Teachers' Retirement System of the State of Illinois

Preliminary Actuarial Valuation and Review as of June 30, 2024

Segal

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October 18, 2024

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

Dear Board of Trustees Members:

We are pleased to submit the preliminary 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, 2024. This report has been prepared 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, 2020, through June 30, 2023, presented at the August 16, 2024, Board meeting, and the economic experience review presented at the June 18, 2024, 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 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 used for purposes of this report 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, 2024, the actuarial experience of TRS generated a net actuarial gain of $151 million. This gain is the result of a $397 million gain due to investment return experience (on an actuarial value basis; TRS experienced an investment gain of $1.13 billion on a fair value basis) and a loss of $246 million (0.2% of the actuarial accrued liability) due to demographic experience for fiscal 2024.

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 and Tanya Dybal. 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.

Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal

Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

Tanya Dybal, FSA, MAAA, EA
Vice President and Actuary

David K. Nickerson, ASA, MAAA, EA
Actuary

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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 public 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, 2024, there were 995 employers, comprised of 851 local school districts, 135 special districts, and 9 state agencies. The membership totaled over 454,000 members as of June 30, 2023 (member data used in the valuation is as of the prior valuation date). Of the 454,000 members, over 131,000 are retirees and survivors to whom TRS paid nearly $8.0 billion and $8.2 billion during the fiscal year ended June 30, 2023, and June 30, 2024, respectively. As of June 30, 2024, the assets of TRS amounted to $71.4 billion on a fair value basis.

Purpose and basis

This report has been prepared by Segal to present a valuation of the Plan as of June 30, 2024. The valuation was performed to determine whether the assets are sufficient to provide the prescribed benefits and to provide information for required disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67.

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

- The benefit provisions of the Plan, as defined by the Illinois Pension Code (40 ILCS 5/16);
- The characteristics of covered active members, inactive members, and annuitants and survivor annuitants as of June 30, 2023, (member data used in the valuation is as of the prior valuation date), provided by TRS staff;
- The assets of the Plan as of June 30, 2024, provided by the TRS staff;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- The funding policy as required by the Illinois Pension Code and the alternative funding policy adopted by the Board.

Certain disclosure information required by GASB Statement No. 68 as of June 30, 2024 for the Plan is provided in a separate report.

Valuation highlights

1. Segal strongly recommends an actuarial funding methodology 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% funding of the actuarial accrued liability by 2045 and does not meet this standard.
2. The total contributions made during the year ending June 30, 2024, were insufficient to reduce the unfunded actuarial accrued liability. The unfunded actuarial accrued liability is $83.64 billion, and the increase is mainly due to the impact of assumption changes.
3. Actual State contributions made during the year ended June 30, 2024, of $6.16 billion were 64% of the actuarially determined contribution (ADC) based on the Board-Adopted Actuarial Funding Policy. In the prior year, actual State contributions were 66% of the prior year ADC.
4. In addition to the statutory State contribution made during fiscal 2024, the remaining portion of the additional $230,431,000 contribution ($115,215,500 paid during fiscal 2024) was appropriated from the Pension Stabilization Fund (PSF) to the Office of the State Comptroller for funding TRS' unfunded liabilities, per Public Act 103-0006.
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 $1.39 billion, reflecting approximately $1.02 billion that has already been claimed as of June 30, 2024.
6. For the year ended June 30, 2024, Segal has estimated that the asset return on a fair value basis was 8.71%. After gradual recognition of previous applicable investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 7.60%. This represents an experience gain when compared to the assumed rate of 7.00%. As of June 30, 2024, the actuarial value of assets ($70.7 billion) represented 99.0% of the fair value ($71.4 billion).
7. The net actuarial gain of $151 million, or 0.1% of actuarial accrued liability, is due to an investment gain of $397 million, or 0.3% of actuarial accrued liability, and a loss from sources other than investments of $246 million, or 0.2% of the actuarial accrued liability prior to reflecting the impact of assumption changes.
8. The total net investment gain not yet recognized as of June 30, 2024, is $737 million. This net deferred gain is comprised of investment gains and losses that occurred over the past five years, which will 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

Valuation highlights continued

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.

9. As mentioned above, the current method used to determine the actuarial value of assets yields an amount that is 99.0% of the fair value of assets as of June 30, 2024. 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.

10. The following actuarial assumptions were approved by the Board on August 16, 2024, and are reflected with this valuation:
    - The rates of individual salary increase were adjusted based on plan experience.
    - The percent of retirees assumed to receive severance pay and the average severance payment amount were increased.
    - The healthy, disabled, and beneficiary post-retirement and pre-retirement mortality assumptions were updated to reflect adjusted rate multipliers at various ages for males and females to better reflect plan experience.
    - The mortality improvement scale was updated from Scale MP-2020 to the 2024 Adjusted Scale MP-2021.
    - The retirement rates for active Tier 1 members were adjusted based on plan experience.
    - The retirement rates for inactive Tier 1 and Tier 2 members were adjusted to add age-based rates for early retirement ages.
    - The termination rates were adjusted based on plan experience.
    - The disability rates were decreased based on plan experience.
    - The sick leave service credit and optional service purchase rates were adjusted based on plan experience.
    - The future service accrual rates were increased based on plan experience. For substitutes and part-time members, future service accrual rates are based on the member's actual service accrual in the prior year.
    - The Automatic Annual Increase (AAI) buyout participation rate was increased for eligible retiring Tier 1 members based on plan experience.
    - The Inactive Vested buyout assumption was updated to include current inactive vested members to reflect that buyout election packages were re-issued to all eligible members.

    As a result of these assumption changes, the employer normal cost increased by $13 million and the actuarial accrued liability increased by $1.37 billion. The total impact would have been an increase in the fiscal year 2026 State contribution of $69 million.

Valuation highlights continued

11. The Illinois Pension Code requires a 5-year phase-in for the change in State contributions due to the changes in actuarial assumptions. Reflecting the phase-in decreased the net impact on the fiscal year 2026 State contribution from $69 million to $14 million. Note that the Board-Adopted Actuarial Funding Policy contribution amounts shown in this valuation report do not include the effect of the phase-in.
12. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 45.8%, compared to the prior year funded ratio of 44.8%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the fair value of assets, the funded ratio is 46.3%, compared to 44.8% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of the plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
13. The required State contribution for 2026 is $6.50 billion, an increase from $6.20 billion for 2025. The total projected employer contribution for 2026, including State, Federal, and School Districts, is $6.61 billion. Of this amount, $1.37 billion, or about 21%, is for the employer portion of the normal cost and $5.24 billion, or about 79%, is applied to the unfunded actuarial accrued liability.
14. The ADC for the upcoming year is $10.73 billion, an increase of $628 million from last year. The contribution as a percentage of projected payroll increased from 78.96% of projected payroll to 81.03% of projected payroll, based on separate 20-year amortizations of the various sources of unfunded actuarial accrued liability.

Risk

15. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2024. 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. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

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 have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition but have included a brief discussion of some risks that may affect the Plan 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 Plan because:

- Relatively small changes in investment performance can produce large swings in the unfunded liabilities.
- Annuitants 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, which may indicate additional funding challenges in the future.

GASB

16. This report constitutes an actuarial valuation for the purpose of determining the ADC under 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's and employer's financial statements as of June 30, 2024.
17. 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 as of June 30, 2024, is $85.87 billion, an increase of $885 million from last year. This is largely due to the impact of changes in actuarial assumptions adopted and effective in connection with this June 30, 2024, actuarial valuation.

Summary of key valuation results

Valuation Result	Current Year	Current Year	Prior Year
Implementation of assumption changes	Before	After	
Present value of future benefits as of	**June 30, 2024**	**June 30, 2024**	**June 30, 2023**
• Retired members and beneficiaries receiving benefits	$94,523,276,210	$95,322,113,747	$92,515,846,612
• Inactive members with deferred benefits	4,807,336,821	4,778,911,268	4,421,533,883
• Active members	77,907,918,912	78,197,110,817	75,595,180,041
• **Total**	**177,238,531,943**	**178,298,135,832**	**172,532,560,536**
Actuarial accrued liability (AAL) as of	**June 30, 2024**	**June 30, 2024**	**June 30, 2023**
• Retired members and beneficiaries receiving benefits	$94,523,351,519	$95,322,113,747	$92,515,846,612
• Inactive members with deferred benefits	4,807,336,821	4,778,911,268	4,421,533,883
• Active members	53,626,908,896	54,224,134,149	51,460,915,585
• **Total**	**152,957,521,926**	**154,325,159,164**	**148,398,296,080**
Assets			
• Fair value of assets (FVA)	71,424,801,957	71,424,801,957	66,504,717,419
• Actuarial value of assets (AVA)	70,687,607,498	70,687,607,498	66,502,286,972
• AVA as a percentage of FVA	98.97%	98.97%	100.00%
Funded status			
• Unfunded AAL on FVA basis	$81,532,719,969	$82,900,357,207	$81,893,578,661
• Funded percentage on FVA basis	46.70%	46.28%	44.82%
• Unfunded AAL on AVA basis	$82,269,914,428	$83,637,551,666	$81,896,009,108
• Funded percentage on AVA basis	46.21%	45.80%	44.81%
Summary of State Contributions for Fiscal Year		**2026**	**2025**
• Based on Statutory Funding Plan		$6,495,717,664	$6,203,922,413
• Based on Board-Adopted Actuarial Funding Policy		10,734,362,004	10,105,874,758
• Difference between Board-Adopted Actuarial Funding Policy and Statutory Funding		4,238,644,340	3,901,952,345
Normal cost rate based on Statutory Funding Plan			
• Total normal cost (including administrative expenses)		19.34%	19.34%
• Less member contribution rate		9.00%	9.00%
• Employer normal cost rate		10.34%	10.34%

Summary of key valuation results continued

Valuation Results	Current Year	Prior Year
Summary of State Contributions for Fiscal Year (continued)	**2026**	**2025**
Normal cost based on Statutory Funding Plan		
• Total normal cost	$2,500,615,885	$2,423,836,253
• Plus administrative expenses	60,984,221	51,392,140
• Less expected member contributions	1,192,314,028	1,151,862,792
• Total employer normal cost	1,369,286,078	1,323,365,601
GASB information as of	**June 30, 2024**	**June 30, 2023**
• Long-term expected rate of return	7.00%	7.00%
• 20-year bond rate[1]	3.93%	3.65%
• Single equivalent discount rate	7.00%	7.00%
• Total Pension Liability	$157,290,420,223	$151,485,294,234
• Plan Fiduciary Net Position	71,424,801,957	66,504,717,419
• Net Pension Liability	85,865,618,266	84,980,576,815
• Plan Fiduciary Net Position as a percentage of Total Pension Liability	45.41%	43.90%
Demographic data used for valuation as of[2]	**June 30, 2023**	**June 30, 2022**
• Number of annuitants	131,568	130,051
• Number of inactive vested members eligible for deferred annuities	19,265	18,808
• Number of inactive members due a refund of member contributions	133,931	129,420
• Number of active members		
– Full-time and regular part-time	142,390	141,155
– Substitute, part-time, and hourly paid	27,362	25,559
– Total active members	169,752	166,714
• **Total membership**	**454,516**	**444,993**
• Annual annuities	$8,062,030,256	$7,764,985,482
• Annual salaries		
– Full-time and regular part-time	11,735,723,477	11,312,520,457
– Substitute, part-time, and hourly paid	205,249,468	186,176,340
– Total annual salaries	11,940,972,945	11,498,696,797

[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% funding of the actuarial accrued liability 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.**

