	61.2%
2036	199,603,154,665	126,206,764,224	73,396,390,441	60.0%	112.8%	63.2%
2037	202,647,565,649	132,522,940,559	70,124,625,089	61.9%	112.4%	65.4%
2038	205,451,853,873	139,095,460,757	66,356,393,116	64.0%	112.0%	67.7%
2039	207,989,595,154	145,946,115,773	62,043,479,381	66.3%	111.5%	70.2%
2040	210,234,800,090	153,097,296,439	57,137,503,650	68.8%	111.1%	72.8%
2041	212,180,908,393	160,598,739,157	51,582,169,236	71.5%	110.8%	75.7%
2042	213,827,949,540	168,506,337,531	45,321,612,009	74.6%	110.4%	78.8%
2043	215,196,897,676	176,897,348,672	38,299,549,005	78.0%	110.0%	82.2%
2044	216,326,512,499	185,873,196,979	30,453,315,520	81.9%	109.6%	85.9%
2045	217,261,711,029	195,535,539,926	21,726,171,103	86.3%	109.3%	90.0%
2046	218,074,591,101	196,267,131,991	21,807,459,110	85.9%	108.9%	90.0%

Table 2 – Projection of Contributions to Trust to 2046 (Dollars)

Amounts above the black line are based on prior valuations and amounts below the line are based on the current valuation. See Notes.

Year Ended June 30	Contributions							
		School District						
	Member	§16-158(e) (2.2 Formula)	§16-158(f) (6% FAS Cap)	§16-158(i-5) (Payroll above Gov.)	Total	Federal Funds	State	Total
1995	$421,726,521	-	-	-	-	$16,500,000	$262,864,800	$701,091,321
1996	422,238,847	-	-	-	-	17,000,000	324,276,242	763,515,089
1997	420,762,625	-	-	-	-	17,300,000	377,968,984	816,031,609
1998	440,967,595	-	-	-	-	18,000,000	460,439,267	919,406,862
1999	866,369,000	$16,675,000	-	-	$16,675,000	18,500,000	567,067,600	1,468,611,600
2000	619,622,000	34,145,066	-	-	34,145,066	18,200,000	634,038,560	1,306,005,626
2001	643,563,000	36,375,498	-	-	36,375,498	20,000,000	719,356,841	1,419,295,339
2002	681,151,770	38,664,380	-	-	38,664,380	23,000,000	810,618,724	1,553,434,874
2003	732,020,451	12,808,373	-	-	12,808,373	25,000,000	926,049,918	1,695,878,742
2004	768,661,300	42,604,912	-	-	42,604,912	29,400,000	1,027,258,994	1,867,925,206
2005	761,790,009	44,481,074	-	-	44,481,074	37,860,000	902,243,532	1,746,374,615
2006	799,034,336	45,656,648	$14,974,781	-	60,631,429	24,070,387	531,827,700	1,415,563,852
2007	826,249,007	46,047,720	19,353,893	-	225,741,253	41,328,022	735,514,500	1,828,832,782
2008	865,400,168	48,102,405	-	-	131,239,475	47,829,058	1,039,194,988	2,083,663,689
2009	876,182,122	51,141,422	3,000,000	-	148,460,852	55,707,046	1,449,888,800	2,530,238,820
2010	909,642,774	53,666,271	3,000,000	-	145,878,411	75,718,545	2,087,668,469	3,218,908,199
2011	948,286,581	56,171,181	5,000,000	-	147,747,541	75,405,839	2,357,040,597	3,528,480,558
2012	976,364,866	57,976,440	5,000,000	-	147,745,130	84,654,093	2,405,172,175	3,613,936,264
2013	967,910,390	57,610,031	5,000,000	-	133,102,941	83,575,603	2,702,277,829	3,886,866,763
2014	1,004,368,089	57,896,194	5,000,000	-	124,446,854	97,203,752	3,437,478,152	4,663,496,847
2015	1,045,996,125	60,413,797	5,782,580	-	124,562,387	25,074,310	3,411,877,643	4,607,510,465
2016	1,041,807,455	61,478,785	5,027,434	-	124,554,918	80,263,377	3,741,802,194	4,988,427,944
2017	1,034,264,612	61,138,899	2,190,130	-	63,329,029	77,196,619	3,985,783,351	5,160,573,611
2018	939,719,161	60,559,679	4,295,624	$2,477,050	67,332,353	21,091,475	4,094,616,146	5,122,759,135
2019	958,472,559	61,768,232	4,150,160	2,385,898	68,304,290	20,979,899	4,465,578,109	5,513,334,857

Table 2 – Projection of Contributions to Trust to 2046 (Dollars) *continued*

Year Ended June 30	Contributions							
		School District						
	Member	§16-158(e) (2.2 Formula)	§16-158(f) (6% FAS Cap)	§16-158(i-5) (Payroll above Gov.)	Total	Federal Funds	State	Total
2020	$985,912,521	$63,536,585	$4,188,240	$3,113,849	$70,838,674	$23,355,172	$4,813,077,696	$5,893,184,063
2021	1,009,317,615	65,044,913	4,119,231	4,948,241	74,112,385	23,348,881	5,140,336,721	6,247,115,602
2022	1,032,339,073	66,528,518	4,063,578	3,619,569	74,211,665	23,652,035	5,693,706,973	6,823,909,746
2023	1,051,430,802	67,758,874	4,106,777	3,939,577	75,805,228	24,510,020	5,893,732,209	7,045,478,259
2024	1,092,235,571	70,388,515	4,164,720	4,682,961	79,236,196	25,728,216	6,043,154,650	7,240,354,633
2025	1,151,862,792	74,231,158	6,945,300	3,241,402	84,417,860	26,467,247	6,203,622,413	7,466,370,312
2026	1,184,654,774	76,344,419	7,210,800	3,254,933	86,810,152	26,562,593	6,419,306,571	7,717,334,090
2027	1,217,139,086	78,437,852	7,617,600	3,450,095	89,505,547	26,479,537	6,578,861,338	7,911,985,509
2028	1,249,054,047	80,494,594	8,316,000	3,671,621	92,482,215	26,174,621	6,814,813,059	8,182,523,942
2029	1,278,755,308	82,408,675	8,435,700	3,873,651	94,718,026	25,745,607	6,966,378,695	8,365,597,636
2030	1,308,677,026	84,336,964	8,777,700	4,058,333	97,172,996	25,213,844	7,107,700,660	8,538,764,526
2031	1,338,526,588	86,260,602	9,014,400	4,286,452	99,561,455	24,599,144	7,251,613,705	8,714,300,892
2032	1,368,424,590	88,187,362	9,351,900	4,530,740	102,070,003	23,840,997	7,413,626,659	8,907,962,249
2033	1,397,863,676	90,084,548	9,843,300	4,747,804	104,675,652	22,924,964	7,589,981,855	9,115,446,147
2034	1,427,134,301	91,970,877	9,812,700	4,889,552	106,673,130	21,851,012	8,374,119,291	9,929,777,734
2035	1,456,055,179	93,834,667	9,948,600	5,034,594	108,817,861	20,675,984	8,543,820,828	10,129,369,852
2036	1,485,481,713	95,731,044	9,915,300	5,162,769	110,809,113	19,410,294	8,716,489,445	10,332,190,566
2037	1,515,513,498	97,666,425	9,861,300	5,247,544	112,775,270	18,017,772	8,892,709,546	10,539,016,085
2038	1,546,582,265	99,668,635	10,112,400	5,283,069	115,064,103	16,496,877	9,075,014,435	10,753,157,681
2039	1,578,089,019	101,699,070	10,249,200	5,208,214	117,156,485	14,798,968	9,259,889,337	10,969,933,808
2040	1,609,881,047	103,747,890	10,247,400	4,958,127	118,953,417	12,879,048	9,446,438,168	11,188,151,680
2041	1,643,330,529	105,903,523	9,903,600	4,577,257	120,384,380	10,882,500	9,642,712,587	11,417,309,996
2042	1,678,282,369	108,155,975	9,524,700	4,102,604	121,783,279	8,876,249	9,847,802,519	11,656,744,416
2043	1,715,228,871	110,536,972	8,962,200	3,531,655	123,030,826	6,937,148	10,064,596,697	11,909,793,542
2044	1,755,066,584	113,104,291	8,265,600	2,923,613	124,293,504	5,187,197	10,298,355,893	12,182,903,177
2045	1,797,207,098	115,820,013	7,441,200	2,327,247	125,588,460	3,714,228	10,545,627,430	12,472,137,217
2046	1,842,785,304	118,757,275	6,187,500	0	124,944,775	0	1,396,760,512	3,364,490,591

Table 2 – Projection of Contributions to Trust to 2046 (Dollars) *continued*

Notes

1) The administrative staff of the System estimated the Federal Funds contribution for fiscal years prior to 2006. Commencing with the contribution for fiscal 2006, total payroll for the valuation is split into State and Federal Funds payrolls. Federal Funds payrolls for 2006 – 2017 were estimated to be 4.33%, 5.32%, 4.40%, 3.70%, 3.50%, 3.10%, 3.40%, 3.00%, 2.75%, 3.00%, 2.10%, 1.90%, respectively, of total payrolls for those years. For 2018 – 2025, the estimate is 2.00% of payroll. All payrolls are assumed to increase at the same rate for years subsequent to 2025.
2) School District contributions under Sec. 16-158(e) for years subsequent to 2005 are expected to equal 0.58% of total payroll. Sec. 16-158(f) contributions for 2008 – 2014 were estimated by the administrative staff of the System.
3) School District contributions under Sec. 16-133.2 are included in the total School District contributions for years 2007 – 2016, which can be found in the June 30, 2016, valuation report. These contributions no longer apply because the ERO was discontinued at the end of fiscal year 2016.
4) Employer Rates, Contribution Amounts, and Assumed Payroll shown for fiscal years 1995 – 2025 are based on the June 30, 1993 – June 30, 2023, actuarial valuations and are certified amounts, with the following exceptions. The 2006 amount is the recertified amount and 2007 is the certified amount required by per PA 94-0004. The 2011 amount is the originally certified amount, not the recertified amount per PA 96-1511. The 2015 amount is the certified amount; however, PA 98-0674 subsequently lowered state contributions and increased federal contributions. The 2017 Sec. 133.2 contribution was removed because ERO was discontinued at the end of fiscal 2016. The 2018 and 2019 amounts are the recertified amounts. Items subsequent to 2024 are based on the June 30, 2023, valuation.
5) Schedule excludes State ERI contributions of $1,000,000 for 2004, and $1,684,000 for 2005 (under Public Act 92-0056, as amended).
6) Effective for fiscal years 2021 and thereafter, the “FAS Cap” threshold reverted back to 6% to reflect the repeal of the 3% “FAS Cap” threshold per PA 101-001 (SB 1814).
7) The methodology for calculating the Federal Funds contribution and, therefore, the State contribution has been changed effective for fiscal years 2021 and thereafter. Based on the modified approach, the Federal Funds contributions are treated in a similar manner as some School District contributions (i.e., a stream of projected contributions estimated as of the valuation date) resulting in the State contribution being the level percent of payroll required to attain 90% funded by fiscal year 2045.

Table 3 – Projection of Contributions to Trust to 2046 (Percent of Payroll)

Amounts above the black line are based on prior valuations and amounts below the line are based on the current valuation. See Notes.

		Contributions							
			School District						
Year Ended June 30	Assumed Payroll	Member	§16-158(e) (2.2 Formula)	§16-158(f) (6% FAS Cap)	§16-158(i-5) (Payroll above Gov.)	Total	Federal Funds	State	Total
1995	$4,633,650,000	9.10%	-	-	-	-	0.36%	5.67%	15.13%
1996	4,863,544,432	8.68%	-	-	-	-	0.35%	6.67%	15.70%
1997	4,903,151,093	8.58%	-	-	-	-	0.35%	7.71%	16.64%
1998	5,264,732,966	8.38%	-	-	-	-	0.34%	8.75%	17.46%
1999	5,558,349,721	15.59%	0.30%	-	-	0.30%	0.33%	10.20%	26.42%
2000	5,887,080,405	10.53%	0.58%	-	-	0.58%	0.31%	10.77%	22.18%
2001	6,271,637,672	10.26%	0.58%	-	-	0.58%	0.32%	11.47%	22.63%
2002	6,666,272,399	10.22%	0.58%	-	-	0.58%	0.35%	12.16%	23.30%
2003	7,115,762,553	10.29%	0.18%	-	-	0.18%	0.35%	13.01%	23.83%
2004	7,345,674,585	10.46%	0.58%	-	-	0.58%	0.40%	13.98%	25.43%
2005	7,669,150,690	9.93%	0.58%	-	-	0.58%	0.49%	11.76%	22.77%
2006	7,871,835,902	10.15%	0.58%	0.19%	-	0.77%	0.31%	6.76%	17.98%
2007	7,939,262,146	10.41%	0.58%	0.24%	-	2.84%	0.52%	9.26%	23.04%
2008	8,293,518,065	10.43%	0.58%	-	-	1.58%	0.58%	12.53%	25.12%
2009	8,817,486,572	9.94%	0.58%	0.03%	-	1.68%	0.63%	16.44%	28.70%
2010	9,252,805,323	9.83%	0.58%	0.03%	-	1.58%	0.82%	22.56%	34.79%
2011	9,684,686,327	9.79%	0.58%	0.05%	-	1.53%	0.78%	24.34%	36.43%
2012	9,995,937,994	9.77%	0.58%	0.05%	-	1.48%	0.85%	24.06%	36.15%
2013	9,932,764,038	9.74%	0.58%	0.05%	-	1.34%	0.84%	27.21%	39.13%
2014	9,982,102,443	10.06%	0.58%	0.05%	-	1.25%	0.97%	34.44%	46.72%
2015	10,416,171,908	10.04%	0.58%	0.06%	-	1.20%	0.24%	32.76%	44.23%
2016	10,599,790,566	9.83%	0.58%	0.05%	-	1.18%	0.76%	35.30%	47.06%
2017	10,541,189,447	9.81%	0.58%	0.02%	-	0.60%	0.73%	37.81%	48.96%
2018	10,441,324,011	9.00%	0.58%	0.04%	0.02%	0.64%	0.20%	39.22%	49.06%
2019	10,649,695,100	9.00%	0.58%	0.04%	0.02%	0.64%	0.20%	41.93%	51.77%

Table 3 – Projection of Contributions to Trust to 2046 (Percent of Payroll) *continued*

		Contributions							
			School District						
Year Ended June 30	Assumed Payroll	Member	§16-158(e) (2.2 Formula)	§16-158(f) (6% FAS Cap)	§16-158(i-5) (Payroll above Gov.)	Total	Federal Funds	State	Total
2020	$10,954,583,571	9.00%	0.58%	0.04%	0.03%	0.65%	0.21%	43.94%	53.80%
2021	11,214,640,162	9.00%	0.58%	0.04%	0.04%	0.66%	0.21%	45.84%	55.71%
2022	11,470,434,147	9.00%	0.58%	0.04%	0.03%	0.65%	0.21%	49.64%	59.49%
2023	11,682,564,466	9.00%	0.58%	0.04%	0.03%	0.65%	0.21%	50.45%	60.31%
2024	12,135,950,790	9.00%	0.58%	0.03%	0.04%	0.65%	0.21%	49.80%	59.66%
2025	12,798,475,469	9.00%	0.58%	0.05%	0.03%	0.66%	0.21%	48.47%	58.34%
2026	13,162,830,824	9.00%	0.58%	0.05%	0.02%	0.66%	0.20%	48.77%	58.63%
2027	13,523,767,624	9.00%	0.58%	0.06%	0.03%	0.66%	0.20%	48.65%	58.50%
2028	13,878,378,300	9.00%	0.58%	0.06%	0.03%	0.67%	0.19%	49.10%	58.96%
2029	14,208,392,316	9.00%	0.58%	0.06%	0.03%	0.67%	0.18%	49.03%	58.88%
2030	14,540,855,842	9.00%	0.58%	0.06%	0.03%	0.67%	0.17%	48.88%	58.72%
2031	14,872,517,639	9.00%	0.58%	0.06%	0.03%	0.67%	0.17%	48.76%	58.59%
2032	15,204,717,668	9.00%	0.58%	0.06%	0.03%	0.67%	0.16%	48.76%	58.59%
2033	15,531,818,626	9.00%	0.58%	0.06%	0.03%	0.67%	0.15%	48.87%	58.69%
2034	15,857,047,791	9.00%	0.58%	0.06%	0.03%	0.67%	0.14%	52.81%	62.62%
2035	16,178,390,882	9.00%	0.58%	0.06%	0.03%	0.67%	0.13%	52.81%	62.61%
2036	16,505,352,371	9.00%	0.58%	0.06%	0.03%	0.67%	0.12%	52.81%	62.60%
2037	16,839,038,871	9.00%	0.58%	0.06%	0.03%	0.67%	0.11%	52.81%	62.59%
2038	17,184,247,392	9.00%	0.58%	0.06%	0.03%	0.67%	0.10%	52.81%	62.58%
2039	17,534,322,433	9.00%	0.58%	0.06%	0.03%	0.67%	0.08%	52.81%	62.56%
2040	17,887,567,190	9.00%	0.58%	0.06%	0.03%	0.67%	0.07%	52.81%	62.55%
2041	18,259,228,105	9.00%	0.58%	0.05%	0.03%	0.66%	0.06%	52.81%	62.53%
2042	18,647,581,883	9.00%	0.58%	0.05%	0.02%	0.65%	0.05%	52.81%	62.51%
2043	19,058,098,562	9.00%	0.58%	0.05%	0.02%	0.65%	0.04%	52.81%	62.49%
2044	19,500,739,824	9.00%	0.58%	0.04%	0.01%	0.64%	0.03%	52.81%	62.47%
2045	19,968,967,760	9.00%	0.58%	0.04%	0.01%	0.63%	0.02%	52.81%	62.46%
2046	20,475,392,262	9.00%	0.58%	0.03%	0.00%	0.61%	0.00%	6.82%	16.43%

Table 3 – Projection of Contributions to Trust to 2046 (Percent of Payroll) *continued*

Notes

1) Effective with the 2016 valuation, the member contribution rate is equal to the statutory 9% rate because of the elimination of ERO and the assumption for the members' cost of optional service.
2) The table on pages 83 and 84 shows historical contribution rates as reported in prior valuation reports. The amounts are based on the assumptions used for each valuation and are not adjusted retrospectively to reflect actual experience.