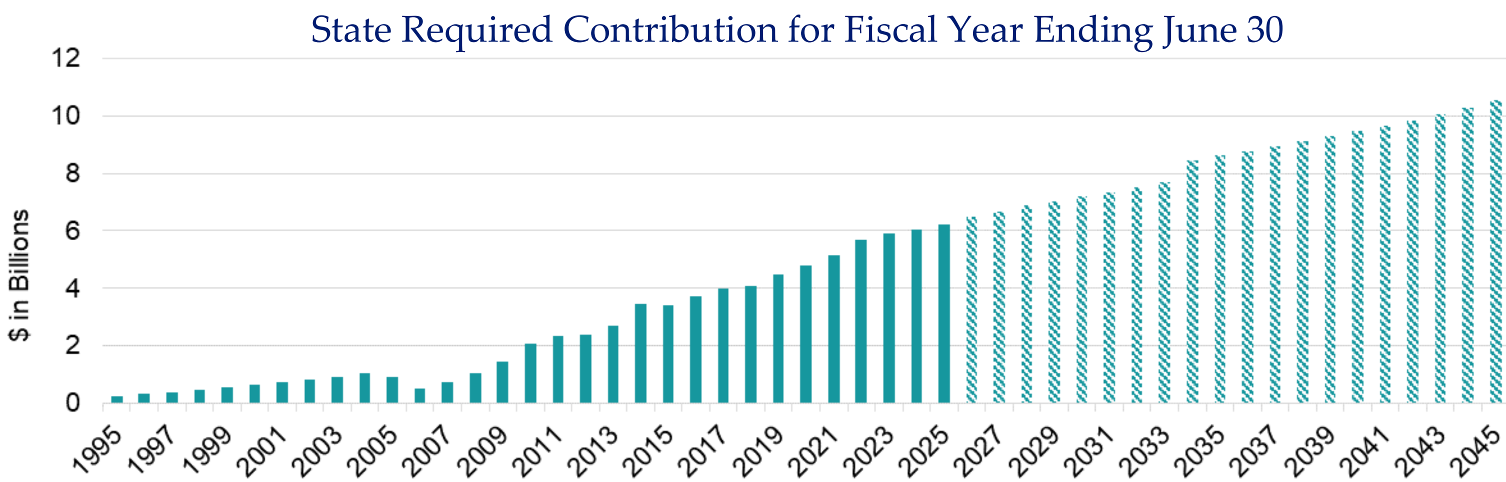
The State has historically underfunded TRS by the use of funding policies that do not provide for adequate funding of TRS, including:

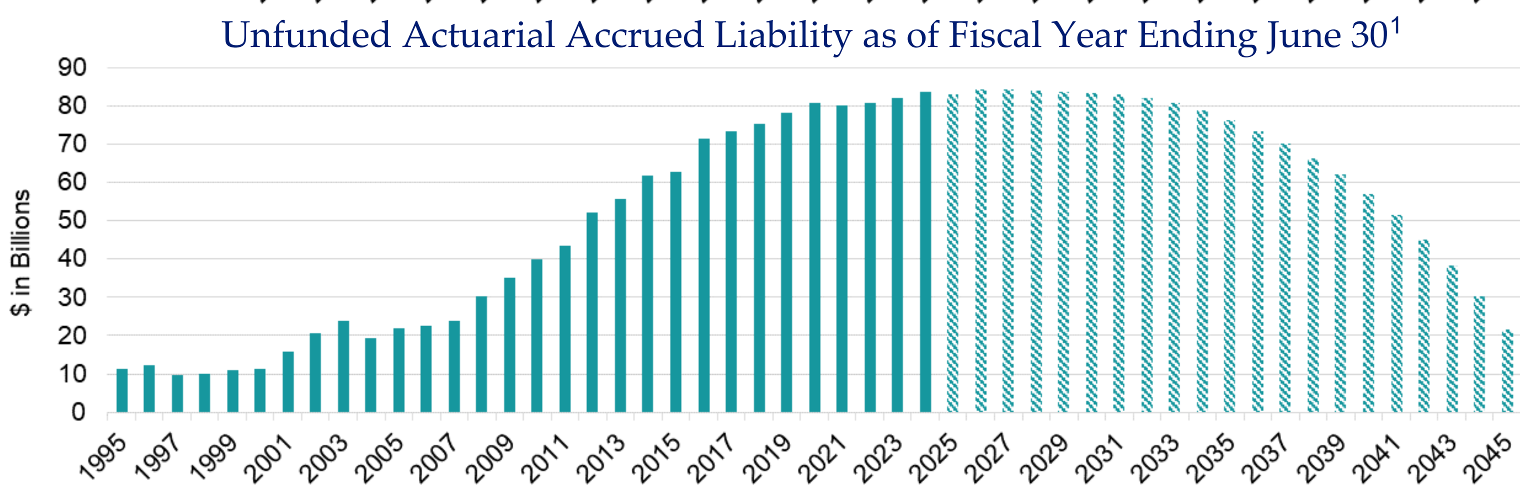
- Establishing a 50-year period in 1994, over which to amortize the Unfunded Actuarial Accrued Liability
- Back loading the 50-year period by requiring a 15-year period to ramp up to full contributions as determined under the Illinois funding policy
- Setting a funding target of 90% of the actuarial accrued liability (as opposed to 100%)
- Requiring the use of the projected unit credit actuarial 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 assuming 7.00% returns and a level active headcount for all future years. Amounts beginning 2026 are projected amounts based on the June 30, 2024, actuarial valuation.





[1] Assuming 7.00% returns and a level active headcount for all future years. Amounts beginning 2025 are projected based on the June 30, 2024 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

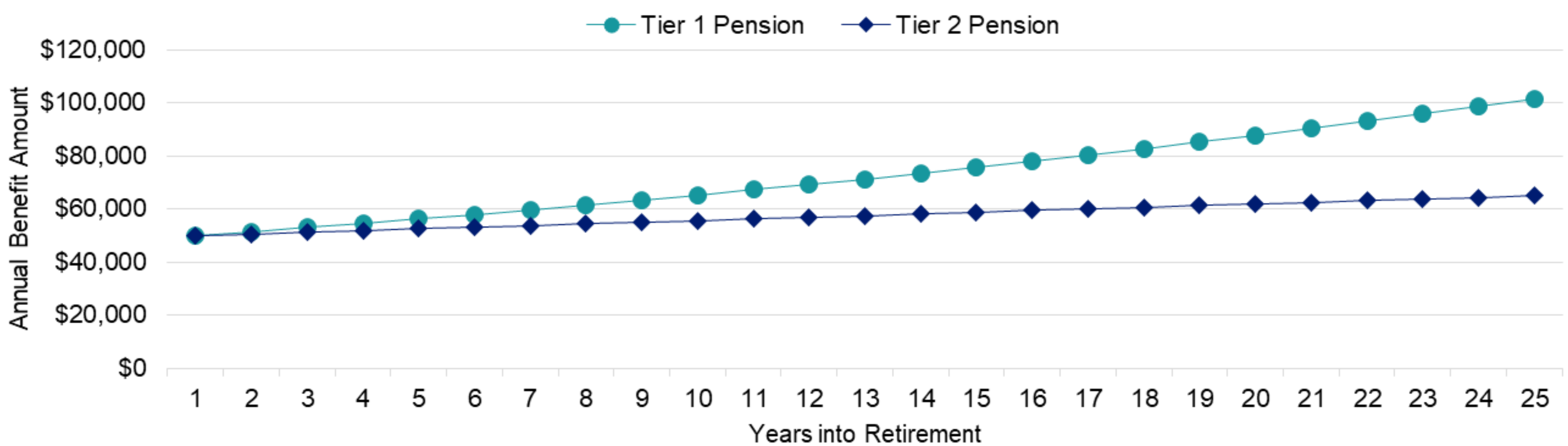
Year	Tier 2 Salary Cap	Year	Tier 2 Salary Cap	Year	Tier 2 Salary Cap
2011	$106,800.00	2016	$111,572.63	2021	$116,740.42
2012	$108,883.60	2017	$112,408.32	2022	$116,740.42
2013	$109,971.43	2018	$113,645.91	2023	$119,892.41
2014	$110,631.26	2019	$114,951.83	2024	$123,489.18
2015	$111,572.63	2020	$115,928.92	2025	$125,773.73

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 2026 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.

Employer Normal Cost and Allocation of Member Contribution Rate for Fiscal Year 2026

Contribution	Tier 1	Tier 2	Total
1. Total normal cost	24.64%	7.80%	18.88%
2. Administrative expenses	0.46%	0.46%	0.46%
3. Less: member contribution rate	(9.00%)	(9.00%)	(9.00%)
4. Employer normal cost: (1) + (2) + (3)	**16.10%**	**(0.74%)**	**10.34%**
5. Allocation of member contribution rate			
a. Normal cost rate	9.00%	8.26%	9.00%
b. Unfunded actuarial accrued liability	0.00%	0.74%	0.00%
6. Total member contribution rate: (5a) + (5b)	**9.00%**	**9.00%**	**9.00%**

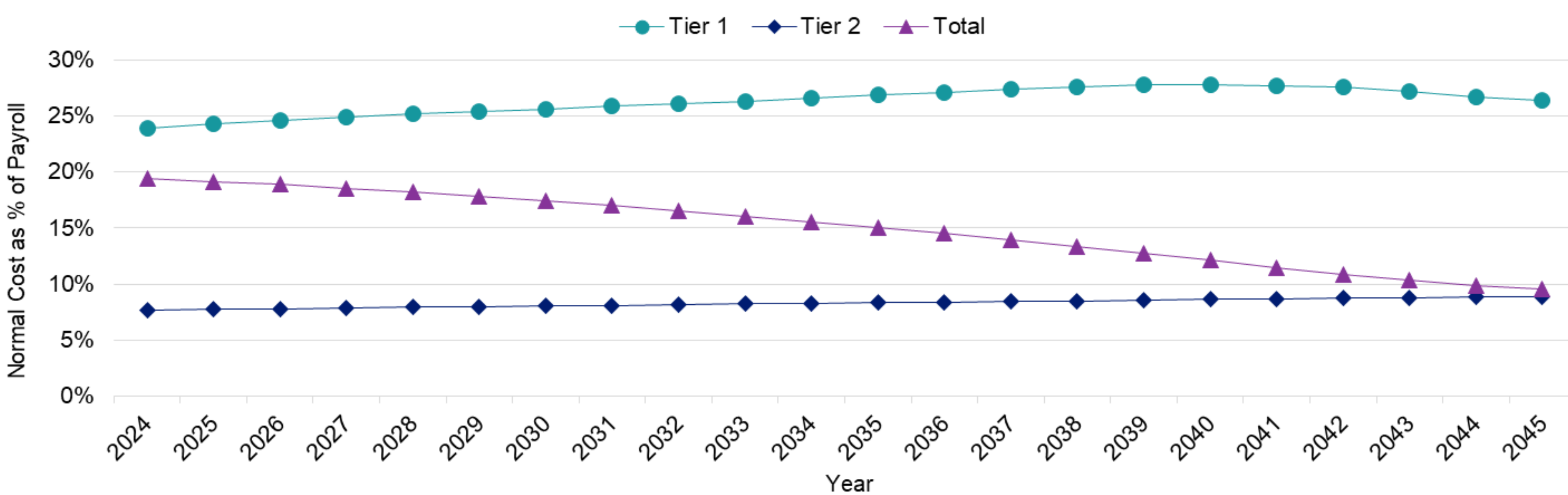
Significant issues facing TRS continued

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, 2023 (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



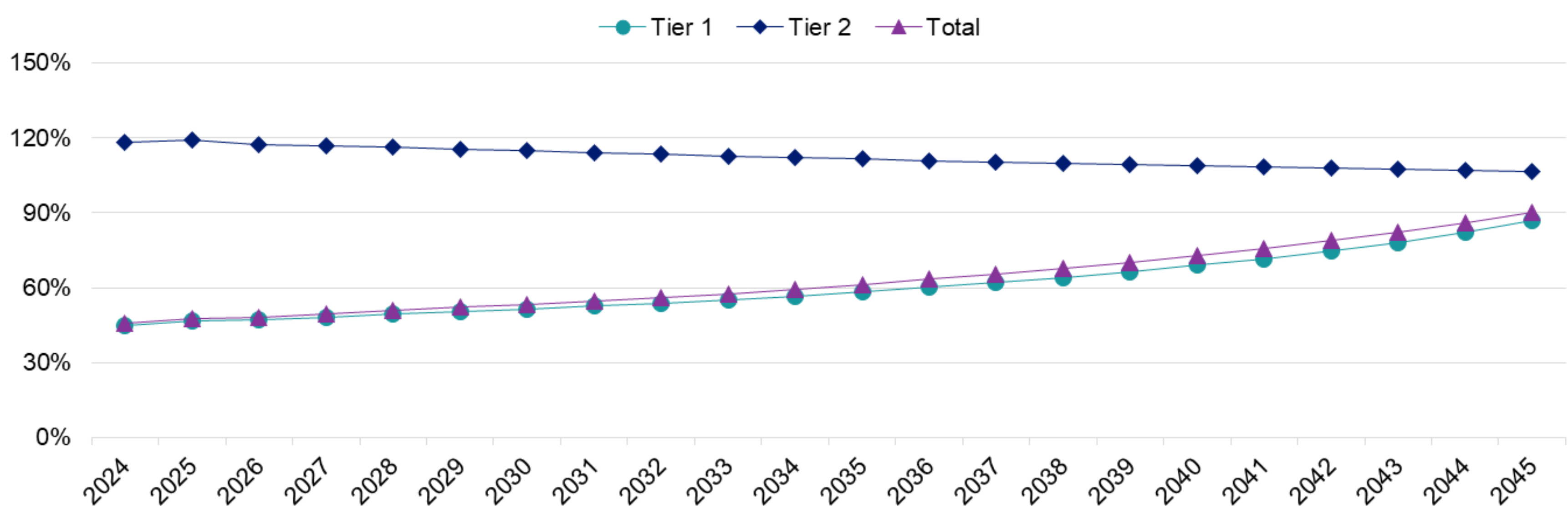
Significant issues facing TRS continued

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, 2024, ultimately reducing to a funded ratio of 106% as of June 30, 2045. In contrast, the Tier 1 funded ratio is 45% as of June 30, 2024, increasing to 87% as of June 30, 2045. For the total System, the funded ratio is 46% as of June 30, 2024, 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



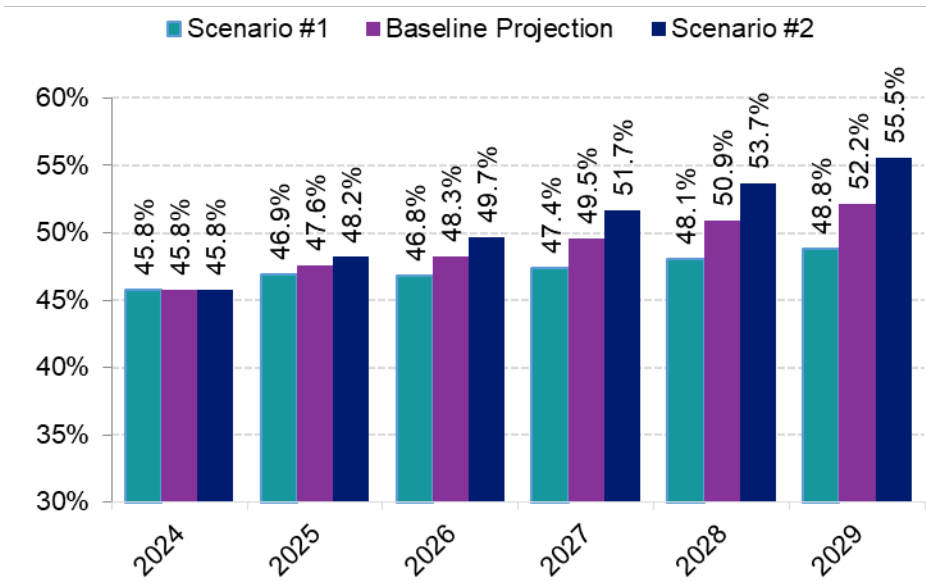
Sensitivity projections

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, 2025:

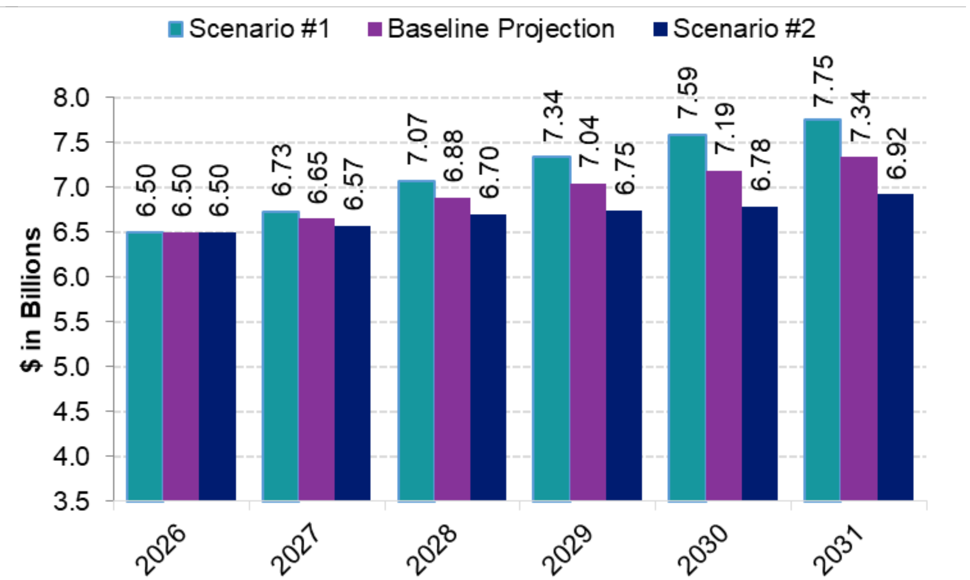
- Scenario #1 assumes a 0% investment return for the year ending June 30, 2025
- Scenario #2 assumes a 14% investment return for the year ending June 30, 2025

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

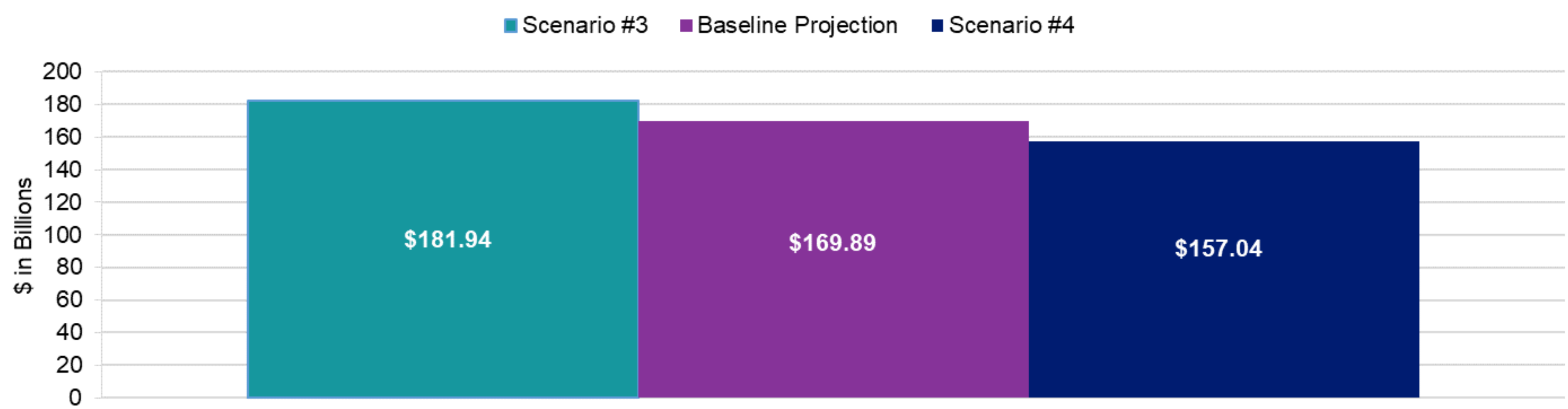


Sensitivity projections continued

The following chart shows the total State contributions for the fiscal years June 30, 2026, 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, 2024
- Scenario 4 assumes an 8.00% net investment return assumption effective June 30, 2024

Total State Contribution[1] from Year Ending June 30, 2026, through June 30, 2045



Additional sensitivity and stress testing can be found in Section 2 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, 2026, through June 30, 2045, would be $148.16 billion, which would result in an overall savings of $21.73 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 impact of 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:

Input Item	Description
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 staff. 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.
- 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 and is not acting as a fiduciary to the System. The valuation is based on Segal's understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. The TRS Board 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.

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.

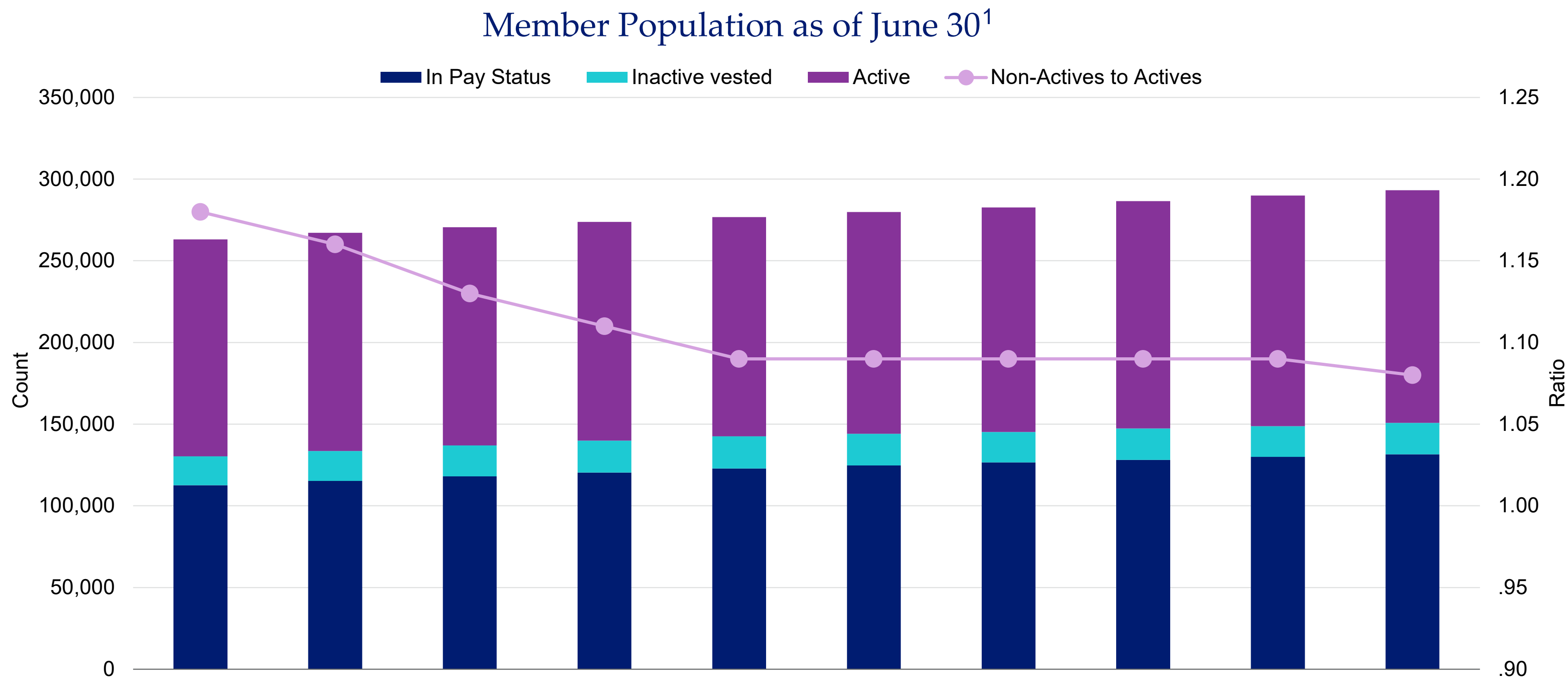
Data used for the valuation is as of the prior valuation date. Any changes in liabilities due to demographic experience during the most recent plan year are captured in the subsequent valuation.

Member Population as of June 30[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
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
2023	142,390	27,362	19,265	133,931	131,568	1.08

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

Membership data continued



Legend	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annuitants	112,682	115,273	117,990	120,453	122,895	124,791	126,594	128,116	130,005	131,568
Inactive Vested[2]	17,575	18,362	19,038	19,531	19,726	19,363	18,632	19,308	18,808	19,265
Active[3]	132,916	133,478	133,505	133,761	134,160	135,752	137,394	139,144	141,155	142,390
Ratio	1.18	1.16	1.13	1.11	1.09	1.09	1.09	1.09	1.09	1.08

[1] Member data used in the valuation is as of the prior valuation date
[2] Excluding inactive members due a refund of member contributions.
[3] Excluding substitutes, part-time and hourly paid active members.