Table 4 – Projection of Total Employer Contribution to 2046

Amounts above the black line are based on prior valuations and amounts below the line are based on the current valuation. See Notes.

Year Ended June 30	Amortization Year	Employer Rate: Total	Employer Rate: Normal Cost	Employer Rate: Portion of UAAL	Amount of Employer Contribution: Total	Amount of Employer Contribution: Normal Cost	Amount of Employer Contribution: Portion of UAAL
1995	0	6.03%	8.12%	(2.09%)	$279,364,800	$376,122,700	($96,757,900)
1996	1	7.02%	8.23%	(1.21%)	341,276,242	400,134,055	(58,857,813)
1997	2	8.06%	8.21%	(0.15%)	395,268,984	402,771,457	(7,502,473)
1998	3	9.09%	8.38%	0.71%	478,439,267	441,403,004	37,036,263
1999	4	10.83%	7.84%	2.99%	602,242,600	435,910,961	166,331,639
2000	5	11.66%	8.15%	3.51%	686,383,626	479,928,856	206,454,770
2001	6	12.37%	8.65%	3.72%	775,732,339	542,794,806	232,937,533
2002	7	13.09%	8.84%	4.25%	872,283,104	588,971,933	283,311,171
2003	8	13.55%	8.83%	4.72%	963,858,291	628,536,783	335,321,508
2004	9	14.96%	8.15%	6.81%	1,099,263,906	598,462,925	500,800,981
2005	10	12.84%	8.32%	4.52%	984,584,606	637,971,250	346,613,356
2006	11	7.64%	8.20%	(0.56%)	601,554,735	645,705,698	(44,150,963)
2007	12	10.36%	8.20%	2.16%	822,890,242	650,835,074	172,055,168
2008	13	13.69%	8.22%	5.47%	1,135,126,451	681,651,502	453,474,949
2009	14	17.66%	9.27%	8.39%	1,556,737,268	817,320,366	739,416,902
2010	15	23.96%	9.15%	14.81%	2,217,053,286	846,936,893	1,370,116,393
2011	16	25.70%	8.77%	16.93%	2,488,617,617	849,716,122	1,638,901,495
2012	17	25.49%	8.43%	17.06%	2,547,802,708	842,532,254	1,705,270,454
2013	18	28.63%	8.23%	20.40%	2,843,463,463	817,433,027	2,026,030,436
2014	19	35.99%	7.89%	28.10%	3,592,578,098	787,230,469	2,805,347,629
2015	20	33.58%	8.02%	25.56%	3,497,365,750	835,810,326	2,661,555,424
2016	21	36.64%	9.36%	27.27%	3,883,544,356	992,489,371	2,891,054,985
2017	22	39.12%	8.27%	30.86%	4,124,118,869	871,335,169	3,252,783,700
2018	23	40.02%	10.10%	29.92%	4,178,744,350	1,054,630,171	3,124,114,179
2019	24	42.77%	9.85%	32.92%	4,554,862,299	1,049,301,284	3,505,561,015

Table 4 – Projection of Total Employer Contribution to 2046 *continued*

Year Ended June 30	Amortization Year	Employer Rate: Total	Employer Rate: Normal Cost	Employer Rate: Portion of UAAL	Amount of Employer Contribution: Total	Amount of Employer Contribution: Normal Cost	Amount of Employer Contribution: Portion of UAAL
2020	25	44.94%	10.66%	34.28%	$4,923,519,270	$1,167,213,754	$3,756,305,516
2021	26	46.71%	10.41%	36.30%	5,237,797,987	1,167,182,742	4,070,615,245
2022	27	50.49%	10.31%	40.18%	5,791,570,673	1,183,129,632	4,608,441,041
2023	28	51.31%	10.49%	40.82%	5,994,047,457	1,225,163,940	4,768,883,517
2024	29	50.66%	10.60%	40.06%	6,148,119,062	1,285,967,839	4,862,151,223
2025	30	49.34%	10.34%	39.00%	6,314,507,520	1,323,365,601	4,991,141,919
2026	31	49.63%	10.09%	39.54%	6,532,679,316	1,328,010,667	5,204,668,649
2027	32	49.50%	9.79%	39.71%	6,694,846,422	1,324,265,213	5,370,581,209
2028	33	49.96%	9.43%	40.53%	6,933,469,895	1,308,220,623	5,625,249,273
2029	34	49.88%	9.06%	40.82%	7,086,842,328	1,287,254,466	5,799,587,862
2030	35	49.72%	8.67%	41.05%	7,230,087,500	1,261,063,603	5,969,023,897
2031	36	49.59%	8.27%	41.32%	7,375,774,304	1,229,762,195	6,146,012,109
2032	37	49.59%	7.84%	41.75%	7,539,537,659	1,191,884,477	6,347,653,182
2033	38	49.69%	7.38%	42.31%	7,717,582,471	1,146,535,388	6,571,047,083
2034	39	53.62%	6.89%	46.73%	8,502,643,433	1,093,216,485	7,409,426,948
2035	40	53.61%	6.39%	47.22%	8,673,314,672	1,033,887,382	7,639,427,290
2036	41	53.60%	5.88%	47.72%	8,846,708,853	969,732,148	7,876,976,705
2037	42	53.59%	5.35%	48.24%	9,023,502,587	901,055,706	8,122,446,881
2038	43	53.58%	4.80%	48.77%	9,206,575,416	825,677,200	8,380,898,216
2039	44	53.56%	4.22%	49.35%	9,391,844,789	739,476,117	8,652,368,672
2040	45	53.55%	3.60%	49.94%	9,578,270,633	644,515,993	8,933,754,640
2041	46	53.53%	2.98%	50.55%	9,773,979,467	544,552,486	9,229,426,981
2042	47	53.51%	2.38%	51.13%	9,978,462,047	443,305,872	9,535,156,175
2043	48	53.49%	1.82%	51.67%	10,194,564,672	347,003,692	9,847,560,980
2044	49	53.47%	1.33%	52.15%	10,427,836,593	258,840,473	10,168,996,121
2045	50	53.46%	0.93%	52.53%	10,674,930,118	185,437,557	10,489,492,561
2046	51	7.43%	0.65%	6.78%	1,521,705,287	133,006,945	1,388,698,342

Table 4 – Projection of Total Employer Contribution to 2046 *continued*

Notes

1) The total employer contributions to the Benefit Trust Reserve represent the sum of State and Federal Funds contributions, as well as School District contributions for the 2.2% formula (commencing in 1999). Starting in fiscal year 2019, School District contributions under Sec. 16-158(f) and 16-158(i-5) are included. Sec. 16-158 requires calculations of State contribution amounts.
2) The following employer contributions to the Benefit Trust Reserve were taken into account when determining the above schedule, but are not included in this schedule:
   a) State ERI contributions of $1,000,000 for fiscal year 2004 and $1,684,000 for fiscal year 2005, which were made under a separate funding plan. (Beginning in fiscal year 2007, the cost of ERI is part of the 50-year funding plan, and included in this schedule);
   b) For fiscal years prior to 2019, School District contributions to the Benefit Trust Reserve under Sec. 16-133.2, 16-158(f) and 16-158(i-5), which are shown in Table 2; and
   c) for FY 1999, additional State funding due to PA 90-0582, and $9,695,600 in additional State Pensions Fund appropriations. No School District contributions are anticipated under Sec. 16-128(d-10).
3) The amortization rate in fiscal years 1995-1997 and 2006 is negative because contributions do not cover normal cost. A negative employer normal cost after 2024 means member contributions are projected to exceed the cost of benefits accruing.
4) Employer Rates, Contribution Amounts, and Assumed Payroll shown for fiscal years 1995 – 2025 are based on the June 30, 1993 – June 30, 2023 actuarial valuations and are certified amounts, with the following exceptions. The 2006 amount is the recertified amount and 2007 is the certified amount required per PA 94-0004. The 2011 amount is the originally certified amount, not the recertified amount per PA 96-1511. The 2015 amount is the certified amount; however, PA 98-0674 subsequently lowered state contributions and increased federal contributions. The 2018 and 2019 amounts are the recertified amounts. Items subsequent to 2024 are based on the June 30, 2023 valuation.
5) Modified ERO retirements are recognized commencing with the June 30, 2005 actuarial liability, while FY 2006 and FY 2007 Pipeline ERO retirements are first recognized in the June 30, 2006 and 2007 accrued liabilities. ERO was discontinued effective June 30, 2016.
6) For calculation purposes, Employer Rates include 15 decimal places. For ease of presentation, only 2 decimal places are shown.

Table 4 – Projection of Employer Normal Cost and Amortization Amount to 2046 *continued*

Notes *continued*

7) Assumptions and methodology:
   - Payroll Growth based on valuation assumptions
   - Valuation Interest Rate = 8.00% prior to 1997, 8.50% for 1997 – 2011, 8.0% for 2012 – 2013 and 7.50% for 2013 – 2015 and 7.00% after 2015
   - Return on investment equals valuation interest rate
   - Assets at cost value prior to 1997, fair value 1997-2008 and 5-year smoothing actuarial value after 2008

Table 5 – Projection of Funded Ratio to 2046 by Tier (Total)

Amounts above the black line are based on prior valuations and amounts below the line are based on the current valuation. See Notes.

Year Ended June 30	Contributions	Benefits and Expenses	Fair Value Asset Return	Actuarial Value of Assets	Fair Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	AVA Funded Ratio
1995	$701,091,321	$1,108,283,000	-	$12,641,865,000	$12,641,865,000	$23,980,566,000	$11,338,701,000	52.7%
1996	763,515,089	1,148,919,000	$1,573,249,911	13,829,711,000	13,829,711,000	26,141,794,000	12,312,083,000	52.9%
1997	816,031,609	1,186,203,042	3,933,568,433	17,393,108,000	17,393,108,000	26,951,585,000	9,558,477,000	64.5%
1998	919,406,862	1,237,762,773	2,891,134,911	19,965,887,000	19,965,887,000	29,908,241,000	9,942,354,000	66.8%
1999	1,468,611,600	1,314,929,000	2,118,139,400	22,237,709,000	22,237,709,000	33,205,513,000	10,967,804,000	67.0%
2000	1,306,005,626	1,437,474,000	2,375,172,374	24,481,413,000	24,481,413,000	35,886,404,000	11,404,991,000	68.2%
2001	1,419,295,339	1,611,050,000	(974,012,339)	23,315,646,000	23,315,646,000	39,166,697,000	15,851,051,000	59.5%
2002	1,553,434,874	1,809,763,000	(693,032,874)	22,366,285,000	22,366,285,000	43,047,674,000	20,681,389,000	52.0%
2003	1,695,878,742	2,051,953,000	1,114,612,258	23,124,823,000	23,124,823,000	46,933,432,000	23,808,609,000	49.3%
2004	1,867,925,206	2,320,690,844	8,872,671,638	31,544,729,000	31,544,729,000	50,947,451,000	19,402,722,000	61.9%
2005	1,746,374,615	2,604,081,011	3,398,195,396	34,085,218,000	34,085,218,000	56,075,029,000	21,989,811,000	60.8%
2006	1,415,563,852	2,948,023,574	4,032,130,722	36,584,889,000	36,584,889,000	58,996,913,000	22,412,024,000	62.0%
2007	1,828,832,782	3,184,574,659	6,680,170,877	41,909,318,000	41,909,318,000	65,648,395,000	23,739,077,000	63.8%
2008	2,083,663,689	3,498,960,895	(2,063,297,794)	38,430,723,000	38,430,723,000	68,632,367,000	30,201,644,000	56.0%
2009	2,530,238,820	3,723,108,308	(8,706,541,270)	38,026,043,512	28,531,312,242	73,027,198,000	35,001,154,488	52.1%
2010	3,218,908,199	4,003,538,821	3,577,102,594	37,439,091,771	31,323,784,214	77,293,198,000	39,854,106,229	48.4%
2011	3,528,480,558	4,329,807,307	6,948,809,729	37,769,752,971	37,471,267,194	81,299,745,000	43,529,992,029	46.5%
2012	3,613,936,264	4,641,424,675	73,046,556	37,945,397,211	36,516,825,339	90,024,945,000	52,079,547,789	42.1%
2013	3,886,866,763	4,969,794,354	4,424,870,751	38,155,191,497	39,858,768,499	93,886,988,785	55,731,797,288	40.6%
2014	4,524,563,343	5,340,981,048	6,782,031,720	42,150,765,261	45,824,382,514	103,740,377,267	61,589,612,006	40.6%
2015	4,457,907,579	5,645,924,033	1,770,549,533	45,435,192,645	46,406,915,593	108,121,825,171	62,686,632,526	42.0%
2016	4,842,319,410	5,954,175,094	(44,103,178)	47,222,097,809	45,250,956,731	118,629,890,305	71,407,792,496	39.8%
2017	5,064,989,441	6,460,734,655	5,520,453,001	49,467,525,209	49,375,664,518	122,904,034,268	73,436,509,059	40.2%
2018	5,117,795,720	6,573,185,272	4,049,271,728	51,730,889,960	51,969,546,694	127,019,330,164	75,288,440,204	40.7%
2019	5,518,507,593	6,843,096,252	2,617,531,332	53,391,192,733	53,262,489,367	131,456,968,953	78,065,776,220	40.6%

Table 5 – Projection of Funded Ratio to 2046 by Tier (Total) *continued*

Year Ended June 30	Contributions	Benefits and Expenses	Fair Value Asset Return	Actuarial Value of Assets	Fair Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	AVA Funded Ratio
2020	$5,900,510,333	$7,122,491,327	$275,969,398	$54,890,975,829	$52,316,477,771	$135,598,547,013	$80,707,571,184	40.5%
2021	6,261,774,388	7,411,900,824	13,046,153,685	58,979,922,966	64,212,505,020	138,914,274,917	79,934,351,951	42.5%
2022	7,060,315,736	7,696,152,044	(743,042,373)	62,910,402,178	62,833,626,339	143,523,730,959	80,613,328,781	43.8%
2023	7,243,404,006	7,999,355,901	4,427,042,975	66,502,286,971	66,504,717,419	148,398,296,080	81,896,009,109	44.8%
2024	7,240,354,633	8,408,236,556	4,614,454,353	70,119,615,827	69,951,289,848	152,470,838,470	82,351,222,643	46.0%
2025	7,466,370,312	8,713,696,257	4,852,933,881	74,577,971,496	73,556,897,784	156,553,859,856	81,975,888,360	47.6%
2026	7,717,334,090	9,018,671,989	5,103,436,018	77,347,966,415	77,358,995,904	160,640,782,742	83,292,816,327	48.1%
2027	7,911,985,509	9,331,540,591	5,365,445,285	81,304,886,108	81,304,886,108	164,854,902,804	83,550,016,696	49.3%
2028	8,182,523,942	9,598,936,753	5,641,767,579	85,530,240,876	85,530,240,876	169,103,664,976	83,573,424,100	50.6%
2029	8,365,597,636	9,943,821,702	5,931,879,019	89,883,895,830	89,883,895,830	173,301,916,643	83,418,020,813	51.9%
2030	8,538,764,526	10,294,374,615	6,230,426,355	94,358,712,096	94,358,712,096	177,435,082,258	83,076,370,163	53.2%
2031	8,714,300,892	10,653,537,192	6,537,236,576	98,956,712,371	98,956,712,371	181,484,336,834	82,527,624,463	54.5%
2032	8,907,962,249	11,021,094,954	6,853,010,221	103,696,589,888	103,696,589,888	185,428,368,965	81,731,779,077	55.9%
2033	9,115,446,147	11,404,598,815	7,178,640,949	108,586,078,169	108,586,078,169	189,235,110,381	80,649,032,212	57.4%
2034	9,929,777,734	11,792,743,986	7,535,821,653	114,258,933,570	114,258,933,570	192,881,733,484	78,622,799,914	59.2%
2035	10,129,369,852	12,187,740,957	7,926,082,361	120,126,644,826	120,126,644,826	196,343,363,346	76,216,718,519	61.2%
2036	10,332,190,566	12,582,186,450	8,330,115,282	126,206,764,224	126,206,764,224	199,603,154,665	73,396,390,441	63.2%
2037	10,539,016,085	12,972,153,439	8,749,313,688	132,522,940,559	132,522,940,559	202,647,565,649	70,124,625,089	65.4%
2038	10,753,157,681	13,365,800,813	9,185,163,330	139,095,460,757	139,095,460,757	205,451,853,873	66,356,393,116	67.7%
2039	10,969,933,808	13,758,365,921	9,639,087,129	145,946,115,773	145,946,115,773	207,989,595,154	62,043,479,381	70.2%
2040	11,188,151,680	14,149,550,171	10,112,579,157	153,097,296,439	153,097,296,439	210,234,800,090	57,137,503,650	72.8%
2041	11,417,309,996	14,523,945,777	10,608,078,498	160,598,739,157	160,598,739,157	212,180,908,393	51,582,169,236	75.7%
2042	11,656,744,416	14,878,303,225	11,129,157,183	168,506,337,531	168,506,337,531	213,827,949,540	45,321,612,009	78.8%
2043	11,909,793,542	15,199,100,293	11,680,317,891	176,897,348,672	176,897,348,672	215,196,897,676	38,299,549,005	82.2%
2044	12,182,903,177	15,474,657,863	12,267,602,993	185,873,196,979	185,873,196,979	216,326,512,499	30,453,315,520	85.9%
2045	12,472,137,217	15,707,674,261	12,897,879,992	195,535,539,926	195,535,539,926	217,261,711,029	21,726,171,103	90.0%
2046	3,364,490,591	15,882,264,243	13,249,365,717	196,267,131,991	196,267,131,991	218,074,591,101	21,807,459,110	90.0%