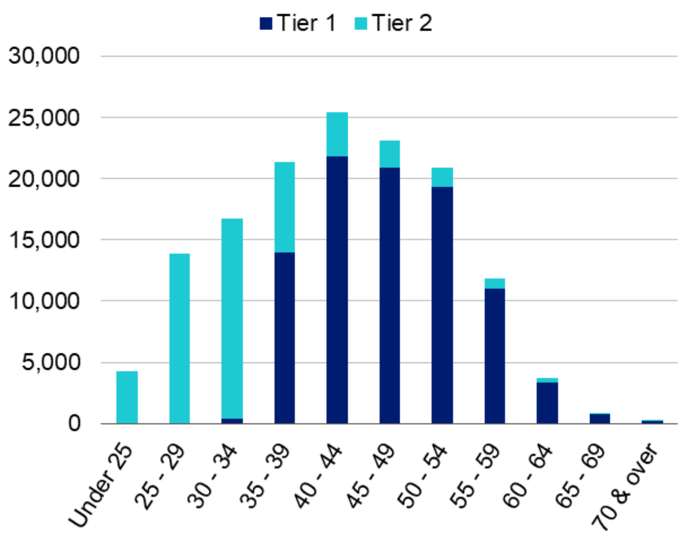
Active members

Full-Time and Regular Part-Time Active Members

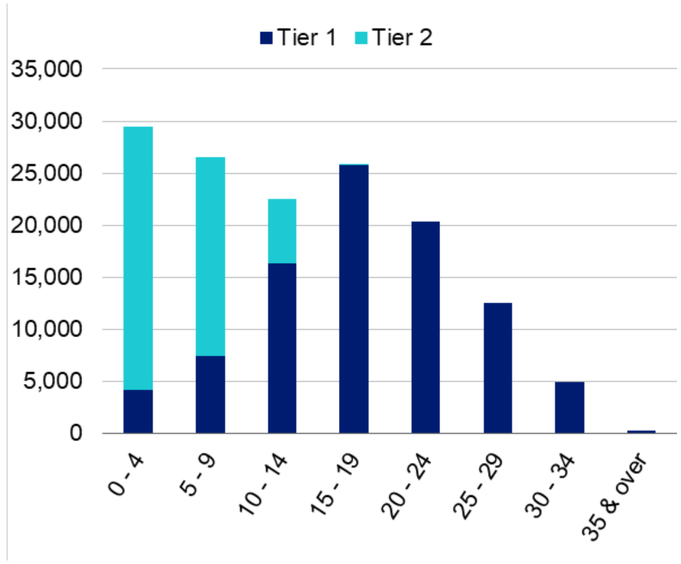
As of June 30,	2023	2022	Change
Active participants	142,390	141,155	0.9%
Average age	42.8	42.6	0.2
Average years of service	13.7	13.6	0.1
Average compensation	$82,420	$80,143	2.8%

Distribution of Full-Time and Regular Part-Time Active Members as of June 30, 2023[1]

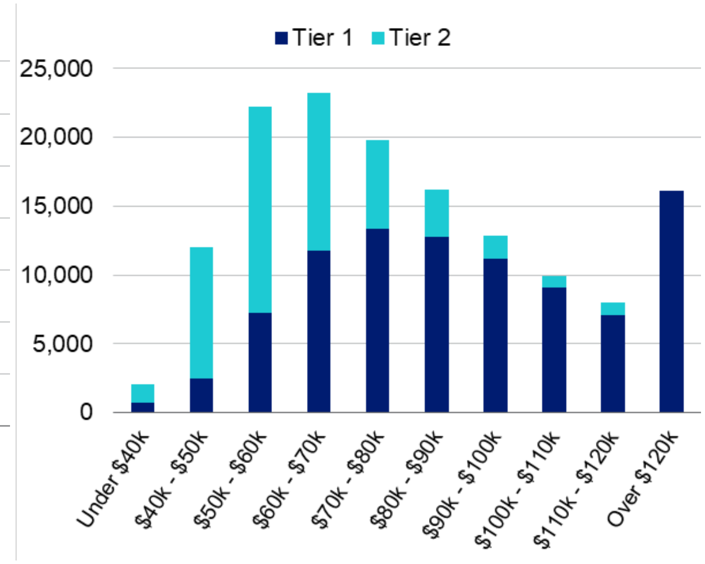
by Age and Tier



by Years of Service and Tier



by Compensation and Tier



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

Active members continued

Substitutes, Part-Time, and Hourly Paid Active Members

As of June 30,	2023	2022	Change
Active participants	27,362	25,559	7.1%
Average age	45.2	44.8	0.4
Average years of service	2.0	1.9	0.1
Average compensation	$7,501	$7,284	3.0%

Inactive participants

As of June 30, 2023 (the date at which census data is collected for the June 30, 2024, valuation), there were 19,228 participants and 37 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.

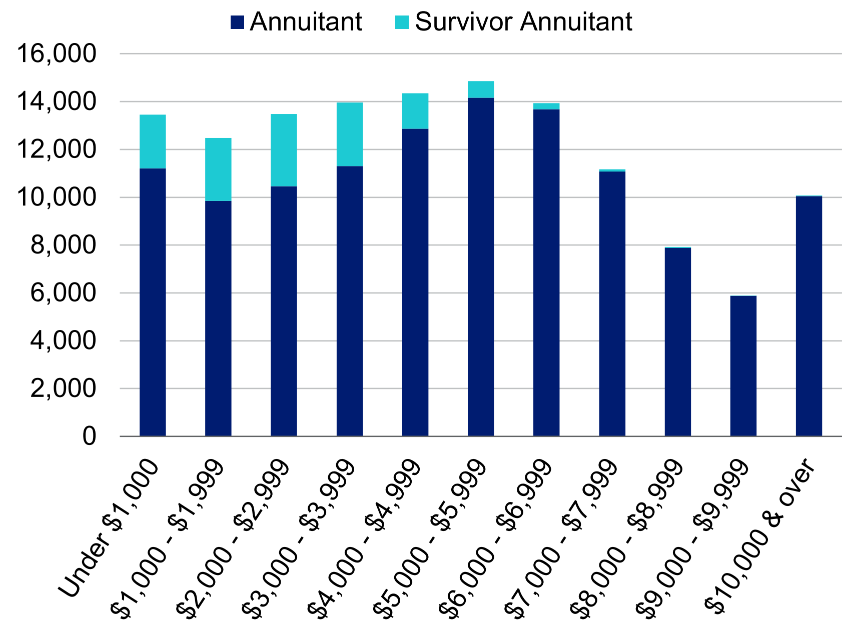
In addition, there were 133,931 participants entitled to a return of their member contributions.

Annuitants and Survivor Annuitants

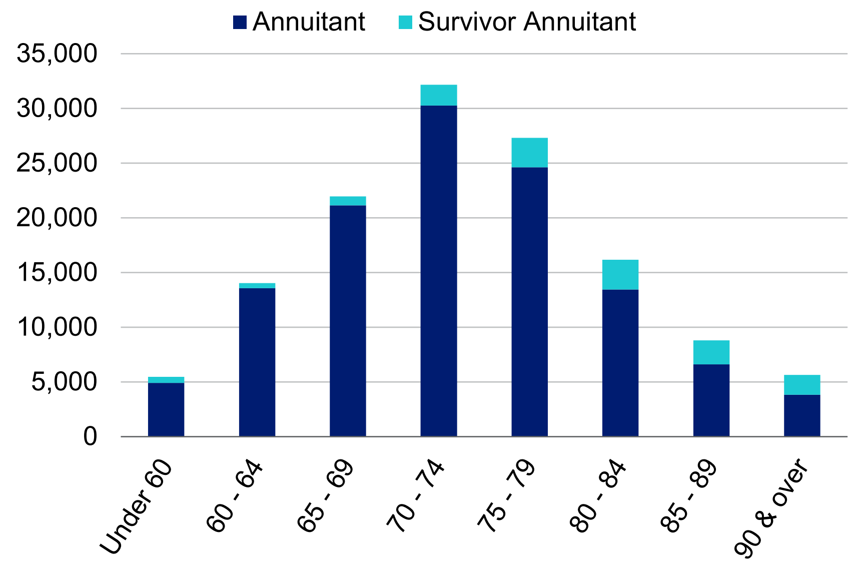
As of June 30,	2023	2022	Change
Annuitants	118,418	117,253	1.0%
Survivor Annuitants	13,150	12,798	2.8%
Average age	74.1	73.7	0.4
Average amount	$5,106	$4,976	2.6%
Total annual amount	$8,062,030,256	$7,764,985,482	3.8%

Distribution of Annuitants and Survivor Annuitants as of June 30, 2023[1]

By Monthly Amount



By Age



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

Historical plan population

Participant Data Statistics:
Active Participants[1] versus Retired Participants and Beneficiaries

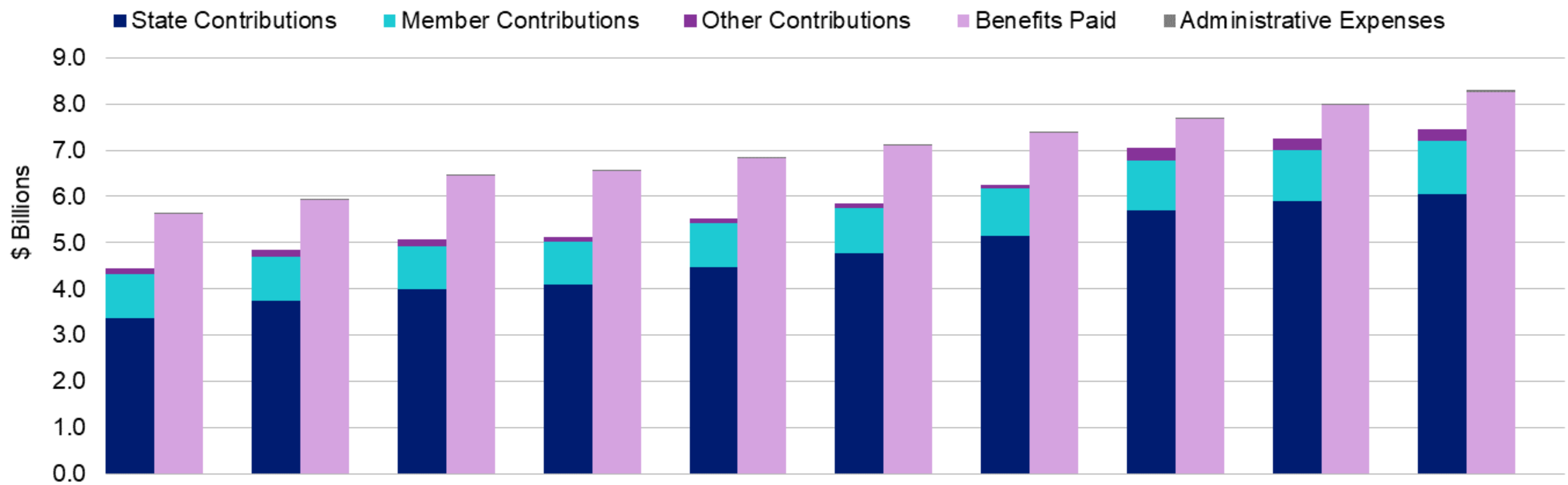
As of June 30,	Active Participants Count	Active Participants Average Age	Active Participants Average Service	Retired Participants and Beneficiaries Count	Retired Participants and Beneficiaries Average Age	Retired Participants and Beneficiaries Average Monthly Amount
2014	132,916	41.2	12.6	112,682	70.6	$4,072
2015	133,478	41.9	12.6	115,273	71.5	4,141
2016	133,505	41.8	12.8	117,990	71.8	4,261
2017	133,761	41.9	12.9	120,453	72.1	4,384
2018	134,160	42.0	13.1	122,895	72.4	4,502
2019	135,752	42.2	13.2	124,791	72.8	4,626
2020	137,394	42.3	13.4	126,594	73.1	4,743
2021	139,144	42.4	13.5	128,116	73.4	4,864
2022	141,155	42.6	13.6	130,051	73.7	4,976
2023	142,390	42.8	13.7	131,568	74.1	5,106

[1] Excluding substitutes, part-time and hourly paid active members.

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.

Comparison of Contributions Made with Benefits and Expenses Paid for Years Ended June 30



(in $ billions)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
State Contributions	$3.38	$3.74	$3.99	$4.09	$4.47	$4.76	$5.14	$5.69	$5.89	$6.04
Member Contributions	$0.94	$0.95	$0.93	$0.94	$0.96	$0.99	$1.02	$1.07	$1.11	$1.17
Other Contributions[1]	$0.14	$0.15	$0.15	$0.08	$0.09	$0.09	$0.10	$0.29	$0.24	$0.25
Benefit Payments	$5.63	$5.93	$6.44	$6.55	$6.82	$7.10	$7.39	$7.67	$7.97	$8.26
Administrative Expense	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.03	$0.03	$0.04

[1] Includes School District and Federal Funds contributions, as well as an additional one-time contribution of $172,823,300 (per Public Act 102-0696), $115,215,500 (per Public Act 102-0698), and $115,215,500 (per Public Act 103-0006) paid in fiscal 2022, fiscal 2023, and fiscal 2024, respectively.

Financial information continued

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Illinois Pension Code utilizes an asset valuation method that gradually adjusts to fair value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. 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.

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.

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 with POB for Year Ended June 30, 2024 and June 30, 2023

Step		Original Amount[1]	Percent Deferred[2]	As of June 30, 2024	Percent Deferred	As of June 30, 2023
1.	Fair value of assets with POB available for benefits			$71,424,801,957		$66,504,717,419
2.	Calculation of unrecognized return					
	a. Year ended June 30, 2024	$1,131,900,547	80%	905,520,438		
	b. Year ended June 30, 2023	55,147,448	60%	33,088,469	80%	44,117,958
	c. Year ended June 30, 2022	(5,215,663,453)	40%	(2,086,265,381)	60%	(3,129,398,073)
	d. Year ended June 30, 2021	9,424,254,666	20%	1,884,850,933	40%	3,769,701,866
	e. Year ended June 30, 2020	(3,409,956,524)	0%	0	20%	(681,991,305)
	f. Total unrecognized return			737,194,459		2,430,446
3.	**Final actuarial value of assets: (1) - (2f)**			**70,687,607,498**		**66,502,286,973**
4.	Actuarial value as a percentage of fair value: (3) ÷ (1)			99.0%		100.0%
5.	Amount deferred for future recognition: (1) - (3)			$737,194,459		$2,430,446
6.	Projected actuarial value of assets					
	a. Assumed contributions			7,466,370,311		7,240,354,633
	b. Assumed distributions			8,815,525,494		8,408,236,556
	c. Expected return at 7.00%			4,900,912,093		4,614,284,221
7.	**Projected actuarial value of assets: (3) + (6a) - (6b) + (6c)**			**74,239,364,408**		**69,948,689,270**

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

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 without POB for Year Ended June 30, 2024 and June 30, 2023

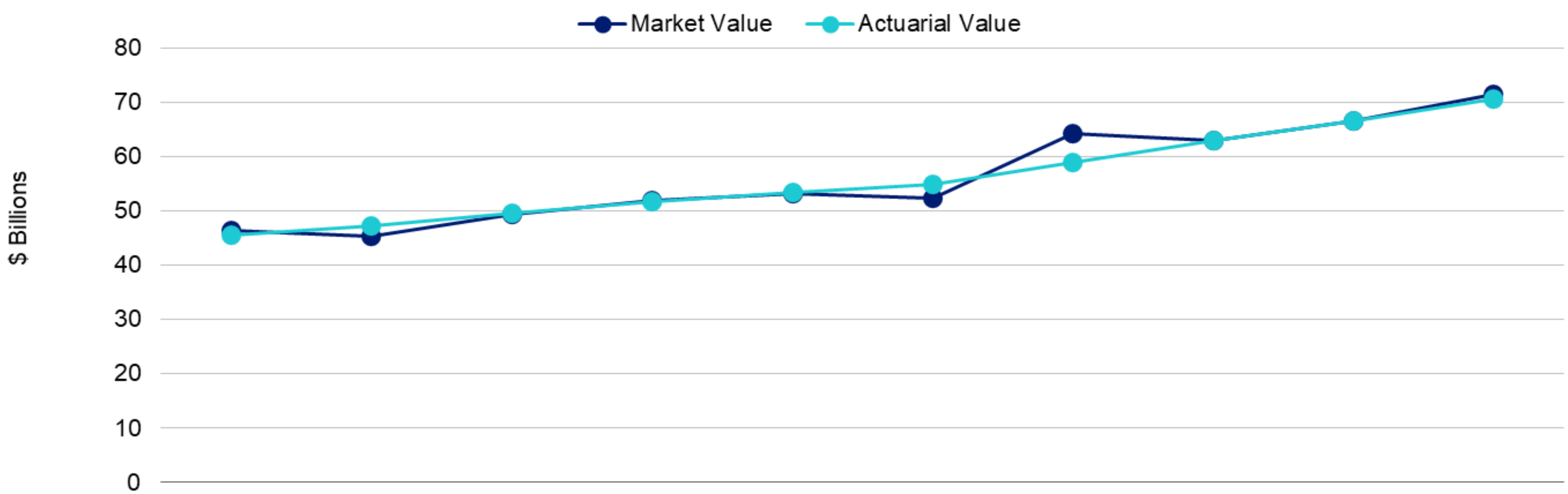
	Step	Original Amount[1]	Percent Deferred[2]	As of June 30, 2024	Percent Deferred	As of June 30, 2023
1.	Estimated fair value of assets without POB available for benefits			$66,946,205,516		$61,907,780,910
2.	Calculation of unrecognized return					
	a. Year ended June 30, 2024	$1,057,423,373	80%	845,938,698		
	b. Year ended June 30, 2023	51,165,880	60%	30,699,528	80%	40,932,704
	c. Year ended June 30, 2022	(4,805,772,954)	40%	(1,922,309,182)	60%	(2,883,463,772)
	d. Year ended June 30, 2021	8,630,845,465	20%	1,726,169,093	40%	3,452,338,186
	e. Year ended June 30, 2020	(3,102,850,180)	0%	0	20%	(620,570,036)
	f. Total unrecognized return			680,498,137		(10,762,918)
3.	**Actuarial value of assets without POB (Current Assets): (1) - (2f)**			**66,265,707,379**		**61,918,543,828**
4.	Actuarial value as a percentage of fair value: (3) ÷ (1)			99.0%		100.0%
5.	Amount deferred for future recognition: (1) - (3)			$680,498,137		($10,762,918)
6.	Projected actuarial value of assets					
	a. Assumed contributions			7,994,374,271		7,737,555,403
	b. Assumed distributions			8,815,525,494		8,408,236,556
	c. Expected return at 7.00%			4,609,859,224		4,310,824,228
7.	**Projected actuarial value of assets: (3) + (6a) - (6b) + (6c)**			**70,054,415,380**		**65,558,686,903**

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

Asset history for years ended June 30

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 (with POB)

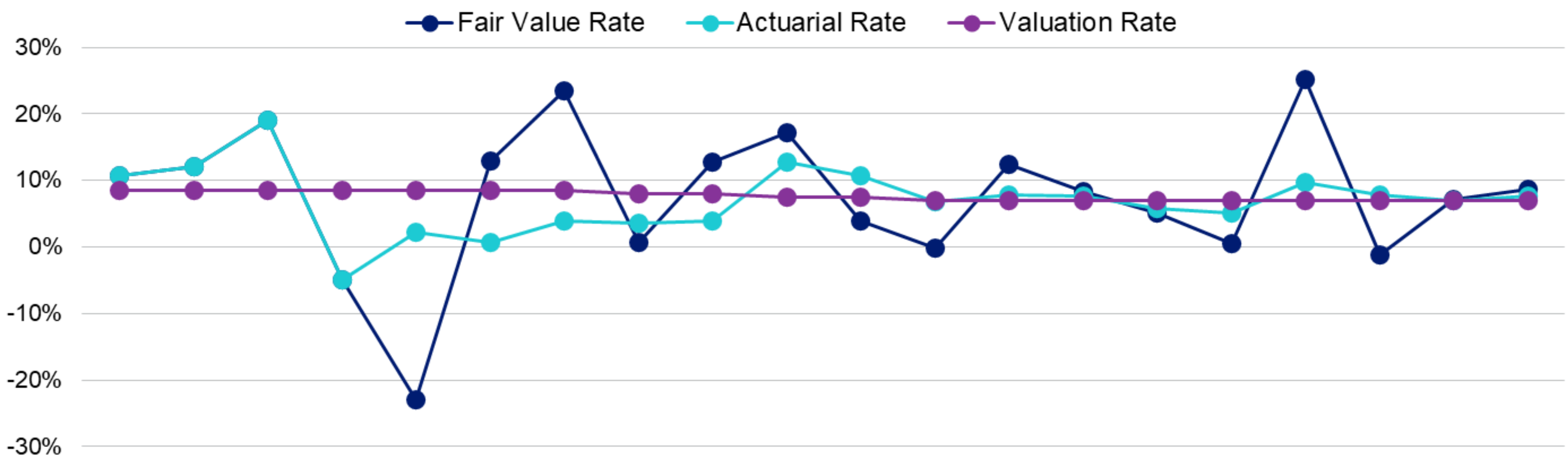


(In $ billions)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Actuarial value	$45.44	$47.22	$49.47	$51.73	$53.39	$54.89	$58.98	$62.91	$66.50	$70.69
Fair value	$46.41	$45.25	$49.38	$51.97	$53.26	$52.32	$64.21	$62.83	$66.50	$71.43
Ratio	0.98	1.04	1.00	1.00	1.00	1.05	0.92	1.00	1.00	0.99

Historical investment returns

As described earlier in this section, the actuarial asset valuation method gradually recognizes fluctuations in the fair value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Fair Value and Actuarial Rates of Return for Years Ended June 30



(in %)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Market rate	10.69	11.98	19.07	(4.89)	(22.89)	12.97	23.50	0.61	12.70	17.19	3.91	0.10	12.39	8.32	5.10	0.52	25.21	(1.16)	7.09	8.71
Actuarial rate	10.69	11.98	19.07	(4.89)	2.22	0.71	3.84	3.64	3.83	12.75	10.76	6.76	7.83	7.63	5.84	5.16	9.65	7.78	6.95	7.60
Assumed rate	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.00	8.00	7.50	7.50	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00

Average Rates of Return	Fair Value	Actuarial Value
Most recent five-year average return:	7.28%	7.20%
Most recent ten-year average return:	7.73%	8.15%
Most recent fifteen-year average return:	6.49%	6.35%
Most recent twenty-year average return:	7.44%	7.33%

Actuarial experience

Assumptions should consider experience and should be based on reasonable expectations for the future.

Each year actual experience is compared to that projected by the assumptions. Differences are reflected in the actuarial valuation.

Assumptions are not changed if experience is believed to be a short-term development that will not continue over the long term. On the other hand, if experience is expected to continue, assumptions are changed.

Actuarial Experience for Year Ended June 30, 2024

Assumption	Amount
1. Net gain/(loss) from investments[1]	$389,387,419
2. Net gain/(loss) from other experience	(246,256,606)
3. Net experience gain/(loss): 1 + 2	**151,050,059**

1 Details on next page

Investment experience

Actuarial planning is long term. The obligations of a pension plan are expected to continue for the lifetime of all its participants.

The assumed long-term rate of return of 7.00% considers past experience, the asset allocation policy of the Board and future expectations.

Investment Experience for Year Ended June 30, 2024

Item	Fair Value With POB	Fair Value Without POB	Actuarial Value With POB
1. Value of assets as of June 30, 2023	$66,504,717,419	$61,907,780,910	$66,502,286,972
2. Contributions during fiscal year ended June 30, 2024[1]	7,459,493,780	7,956,694,550[2]	7,459,493,780
3. Benefits and expenses during fiscal year ended June 30, 2024	8,297,316,222	8,297,316,222	8,297,316,222
4. Value of assets as of June 30, 2024	71,424,801,957	66,946,205,516	70,687,607,498
5. Net investment income: **4 – 1 – 2 + 3**	5,757,906,980	5,379,046,278	5,023,142,968
6. Average value of assets **1 + (2 – 3) ÷ 2**	66,085,806,198	61,737,470,074	66,083,375,751
7. Rate of return: **5 ÷ 6**	8.71%	8.71%	7.60%
8. Assumed rate of return	7.00%	7.00%	7.00%
9. Expected investment income: **6 x 8**	$4,626,006,433	$4,321,622,905	$4,625,836,303
10. Investment gain/(loss): **5 – 9**	1,131,900,547	1,057,423,373	397,306,665

[1] Includes the remaining portion of the additional $230,431,000 contribution ($115,215,500 paid during fiscal 2024) appropriated to TRS per Public Act 103-0006.
[2] Includes POB debt service.