Table 5 – Projection of Funded Ratio to 2046 by Tier (Tier 1 Only)

Year Ended June 30	Contributions	Benefits and Expenses	Fair Value Asset Return	Actuarial Value of Assets	Fair Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	AVA Funded Ratio
2014				$42,060,460,784	$45,726,207,620	$103,665,420,423	$61,604,959,639	40.6%
2015	$4,357,376,533	$5,636,978,805	$1,759,751,948	45,238,833,875	46,206,357,296	108,001,248,291	62,762,414,416	41.9%
2016	4,761,135,081	5,938,766,822	(43,878,630)	46,944,396,204	44,984,846,925	118,449,453,398	71,505,057,193	39.6%
2017	4,964,338,090	6,438,142,918	5,482,643,972	49,084,836,109	48,993,686,068	122,638,280,909	73,553,444,799	40.0%
2018	4,994,858,498	6,547,670,601	4,013,422,755	51,218,006,139	51,454,296,720	126,627,563,072	75,409,556,933	40.4%
2019	5,369,865,536	6,811,987,553	2,588,547,964	52,727,529,954	52,600,722,667	130,924,874,572	78,197,344,618	40.3%
2020	5,723,556,341	7,086,035,686	271,835,206	54,044,893,615	51,510,078,528	134,899,448,680	80,854,555,065	40.1%
2021	6,056,567,112	7,371,658,058	12,822,029,843	57,881,853,887	63,017,017,425	138,046,338,135	80,164,484,248	41.9%
2022	6,818,158,613	7,650,969,140	(727,994,493)	61,531,305,194	61,456,212,405	142,385,623,844	80,854,318,650	43.2%
2023	6,960,980,738	7,946,944,005	4,321,255,816	64,789,137,116	64,791,504,954	146,955,779,186	82,166,642,070	44.1%
2024	6,923,165,006	8,350,790,348	4,485,438,460	68,012,586,012	67,849,318,073	150,695,060,855	82,682,474,843	45.1%
2025	7,106,454,828	8,648,907,457	4,695,466,423	71,987,944,593	71,002,331,867	154,386,964,196	82,399,019,603	46.6%
2026	7,312,773,030	8,946,579,079	4,912,980,019	74,270,915,122	74,281,505,838	158,019,686,187	83,748,771,065	47.0%
2027	7,460,842,892	9,252,026,184	5,137,013,993	77,627,336,539	77,627,336,539	161,710,019,514	84,082,682,976	48.0%
2028	7,682,453,074	9,507,571,522	5,370,034,412	81,172,252,503	81,172,252,503	165,362,864,802	84,190,612,299	49.1%
2029	7,814,634,068	9,843,748,883	5,611,038,657	84,754,176,345	84,754,176,345	168,881,342,199	84,127,165,853	50.2%
2030	7,934,578,194	10,184,721,385	5,854,037,332	88,358,070,487	88,358,070,487	172,243,110,928	83,885,040,441	51.3%
2031	8,054,170,383	10,533,283,266	6,098,295,983	91,977,253,587	91,977,253,587	175,420,764,900	83,443,511,313	52.4%
2032	8,189,129,429	10,889,146,949	6,343,907,138	95,621,143,204	95,621,143,204	178,383,834,515	82,762,691,310	53.6%
2033	8,334,708,379	11,257,157,858	6,591,194,293	99,289,888,018	99,289,888,018	181,092,551,855	81,802,663,837	54.8%
2034	9,083,577,551	11,629,843,638	6,861,172,848	103,604,794,780	103,604,794,780	183,512,104,252	79,907,309,472	56.5%
2035	9,214,858,488	12,007,920,869	7,154,578,451	107,966,310,850	107,966,310,850	185,606,384,968	77,640,074,119	58.2%
2036	9,346,638,925	12,383,504,463	7,451,351,466	112,380,796,777	112,380,796,777	187,347,300,566	74,966,503,789	60.0%
2037	9,479,997,918	12,751,877,886	7,752,139,975	116,861,056,784	116,861,056,784	188,710,698,474	71,849,641,690	61.9%
2038	9,618,505,182	13,121,959,161	8,057,653,086	121,415,255,891	121,415,255,891	189,659,574,869	68,244,318,978	64.0%
2039	9,756,816,138	13,488,702,806	8,368,451,879	126,051,821,102	126,051,821,102	190,154,068,694	64,102,247,593	66.3%
2040	9,893,738,036	13,851,255,529	8,685,114,365	130,779,417,974	130,779,417,974	190,154,400,775	59,374,982,801	68.8%
2041	10,040,106,870	14,194,028,037	9,009,172,017	135,634,668,824	135,634,668,824	189,640,398,521	54,005,729,697	71.5%
2042	10,195,714,248	14,513,411,611	9,343,307,410	140,660,278,872	140,660,278,872	188,598,610,570	47,938,331,698	74.6%
2043	10,365,274,494	14,795,654,208	9,691,156,231	145,921,055,389	145,921,055,389	187,036,168,649	41,115,113,260	78.0%
2044	10,556,198,218	15,026,351,469	10,058,018,513	151,508,920,651	151,508,920,651	184,981,745,371	33,472,824,720	81.9%
2045	10,765,740,160	15,208,925,080	10,450,112,973	157,515,848,704	157,515,848,704	182,469,600,518	24,953,751,814	86.3%
2046	1,582,580,868	15,326,978,293	10,545,055,499	154,316,506,778	154,316,506,778	179,562,059,993	25,245,553,215	85.9%

Table 5 – Projection of Funded Ratio to 2046 by Tier (Tier 2 Only)

Year Ended June 30	Contributions	Benefits and Expenses	Fair Value Asset Return	Actuarial Value of Assets	Fair Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	AVA Funded Ratio
2014				$90,304,477	$98,174,894	$74,956,844	($15,347,633)	120.5%
2015	$100,531,046	$8,945,228	$10,797,585	196,358,770	200,558,297	120,576,880	(75,781,890)	162.8%
2016	81,184,329	15,408,272	(224,548)	277,701,605	266,109,806	180,436,907	(97,264,698)	153.9%
2017	100,651,351	22,591,737	37,809,030	382,689,100	381,978,450	265,753,359	(116,935,740)	144.0%
2018	122,937,222	25,514,671	35,848,973	512,883,821	515,249,974	391,767,092	(121,116,729)	130.9%
2019	148,642,057	31,108,699	29,283,368	663,662,779	662,066,700	532,094,381	(131,568,398)	124.7%
2020	176,953,992	36,455,641	3,834,192	846,082,214	806,399,243	699,098,333	(146,983,881)	121.0%
2021	205,207,276	40,242,766	224,123,842	1,098,069,079	1,195,487,595	867,936,782	(230,132,297)	126.5%
2022	242,157,123	45,182,904	(15,047,880)	1,379,096,984	1,377,413,934	1,138,107,115	(240,989,869)	121.2%
2023	282,423,268	52,411,896	105,787,159	1,713,149,855	1,713,212,465	1,442,516,894	(270,632,961)	118.8%
2024	317,189,626	57,446,208	129,015,892	2,107,029,816	2,101,971,775	1,775,777,615	(331,252,200)	118.7%
2025	359,915,484	64,788,800	157,467,458	2,590,026,903	2,554,565,918	2,166,895,661	(423,131,243)	119.5%
2026	404,561,060	72,092,910	190,455,999	3,077,051,293	3,077,490,067	2,621,096,555	(455,954,738)	117.4%
2027	451,142,617	79,514,407	228,431,292	3,677,549,569	3,677,549,569	3,144,883,289	(532,666,280)	116.9%
2028	500,070,868	91,365,231	271,733,167	4,357,988,373	4,357,988,373	3,740,800,174	(617,188,199)	116.5%
2029	550,963,568	100,072,819	320,840,362	5,129,719,485	5,129,719,485	4,420,574,444	(709,145,040)	116.0%
2030	604,186,332	109,653,231	376,389,022	6,000,641,608	6,000,641,608	5,191,971,330	(808,670,278)	115.6%
2031	660,130,509	120,253,926	438,940,593	6,979,458,785	6,979,458,785	6,063,571,935	(915,886,850)	115.1%
2032	718,832,820	131,948,005	509,103,083	8,075,446,683	8,075,446,683	7,044,534,450	(1,030,912,233)	114.6%
2033	780,737,768	147,440,957	587,446,656	9,296,190,151	9,296,190,151	8,142,558,526	(1,153,631,625)	114.2%
2034	846,200,183	162,900,348	674,648,805	10,654,138,790	10,654,138,790	9,369,629,233	(1,284,509,558)	113.7%
2035	914,511,364	179,820,088	771,503,910	12,160,333,977	12,160,333,977	10,736,978,377	(1,423,355,599)	113.3%
2036	985,551,641	198,681,987	878,763,816	13,825,967,448	13,825,967,448	12,255,854,099	(1,570,113,349)	112.8%
2037	1,059,018,168	220,275,552	997,173,713	15,661,883,776	15,661,883,776	13,936,867,175	(1,725,016,601)	112.4%
2038	1,134,652,499	243,841,652	1,127,510,244	17,680,204,866	17,680,204,866	15,792,279,004	(1,887,925,862)	112.0%
2039	1,213,117,670	269,663,115	1,270,635,250	19,894,294,672	19,894,294,672	17,835,526,460	(2,058,768,212)	111.5%
2040	1,294,413,643	298,294,642	1,427,464,792	22,317,878,465	22,317,878,465	20,080,399,314	(2,237,479,151)	111.1%
2041	1,377,203,126	329,917,740	1,598,906,481	24,964,070,332	24,964,070,332	22,540,509,872	(2,423,560,460)	110.8%
2042	1,461,030,168	364,891,614	1,785,849,773	27,846,058,660	27,846,058,660	25,229,338,971	(2,616,719,689)	110.4%
2043	1,544,519,048	403,446,085	1,989,161,660	30,976,293,283	30,976,293,283	28,160,729,028	(2,815,564,255)	110.0%
2044	1,626,704,959	448,306,394	2,209,584,480	34,364,276,328	34,364,276,328	31,344,767,128	(3,019,509,200)	109.6%
2045	1,706,397,057	498,749,181	2,447,767,019	38,019,691,223	38,019,691,223	34,792,110,511	(3,227,580,711)	109.3%
2046	1,781,909,723	555,285,950	2,704,310,218	41,950,625,213	41,950,625,213	38,512,531,108	(3,438,094,105)	108.9%

Table 5 – Projection of Funded Ratio to 2046 by Tier *continued*

Notes

1) The projection of assets is based upon the assumption that the Employer maintains the funding policy under Public Act 94-0004 that begins with fiscal year 2006, as revised by Public Act 100-0023 effective with fiscal year 2018.
2) Projected amounts may not add to the dollar due to rounding.
3) Projected buyout amounts are excluded from both the contributions and benefit payments.
4) For 1995 to 2008 (for the Total tables), actuarial value of assets are equal to the fair value; for 2009 and after, assets are 5-year smoothed value.

Table 6 – Projection of Actuarial Accrued Liability to 2046 by Member Group

Year Ended June 30	Tier 1 Current Active	Tier 2 Current Active	New Entrants	Inactive	Total Actuarial Accrued Liability
2023	$50,132,673,134	$1,442,516,894	-	$96,823,106,052	$148,398,296,080
2024	55,862,132,146	1,743,868,278	$31,909,337	94,832,928,709	152,470,838,470
2025	61,670,994,322	2,071,274,356	95,621,304	92,715,969,874	156,553,859,856
2026	67,882,455,488	2,430,152,916	190,943,639	90,137,230,700	160,640,782,742
2027	73,807,601,197	2,827,109,963	317,773,326	87,902,418,317	164,854,902,804
2028	79,831,224,822	3,264,555,079	476,245,096	85,531,639,980	169,103,664,976
2029	85,917,275,416	3,743,685,393	676,889,051	82,964,066,783	173,301,916,643
2030	92,034,319,145	4,268,161,157	923,810,173	80,208,791,783	177,435,082,258
2031	98,146,129,314	4,841,537,632	1,222,034,303	77,274,635,586	181,484,336,834
2032	104,209,327,499	5,467,385,055	1,577,149,395	74,174,507,016	185,428,368,965
2033	110,171,124,452	6,146,865,163	1,995,693,362	70,921,427,404	189,235,110,381
2034	115,976,901,611	6,882,274,016	2,487,355,217	67,535,202,641	192,881,733,484
2035	121,573,811,795	7,676,517,637	3,060,460,740	64,032,573,173	196,343,363,346
2036	126,913,520,225	8,532,384,752	3,723,469,347	60,433,780,341	199,603,154,665
2037	131,947,598,669	9,452,729,027	4,484,138,148	56,763,099,805	202,647,565,649
2038	136,618,365,055	10,439,238,254	5,353,040,750	53,041,209,814	205,451,853,873
2039	140,861,550,353	11,494,337,164	6,341,189,295	49,292,518,341	207,989,595,154
2040	144,616,325,851	12,619,895,918	7,460,503,396	45,538,074,924	210,234,800,090
2041	147,836,755,879	13,817,603,451	8,722,906,421	41,803,642,642	212,180,908,393
2042	150,487,328,969	15,089,821,496	10,139,517,474	38,111,281,600	213,827,949,540
2043	152,553,283,149	16,436,041,609	11,724,687,418	34,482,885,500	215,196,897,676
2044	154,041,533,507	17,855,099,237	13,489,667,891	30,940,211,864	216,326,512,499
2045	154,973,720,843	19,343,165,897	15,448,944,614	27,495,879,675	217,261,711,029
2046	155,397,429,588	20,895,733,591	17,616,797,517	24,164,630,405	218,074,591,101

Table 7 – Projection of Total Normal Cost to 2046 by Member Group

Year Ended June 30	Tier 1 Current Active	Tier 2 Current Active	New Entrants	Total Normal Cost
2023	$2,104,787,264	$233,321,138	-	$2,338,108,402
2024	2,115,657,646	236,577,821	$32,057,993	2,384,293,460
2025	2,117,587,364	241,662,393	64,586,496	2,423,836,253
2026	2,113,425,518	248,973,097	97,411,622	2,459,810,237
2027	2,098,467,446	258,136,975	130,495,336	2,487,099,757
2028	2,068,929,991	268,599,003	164,017,197	2,501,546,191
2029	2,029,130,942	279,593,741	200,231,447	2,508,956,129
2030	1,981,714,837	291,133,404	238,503,738	2,511,351,979
2031	1,926,122,742	303,128,475	279,317,131	2,508,568,349
2032	1,860,955,376	315,483,531	322,815,781	2,499,254,688
2033	1,784,175,164	328,359,785	369,496,266	2,482,031,215
2034	1,695,789,930	341,725,061	419,161,991	2,456,676,982
2035	1,597,598,954	355,595,054	471,784,400	2,424,978,408
2036	1,491,860,545	369,809,290	527,266,962	2,388,936,797
2037	1,379,548,967	384,411,712	584,991,547	2,348,952,226
2038	1,258,766,118	398,918,377	645,571,810	2,303,256,305
2039	1,124,258,880	413,465,698	709,431,676	2,247,156,254
2040	977,958,008	427,933,062	776,678,637	2,182,569,707
2041	825,794,042	442,208,896	846,560,343	2,114,563,282
2042	672,007,963	456,404,328	918,296,788	2,046,709,078
2043	523,569,148	469,863,898	992,271,927	1,985,704,974
2044	386,326,991	482,195,860	1,067,079,196	1,935,602,047
2045	267,143,165	492,914,202	1,142,402,115	1,902,459,482
2046	174,304,497	501,567,163	1,217,701,872	1,893,573,533