Non-investment experience

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:

- Salary increases (greater or smaller than projected)
- Retirement experience (earlier or later than projected)
- Mortality experience (more or fewer than expected deaths)
- The extent of turnover among participants
- Disability experience (more or fewer than projected)
- Buyout experience different than assumed
- New entrants

The net loss from this other experience for the year ended June 30, 2024 amounted to approximately $246 million, which is 0.2% of the actuarial accrued liability.

Gain/(Loss) Due to Demographic Experience for Year Ended June 30,

	2024	2023	2022	2021	2020	Average
Salary increases	($164,767,372)	($237,171,924)	($32,828,461)	$56,331,439	$41,780,212	($67,331,221)
Retirement experience	(54,978,894)	3,778,734	(12,528,909)	(107,023,064)	(178,155,930)	(69,781,613)
Disability experience	18,188,416	13,870,284	18,105,257	18,941,923	17,701,086	17,361,393
Termination experience	(74,025,535)	(27,073,060)	(54,266,505)	(49,242,128)	(49,417,489)	(50,804,943)
Mortality experience	28,528,638	15,608,188	146,302,767	68,231,169	(14,135,952)	48,906,962
Rehires	(46,506,966)	(45,283,039)	(35,416,877)	(41,159,834)	(41,266,774)	(41,926,698)
New entrants	(966,963)	154,803	3,326,783	4,382,406	10,456,950	3,470,796
Buyout experience	133,501,723	35,490,137	65,234,112	195,467,590	N/A	107,423,391
Other	(85,229,653)	(449,244,171)[1]	(223,011,784)	88,083,634	166,176,905	(100,645,014)
Total	**(246,256,606)**	**(725,514,988)**	**(125,083,617)**	**234,013,135**	**(46,860,992)**	**(181,940,614)**

[1] Primarily due to programming enhancements

Actuarial assumptions

- The assumption changes reflected in this report are:
  - The rates of individual salary increase were modified based on plan experience.
  - The percent of retirees assumed to receive severance pay and the average severance payment amount were increased.
  - The healthy, disabled, and beneficiary post-retirement and pre-retirement mortality assumptions were updated to reflect adjusted rate multipliers at various ages for males and females to better reflect plan experience.
  - The mortality improvement scale was updated from Scale MP-2020 to the 2024 Adjusted Scale MP-2021.
  - The retirement rates for active Tier 1 members were adjusted based on plan experience.
  - The retirement rates for inactive Tier 1 and Tier 2 members were adjusted to add age-based rates for early retirement ages.
  - The termination rates were adjusted based on plan experience.
  - The disability rates were decreased based on plan experience.
  - The future service accrual rates were increased based on plan experience. For substitutes and part-time members, future service accrual rates are based on the member's actual service accrual in the prior year.
  - The sick leave service credit and optional service purchase rates were adjusted based on plan experience.
  - The Automatic Annual Increase buyout participation rate was increased for eligible retiring Tier 1 members based on plan experience.
  - The Inactive Vested buyout assumption was updated to include current inactive vested members to reflect that buyout election packages were re-issued to all eligible members.
- These changes increased the actuarial accrued liability by 0.9% and increased the normal cost by 0.5%.
- The Board sets assumptions for the Plan based on periodic multi-year experience studies. The last study was completed for the three-year period ended June 30, 2024, and it is anticipated that the assumptions will next be reviewed in August 2027.

Plan provisions

- There were no changes in plan provisions since the prior valuation.

Unfunded actuarial accrued liability

Development of Unfunded Actuarial Accrued Liability for Fiscal Year Ended June 30, 2024 and June 30, 2023

Unfunded Actuarial Accrued Liability	Change for FYE 06/30/2024	Amount for FYE 06/30/2024	Change for FYE 06/30/2023	Amount for FYE 06/30/2023
1. Unfunded actuarial accrued liability at beginning of year		$81,896,009,108		$80,613,328,780
2. Normal cost at beginning of year		2,347,000,074		2,259,253,955
3. Total expected contributions		(7,458,024,481)		(7,241,639,722)
4. Interest on **1**, **2** & **3**				
a. Unfunded actuarial accrued liability and normal cost	$5,897,010,643		$5,801,080,792	
b. Total contributions	261,030,857		253,457,390	
c. Total interest: **(4a) - (4b)**		5,635,979,786		5,547,623,402
5. Expected unfunded actuarial accrued liability		**82,420,964,486**		**81,154,205,649**
6. Changes due to:				
a. Investment	(397,306,665)		29,433,147	
b. Demographic	246,256,606		688,009,545	
c. Plan provisions	0		0	
d. Actuarial assumptions	1,367,637,238		0	
Total changes		**1,216,587,179**		**717,442,692**
7. Unfunded actuarial accrued liability at end of year		83,637,551,666		81,896,009,108

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, when increased 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 2026, 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.

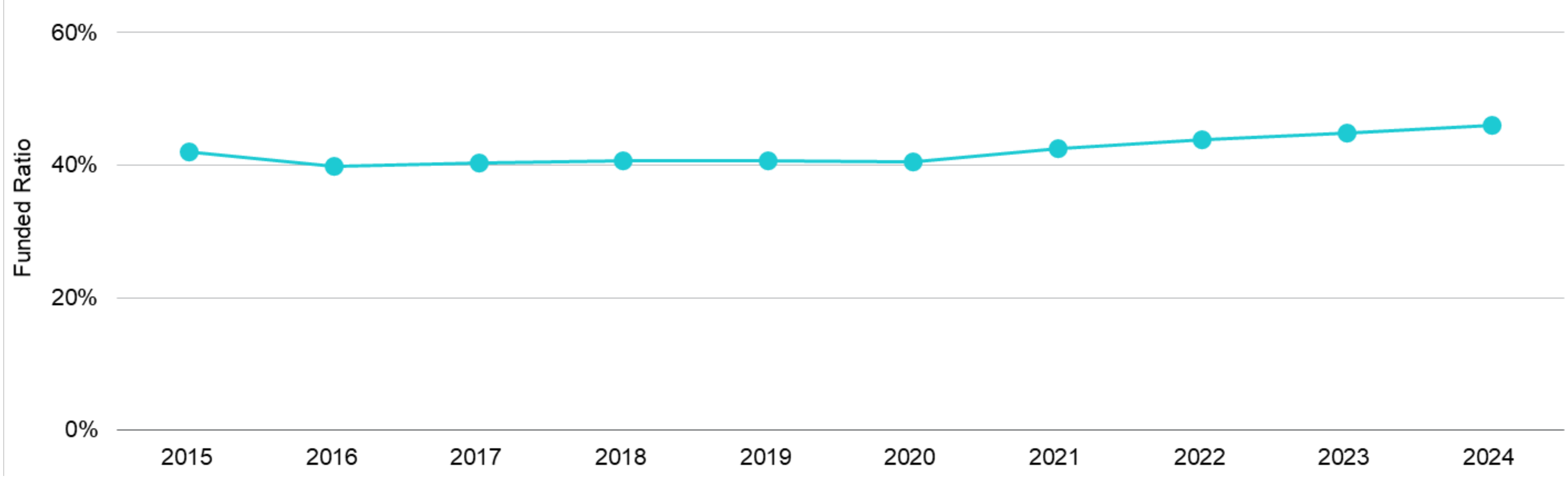
Development of employer costs continued

Employer Contributions for Fiscal Year Ending June 30

	2026	2025
Based on Statutory Funding Plan		
1. Benefit Trust Reserve:		
a. Employer's cost as percentage of membership payroll	50.54%	49.90%
b. Total employer contribution: **(1a) x (8)**	$6,695,382,824	$6,386,047,520
c. School Districts contributions under Sec. 16-158	(88,804,425)	(84,417,860)
d. Federal Funds contribution	(27,396,727)	(26,467,247)
e. Phase-in of the effect of assumption changes	(83,664,008)	(71,540,000)
f. State Contribution: **(1b) + (1c) + (1d) + (1e)**	6,495,517,664	6,203,622,413
2. Guaranteed Minimum Annuity Reserve	200,000	300,000
3. Total State Contribution: (1f) + (2)	**6,495,717,664**	**6,203,922,413**
Based on Board-Adopted Actuarial Funding Policy (Actuarially Determined Contribution)		
4. Benefit Trust Reserve:		
a. Normal cost plus amortization of UAAL	10,850,363,156	10,216,459,865
b. School Districts contributions under Sec. 16-158	(88,804,425)	(84,417,860)
c. Federal Funds contribution	(27,396,727)	(26,467,247)
d. State Contribution: **(4a) + (4b) + (4c)**	10,734,162,004	10,105,574,758
5. Guaranteed Minimum Annuity Reserve	200,000	300,000
6. Total State contribution: (4d) + (5)	**10,734,362,004**	**10,105,874,758**
Difference Between Board-Adopted Actuarial Funding Policy and Statutory Fund		
7. Shortfall/(Excess): (6) - (3)	**4,238,644,340**	**3,901,952,345**
8. Total membership payroll	13,247,933,643	12,798,475,469

Schedule of funding progress through June 30, 2024

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
06/30/2015	$45,435,192,645	$108,121,825,171	$62,686,632,526	42.02%	$9,641,171,000	650.2%
06/30/2016	47,222,097,809	118,629,890,305	71,407,792,496	39.81%	9,811,614,000	727.8%
06/30/2017	49,467,525,209	122,904,034,268	73,436,509,059	40.25%	9,965,570,000	736.9%
06/30/2018	51,730,889,960	127,019,330,164	75,288,440,204	40.73%	10,163,980,000	740.7%
06/30/2019	53,391,192,733	131,456,968,953	78,065,776,220	40.61%	10,450,452,000	747.0%
06/30/2020	54,890,975,829	135,598,547,013	80,707,571,184	40.48%	10,827,439,000	745.4%
06/30/2021	58,979,922,966	138,914,274,917	79,934,351,951	42.46%	11,120,776,000	718.8%
06/30/2022	62,910,402,179	143,523,730,959	80,613,328,780	43.83%	11,647,248,000	692.1%
06/30/2023	66,502,286,973	148,398,296,080	81,896,009,107	44.81%	12,382,202,189	661.4%
06/30/2024	70,687,607,498	154,325,159,164	83,637,551,666	45.80%	12,721,190,256	657.5%



Low-Default-Risk Obligation Measure (LDROM)

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 December of the measurement period, by The Bond Buyer (www.bondbuyer.com), is 3.93% for use effective June 30, 2024. 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 plan liabilities. 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, 2024, the LDROM for the system is $234.3 billion, based on the entry age normal cost method. The difference between the plan’s AAL of $157.3 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 Statutory contribution and actuarially determined contribution values 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

The actuarial valuation results are dependent on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different from the current assumptions.

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

- Economic and Other Related Risks. 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 $7.1 billion in the asset value. A 10% increase in assets would cause the unfunded liability (fair value basis) to decrease from $83.6 billion to $76.5 billion. Likewise, a 10% decrease in the asset value would cause the unfunded liability to increase from $83.6 billion to $90.7 billion.

  Since the Plan's assets are much larger than contributions, investment performance may create significant volatility in contribution requirements. For example, if future annual returns were 1% different than the current 7.0% return assumption, the average annual State contribution from fiscal year 2026 through fiscal year 2045 under Statutory requirements would increase or decrease by approximately $620 million.

  The fair value rate of return over the last 20 years has ranged from a low of -22.9% to a high of 25.2%.

  See 'Sensitivity Projections' section on pages 23 and 24 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.

- Contribution Risk (the risk that actual contributions will be different from 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:

  – Is based on a funding target of 90% of the actuarial accrued liability (as opposed to 100%);
  – Requires the use of the projected unit credit actuarial 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;
  – 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
  – 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.