Table 8 – Projection of Benefit Payments to 2046 by Member Group

Year Ended June 30	Tier 1 Current Active	Tier 2 Current Active	New Entrants	Inactive	Total Benefit Payments	Administrative Expenses	Total Benefits and Expenses
2023	$120,202,757	$44,259,562	-	$7,853,624,917	$8,018,087,236	$32,026,386	$8,050,113,622
2024	295,992,425	43,539,048	$1,191,055	8,022,662,412	8,363,384,940	44,851,616	8,408,236,556
2025	496,799,273	43,617,312	5,113,302	8,116,774,230	8,662,304,117	51,392,140	8,713,696,257
2026	717,933,796	42,374,299	11,668,494	8,193,840,194	8,965,816,783	52,855,205	9,018,671,988
2027	962,373,225	38,666,571	20,719,410	8,255,476,842	9,277,236,048	54,304,543	9,331,540,591
2028	1,238,456,296	36,845,066	32,208,730	8,235,698,184	9,543,208,276	55,728,478	9,598,936,754
2029	1,545,781,681	37,137,336	38,353,391	8,265,495,648	9,886,768,056	57,053,646	9,943,821,702
2030	1,880,091,690	37,256,723	45,439,800	8,273,197,753	10,235,985,966	58,388,649	10,294,374,615
2031	2,243,332,849	37,462,805	53,338,377	8,259,682,726	10,593,816,757	59,720,434	10,653,537,191
2032	2,638,567,248	37,886,249	61,989,918	8,221,597,160	10,960,040,575	61,054,379	11,021,094,954
2033	3,069,918,417	41,256,603	71,350,531	8,159,705,414	11,342,230,965	62,367,850	11,404,598,815
2034	3,535,591,339	46,524,338	78,621,480	8,068,333,024	11,729,070,181	63,673,804	11,792,743,985
2035	4,031,977,747	53,271,079	85,746,670	7,951,781,307	12,122,776,803	64,964,154	12,187,740,957
2036	4,553,399,354	61,646,414	93,063,662	7,807,799,956	12,515,909,386	66,277,064	12,582,186,450
2037	5,097,650,583	71,820,096	101,205,723	7,633,860,058	12,904,536,460	67,616,979	12,972,153,439
2038	5,668,501,072	84,628,189	108,589,187	7,435,079,205	13,296,797,653	69,003,160	13,365,800,813
2039	6,263,166,717	99,609,079	115,928,915	7,209,252,328	13,687,957,039	70,408,882	13,758,365,921
2040	6,875,905,390	117,342,103	123,200,272	6,961,275,073	14,077,722,838	71,827,333	14,149,550,171
2041	7,494,137,417	138,017,393	130,454,300	6,688,016,934	14,450,626,044	73,319,733	14,523,945,777
2042	8,108,920,474	161,210,132	138,495,361	6,394,798,094	14,803,424,061	74,879,164	14,878,303,225
2043	8,704,766,409	189,198,461	145,336,518	6,083,271,316	15,122,572,704	76,527,589	15,199,100,293
2044	9,265,575,508	222,190,614	153,537,822	5,755,048,909	15,396,352,853	78,305,010	15,474,657,863
2045	9,784,441,547	262,196,217	160,419,420	5,420,431,903	15,627,489,087	80,185,174	15,707,674,261
2046	10,246,039,194	309,161,634	166,621,658	5,078,223,040	15,800,045,526	82,218,716	15,882,264,242

Note: The projected benefit payments shown above do not include projected buyout amounts of $119,958,130, $125,849,542, and $130,646,530 for the years ending June 30, 2024, 2025, and 2026, respectively.

Table 9 – Projection of Payroll to 2046 by Member Group

Year Ended June 30	Tier 1 Current Active	Tier 2 Current Active	New Entrants	Total Payroll
2023	$8,988,829,463	$3,069,438,600	-	$12,058,268,063
2024	8,906,509,907	3,089,000,047	$435,329,132	12,430,839,086
2025	8,799,414,533	3,116,900,199	882,160,737	12,798,475,469
2026	8,667,707,932	3,157,902,869	1,337,220,023	13,162,830,824
2027	8,511,071,883	3,212,791,421	1,799,904,320	13,523,767,624
2028	8,322,035,323	3,283,762,008	2,272,580,969	13,878,378,300
2029	8,086,574,894	3,362,086,015	2,759,731,407	14,208,392,316
2030	7,827,674,376	3,440,151,490	3,273,029,976	14,540,855,842
2031	7,537,734,208	3,516,756,651	3,818,026,780	14,872,517,639
2032	7,217,686,331	3,590,606,465	4,396,424,872	15,204,717,668
2033	6,856,954,535	3,660,537,959	5,014,326,132	15,531,818,626
2034	6,454,823,539	3,726,660,708	5,675,563,544	15,857,047,791
2035	6,017,153,501	3,789,553,605	6,371,683,776	16,178,390,882
2036	5,554,778,577	3,848,079,647	7,102,494,147	16,505,352,371
2037	5,072,170,342	3,900,699,285	7,866,169,244	16,839,038,871
2038	4,576,997,407	3,946,377,732	8,660,872,253	17,184,247,392
2039	4,055,237,209	3,982,740,948	9,496,344,276	17,534,322,433
2040	3,505,193,374	4,011,439,152	10,370,934,664	17,887,567,190
2041	2,956,971,146	4,030,478,566	11,271,778,393	18,259,228,105
2042	2,413,913,348	4,039,925,372	12,193,743,163	18,647,581,883
2043	1,896,775,802	4,040,379,221	13,120,943,539	19,058,098,562
2044	1,426,240,280	4,027,576,509	14,046,923,035	19,500,739,824
2045	1,009,000,462	4,001,781,954	14,958,185,344	19,968,967,760
2046	676,395,344	3,959,971,046	15,839,025,872	20,475,392,262

Table 10 – Projection of Member Count to 2046 by Member Group

Year Ended June 30	Tier 1 Number Active	Tier 1 Number Retired and Inactive[1]	Tier 1 Subtotal	Tier 2 Number Active	Tier 2 Number Retired and Inactive[1]	Tier 2 Subtotal	Total Number Active	Total Number Retired and Inactive[1]	Grand Total
2023	98,410	229,839	328,249	68,304	37,234	105,538	166,714	267,073	433,787
2024	93,125	226,579	319,704	73,589	35,566	109,155	166,714	262,145	428,859
2025	88,066	223,256	311,322	78,648	33,974	112,622	166,714	257,229	423,943
2026	83,174	219,869	303,043	83,540	32,460	116,000	166,714	252,329	419,043
2027	78,372	216,470	294,842	88,342	31,028	119,370	166,714	247,498	414,212
2028	73,574	213,183	286,757	93,140	29,663	122,803	166,714	242,846	409,560
2029	68,904	209,623	278,527	97,810	28,377	126,187	166,714	237,999	404,713
2030	64,235	205,918	270,153	102,479	27,175	129,654	166,714	233,093	399,807
2031	59,579	202,056	261,635	107,135	26,069	133,204	166,714	228,125	394,839
2032	54,878	198,095	252,973	111,836	25,088	136,924	166,714	223,183	389,897
2033	50,142	194,028	244,170	116,572	24,389	140,961	166,714	218,416	385,130
2034	45,402	189,833	235,235	121,312	23,713	145,025	166,714	213,546	380,260
2035	40,742	185,437	226,179	125,972	23,123	149,095	166,714	208,560	375,274
2036	36,198	180,814	217,012	130,516	22,616	153,132	166,714	203,430	370,144
2037	31,794	175,952	207,746	134,920	22,206	157,126	166,714	198,157	364,871
2038	27,445	170,955	198,400	139,269	21,898	161,167	166,714	192,853	359,567
2039	23,152	165,837	188,989	143,562	21,692	165,254	166,714	187,529	354,243
2040	19,080	160,451	179,531	147,634	21,578	169,212	166,714	182,029	348,743
2041	15,244	154,806	170,050	151,470	21,554	173,024	166,714	176,359	343,073
2042	11,754	148,812	160,566	154,960	21,622	176,582	166,714	170,434	337,148
2043	8,694	142,405	151,099	158,020	21,806	179,826	166,714	164,211	330,925
2044	6,085	140,204	146,289	160,629	23,999	184,628	166,714	164,203	330,917
2045	4,058	137,478	141,536	162,656	26,335	188,991	166,714	163,813	330,527
2046	2,624	134,228	136,852	164,090	28,800	192,890	166,714	163,028	329,742

[1] Assuming members eligible for refunds only will be paid over 5 years.

Table 11 – Projection of Employer Normal Cost to 2046 by Member Group

Year Ended June 30	Payroll			Employer Normal Cost ($)				Employer Normal Cost (% of Pay)			
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Admin. Expenses	Total	Tier 1 (% of pay)	Tier 2 (% of pay)	Admin. Expenses (% of pay)	Total (% of pay)
2025	$8,799,414,533	$3,999,060,936	$12,798,475,469	$1,325,640,056	($53,666,595)	$51,392,140	$1,323,365,601	15.07%	(1.34%)	0.40%	10.34%
2026	8,667,707,932	4,495,122,892	13,162,830,824	1,333,331,804	(58,176,341)	52,855,205	1,328,010,667	15.38%	(1.29%)	0.40%	10.09%
2027	8,511,071,883	5,012,695,741	13,523,767,624	1,332,470,977	(62,510,306)	54,304,543	1,324,265,213	15.66%	(1.25%)	0.40%	9.79%
2028	8,322,035,323	5,556,342,977	13,878,378,300	1,319,946,812	(67,454,668)	55,728,478	1,308,220,623	15.86%	(1.21%)	0.40%	9.43%
2029	8,086,574,894	6,121,817,422	14,208,392,316	1,301,339,201	(71,138,380)	57,053,646	1,287,254,466	16.09%	(1.16%)	0.40%	9.06%
2030	7,827,674,376	6,713,181,466	14,540,855,842	1,277,224,144	(74,549,190)	58,388,649	1,261,063,603	16.32%	(1.11%)	0.40%	8.67%
2031	7,537,734,208	7,334,783,431	14,872,517,639	1,247,726,664	(77,684,903)	59,720,434	1,229,762,195	16.55%	(1.06%)	0.40%	8.27%
2032	7,217,686,331	7,987,031,337	15,204,717,668	1,211,363,606	(80,533,508)	61,054,379	1,191,884,477	16.78%	(1.01%)	0.40%	7.84%
2033	6,856,954,535	8,674,864,091	15,531,818,626	1,167,049,256	(82,881,717)	62,367,850	1,146,535,388	17.02%	(0.96%)	0.40%	7.38%
2034	6,454,823,539	9,402,224,252	15,857,047,791	1,114,855,812	(85,313,131)	63,673,804	1,093,216,485	17.27%	(0.91%)	0.40%	6.89%
2035	6,017,153,501	10,161,237,381	16,178,390,882	1,056,055,139	(87,131,911)	64,964,154	1,033,887,382	17.55%	(0.86%)	0.40%	6.39%
2036	5,554,778,577	10,950,573,794	16,505,352,371	991,930,473	(88,475,390)	66,277,064	969,732,148	17.86%	(0.81%)	0.40%	5.88%
2037	5,072,170,342	11,766,868,529	16,839,038,871	923,053,637	(89,614,909)	67,616,979	901,055,706	18.20%	(0.76%)	0.40%	5.35%
2038	4,576,997,407	12,607,249,985	17,184,247,392	846,836,352	(90,162,311)	69,003,160	825,677,200	18.50%	(0.72%)	0.40%	4.80%
2039	4,055,237,209	13,479,085,224	17,534,322,433	759,287,531	(90,220,296)	70,408,882	739,476,117	18.72%	(0.67%)	0.40%	4.22%
2040	3,505,193,374	14,382,373,816	17,887,567,190	662,490,604	(89,801,944)	71,827,333	644,515,993	18.90%	(0.62%)	0.40%	3.60%
2041	2,956,971,146	15,302,256,959	18,259,228,105	559,666,639	(88,433,887)	73,319,733	544,552,486	18.93%	(0.58%)	0.40%	2.98%
2042	2,413,913,348	16,233,668,535	18,647,581,883	454,755,762	(86,329,053)	74,879,164	443,305,872	18.84%	(0.53%)	0.40%	2.38%
2043	1,896,775,802	17,161,322,760	19,058,098,562	352,859,326	(82,383,223)	76,527,589	347,003,692	18.60%	(0.48%)	0.40%	1.82%
2044	1,426,240,280	18,074,499,544	19,500,739,824	257,965,366	(77,429,903)	78,305,010	258,840,473	18.09%	(0.43%)	0.40%	1.33%
2045	1,009,000,462	18,959,967,298	19,968,967,760	176,333,123	(71,080,740)	80,185,174	185,437,557	17.48%	(0.37%)	0.40%	0.93%
2046	676,395,344	19,798,996,918	20,475,392,262	113,428,916	(62,640,687)	82,218,716	133,006,945	16.77%	(0.32%)	0.40%	0.65%

Table 12 – Projection of Debt Service to 2033

Fiscal Year	Debt Service
2023	$463,801,058
2024	497,200,770
2025	528,003,960
2026	541,748,515
2027	553,983,980
2028	579,505,355
2029	602,763,095
2030	638,552,200
2031	671,323,125
2032	686,280,870
2033	684,179,980

Section 6: Actuarial Valuation Basis

Summary of Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in supporting each assumption that has a significant effect on this actuarial valuation is shown in the demographic and economic experience review dated September 30, 2021, and the economic experience review dated August 15, 2023. Current data is reviewed in conjunction with each annual valuation. All assumptions were adopted by the Board on August 12, 2021, effective June 30, 2021, unless otherwise noted.
Net Investment Return:	7.00% per annum, compounded annually and net of investment expenses. The interest rate assumption is composed of an inflation assumption of 2.50% and real return of 4.50% (adopted effective June 30, 2022).
Mortality Rates:	
Healthy Post-Retirement:	PubT-2010 Retiree Mortality Table projected generationally with Scale MP-2020, with female rates multiplied by 91% for ages under 75 and 109% for ages 75 and older and male rates multiplied by 105% for ages under 85 and 115% for ages 85 and older.
Disabled Post-Retirement:	PubNS-2010 Non-Safety Disabled Retiree Mortality Table projected generationally with Scale MP-2020, with no adjustments to female or male rates.
Beneficiary Post-Retirement:	Pub-2010 Contingent Survivor Mortality Table projected generationally with Scale MP-2020, with female rates multiplied by 98% for all ages and male rates multiplied by 110% for all ages.
Pre-retirement:	PubT-2010 Employee Mortality Table projected generationally with Scale MP-2020, with female and male rates multiplied by 90% for all ages.

Summary of Assumptions and Methods *continued*

Salary Increase Rates:

The components include 2.50% inflation (adopted effective June 30, 2022), plus merit and seniority increases. Salary increase rates are shown below for selected years of service.

Service	Rate
1	8.75%
2	7.00%
3	6.50%
4	6.50%
5	6.25%
10	5.25%
15	4.75%
20 and above	3.75%

Salary increases are applied as of the beginning of year.

For a member who works 34 years, the assumed average salary increase over their career is 4.73% per year.

The actual average salary increases for teachers who were in full-time or regular part-time status at June 30, 2021 and June 30, 2022 is 5.69%.

Disability Rates:

Shown below for selected ages

Age	Male	Female
25	0.01%	0.02%
30	0.01%	0.03%
35	0.02%	0.05%
40	0.02%	0.06%
45	0.04%	0.09%
50	0.08%	0.15%
55	0.11%	0.17%
60	0.14%	0.23%
65	0.19%	0.26%

Summary of Assumptions and Methods *continued*

Termination: Rates:

Termination rates based on service, for causes other than death, disability, or retirement

	Under 5 Years of Service		5 or More Years of Service	
Age	Male	Female	Male	Female
25	6.50%	6.25%	4.50%	4.50%
30	6.75%	6.75%	3.00%	4.25%
35	7.00%	7.25%	1.50%	2.50%
40	9.50%	7.25%	1.50%	1.25%
45	11.25%	7.25%	1.00%	1.00%
50	11.75%	8.50%	1.00%	1.25%
55	11.25%	10.25%	1.75%	2.00%
60	12.25%	13.00%	3.50%	2.25%
65	29.25%	32.50%	3.50%	2.50%

Retirement Rates:

The following rates of retirement are assumed for active members hired before January 1, 2011:

	Service			
Age	5 – 18	19 – 29	30 – 33	34+
54	0%	7%	8%	45%
55	0%	6%	8%	44%
56	0%	6%	7%	46%
57	0%	7%	8%	46%
58	0%	8%	12%	45%
59	0%	33%	40%	48%
60	21%	33%	46%	44%
61	17%	28%	35%	41%
62	17%	28%	43%	41%
63	16%	29%	35%	44%
64	26%	40%	50%	40%
65	27%	40%	52%	43%
66	23%	42%	42%	38%
67	25%	39%	43%	38%
68	23%	39%	40%	35%
69	28%	38%	32%	44%
70	100%	100%	100%	31%
71				39%
72				24%
73				36%
74				36%
75				100%

Summary of Assumptions and Methods *continued*

Retirement Rates (continued):	The following rates of retirement are assumed for active members hired on or after January 1, 2011 (adopted effective June 30, 2012):

	Service				
Age	**9 – 18**	**19 – 30**	**31**	**32 – 33**	**34+**
61 and younger	0%	0%	0%	0%	0%
62	13%	15%	20%	25%	25%
63	8%	10%	15%	20%	20%
64	8%	10%	15%	20%	20%
65	8%	10%	15%	20%	20%
66	20%	10%	15%	20%	20%
67	20%	40%	70%	70%	70%
68	20%	40%	40%	40%	40%
69	20%	40%	40%	40%	40%
70	100%	100%	100%	100%	100%

Inactive members with deferred vested benefits are assumed to retire upon reaching Normal Retirement.

Percent Married:	For valuation purposes, 85% of members are assumed to be married. Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses. (adopted effective June 30, 1993)
Elected Form of Payment:	Life annuity, if single. 50% Joint and Survivor annuity (for Tier 1) and 66 ⅔% Joint and Survivor annuity (for Tier 2), if married (adopted effective June 30, 1993 for Tier 1 and June 30, 2011 for Tier 2)
Inactive Vested Buyout:	10% of future inactive vested members are assumed to elect to receive a lump sum buyout now in lieu of an annuity at retirement. (adopted effective June 30, 2022). This is consistent with recent plan experience and was changed to better align the assumption with actual administrative practice.
Automatic Annual Increase Buyout:	20% of eligible retiring Tier 1 members are assumed to receive a lump sum buyout and a retirement annuity with automatic annual increases of 1.5% of the originally granted retirement benefit starting at the later of January 1 following age 67 and the first anniversary of retirement.
Buyout Period:	Buyouts are assumed to be paid through fiscal year 2026, corresponding with the current buyout program ending date (June 30, 2026). This valuation assumes that additional funds will be allocated to TRS to pay for all assumed buyout payments, as needed. (adopted effective June 30, 2022)
Severance Pay:	18% of retirees are assumed to receive severance pay and the average severance payment will be 8.0% of other pensionable earnings in the last year of employment. Other pensionable earnings may include payment for unused vacation days, unused sick or personal leave, retirement incentives, 403(b) or 457(b) contributions, and bonuses for performance, good attendance, longevity, etc.

Summary of Assumptions and Methods *continued*

Optional Service Purchases:

The liability for retirement benefits for active members who have not previously purchased optional service is increased to cover the employer cost of out-of-system service purchased in the last two years prior to retirement. The amount purchased varies by the amount of regular service at retirement. Representative amounts purchased at retirement, and other assumptions used, are as follows:

Service	Maximum Service Purchase
10 years	0.158 years
15 years	0.293 years
20 years	0.531 years
25 years	0.712 years
30 years	0.673 years
34 or more	None

a. Actual optional service credit for each current member is provided by TRS;
b. No additional service purchases will be assumed for members who currently have optional service credit;
c. Members will not purchase service if it does not improve their pension benefit; and
d. When optional service is purchased within the last two years prior to retirement, 25% of the cost is covered by member payments and the remaining cost is the responsibility of the employer.

A 25% factor is applied for Substitute, Part-Time, and Hourly-Paid members.

Sick Leave Service Credit:

The assumed unused and uncompensated sick leave service credit at retirement varies by the amount of regular service at retirement. Representative assumed amounts of unused and uncompensated sick leave service are as follows:

Service	Sick Leave Service Credit
10 years	0.158 years
15 years	0.293 years
20 years	0.963 years
25 years	1.154 years
30 years	1.369 years
34 years	1.612 years
35 or more	None

A 25% factor is applied for Substitute, Part-Time, and Hourly-Paid members.

Future Service Accrual Rate:

0.98 years of service per year for Full-Time and Regular Part-Time members.

0.275 years of service per year for Substitute, Part-Time, and Hourly-Paid members.

Summary of Assumptions and Methods *continued*

Future Normal Costs:

Projected Normal Cost is based on an open group forecast with the number of active participants assumed to remain level for both full-time and substitute/hourly groups. The new entrants are assumed to enter the plan with an average age and an average pay as noted below, which is based on the same demographic profile as new entrants over the past 5 years (July 1, 2017 – June 30, 2022). New entrant salaries assumed to increase by 2.50% per annum during the projection period (adopted effective June 30, 2022):

Full-Time and regular part-time:

	Male		Female	
Age	Salary	Proportion	Salary	Proportion
22	$49,298	5.4%	$49,136	28.0%
27	52,439	6.3	53,734	25.5
32	58,943	3.0	57,216	11.3
37	62,728	1.8	58,661	5.9
42	63,635	1.2	58,291	4.0
47	64,885	0.7	59,396	2.5
52	64,887	0.6	61,203	1.6
57	67,162	0.4	59,242	0.9
62	65,617	0.2	60,283	0.5
67	56,786	0.1	65,971	0.1

Substitutes, part-time, and hourly-paid:

	Male		Female	
Age	Salary	Proportion	Salary	Proportion
22	$22,517	6.6%	$22,952	19.4%
27	23,642	6.5	23,299	13.2
32	23,662	2.9	21,294	8.0
37	24,082	1.6	19,317	8.3
42	23,845	1.3	19,030	8.9
47	22,216	1.2	18,905	6.6
52	20,955	1.1	19,043	4.6
57	20,472	1.1	19,043	2.8
62	20,116	1.1	19,220	1.7
67	19,043	1.1	18,839	1.0
70	18,531	0.5	18,475	0.3

Summary of Assumptions and Methods *continued*

Future Normal Costs (continued):	Based on the demographic mix shown on the prior page, the average age and salary at hire for full-time and regular part time new entrants is 30 and $55,403 (in 2023 dollars) and for substitutes, part-time, and hourly-paid new entrants is 35 and $22,024 (in 2023 dollars). The average ages are assumed to remain constant throughout the projection period.
2.2 Updated Assumption:	For those active members who have already made a payment to upgrade past service prior to June 30, 1998, their benefits are based on their upgrading at the valuation date. For all other active members, they are assumed to upgrade at retirement.
Tier 2 Pay Cap Increase:	1.25% per annum (adopted effective June 30, 2022). The actuarial valuation reflects the actual Tier 2 pay cap of $123,489 applicable for fiscal year ending June 30, 2024.
Tier 2 COLA Increase:	1.25% per annum (adopted effective June 30, 2022)
COLA Timing:	Assumed to occur middle of year (effective January 1st)
Governor's Pay:	The actuarial valuation reflects the projected Governor's pay of $205,700 for fiscal year ending June 30, 2023, per Public Act 102-1115.
Substitute, Part-Time, and Hourly-Paid Minimum Annual Salary:	$1,000
Decrement Timing:	All decrements are assumed to occur middle of year, except for the 100% retirement rate assumptions which are assumed to occur beginning of year.
Census and Assets:	The current actuarial valuation was based on the latest membership data available, which was submitted by the System for active, inactive and retired members as of the prior valuation date. The valuation assumptions were used to project results to account for the one-year difference in the census date and the valuation date. Any change in liability due to changes in census between the collection date of the census information and the valuation date is captured in the next actuarial valuation.
Administrative Expenses:	$44,851,616 of administrative expenses is expected to be paid for the year beginning July 1, 2023. $49,915,900 of administrative expenses is expected to be paid for the year beginning July 1, 2024 and each year thereafter, increased by the rate at which payroll is expected to increase.
Asset Valuation Method:	The actuarial value of assets for funding and to determine the Actuarially Determined Contribution is based on the fair value of assets with a five-year phase-in of actual investment return in excess of (or less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the fair value of assets (adjusted for receipts and disbursements during the year). The actual investment return for this purpose is determined net of all investment and administrative expenses. For GASB 67 and 68, the fair value of assets is used.

Summary of Assumptions and Methods *continued*

Actuarial Cost Method:	Projected Unit Credit (adopted by statute June 30, 1989) is used for funding purposes. Under this method, the projected benefits of each individual included in the valuation are allocated by a consistent formula to valuation years. The actuarial present value of benefits allocated to a valuation year is called the normal cost. The actuarial present value of benefits allocated to all periods prior to a valuation year is called the accrued liability. Entry Age Normal is used for GASB 67 and 68 purposes and to determine the Actuarially Determined Contribution ("Board-Adopted Actuarial Funding Policy"), based upon the funding policy adopted by the Board. Under this method, a normal cost is calculated for each employee that is the level annual contribution as a percent of pay required to be made from the employee's date of hire for as long as he/she remains active so that sufficient assets will be accumulated to provide his/her benefit. The accrued liability is the difference between the present value of all future benefits and the present value of all future normal costs.
Amortization Period and Method:	For funding purposes under the Illinois Pension Code, the unfunded liability is not explicitly amortized. The employer contribution is the amount which, as a level percentage of member payroll, will result in the System being 90% funded by June 30, 2045, if all assumptions are met and the active population remains level. For the Board-Adopted Actuarial Funding Policy, the amortization of the unfunded accrued liability is a closed 20-year period effective June 30, 2015, and declines by one year in each subsequent valuation. Sources of unfunded actuarial accrued liability that emerge in subsequent valuations are amortized over 20-year closed periods. Contributions toward the unfunded actuarial accrued liability increase by 2% each year, the estimate of increase in future State revenue growth.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary. The blended discount rate used for calculating total pension liability is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

<table>
<tr><td>Membership:</td><td>Employers of the System include:

The Illinois public common school districts outside of Chicago,
Certain state agencies employing certified teachers, and
The State Board of Education, Illinois School Board Association, statewide and national teacher organizations, educational cooperatives and the retirement system.

Employees covered under the System include:

Any educational, administrative, professional or other staff employed in the public common schools outside the City of Chicago in a position requiring certification under the teacher certification law, including substitute teachers, part-time teachers, and hourly paid teachers who are on a flexible work schedule;
Any position requiring teacher certification in certain state agencies;
Any regional superintendent of schools, assistant regional superintendent of schools, State Superintendent of Education; any person employed by the State Board of Education as an executive; any executive of the boards engaged in the service of public common school education in school districts covered under this system of which the State Superintendent of Education is an ex-officio member;
Any employee of a school board association who is certified under the teacher certification law;
Any person employed by the retirement system who was an employee of and a member in the system on August 17, 2001 or becomes an employee of the system on or after August 17, 2001;
Any educational, administrative, professional or other staff employed by and under the supervision and control of a regional superintendent of schools, provided such employment position requires the person to be certified under the teacher certification law;
Any educational, administrative, professional or other staff in a certified position employed by a program serving two or more school districts in accordance with a joint agreement authorized by the School Code or by federal legislation;
Any officer or employee of a statewide teacher organization or officer of a national teacher organization who is certified under the teacher certification law, provided the member had previously established creditable service under TRS and files an irrevocable election for TRS membership before January 5, 2012, and does not receive credit under any other article of the pension code; and
</td></tr>
</table>

Summary of Plan Provisions *continued*

Membership (continued):	• Any educational, administrative, professional, or other staff employed in a charter school that is certified under the teacher certification law. Employment on a full-time basis covers only teachers whose normal employment schedule consist of working at least four clock hours daily, five days per week. Employment on a part-time basis covers teachers who are employed less than four clock hours daily or less than five days per week. A substitute teacher is employed on temporary basis to replace another teacher. Creditable service rendered as an employee for a regular school year in any district, in accordance with the provisions of the Pension Code, is equal to one year of service, and time less than a legal year is counted as such portion of a year as the number of days taught bears to 170 days. Additionally, members may purchase various types of optional service credit. "Tier 2" means a member, or a benefit provision, that applies to a member who first contributed to TRS on or after January 1, 2011, and has no preexisting creditable service with a reciprocal pension system prior to January 1, 2011. "Tier 1" means all other members and applicable benefit provisions. For determining both member benefits and contribution amounts, salary for Tier 2 is capped at a limit that is tied to the Consumer Price Index. The initial limit was $106,800 as of January 1, 2011. The limit increases in each subsequent year by an amount equal to the then current limit times the lesser of 3% or one-half the percentage increase in CPI-U as of the preceding September. "Final average salary" means for Tier 1 the average salary for the highest four consecutive years within the last 10 years of creditable service, as determined under the rules of the Board. For Tier 2, final average salary is for the highest eight consecutive years within the last 10 years.
Member Contributions:	All members of the Fund are required to contribute 9% of salary to the Fund as follows: 7.5% for the retirement pension, 1% for the spouse's pension, and 0.5% for the automatic increases in the retirement pension. In addition, employees are required to contribute $3.60 per month toward the cost of the single sum death benefit.
Tiers:	Tier 1: First hired before January 1, 2011. Tier 2: First hired on or after January 1, 2011.

Summary of Plan Provisions *continued*

Retirement Pension:	
Eligibility:	*Tier 1:* Age 60 with 10 years of service, or age 62 with 5 years of service *Tier 2:* Age 67 with 10 years of service
Amount:	*Tier 1:* For members who first became a teacher before July 1, 2005, the annual benefit amount is the greatest of (i), (ii) and (iii) below. For members who first became a teacher on or after July 1, 2005, the annual benefit amount is the greater of (i) and (ii) below. *Tier 2:* The annual benefit is the amount under (i) below. (i) For service earned before July 1, 1998, 1.67% of final average salary for each of the first 10 years of creditable service, plus 1.90% of final average salary for each year in excess of 10 but not exceeding 20, plus 2.10% of final average salary for each year in excess of 20 but not exceeding 30, and 2.30% of final average salary for each year in excess of 30. For all other service, 2.2% of final average salary.[1] (ii) 1½% of final average salary for each year of creditable service, plus $7.50 per year for each of the first 20 years of creditable service. (iii) An actuarially equivalent life annuity, resulting from the member's contributions and State-matching contributions (1.4 times member contributions) plus compound interest on both. Maximum amount under (i) and (ii) above is 75% of final average salary.
Early Retirement:	
Eligibility:	*Tier 1:* Age 55 with 20 years of service *Tier 2:* Age 62 with 10 years of service
Amount:	*Tier 1:* Equal to the amount computed under normal retirement, reduced by 6% for each year the member is under age 60. There is no reduction for a member who retires prior to age 60 with 35 years of credited service. *Tier 2:* Equal to the amount computed under normal retirement, reduced by 6% for each year the member is under age 67.

[1] Service earned before July 1, 1998 can be upgraded to 2.2% through additional member contributions of 1% of the member's highest salary within the last four years for each year of prior service. Maximum payment is 20% of salary, but all years are upgraded. The number of years to be upgraded is reduced by one for each three full years worked under the 2.2% formula. The 2.2% formula upgrade cost is reduced on a sliding scale for members who have more than 34 years of service credit.

Summary of Plan Provisions *continued*

Rule of 85 for State Employees:	A Tier 1 employee of a state agency retiring on or after January 1, 2001 is entitled to a non-discounted annuity if his or her attained age at retirement and total creditable service equal at least 85, provided he or she has (i) earned during the period immediately preceding the last day of service at least one year of contributing creditable service as a state employee and (ii) has earned at least 5 years of contributing creditable service as a state employee.
Single Sum Benefit:	
Eligibility:	Age 65 with fewer than 5 years of creditable service after July 1, 1947
Amount:	Lump sum payment actuarially equivalent to a life annuity consisting of 1.67% of final average salary for each year of service.
Temporary Disability Benefit:	
Eligibility:	3 years of credited service
Amount:	Equal to 40% of the member's most recent annual contract salary at time of disablement. The benefit is payable beginning with the 31st day after disablement and ending at the earlier of (1) cessation of disability, (2) when the member requests termination of the benefit, (3) when the period for which payments have been made equals one-fourth the period of creditable service, or (4) the member is gainfully employed or able to be gainfully employed.
Disability Retirement Benefit:	
Eligibility:	Termination of temporary disability benefit, provided member remains disabled
Amount:	The greater of: (a) 35% of the member's most recent annual contract salary, or (b) the benefit payable for normal retirement, but reduced by 1/2% for each month by which the member is less than age 60, or age 55 if the member has 20 years of service. Other formulas may be applicable if disability retirement occurred prior to July 1, 1971.
Occupational Disability:	
Eligibility:	Totally and immediately incapacitated for the performance of duty
Amount:	Equal to 60% of salary, if disability is duty-connected or occupational adjudicated by the Illinois Industrial Commission as compensable under either the Workers' Compensation or Occupational Diseases Act. Any amounts payable under these Acts shall be applied as an offset to any occupational disability benefits payable by the Teachers' Retirement System. In general, benefits are payable throughout the period of disability.