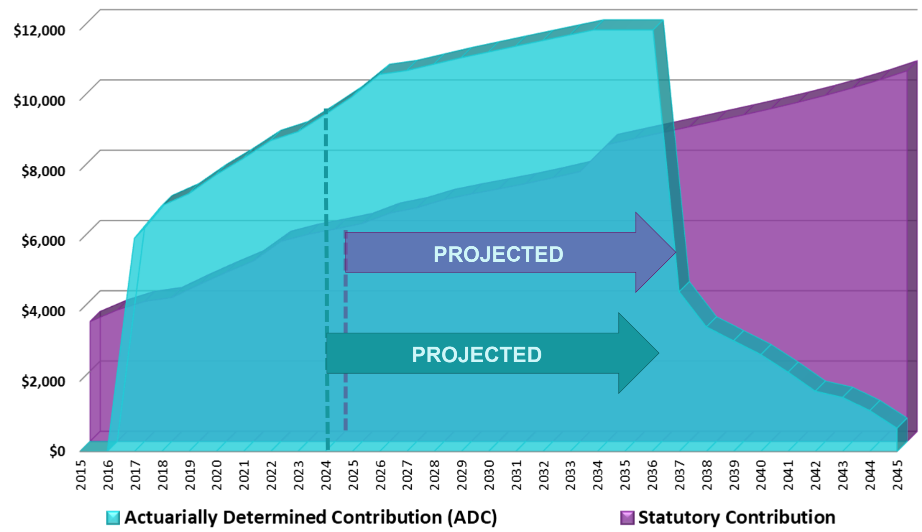
  The following chart illustrates the impact on projected total State contributions (under the Statutory Funding Policy and Board-Adopted Actuarial Funding Policy) from fiscal year ending June 30, 2026, through June 30, 2045, assuming fair value returns for the upcoming year vary between −21% and +21%. 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.

Total State Contributions for FY2026-FY2045

Assumed Return for FYE2025	Statutory	Board-Adopted	Difference
+21%	$148.2B	$130.2B	$18.0B
+14%	159.1B	138.9B	20.2B
+7%	169.9B	148.2B	21.7B
0%	180.7B	157.5B	23.2B
-7%	191.6B	166.9B	24.7B
-14%	202.4B	176.2B	26.2B
-21%	213.2B	185.5B	27.7B

Section 2: Actuarial Valuation Results

The following graph depicts the differences in contribution pattern from June 30, 2026, through June 30, 2045, under the Statutory Funding Policy and Board-Adopted Actuarial Funding Policy, assuming 7% future returns.



- 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.

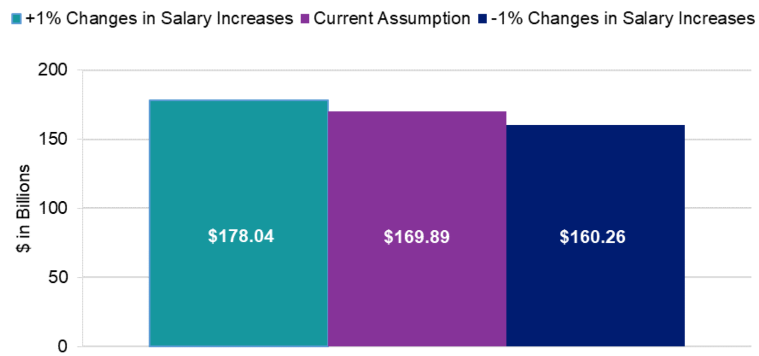
  – Individual salary increases higher or lower than assumed.

  – 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, 2026, 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.

Total State Contributions for FY2026-FY2045

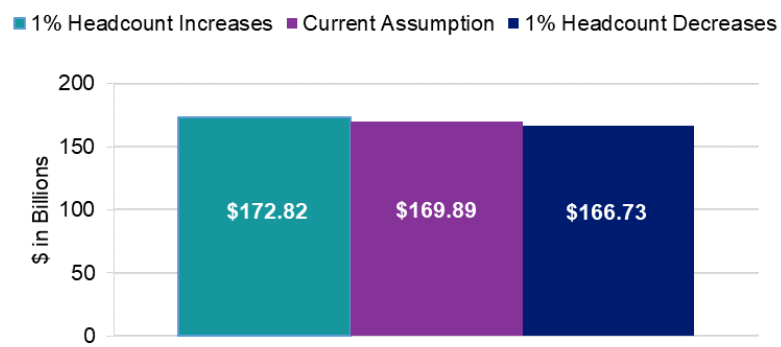
Change to Assumed Salary Increases	Total Amount	Difference for Current Assumption
1% Increase	$178.0B	$8.2B
0% (Current)	$169.9B	N/A
1% Decrease	$160.3B	($9.6B)



The following chart and graph illustrate the impact on projected total State contributions from fiscal year ending June 30, 2026, through June 30, 2045, assuming the projected active headcount differs by 1% compared to the current assumption.

Total State Contributions for FY2026-FY2045

Change to Assumed Annual Active Counts	Total Amount	Difference for Current Assumption
1% Increase	$172.8B	$2.9B
0% (Current)	$169.9B	N/A
1% Decrease	$166.7B	($3.2B)



- Actual Experience Over the Last Ten 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 2015. See page 73 for additional details.
  - The investment gain/(loss) for a year has ranged from a gain of $1,437 million to a loss of $973 million.
  - The non-investment gain/(loss) for a year has ranged from a gain of $127 million to a loss of $1,342 million.

Actual Experience Over the Last Ten Years ($ in millions)

Plan Year Ended	AVA Investment Gain/(Loss)	Non-Investment Gain/(Loss)
2015	$1,355	$127
2016	(467)	(964)
2017	384	(604)
2018	307	(1,342)
2019	(590)	(352)
2020	(973)	(47)
2021	1,437	(1,137)
2022	460	(125)
2023	(29)	(688)
2024	397	(246)

- Maturity Measures
  - As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.
  - 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 1.18 to a low of 1.08. Currently the System has an active to non-active participant ratio of 1.08. See page 28 for more details.
  - As of June 30, 2024, 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, 2024, 1.2% of the fair value of assets. The Plan is dependent upon investment returns in order to pay benefits. See page 33 for additional details.

Schedule of funded liabilities by type (formerly known as the Solvency Test)

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the Plan's actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with member contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the funding policy aim to achieve a funded ratio of 100 percent.

Schedule of Funded Liabilities by Type as of June 30

($ in thousands)

Valuation as of June 30	Member Contributions (1)	Annuitants and Survivor Annuitants (2)	Active and Inactive Members (Employer-Financed) (3)	Valuation Assets	Covered by Valuation Assets (1)	Covered by Valuation Assets (2)	Covered by Valuation Assets (3)
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%
2024	13,816,072[1]	95,322,114	45,186,973	70,687,607	100%	60%	0%

[1] Includes member contributions for current inactive vested and inactive nonvested participants

Section 3: Supplemental Information

Exhibit A: Summary of membership data

Category	Year Ended June 30, 2024	Year Ended June 30, 2023	Change From Prior Year
Active members in valuation:			
• Number of full-time and regular part-time			
– Tier 1	91,765	95,064	(3.5%)
– Tier 2	50,625	46,091	9.8%
– Total	142,390	141,155	0.9%
• Number of substitutes, part-time, and hourly paid			
– Tier 1	9,199	9,060	1.5%
– Tier 2	18,163	16,499	10.1%
– Total	27,362	25,559	7.1%
• Total number			
– Tier 1	100,964	104,124	(3.0%)
– Tier 2	68,788	62,590	9.9%
– Total	169,752	166,714	1.8%
• Annual salary of full-time and regular part-time			
– Tier 1	$8,565,751,849	$8,540,534,888	0.3%
– Tier 2	3,169,971,628	2,771,985,569	14.4%
– Total	11,735,723,477	11,312,520,457	3.7%
• Annual salary of substitutes, part-time, and hourly paid			
– Tier 1	73,903,887	72,198,853	2.4%
– Tier 2	131,345,581	113,977,487	15.2%
– Total	205,249,468	186,176,340	10.2%
• Annual salary			
– Tier 1	8,639,655,736	8,612,733,741	0.3%
– Tier 2	3,301,317,209	2,885,963,056	14.4%
– Total	11,940,972,945	11,498,696,797	3.8%
• Average age			
– Full-time and regular part-time	42.8	42.6	0.2
– Substitutes, part-time, and hourly paid	45.2	44.8	0.4
– Total	43.2	42.9	0.3

Category	Year Ended June 30, 2024	Year Ended June 30, 2023	Change From Prior Year
Active members in valuation (continued):			
• Average years of service			
– Full-time and regular part-time	13.7	13.6	0.1
– Substitutes, part-time, and hourly paid	2.0	1.9	0.1
– Total	11.8	11.8	0.0
Inactive members:			
• Eligible for deferred annuities	19,265	18,808	2.4%
• Eligible for refunds or single sum benefits	133,931	129,420	3.5%
• Total	153,196	148,228	3.4%
Service retirees:			
• Number			
– Regular	89,449	87,203	2.6%
– ERI	6,619	7,091	(6.7%)
– ERO	21,402	21,994	(2.7%)
– Total	117,470	116,288	1.0%
• Annual annuities			
– Regular	$5,330,063,179	$5,055,706,654	5.4%
– ERI	471,914,410	489,776,797	(3.6%)
– ERO	1,804,471,998	1,793,204,789	0.6%
– Total	7,606,449,587	7,338,688,240	3.6%
• Average age	73.6	73.2	0.4
• Average monthly benefit	$5,396	$5,259	2.6%
Disability Annuitants:			
• Number			
– Retirement allowance	751	775	-3.1%
– Occupational	5	5	0.0%
– Temporary	192	185	3.8%
– Total	948	965	(1.8%)
• Annual annuities			
– Retirement allowance	$24,547,472	$24,578,469	(0.1%)
– Occupational	240,029	233,038	3.0%
– Temporary	6,607,637	6,148,657	7.5%
– Total	31,395,138	30,960,164	1.4%
• Average age	61.7	61.4	0.3
• Average monthly benefit	$2,760	$2,674	3.2%

Category	Year Ended June 30, 2024	Year Ended June 30, 2023	Change From Prior Year
Survivor Annuitants:			
• Number			
– Children	72	71	1.4%
– Survivors	12,857	12,504	2.8%
– Reversionary	221	223	(0.9%)
– Total	13,150	12,798	2.8%
• Annual annuities			
– Children	$997,963	$948,439	5.2%
– Survivors	412,998,667	384,273,268	7.5%
– Reversionary	10,188,901	10,115,371	0.7%
– Total	424,185,531	395,337,078	7.3%
• Average age	79.3	79.1	0.2
• Average monthly benefit	$2,688	$2,574	4.4%
Total number of participants	**454,516**	**444,993**	**2.1%**

Exhibit B: Active membership data as of June 30, 2023, used in June 30, 2024 actuarial valuation (number and average salary[1])

Full-Time and Regular Part-Time Active Members

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	4,236	4,234	2	--	--	--	--	--	--	--
	$49,802	$49,794	$67,016	--	--	--	--	--	--	--
25 - 29	13,854	9,993	3,861	--	--	--	--	--	--	--
	$56,623	$54,833	$61,255	--	--	--	--	--	--	--
30 - 34	16,790	4,404	9,127	3,257	2	--	--	--	--	--
	$66,250	$58,758	$66,909	$74,525	$80,646	--	--	--	--	--
35 - 39	21,395	3,174	4,936	9,125	4,160	--	--	--	--	--
	$75,908	$60,170	$69,948	$78,810	$88,622	--	--	--	--	--
40 - 44	25,476	2,815	3,269	4,215	11,186	3,991	--	--	--	--
	$85,431	$61,068	$70,659	$80,185	$92,048	$101,707	--	--	--	--
45 - 49	23,165	2,051	2,259	2,460	4,416	9,318	2,661	--	--	--
	$93,419	$61,439	$69,349	$78,725	$93,624	$104,972	$111,289	--	--	--
50 - 54	20,864	1,422	1,664	1,819	3,040	4,072	6,856	1,991	--	--
	$98,600	$64,062	$71,609	$79,148	$90,938	$104,085	$112,306	$116,884	--	--
55 - 59	11,816	796	837	1,079	1,950	2,041	2,352	2,651	110	--
	$99,314	$62,581	$69,578	$78,557	$88,494	$102,647	$113,125	$120,086	$129,058	--
60 - 64	3,716	366	428	469	824	748	488	253	125	15
	$90,566	$61,273	$70,119	$78,897	$89,242	$99,344	$107,194	$117,561	$121,357	$135,606
65 - 69	886	127	125	97	175	181	94	48	15	24
	$89,959	$65,264	$67,990	$80,437	$90,769	$101,216	$109,850	$117,081	$127,119	$127,365
70 & over	192	36	27	21	21	29	24	13	7	14
	$85,913	$49,484	$68,262	$71,192	$84,652	$111,117	$109,449	$109,950	$111,171	$110,101
Total	**142,390**	**29,418**	**26,535**	**22,542**	**25,774**	**20,380**	**12,475**	**4,956**	**257**	**53**
	$82,420	**$57,103**	**$67,758**	**$78,456**	**$91,260**	**$103,692**	**$112,020**	**$118,615**	**$124,712**	**$125,137**