Summary of Plan Provisions *continued*

Deferred Vested Benefits:	
Eligibility:	*Tier 1:* 5 years of service *Tier 2:* 10 years of service
Amount:	*Tier 1:* Equal to the amount computed under normal retirement deferred to age 62, if the member has less than 10 years of service. Otherwise, the annuity is payable at age 60. *Tier 2:* Equal to the amount computed under normal retirement, payable at age 67, or in a reduced amount as early as age 62. The reduction is 6% for each year the member is under age 67.
Reversionary Retirement Annuity:	Any member entitled to a retirement annuity for age may elect to receive a reduced annuity with the remainder determined on an actuarial basis to become, upon the member's death, an annuity for life to any designated person dependent upon the member at the time of the member's retirement, provided such payment shall not be less than $10 nor more than the amount of reduced age retirement monthly annuity to which the member is entitled. If the beneficiary predeceases the member, the member's benefit will revert to the original benefit amount had the participant not elected the reversionary annuity.
Refund of Contributions:	A member who ceases to be a member for any reason other than death or retirement, shall be entitled to a refund of all retirement contributions and payments made into the System by the member which have not previously been refunded, without interest thereon.
Death Benefit:	Refund of the deceased member's accumulated contributions (excluding spouse's pension contributions) are paid to survivors or to the member's estate. Additional death benefits are also payable, as summarized in the table below:

	Types of Beneficiaries	
Time of Death	**Dependents**	**Non-dependents**
While employed	Lump sum up to last salary **or** $1,000 and a monthly benefit generally not less than $400[1] or $600 with minor children[2]	Lump sum up to last salary
Inactive within 12 months of last day of credit	Lump sum up to last salary **or** $1,000 and a monthly benefit generally not less than $400[1] or $600 with minor children[2]	Lump sum up to last salary
Inactive with 20 or more years of service	Lump sum of $3,000 or 1/6 of last salary[3] **or** $1,000 and a monthly benefit generally ½ for Tier 1 and 2/3 for Tier 2 of member's earned benefit at time of death	Lump sum of $3,000 or 1/6 of last salary[3]
Annuitant	Lump sum of $3,000 or 1/6 of last salary[3] **or** $1,000 and a monthly benefit generally ½ for Tier 1 and 2/3 for Tier 2 of annuitant's earned benefit at time of death	Lump sum of $3,000 or 1/6 of last salary[3]

[1] *Certain circumstances might provide a monthly annuity less than $400 per month for an active member.*
[2] *TRS will pay a percentage of the member's earned retirement annuity at death (50.00% for Tier 1 and 66.67% for Tier 2) if it is greater than the above amounts.*
[3] *Certain lump sums may be greater if the annuitant or inactive member has been in retirement or out of service for less than five years.*

Summary of Plan Provisions *continued*

Automatic Postretirement Benefit Cost-of-Living Adjustment:	
Eligibility:	Member contributed for at least an equivalent period of one full year of creditable service after July 1, 1969
Amount:	For Tier 1, initial increase of 1½% of base annuity for periods prior to January 1, 1972, 2% for periods from and after January 1, 1972 and prior to January 1, 1978, and 3% for periods thereafter (such periods to exclude any period of retirement that precedes attainment of age 55). Initial increase payable effective with the later of: January 1 following first anniversary of retirement; or January 1 following attainment of age 61. Following the initial increase, automatic annual increases payable on each January 1 thereafter. Prior to January 1, 1990, annual increases were determined as a percentage of the original retirement annuity. Effective on and after January 1, 1990, automatic annual increases granted to eligible annuitants equal 3% of the total annuity being received, including previous increases granted. For Tier 2 retirement and deferred vested benefits, the annual increase is equal to the original granted annuity benefit times the lesser of 3% or one-half the increase in the CPI-U as of the preceding September. The initial increase is effective January 1 after the later of attaining age 67 or the first anniversary of the annuity starting date. For Tier 1 and Tier 2 disability benefits, the initial increase is generally 7% effective January 1 following the fourth anniversary of the initial payment and 3% annually thereafter of the then current benefit amount. For Tier 1 and Tier 2 survivor benefits, the initial increase is effective January 1 following the first anniversary of the initial survivor payment, or after the survivor benefit has been granted benefits for survivors of annuitants, and annually thereafter. The Tier 1 increase is 3% of the then current benefit. The increase for Tier 2 is the lesser of 3% or one-half the percentage increase in CPI-U as of the preceding September of the original benefit amount.

Summary of Plan Provisions *continued*

Historical Changes to Member Contributions:	Beginning July 24, 1959, each member contributes an additional 1% of salary toward Survivor's Benefits. These contributions are subject to refund if there is no dependent beneficiary at retirement, provided the member elects such refund. Beginning July 1, 1995, each member not employed by a State agency contributes to the Teachers' Health Insurance Security Fund, administered by the Department of Central Management Services. These contributions are not refundable and do not become part of the System's assets. Beginning July 1, 1998, contributions for creditable service are made at the rate of 8% (exclusive of the 1% Survivor Benefit Contribution) of salary which is comprised of a rate of 7½% of salary towards the cost of the retirement annuity plus ½% of salary toward the cost of the automatic annual increase in retirement annuity. Additional contributions as are necessary to receive credit for service during which contributions were not made, such as military service or service outside the System.
Net Benefit Increases:	The term "new benefit increase" means an increase in the amount of any benefit provided by the statute, or the expansion of the eligibility requirements for any benefit provided by the statute, resulting from an amendment that takes place on or after June 1, 2005. Every new benefit increase must have an identified funding source whose adequacy is verified and periodically confirmed by the Commission on Government Forecasting and Accountability (CoGFA). Every new benefit increase will automatically expire at the earlier of (i) five years after its effective date; (ii) at an earlier time specified in the amendment creating the benefit; or (iii) at the end of the fiscal year in which CoGFA certifies that the identified funding source is inadequate; except that any new benefit increase will continue to apply to persons who applied for and qualified for the increase while it was in effect, and except that any new benefit increase may be extended or recreated by the General Assembly (subject to the adequacy of the funding source).
Sick Leave Service Accruals:	Any unused and uncompensated accumulated sick leave is counted as creditable service provided that each former employer certifies to the System the number of unused and uncompensated accumulated sick leave days upon termination of the member. The service granted is the ratio of the number of unused and uncompensated accumulated sick leave days to 170 days, subject to a maximum of two years of service credit. The period of sick leave shall not be considered in determining the effective date of retirement.

Summary of Plan Provisions *continued*

Guaranteed Minimum Benefit:	For members who make a small qualifying contribution, a minimum benefit of $25 per month per year of service, up to a maximum of $750 per month with 30 years of service, is paid. An alternate minimum retirement annuity of $200 per month, applicable to members with at least 10 years of service, is described under 40 ILCS 5/16-136.3. The minimum benefit is payable to the extent that funds are available under the Minimum Retirement Annuity Reserve established under 40 ILCS 5/16-186.3. The Minimum Retirement Annuity Reserve is credited with qualifying contributions made by annuitants, amounts contributed by the state that are sufficient to assure payment, and interest. The reserve is charged with the minimum benefit payments. The portion of the retiree's benefit that is below the minimum is paid from the Benefit Trust Reserve. Only the difference between that amount and the minimum is paid from the Minimum Retirement Annuity Reserve.
Inactive Vested Buyout:	Provides inactive vested members an option to receive an immediate lump sum in exchange for their annuity at retirement. The lump sum would be equal to 60% of the present value of future benefits. Effective for fiscal year ended June 30, 2019 to fiscal year ending June 30, 2021, subsequently extended to fiscal year ending June 30, 2026 by PA 102-0718.
Automatic Annual Increase Buyout:	The automatic annual increase buyout provision gives Tier 1 members the option to receive a lump sum at retirement in exchange for having their automatic annual increase based on 1.5% of the originally granted annuity effective at the later of January 1 following age 67 or the first anniversary of retirement. The lump sum would be equal to 70% of the difference between the present value of benefits based on the Tier 1 automatic annual increase and the 1.5% automatic annual increase of the originally granted annuity. Effective for fiscal year ended June 30, 2019 to fiscal year ending June 30, 2021, subsequently extended to fiscal year ending June 30, 2026 by PA 102-0718.

Section 7: GASB Information

Exhibit 1 – Schedule of Employer Contributions

($ in thousands)

Fiscal Year Ended June 30	Actuarially Determined Contribution (ADC)[1]	Percentage Contributed[2]
2014	$4,091,978	87.8%
2015	4,119,526	85.5%
2016	4,582,530	84.9%
2017	6,248,879	66.2%
2018	7,080,756	59.0%
2019	7,429,037	61.3%
2020	7,988,612	60.8%
2021	8,441,258	62.0%
2022	8,947,919	66.9%
2023	9,201,648	66.6%

The information presented above was determined as part of the actuarial valuation as of two years prior to the dates indicated (e.g., the contribution determined by the valuation completed as of June 30, 2021, was contributed in the fiscal year ended June 30, 2023).

[1] *Prior to 2017, the ADC is the same as the GASB ARC determined under GASB 25. Beginning in FY 2017, the ADC is based on the Board's funding policy.*
[2] *Equal to the total non-member contributions divided by the ADC for the applicable fiscal year, see the following page for more information.*

Exhibit 1 – Schedule of Employer Contributions *continued*

($ in thousands)

Fiscal Year	Actuarially Determined Contributions	State Contributions	Federal and Employer Contributions	Total Non-Member Contributions	Contribution Deficiency	Covered Payroll	Total Non-Member Contributions as a Percentage of Covered Payroll	Annual Required Contribution per State Statute	Annual Required Contributions as Percentage of Covered Payroll
2014	$4,091,978	$3,437,478	$157,228	$3,594,706	$497,272	$9,512,810	37.8%	$3,592,578	100.1%
2015	4,119,526	3,376,878	144,780	3,521,658	597,868	9,641,171	36.5%	3,497,366	100.7%
2016	4,582,530	3,741,802	147,408	3,889,210	693,320	9,811,614	39.6%	3,883,544	100.1%
2017	6,248,879[1]	3,985,783	148,749	4,134,532	2,114,347	9,965,570	41.5%	4,124,119	100.3%
2018	7,080,756	4,094,616	84,034	4,178,650	2,902,106	10,163,980	41.1%	4,178,744	100.0%
2019	7,429,037	4,465,578	87,707	4,553,285	2,875,752	10,450,452	43.6%	4,554,862	100.0%
2020	7,988,612	4,763,078	92,038	4,855,116	3,133,496	10,827,439	44.8%	4,923,519	98.6%
2021	8,441,258	5,140,337	97,082	5,237,419	3,203,839	11,120,776	47.1%	5,237,798	100.0%
2022	8,947,919	5,866,530	120,441[2]	5,986,971	2,960,948	11,647,248	51.4%	5,791,571	103.4%
2023	9,201,648	6,008,948	123,194[2]	6,132,142	3,069,506	12,382,202	49.5%	5,994,047	102.3%

[1] *Reflects implementation of the Board-Adopted Actuarial Funding Policy.*
[2] *Reflects temporary increase in federal funds payroll resulting from the Elementary and Secondary Emergency Relief Fund (ESSER).*

Exhibit 2 – Net Pension Liability

	June 30, 2023	June 30, 2022
The components of the net pension liability:		
Total pension liability	$151,485,294,234	$146,673,960,220
Plan fiduciary net position	(66,504,717,419)	(62,833,626,339)
Net pension liability	$84,980,576,815	$83,840,333,881
Plan fiduciary net position as a percentage of the total pension liability	43.9%	42.8%

Plan Provisions

The plan provisions used in the measurement of the net pension liability are the same as those used in the actuarial valuation as of June 30, 2023.

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2023, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	8.75% at one year of service to 3.75% at 20 and more years of service
Investment rate of return	7.00%
Cost-of-living adjustments	Tier 1: 3% compounded Tier 2: 1.25% not compounded

The assumed mortality rates are based on the Society of Actuaries PubT-2010 mortality tables, with adjustments for TRS experience, with generational improvement based on Scale MP-2020.

The actuarial assumptions used were based on the results of an experience study dated August 12, 2021, and the economic experience review presented at the August 15, 2023, Board meeting.

Exhibit 2 – Net Pension Liability *continued*

Discount Rate

The discount rate used to measure the total pension liability was 7.00% as of June 30, 2023. The projection of cash flows used to determine the discount rate assumes that member and employer contributions will be made at rates equal to those based on this June 30, 2023, Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected member and employer contributions for future plan members are included, to the extent that they exceed the service costs of future plan members.

Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members as of June 30, 2023. Therefore, the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2023.

Discount Rate Sensitivity

The following presents the net pension liability as of June 30, 2023, which is allocated to employers calculated using the discount rate of 7.00%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net pension liability as of June 30, 2023	$104,599,123,559	$84,980,576,815	$68,699,254,139

Exhibit 3 – Schedules of Changes in Net Pension Liability

Fiscal Year Ended June 30	2023	2022	2021	2020	2019
Total pension liability					
Service cost	$2,229,200,487	$2,097,274,410	$2,032,149,463	$1,991,622,987	$1,947,627,286
Interest	10,144,364,716	9,834,039,952	9,580,886,840	9,296,897,060	8,991,684,121
Change of benefit terms	0	0	0	0	0
Differences between expected and actual experience	405,098,326	(260,304,587)	(370,469,646)	(28,215,833)	258,778,925
Changes of assumptions	0	448,727,943	(162,359,084)	0	77,241,572
Benefit payments, including refunds of employee contributions	(7,967,329,515)	(7,669,576,246)	(7,388,142,712)	(7,099,524,955)	(6,818,760,572)
Net change in total pension liability	$4,811,334,014	$4,450,161,472	$3,692,064,861	$4,160,779,259	$4,456,571,332
Total pension liability – beginning	146,673,960,220	142,223,798,748	138,531,733,887	134,370,954,628	129,914,383,296
Total pension liability – ending (a)	$151,485,294,234	$146,673,960,220	$142,223,798,748	$138,531,733,887	$134,370,954,628
Plan fiduciary net position					
Contributions – employer	$124,748,100	$120,876,570	$97,594,081	$92,658,238	$88,514,781
Contributions – nonemployer contributing entity[1]	6,009,158,073	5,866,799,836	5,140,648,356	4,813,451,679	4,466,020,692
Contributions – member	1,109,497,833	1,072,639,330	1,023,531,951	994,400,416	963,972,120
Net investment income	4,427,042,975	(743,042,373)	13,046,153,685	275,669,398	2,617,831,332
Benefit payments, including refunds of employee contributions	(7,967,329,515)	(7,669,576,246)	(7,388,142,712)	(7,099,524,955)	(6,818,760,572)
Administrative expense	(32,026,386)	(26,575,798)	(23,758,112)	(22,966,372)	(24,335,680)
Net change in plan fiduciary net position	$3,671,091,080	($1,378,878,681)	$11,896,027,249	($946,311,596)	$1,293,242,673
Plan fiduciary net position – beginning	62,833,626,339	64,212,505,020	52,316,477,771	53,262,789,367	51,969,546,694
Plan fiduciary net position – ending (b)	$66,504,717,419	$62,833,626,339	$64,212,505,020	$52,316,477,771	$53,262,789,367
Net pension liability – ending (a) – (b)	$84,980,576,815	$83,840,333,881	$78,011,293,728	$86,215,256,116	$81,108,165,261
Plan fiduciary net position as a percentage of the total pension liability	43.9%	42.8%	45.1%	37.8%	39.6%
Actual covered employee payroll	$12,382,202,189	$11,647,247,711	$11,120,776,122	$10,827,438,800	$10,450,452,444
Plan net pension liability as percentage of covered employee payroll	686.3%	719.8%	701.5%	796.3%	776.1%

[1] *Includes the additional one-time contributions of $172,823,300 and $115,215,500 for fiscal 2022 and fiscal 2023 per Public Act 102-0696 and Public Act 102-0698, respectively.*

Exhibit 4 – Reconciliation of Collective Net Pension Liability

Changes in the collective net pension liability from the beginning of the year to the end of the year arise from the net difference between changes in the total pension liability and plan fiduciary net position that occurred during the year. Changes in net pension liability will be recognized immediately as pension expense or reported as deferred outflows of resources related to pensions or deferred inflows of resources related to pensions, depending on the nature of the change.

Differences between actual and expected investment-related experience are recognized over a closed five-year period. Differences between actual and expected non-investment-related experience and changes of assumptions are recognized over the average of the expected remaining service lives of all members who are provided with pensions through the pension plan (active employees and inactive employees). The amounts below that are not included in pension expense for the current year are included in deferred outflows of resources or deferred inflows of resources related to pensions.

	Increase/(Decrease) For Fiscal Year Ended June 30, 2023		
	Total Pension Liability (a)	**Plan Fiduciary Net Position (b)**	**Net Pension Liability (a) – (b)**
Balances at beginning of year	$146,673,960,220	$62,833,626,339	$83,840,333,881
Changes for the year			
Service cost	2,229,200,487		2,229,200,487
Interest	10,144,364,716		10,144,364,716
Differences between expected and actual experience	405,098,326		405,098,326
Contributions – employer		124,748,100	(124,748,100)
Contributions – nonemployer contributing entity[1]		6,009,158,073	(6,009,158,073)
Contributions – member		1,109,497,833	(1,109,497,833)
Net investment income		4,427,042,975	(4,427,042,975)
Benefit payments, including refunds of employee contributions	(7,967,329,515)	(7,967,329,515)	-
Administrative expense		(32,026,386)	32,026,386
Change of assumptions	-		-
Change of benefit terms	-		-
Net changes	4,811,334,014	3,671,091,080	1,140,242,934
Balances at end of year	151,485,294,234	66,504,717,419	84,980,576,815

[1] *Includes the additional one-time contribution of $115,215,500 for fiscal 2023, per Public Act 102-0698.*

Exhibit 5 – Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

	Year Established	Original Balance	Original Amortization Period	Amortization Amount at June 30, 2023	Outstanding Balance at June 30, 2023
Outflows					
Demographic	2018	$1,191,346,970	5.46	$100,369,890	$0
Demographic	2019	258,778,925	5.43	47,657,261	20,492,620
Investment	2019	973,676,334	5.00	194,735,266	0
Assumption	2019	77,241,572	5.43	14,224,967	6,116,737
Investment	2020	3,409,956,524	5.00	681,991,305	681,991,304
Assumption	2022	448,727,943	5.44	82,486,754	283,754,435
Investment	2022	5,215,663,453	5.00	1,043,132,691	3,129,398,071
Demographic	2023	405,098,326	5.60[1]	72,338,987	332,759,339
Total outflows				**$2,236,937,121**	**$4,454,512,506**
Inflows					
Assumption	2018	$666,054,719	5.46	$56,114,499	$0
Demographic	2020	28,215,833	5.42	5,205,873	7,392,341
Demographic	2021	370,469,646	5.56	66,631,231	170,575,953
Investment	2021	9,424,254,666	5.00	1,884,850,933	3,769,701,867
Assumption	2021	162,359,084	5.56	29,201,274	74,755,262
Demographic	2022	260,304,587	5.44	47,850,108	164,604,371
Investment	2023	55,147,448	5.00	11,029,490	44,117,958
Total inflows				**$2,100,883,408**	**$4,231,147,752**

	Expected Remaining Service	Counts	Average of the Expected Remaining Service
Actives Members	2,492,570	166,714	14.95
Inactive Members	-	148,228	-
Retirees and Beneficiaries	-	129,980[2]	-
Total Employees	2,492,570	444,922	5.60

[1] *Equal to the total expected service lives of 2,492,570 years, divided by total employees that are provided with pensions through the Plan of 444,922 (as shown in the table above), rounded to two decimals*

[2] *Excludes beneficiaries with certain only form of payment*

Exhibit 5 – Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions *continued*

Fiscal Year Ended June 30	2023	2022
Deferred Outflows of Resources		
Difference between expected and actual experience in the Total Pension Liability	$353,251,959	$168,519,771
Changes of assumptions or other inputs	289,871,172	386,582,893
Net difference between projected and actual earnings on pension plan investments	-	76,695,837
Total Deferred Outflows of Resources	643,123,131	631,798,501
Deferred Inflows of Resources		
Difference between expected and actual experience in the Total Pension Liability	$342,572,665	$462,259,877
Changes of assumptions or other inputs	74,755,262	160,071,035
Net difference between projected and actual earnings on pension plan investments	2,430,450	-
Total Deferred Inflows of Resources	$419,758,377	$622,330,912
Net Deferred Outflows/(Inflows) of Resources	**$223,364,754**	**$9,467,589**
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Year Ended June 30:		
2023	N/A	$74,744,216
2024	($138,209,816)	(199,519,313)
2025	(843,791,073)	(905,100,570)
2026	1,085,412,627	1,024,103,130
2027	76,549,625	15,240,126
2028	43,403,391	-
Thereafter	-	-

Exhibit 6 – Collective Pension Expense

	Fiscal Year Ended June 30, 2023	Fiscal Year Ended June 30, 2022
Components of pension expense		
Service cost	$2,229,200,487	$2,097,274,410
Interest on the total pension liability	10,144,364,716	9,834,039,952
Projected earnings on plan investments	(4,371,895,527)	(4,472,621,080)
Contributions – member	(1,109,497,833)	(1,072,639,330)
Administrative expense	32,026,386	26,575,798
Current year recognition of:		
Changes of assumptions	11,395,948	(128,715,722)
Difference between expected and actual experience	100,678,926	159,307,112
Difference between projected and actual earnings on pension plan investments	23,978,926	(93,774,441)
Change of benefit terms	-	-
Total pension expense	$7,060,251,942	$6,349,446,699

Exhibit 7 – Development of Blended Discount Rate

Fiscal Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2024	$66,504,717,419	$7,106,406,834	$8,363,456,975	$45,122,443	$4,609,754,179	$69,812,299,014
2025	69,812,299,014	7,431,658,028	8,661,052,806	48,412,543	4,842,137,675	73,376,629,368
2026	73,376,629,368	7,646,536,637	8,960,692,598	48,373,088	5,088,675,539	77,102,775,858
2027	77,102,775,858	7,804,093,109	9,264,734,656	48,376,458	5,344,378,680	80,938,136,533
2028	80,938,136,533	8,037,050,714	9,522,643,352	48,354,087	5,611,981,422	85,016,171,230
2029	85,016,171,230	8,182,567,074	9,855,566,068	48,396,356	5,890,883,149	89,185,659,029
2030	89,185,659,029	8,314,333,038	10,197,121,621	48,521,492	6,175,400,279	93,429,749,233
2031	93,429,749,233	8,446,136,760	10,547,629,037	48,646,027	6,464,827,606	97,744,438,536
2032	97,744,438,536	8,592,876,081	10,905,572,729	48,730,362	6,759,460,752	102,142,472,278
2033	102,142,472,278	8,750,558,946	11,278,594,063	48,784,366	7,059,784,378	106,625,437,172
2034	106,625,437,172	9,511,162,804	11,655,382,480	48,790,068	7,387,025,261	111,819,452,689
2035	111,819,452,689	9,652,889,407	12,040,307,130	48,759,705	7,742,095,478	117,125,370,739
2036	117,125,370,739	9,793,505,810	12,424,683,624	48,705,859	8,104,980,023	122,550,467,088
2037	122,550,467,088	9,934,733,815	12,803,855,487	48,642,532	8,476,410,949	128,109,113,833
2038	128,109,113,833	10,079,547,323	13,186,033,794	48,552,900	8,857,211,590	133,811,286,051
2039	133,811,286,051	10,224,397,693	13,566,876,468	48,432,157	9,248,108,141	139,668,483,259
2040	139,668,483,259	10,366,788,441	13,945,041,325	48,306,288	9,649,864,257	145,691,788,344
2041	145,691,788,344	10,514,635,329	14,305,266,838	48,167,181	10,064,067,230	151,917,056,883
2042	151,917,056,883	10,670,039,279	14,644,676,561	48,049,962	10,493,399,928	158,387,769,566
2043	158,387,769,566	10,835,512,653	14,948,601,596	47,978,291	10,941,506,516	165,168,208,848
2044	165,168,208,848	11,019,135,278	15,206,314,216	47,946,342	11,413,545,235	172,346,628,803
2045	172,346,628,803	11,218,723,700	15,418,730,552	47,990,123	11,915,584,122	180,014,215,950
2046	180,014,215,950	2,132,881,734	15,569,772,656	48,106,830	12,129,020,195	178,658,238,394
2047	178,658,238,394	2,075,828,191	15,668,994,192	48,283,515	12,028,625,955	177,045,414,834
2048	177,045,414,834	2,036,304,952	15,724,527,754	48,490,260	11,912,394,081	175,221,095,852
2049	175,221,095,852	2,010,244,779	15,757,846,898	48,671,701	11,782,607,126	173,207,429,158
2050	173,207,429,158	1,993,349,054	15,778,225,241	48,803,145	11,640,341,264	171,014,091,090
2051	171,014,091,090	1,982,708,498	15,813,308,705	48,845,563	11,485,205,774	168,619,851,093
2052	168,619,851,093	1,987,838,874	15,873,025,724	48,780,507	11,315,700,719	166,001,584,455
2053	166,001,584,455	1,998,007,973	15,945,391,493	48,617,319	11,130,250,882	163,135,834,498
2054	163,135,834,498	2,003,747,676	16,037,559,498	48,345,349	10,926,632,914	159,980,310,241
2055	159,980,310,241	2,005,777,470	16,127,048,205	47,957,640	10,702,698,724	156,513,780,591
2056	156,513,780,591	2,005,977,991	16,213,356,863	47,510,605	10,457,043,510	152,715,934,624
2057	152,715,934,624	2,004,862,410	16,293,358,252	47,005,966	10,188,372,860	148,568,805,677
2058	148,568,805,677	2,001,886,806	16,348,447,284	46,445,651	9,896,061,183	144,071,860,730

Exhibit 7 – Development of Blended Discount Rate *continued*

Fiscal Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2059	$144,071,860,730	$1,998,181,386	$16,416,826,017	$45,831,787	$9,578,773,577	$139,186,157,889
2060	139,186,157,889	1,995,941,178	16,429,206,981	45,166,682	9,236,285,915	133,944,011,320
2061	133,944,011,320	1,995,817,433	16,379,270,667	44,485,367	8,871,102,941	128,387,175,660
2062	128,387,175,660	1,998,681,182	16,264,598,620	43,804,409	8,486,262,032	122,563,715,844
2063	122,563,715,844	2,005,024,403	16,075,560,326	43,124,108	8,085,482,008	116,535,537,821
2064	116,535,537,821	2,016,233,649	15,881,146,705	42,444,759	7,670,730,124	110,298,910,130
2065	110,298,910,130	2,033,331,245	15,608,124,891	41,766,653	7,244,344,099	103,926,693,930
2066	103,926,693,930	2,054,749,010	15,257,628,071	41,090,075	6,811,329,655	97,494,054,450
2067	97,494,054,450	2,080,475,128	14,847,410,375	40,415,303	6,376,326,542	91,063,030,442
2068	91,063,030,442	2,110,031,014	14,372,727,930	39,742,611	5,943,826,748	84,704,417,664
2069	84,704,417,664	2,143,777,757	13,857,227,139	39,072,267	5,517,970,979	78,469,866,995
2070	78,469,866,995	2,181,577,947	13,297,193,853	38,404,531	5,102,499,974	72,418,346,531
2071	72,418,346,531	2,221,189,219	12,688,270,644	37,739,660	4,701,615,519	66,615,140,965
2072	66,615,140,965	2,262,290,992	12,047,349,663	37,077,902	4,319,285,088	61,112,289,481
2073	61,112,289,481	2,304,639,653	11,373,994,268	36,419,499	3,959,158,170	55,965,673,537
2074	55,965,673,537	2,347,811,894	10,678,282,888	35,764,688	3,624,778,899	51,224,216,755
2075	51,224,216,755	2,391,793,589	9,967,559,264	35,113,697	3,319,314,395	46,932,651,778
2076	46,932,651,778	2,436,595,013	9,248,472,399	34,466,750	3,045,663,580	43,131,971,221
2077	43,131,971,221	2,482,230,185	8,528,340,887	33,824,062	2,806,440,269	39,858,476,727
2078	39,858,476,727	2,528,714,486	7,814,562,103	33,185,842	2,603,927,200	37,143,370,468
2079	37,143,370,468	2,576,063,648	7,114,494,823	32,552,292	2,440,051,511	35,012,438,512
2080	35,012,438,512	2,624,293,693	6,435,152,942	31,923,606	2,316,373,296	33,486,028,952
2081	33,486,028,952	2,673,420,938	5,782,943,731	31,299,974	2,234,093,230	32,579,299,414
2082	32,579,299,414	2,723,462,003	5,163,382,325	30,681,576	2,194,079,893	32,302,777,409
2083	32,302,777,409	2,774,433,814	4,580,951,187	30,068,586	2,196,913,910	32,663,105,360
2084	32,663,105,360	2,826,353,610	4,038,919,870	29,461,170	2,242,946,415	33,664,024,344
2085	33,664,024,344	2,879,238,949	3,539,323,668	28,859,489	2,332,368,657	35,307,448,793
2086	35,307,448,793	2,933,107,711	3,082,879,533	28,263,695	2,465,290,172	37,594,703,448
2087	37,594,703,448	2,987,978,110	2,669,056,212	27,673,933	2,641,822,920	40,527,774,333
2088	40,527,774,333	3,043,868,692	2,296,536,295	27,090,341	2,862,152,675	44,110,169,064
2089	44,110,169,064	3,100,798,349	1,963,369,194	26,513,052	3,126,593,898	48,347,679,065
2090	48,347,679,065	3,158,786,321	1,667,113,121	25,942,190	3,435,638,120	53,249,048,195
2091	53,249,048,195	3,217,852,202	1,405,164,861	25,377,871	3,789,989,205	58,826,346,869
2092	58,826,346,869	3,278,015,948	1,174,837,872	24,820,206	4,190,586,806	65,095,291,545
2093	65,095,291,545	3,339,297,885	$973,592,471	24,269,300	4,638,620,672	72,075,348,331

Exhibit 7 – Development of Blended Discount Rate *continued*

Fiscal Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2094	$72,075,348,331	$3,401,718,714	$799,061,583	$23,725,248	$5,135,536,999	$79,789,817,213
2095	79,789,817,213	3,465,299,516	648,886,574	23,188,140	5,683,050,073	88,266,092,089
2096	88,266,092,089	3,530,061,765	520,872,071	22,658,061	6,283,155,053	97,535,778,776
2097	97,535,778,776	3,596,027,328	412,879,637	22,135,085	6,938,139,955	107,634,931,336
2098	107,634,931,336	3,663,218,476	322,860,183	21,619,284	7,650,601,059	118,604,271,404
2099	118,604,271,404	3,731,657,894	248,901,191	21,110,722	8,423,456,608	130,489,373,994
2100	130,489,373,994	3,801,368,684	189,025,916	20,609,455	9,259,966,845	143,341,074,151
2101	143,341,074,151	3,872,374,373	141,340,204	20,115,535	10,163,757,343	157,215,750,128
2102	157,215,750,128	3,944,698,925	103,987,393	19,629,006	11,138,840,397	172,175,673,051
2103	172,175,673,051	4,018,366,744	75,302,512	19,149,908	12,189,634,115	188,289,221,490
2104	188,289,221,490	4,093,402,686	53,693,103	18,678,273	13,320,981,600	205,631,234,399
2105	205,631,234,399	4,169,832,065	37,753,633	18,214,129	14,538,171,659	224,283,270,361
2106	224,283,270,361	4,247,680,663	26,229,553	17,757,496	15,846,958,202	244,333,922,176
2107	244,333,922,176	4,326,974,737	18,047,527	17,308,392	17,253,581,211	265,879,122,205
2108	265,879,122,205	4,407,741,029	12,393,914	16,866,826	18,764,785,364	289,022,387,858
2109	289,022,387,858	4,490,006,775	8,557,027	16,432,803	20,387,842,743	313,875,247,547
2110	313,875,247,547	4,573,799,713	5,993,122	16,006,323	22,130,580,338	340,557,628,152
2111	340,557,628,152	4,659,148,092	4,292,778	15,587,382	24,001,408,348	369,198,304,431
2112	369,198,304,431	4,746,080,684	3,114,685	15,175,969	26,009,353,961	399,935,448,423
2113	399,935,448,423	4,834,626,792	2,349,358	14,772,069	28,164,094,077	432,917,047,865
2114	432,917,047,865	4,924,816,258	1,826,595	14,375,663	30,475,994,841	468,301,656,707
2115	468,301,656,707	5,016,679,476	1,444,084	13,986,726	32,956,159,673	506,259,065,046
2116	506,259,065,046	5,110,247,401	1,146,011	13,605,231	35,616,476,919	546,971,038,123
2117	546,971,038,123	5,205,551,557	748,729	13,231,145	38,469,677,678	590,632,287,484
2118	590,632,287,484	5,302,624,053	507,954	12,864,431	41,529,383,932	637,450,923,083
2119	637,450,923,083	5,401,497,588	342,153	12,505,049	44,810,167,379	687,649,740,848
2120	687,649,740,848	5,502,205,464	248,234	12,152,954	48,327,625,009	741,467,170,133
2121	741,467,170,133	5,604,781,600	233,334	11,808,099	52,098,447,815	799,158,358,115
2122	799,158,358,115	5,709,260,538	2,057	11,470,431	56,140,507,650	860,996,653,816
2123	860,996,653,816	5,815,677,459	899	11,139,897	60,472,924,550	927,274,115,030
2124	927,274,115,030	5,924,068,192	472	10,816,437	65,116,151,847	998,303,518,160
2125	998,303,518,160	6,034,469,227	198	10,499,992	70,092,085,188	1,074,419,572,386
2126	1,074,419,572,386	6,146,917,728	50	10,190,496	75,424,155,518	1,155,980,455,086
2127	1,155,980,455,086	6,261,451,544	26	9,887,884	81,137,436,583	1,243,369,455,303

Exhibit 7 – Development of Blended Discount Rate *continued*

Fiscal Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit	"Unfunded" Portion of Benefit	Present Value of "Funded" Benefit Payments at 7.00%	Present Value of "Unfunded" Benefit Payments at 3.65%[1]	Present Value of Benefit Payments at 7.00%
2024	$66,504,717,419	$8,363,456,975	$8,363,456,975	$0	$8,085,259,032	$0	$8,085,259,032
2025	69,812,299,014	8,661,052,806	8,661,052,806	0	7,825,192,319	0	7,825,192,319
2026	73,376,629,368	8,960,692,598	8,960,692,598	0	7,566,275,222	0	7,566,275,222
2027	77,102,775,858	9,264,734,656	9,264,734,656	0	7,311,218,507	0	7,311,218,507
2028	80,938,136,533	9,522,643,352	9,522,643,352	0	7,023,126,963	0	7,023,126,963
2029	85,016,171,230	9,855,566,068	9,855,566,068	0	6,793,143,618	0	6,793,143,618
2030	89,185,659,029	10,197,121,621	10,197,121,621	0	6,568,754,701	0	6,568,754,701
2031	93,429,749,233	10,547,629,037	10,547,629,037	0	6,350,040,782	0	6,350,040,782
2032	97,744,438,536	10,905,572,729	10,905,572,729	0	6,136,014,371	0	6,136,014,371
2033	102,142,472,278	11,278,594,063	11,278,594,063	0	5,930,742,631	0	5,930,742,631
2034	106,625,437,172	11,655,382,480	11,655,382,480	0	5,727,918,950	0	5,727,918,950
2035	111,819,452,689	12,040,307,130	12,040,307,130	0	5,529,987,147	0	5,529,987,147
2036	117,125,370,739	12,424,683,624	12,424,683,624	0	5,333,203,038	0	5,333,203,038
2037	122,550,467,088	12,803,855,487	12,803,855,487	0	5,136,410,972	0	5,136,410,972
2038	128,109,113,833	13,186,033,794	13,186,033,794	0	4,943,669,260	0	4,943,669,260
2039	133,811,286,051	13,566,876,468	13,566,876,468	0	4,753,695,031	0	4,753,695,031
2040	139,668,483,259	13,945,041,325	13,945,041,325	0	4,566,542,183	0	4,566,542,183
2041	145,691,788,344	14,305,266,838	14,305,266,838	0	4,378,041,295	0	4,378,041,295
2042	151,917,056,883	14,644,676,561	14,644,676,561	0	4,188,706,177	0	4,188,706,177
2043	158,387,769,566	14,948,601,596	14,948,601,596	0	3,995,921,082	0	3,995,921,082
2044	165,168,208,848	15,206,314,216	15,206,314,216	0	3,798,888,245	0	3,798,888,245
2045	172,346,628,803	15,418,730,552	15,418,730,552	0	3,599,957,709	0	3,599,957,709
2046	180,014,215,950	15,569,772,656	15,569,772,656	0	3,397,404,622	0	3,397,404,622
2047	178,658,238,394	15,668,994,192	15,668,994,192	0	3,195,378,759	0	3,195,378,759
2048	177,045,414,834	15,724,527,754	15,724,527,754	0	2,996,919,366	0	2,996,919,366
2049	175,221,095,852	15,757,846,898	15,757,846,898	0	2,806,794,040	0	2,806,794,040
2050	173,207,429,158	15,778,225,241	15,778,225,241	0	2,626,564,335	0	2,626,564,335
2051	171,014,091,090	15,813,308,705	15,813,308,705	0	2,460,191,212	0	2,460,191,212
2052	168,619,851,093	15,873,025,724	15,873,025,724	0	2,307,926,937	0	2,307,926,937
2053	166,001,584,455	15,945,391,493	15,945,391,493	0	2,166,774,644	0	2,166,774,644
2054	163,135,834,498	16,037,559,498	16,037,559,498	0	2,036,728,128	0	2,036,728,128
2055	159,980,310,241	16,127,048,205	16,127,048,205	0	1,914,105,570	0	1,914,105,570
2056	156,513,780,591	16,213,356,863	16,213,356,863	0	1,798,457,449	0	1,798,457,449
2057	152,715,934,624	16,293,358,252	16,293,358,252	0	1,689,094,914	0	1,689,094,914
2058	148,568,805,677	16,348,447,284	16,348,447,284	0	1,583,930,717	0	1,583,930,717

[1] *Bond Buyer's 20-Bond GO index.*

Exhibit 7 – Development of Blended Discount Rate *continued*

Fiscal Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit	"Unfunded" Portion of Benefit	Present Value of "Funded" Benefit Payments at 7.00%	Present Value of "Unfunded" Benefit Payments at 3.65%[1]	Present Value of Benefit Payments at 7.00%
2059	$144,071,860,730	$16,416,826,017	$16,416,826,017	$0	$1,486,500,596	$0	$1,486,500,596
2060	139,186,157,889	16,429,206,981	16,429,206,981	0	1,390,300,617	0	1,390,300,617
2061	133,944,011,320	16,379,270,667	16,379,270,667	0	1,295,397,028	0	1,295,397,028
2062	128,387,175,660	16,264,598,620	16,264,598,620	0	1,202,175,601	0	1,202,175,601
2063	122,563,715,844	16,075,560,326	16,075,560,326	0	1,110,470,181	0	1,110,470,181
2064	116,535,537,821	15,881,146,705	15,881,146,705	0	1,025,271,444	0	1,025,271,444
2065	110,298,910,130	15,608,124,891	15,608,124,891	0	941,724,692	0	941,724,692
2066	103,926,693,930	15,257,628,071	15,257,628,071	0	860,352,594	0	860,352,594
2067	97,494,054,450	14,847,410,375	14,847,410,375	0	782,449,618	0	782,449,618
2068	91,063,030,442	14,372,727,930	14,372,727,930	0	707,882,372	0	707,882,372
2069	84,704,417,664	13,857,227,139	13,857,227,139	0	637,843,965	0	637,843,965
2070	78,469,866,995	13,297,193,853	13,297,193,853	0	572,024,115	0	572,024,115
2071	72,418,346,531	12,688,270,644	12,688,270,644	0	510,120,755	0	510,120,755
2072	66,615,140,965	12,047,349,663	12,047,349,663	0	452,666,440	0	452,666,440
2073	61,112,289,481	11,373,994,268	11,373,994,268	0	399,407,310	0	399,407,310
2074	55,965,673,537	10,678,282,888	10,678,282,888	0	350,445,630	0	350,445,630
2075	51,224,216,755	9,967,559,264	9,967,559,264	0	305,720,299	0	305,720,299
2076	46,932,651,778	9,248,472,399	9,248,472,399	0	265,107,294	0	265,107,294
2077	43,131,971,221	8,528,340,887	8,528,340,887	0	228,471,717	0	228,471,717
2078	39,858,476,727	7,814,562,103	7,814,562,103	0	195,654,014	0	195,654,014
2079	37,143,370,468	7,114,494,823	7,114,494,823	0	166,473,230	0	166,473,230
2080	35,012,438,512	6,435,152,942	6,435,152,942	0	140,726,353	0	140,726,353
2081	33,486,028,952	5,782,943,731	5,782,943,731	0	118,190,277	0	118,190,277
2082	32,579,299,414	5,163,382,325	5,163,382,325	0	98,624,154	0	98,624,154
2083	32,302,777,409	4,580,951,187	4,580,951,187	0	81,775,064	0	81,775,064
2084	32,663,105,360	4,038,919,870	4,038,919,870	0	67,382,433	0	67,382,433
2085	33,664,024,344	3,539,323,668	3,539,323,668	0	55,184,607	0	55,184,607
2086	35,307,448,793	3,082,879,533	3,082,879,533	0	44,923,176	0	44,923,176
2087	37,594,703,448	2,669,056,212	2,669,056,212	0	36,348,612	0	36,348,612
2088	40,527,774,333	2,296,536,295	2,296,536,295	0	29,229,383	0	29,229,383
2089	44,110,169,064	1,963,369,194	1,963,369,194	0	23,354,175	0	23,354,175
2090	48,347,679,065	1,667,113,121	1,667,113,121	0	18,532,920	0	18,532,920
2091	53,249,048,195	1,405,164,861	1,405,164,861	0	14,598,972	0	14,598,972
2092	58,826,346,869	1,174,837,872	1,174,837,872	0	11,407,466	0	11,407,466
2093	65,095,291,545	973,592,471	973,592,471	0	8,834,961	0	8,834,961

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Exhibit 7 – Development of Blended Discount Rate *continued*

Fiscal Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit	"Unfunded" Portion of Benefit	Present Value of "Funded" Benefit Payments at 7.00%	Present Value of "Unfunded" Benefit Payments at 3.65%[1]	Present Value of Benefit Payments at 7.00%
2094	$72,075,348,331	$799,061,583	$799,061,583	$0	$6,776,788	$0	$6,776,788
2095	79,789,817,213	648,886,574	648,886,574	0	5,143,144	0	5,143,144
2096	88,266,092,089	520,872,071	520,872,071	0	3,858,399	0	3,858,399
2097	97,535,778,776	412,879,637	412,879,637	0	2,858,353	0	2,858,353
2098	107,634,931,336	322,860,183	322,860,183	0	2,088,926	0	2,088,926
2099	118,604,271,404	248,901,191	248,901,191	0	1,505,053	0	1,505,053
2100	130,489,373,994	189,025,916	189,025,916	0	1,068,224	0	1,068,224
2101	143,341,074,151	141,340,204	141,340,204	0	746,488	0	746,488
2102	157,215,750,128	103,987,393	103,987,393	0	513,280	0	513,280
2103	172,175,673,051	75,302,512	75,302,512	0	347,375	0	347,375
2104	188,289,221,490	53,693,103	53,693,103	0	231,486	0	231,486
2105	205,631,234,399	37,753,633	37,753,633	0	152,118	0	152,118
2106	224,283,270,361	26,229,553	26,229,553	0	98,771	0	98,771
2107	244,333,922,176	18,047,527	18,047,527	0	63,514	0	63,514
2108	265,879,122,205	12,393,914	12,393,914	0	40,764	0	40,764
2109	289,022,387,858	8,557,027	8,557,027	0	26,303	0	26,303
2110	313,875,247,547	5,993,122	5,993,122	0	17,217	0	17,217
2111	340,557,628,152	4,292,778	4,292,778	0	11,525	0	11,525
2112	369,198,304,431	3,114,685	3,114,685	0	7,815	0	7,815
2113	399,935,448,423	2,349,358	2,349,358	0	5,509	0	5,509
2114	432,917,047,865	1,826,595	1,826,595	0	4,003	0	4,003
2115	468,301,656,707	1,444,084	1,444,084	0	2,958	0	2,958
2116	506,259,065,046	1,146,011	1,146,011	0	2,194	0	2,194
2117	546,971,038,123	748,729	748,729	0	1,339	0	1,339
2118	590,632,287,484	507,954	507,954	0	849	0	849
2119	637,450,923,083	342,153	342,153	0	535	0	535
2120	687,649,740,848	248,234	248,234	0	363	0	363
2121	741,467,170,133	233,334	233,334	0	318	0	318
2122	799,158,358,115	2,057	2,057	0	3	0	3
2123	860,996,653,816	899	899	0	1	0	1
2124	927,274,115,030	472	472	0	1	0	1
2125	998,303,518,160	198	198	0	0	0	0
2126	1,074,419,572,386	50	50	0	0	0	0
Total					**$172,184,125,609**	**$0**	**$172,184,125,609**

[1] *Bond Buyer's 20-Bond GO index.*

Exhibit 8 – Assumed Rate of Investment Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2023, are summarized in the following table:

Asset Classes	Expected Arithmetic Returns Over 10-20 Year Horizon[1]	Target Asset Allocation[1]
Global Equity	5.35%	37.0%
Private Equity	8.03	15.0
Income	4.32	26.0
Real Assets	4.60	18.0
Diversifying Strategies	3.40	4.0
Total		100.0%

[1] *2023 capital market assumptions and TRS' current target asset allocation provided by RVK..*

Appendix

Definitions of Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Retirees and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the Actuarially Determined Contribution.
Actuarial Gain or 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. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., TRS's assets earn more than projected, salary increases are less than assumed, participants retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent:	Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.
Board-Adopted Actuarial Funding Policy:	The term given to the Board's funding policy. The contribution determined under the Board-Adopted Actuarial Funding Policy is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. The amortization of the unfunded accrued liability is a closed 20-year period effective June 30, 2015, and will decline by one year in each subsequent valuation. Sources of unfunded actuarial accrued liability that emerge in subsequent valuations are amortized over 20-year closed periods. Contributions toward the unfunded actuarial accrued liability increase by 2% each year, the estimate of increase in future State revenue growth. The actuarial cost method is the entry age method. The minimum contribution is the normal cost.

Definitions of Terms *continued*

Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: • Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) • Multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and • Discounted according to an assumed rate (or rates) of return to reflect the time value of money.
Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of future plan benefits expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active participant, retired participants, beneficiaries receiving benefits, and inactive participants entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets:	The value of the System's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Board's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.

Definitions of Terms *continued*

Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active participants will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	The estimates on which the cost of the System is calculated including: (a) Investment return — the rate of investment yield that the System will earn over the long-term future; (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates; (c) Retirement rates — the rate or probability of retirement at a given age; (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; (e) Salary increase rates — the rates of salary increase due to inflation and productivity growth.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Definitions of Terms *continued*

Experience Study:	A periodic review and analysis of the actual experience of the System that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the fair value of assets (FVA), rather than the AVA, as another measure of the Plan's health.
GASB 25 and GASB 27:	Governmental Accounting Standards Board Statements No. 25 and No. 27. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.
GASB 67 and GASB 68:	Governmental Accounting Standards Board Statements No. 67 and No. 68 are the successor statements to GASB Statements No. 25 and No. 27.
Investment Return:	The rate of earnings of the System from its investments, including interest, dividends, and capital gain and loss adjustments, computed as a percentage of the average value of the System. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	The portion of the Actuarial Present Value of plan benefits and expenses, if applicable, allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year.
Plan Fiduciary Net Position:	Fair value of assets.

Definitions of Terms *continued*

Total Pension Liability (TPL):	The actuarially accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability (UAAL):	The excess of the actuarial accrued liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

History of Legislative Changes

The actuarial cost method utilized is the projected unit credit cost method, which became effective with the June 30, 1989 valuation. Administrative expenses have been a component of the normal cost rate since the June 30, 1994 valuation. The financing objective under Article 16 of the Illinois Pension Code is to meet the cost of maintaining and administering the system on a 90% funded basis by June 30, 2045. Following is a brief summary of the changes in funding requirements.

- Public Act 88-0593, enacted in 1994, established a fifty-year funding plan for fiscal years 1996 through 2045. It required a fifteen-year ramp period of gradually increasing State contributions followed by a 35-year period of State contributions at a level percent of pay.
- Public Act 90-0448, enacted in 1997, required the System's assets to be valued at fair value instead of book value.
- Public Act 90-0582, enacted in 1998, changed the defined benefit formula and added minimum state contribution rates in fiscal year 1999 that remained in effect through fiscal year 2004.
- Public Act 93-0002, enacted in 2003, provided pension obligation bond proceeds and placed upper limits on State contributions beginning with the State contribution due for fiscal year 2005.
- Public Act 94-0004, enacted in 2005, removed the money purchase formula for new hires, added new employer contributions for excess salary increases and sick leave, specified the level of state contributions for fiscal years 2006 and 2007, and required a return to the statutory funding plan in fiscal year 2008.
- Public Act 94-1057, enacted in 2006, contained exemptions from some of the new employer contribution requirements enacted in 2005.
- Public Act 96-0043, enacted in 2009, required the use of a smoothed actuarial value of assets beginning with the June 30, 2009 valuation.
- Public Act 96-0889, enacted in 2010, established Tier 2 provisions.
- Public Act 96-1511, enacted in 2011, required the state retirement systems to recertify their fiscal year 2011 state funding requirements and assume the Tier 2 benefits of Public Act 96-0889 were in effect on June 30, 2009.
- Public Act 97-0694, enacted in 2012, required the auditor general to hire an actuary to serve as the State Actuary.
- Public Act 98-0042, enacted in 2013, provided that the Early Retirement Option (ERO) terminate on June 30, 2016. Due to the expiration of the program, active members become eligible for refunds of their early retirement contributions during fiscal year 2017.

History of Legislative Changes *continued*

- Public Act 98-0674, enacted in 2014 as part of the budget implementation bill, requires the state and federal contribution rates to TRS to be the same.
- Public Act 99-0232, enacted in 2015, requires the actuaries of the state-funded retirement systems to conduct experience analyses every three years instead of every five years.
- Public Act 100-0023, enacted in 2017 as part of the budget implementation bill, creates a Tier 2I hybrid benefit plan.
- Public Act 100-0340, enacted in 2017, requires employer contributions from Federal funds to be based on the total employer normal cost rate instead of the State contribution rate, beginning July 1, 2017.
- Public Act 100-0587, enacted in 2018, creates two new buyout provisions for TRS members, an inactive vested buyout and an automatic annual increase buyout, which will exist until June 30, 2021.
- Public Act 101-0010, enacted in 2019, extends the Automatic Annual Increase and Inactive Vested buyouts through fiscal year ending June 30, 2024, in addition to repealing the 3% “FAS Cap” threshold (reverting back to 6% threshold).
- Public Act 102-0718, enacted in 2022, extends the Automatic Annual Increase and Inactive Vested buyouts through fiscal year ending June 30, 2026.

A more complete history of legislative changes can be found at the following link:
https://www.trsil.org/Evolution_of_TRS_Benefit_Structure

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