[1] Salary is annualized for those hired during the prior plan year

Exhibit C: 10-year history of active membership data by employment type

Full-Time and Regular Part-Time

Census Date June 30	Number	Percent Change	Total Salaries	Average Annual Salary	Percent Change
2014	132,916	N/A	$9,115,480,030	$68,581	N/A
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%
2023	142,390	0.9%	11,735,723,477	82,420	2.8%

Substitutes, Part-Time and Hourly Paid

Census Date June 30	Number	Percent Change	Total Salaries	Average Annual Salary	Percent Change
2014	26,920	N/A	$143,897,458	$5,345	N/A
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%
2023	27,362	7.1%	205,249,468	7,501	3.0%

Exhibit D: 10-year history of active membership data by tier

Tier 1

Census Date June 30	Number	Percent Change	Total Salaries	Average Annual Salary	Percent Change
2014	138,700	N/A	$8,705,746,049	$62,767	N/A
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%
2023	100,964	(3.0%)	8,639,655,736	85,572	3.5%

Tier 2

Census Date June 30	Number	Percent Change	Total Salaries	Average Annual Salary	Percent Change
2014	21,136	N/A	$553,631,439	$26,194	N/A
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%
2023	68,788	9.9%	3,301,317,209	47,993	4.1%

Exhibit E: 10-year history of annuitant and survivor annuitant membership

Census Date June 30	Number	Percent Change	Annual Allowance	Average Annual Annuity	Percent Change
2014	112,682	N/A	$5,505,783,524	$48,861	N/A
2015	115,273	2.3%	5,728,198,887	49,692	4.0%
2016	117,990	2.4%	6,033,050,890	51,132	5.3%
2017	120,453	2.1%	6,336,471,817	52,605	5.0%
2018	122,895	2.0%	6,639,967,327	54,030	4.8%
2019	124,791	1.5%	6,927,481,533	55,513	4.3%
2020	126,594	1.4%	7,205,635,969	56,919	4.0%
2021	128,116	1.2%	7,477,612,124	58,366	3.8%
2022	130,051	1.5%	7,764,985,482	59,707	3.8%
2023	131,568	1.2%	8,062,030,256	61,277	3.8%

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
2025	$211,746	2050	$6,097
2026	191,207	2051	5,021
2027	171,378	2052	4,100
2028	152,586	2053	3,318
2029	135,520	2054	2,660
2030	119,931	2055	2,110
2032	105,924	2056	1,655
2033	93,337	2057	1,283
2033	82,011	2058	983
2034	71,828	2059	743
2035	62,848	2060	543
2036	54,840	2062	396
2037	47,748	2062	285
2038	41,479	2063	201
2039	35,952	2064	140
2040	31,103	2065	95
2041	26,858	2066	65
2042	23,140	2067	44
2043	19,873	2068	30
2044	17,014	2069	13
2045	14,530	2070	8
2046	12,358	2071	4
2047	10,461	2072	2
2048	8,807	2073	1
2049	7,345	2074	1

Exhibit G: Reconciliation of membership data[1]

	Active Members	Inactive Members Eligible for Allowance	Inactive Members Eligible for Refund	Service Retirees	Disabled Retirees	Beneficiaries	Deferred Beneficiaries	Total
Number as of June 30, 2022	**166,714**	**18,745**	**129,420**	**116,288**	**965**	**12,798**	**63**	**444,993**
New participants	14,435	N/A	N/A	N/A	N/A	N/A	N/A	14,435
Terminations — with vested rights	(2,177)	2,177	0	0	0	0	0	0
Terminations — without vested rights	(9,913)	0	9,913	0	0	0	0	0
Retirements	(3,158)	(600)	(159)	3,917	0	0	0	0
New disabilities	(94)	0	0	0	94	0	0	0
Conversion from disability to service pension	N/A	N/A	N/A	32	(32)	N/A	N/A	0
Died with beneficiary	(62)	(2)	0	(1,003)	(18)	1,172	1	88[2]
Died without beneficiary	(84)	(26)	(326)	(1,764)	(19)	(808)	0	(3,027)
Refunds	(617)	(42)	1,230	N/A	N/A	N/A	0	(1,889)
IV Buyout	N/A	(57)	N/A	N/A	N/A	N/A	N/A	(57)
Rehire as active	4,708	(967)	(3,703)	(6)	(32)	0	0	0
Temporary annuity expired	N/A	N/A	NA	N/A	N/A	(6)	N/A	(6)
Data adjustments	0	0	16	6	(10)	(4)	(27)	(19)
Number as of June 30, 2023	**169,752**	**19,228**	**133,931**	**117,470**	**948**	**13,150**	**37**	**454,516**

[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, 2024 versus Year Ended June 30, 2023

Item	Income and Expenses	Assets as of FYE 2024	Income and Expenses	Assets as of FYE 2023
Net assets at fair value at the beginning of the year		**$66,504,717,419**		**$62,833,626,339**
Contribution and other income:				
Member contributions	$1,168,677,259		$1,109,497,833	
State of Illinois[1]	6,158,581,314		6,009,158,073	
Employers:				
– Federal funds	44,152,641		43,131,719	
– 2.2 Benefit formula	73,967,612		69,549,642	
– Excess salary/sick leave	14,114,954		12,066,739	
Total contribution income		7,459,493,780		7,243,404,006
Investment income:				
Net appreciation (depreciation)	4,484,329,915		3,142,048,720	
Alternative	1,333,479,037		1,201,253,640	
Interest and dividends	992,669,934		1,007,810,906	
Other	15,097,510		8,540,734	
Securities lending	4,685,054		8,128,567	
Less alternatives expense	(555,214,245)		(448,515,213)	
Less direct investment expense	(516,859,130)		(491,736,657)	
Less securities lending management fees	(281,095)		(487,722)	
Net investment income		5,757,906,980		4,427,042,975
Total income available for benefits		**13,217,400,760**		**11,670,446,981**
Less benefit payments and administrative expenses:				
Retirement benefits	(7,714,575,734)		(7,450,997,920)	
Survivor benefits	(444,748,371)		(416,259,400)	
Disability benefits	(32,052,595)		(31,885,365)	
Refund of contributions	(69,007,152)		(68,186,830)	
Administrative expenses	(36,963,370)		(32,026,386)	
Net benefit payments and administrative expenses		(8,297,316,222)		(7,999,355,901)
Change in fair value of assets		**4,920,084,538**		**3,671,091,080**
Net assets at fair value at the end of the year		**71,424,801,957**		**66,504,717,419**

[1] Includes the additional one-time contributions of $115,215,500 for both fiscal 2023 and fiscal 2024 per Public Act 102-0696 and Public Act 103-0006

Exhibit I: Summary statement of system assets

Fiscal Year Ended June 30, 2024 versus Fiscal Year Ended June 30, 2023

Item	Investments	Assets as of FYE 2024	Investments	Assets as of FYE 2023
Cash and accounts receivable				
Cash equivalents		$30,417,154		$16,768,356
Accounts receivable and prepaid expenses:				
Member contributions	$150,468,398		$150,527,513	
Employer contributions	24,016,585		21,529,465	
State of Illinois	71,625		429,877	
Investment income	185,018,228		178,530,783	
Other receivables	4,657,836		3,141,515	
Investments sold	1,961,612,751		2,027,262,378	
Total investments at market value		2,325,845,423		2,381,421,531
Investments:				
Fixed income	8,344,717,978		7,747,947,907	
Public equities	24,731,814,611		22,725,959,017	
Alternative investments	35,214,219,556		34,394,570,955	
Derivatives	(6,928,245)		(6,255,095)	
Short-term investments	2,830,476,398		1,307,235,638	
Foreign currency	59,372,808		97,273,223	
Total investments at fair value		71,173,673,106		66,266,731,645
Invested securities lending collateral		47,886,000		1,874,005,888
Capital assets, net of accumulated depreciation		8,166,080		9,947,467
Total assets		**73,585,987,763**		**70,548,874,887**
Less accounts payable:				
Benefits and refunds payable	(7,715,709)		(6,812,182)	
Administrative and investment expenses payable	(150,786,645)		(113,322,289)	
Pending investment purchases	(1,951,519,437)		(2,047,490,671)	
Deferred outflow – Leased obligations	(3,278,015)		(3,013,095)	
Securities lending collateral	(47,886,000)		(1,873,519,231)	
Total accounts payable		(2,161,185,806)		(4,044,157,468)
Net assets at fair value		**71,424,801,957**		**66,504,717,419**
Net assets at actuarial value		**70,687,607,498**		**66,502,286,973**

Exhibit J: Development of the fund through June 30, 2024

Year Ending June 30	Employer Contributions	Member Contributions	State Contributions	Net Investment Return[1]	Admin. Expenses	Benefit Payments	Fair Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Fair Value
2015	$145,591,585	$935,451,049	$3,377,664,945	$1,770,549,533	$21,686,860	$5,625,037,173	$46,406,915,593	$45,435,192,645	97.9%
2016	148,040,767	951,809,398	3,742,469,245	(44,103,178)	22,967,917	5,931,207,177	45,250,956,731	47,222,097,809	104.4%
2017	149,495,577	929,130,165	3,986,363,699	5,520,453,001	22,728,735	6,438,005,920	49,375,664,518	49,467,525,209	100.2%
2018	84,633,117	938,037,245	4,095,125,358	4,049,271,728	21,550,896	6,551,634,376	51,969,546,694	51,730,889,960	99.5%
2019	88,514,781	963,972,120	4,466,020,692	2,617,431,332	24,335,680	6,818,760,572	53,262,489,367	53,391,192,733	100.2%
2020	92,658,238	994,400,416	4,813,451,679	275,669,398	22,966,372	7,099,524,955	52,316,477,771	54,890,975,829	104.9%
2021	97,594,081	1,023,531,951	5,140,648,356	13,046,153,685	23,758,112	7,388,142,712	64,212,505,020	58,979,922,966	91.9%
2022	120,876,570	1,072,639,330	5,866,799,836	(743,042,373)	26,575,798	7,669,576,246	62,833,626,339	62,910,402,179	100.1%
2023	124,748,100	1,109,497,833	6,009,158,073	4,427,042,975	32,026,386	7,967,329,515	66,504,717,419	66,502,286,973	100.0%
2024	132,235,207	1,168,677,259	6,158,581,314	5,757,906,980	36,932,370	8,260,383,852	71,424,801,957	70,687,607,498	99.0%

[1] On a fair value basis, net of investment fees

Section 4: Reporting Information

Exhibit I: Derivation of Employer Contributions under Illinois Pension Code

		Fiscal Year Ending June 30, 2026	As Percentage of Total Payroll
1.	Assumed Payroll:		
	a. Total payroll	$13,247,933,643	
	b. Less Federal Funds payroll	(264,958,673)	
	c. State Payroll	12,982,974,970	
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	7,237,131,339	54.63%
	b. Less School Districts' contributions under Sec. 16-158	(88,804,425)	(0.67%)
	c. Less Federal Funds contribution	(27,396,727)	(0.21%)[1]
	d. Less State debt service for TRS portion of all funds provided under Sec 7.2 of General Obligation Bond Act	(541,748,515)	(4.09%)
	e. Maximum State contribution under PA 94-0004	6,579,181,672	49.66%
3.	Employer contribution recognizing all system assets, before limiting State contribution		
	a. Employer's cost	6,916,217,556	52.21%
	b. Less School Districts' contributions under Sec. 16-158	(88,804,425)	(0.67%)
	c. Less Federal Funds contribution	(27,396,727)	(0.21%)
	d. State contribution[2]	6,800,016,404	51.33%
4.	State contribution under PA 100-0023		
	a. Lesser of amounts under (2) and (3)	6,579,181,672	49.66%
	b. Phase-in of the effect of assumption changes	(83,664,008)	(0.63%)
	c. State contribution	6,495,517,664	49.03%
5.	Employer contributions		
	a. State contribution	6,495,517,664	49.03%
	b. Plus School Districts' contributions under Sec. 16-158	88,804,425	0.67%
	c. Plus Federal Funds contribution	27,396,727	0.21%
	d. Total employer contribution	6,611,718,816	49.91%

[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 45 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, 2026 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 2026, the expected School Districts' contributions under Sec. 16-158(e), 16-158(f), and 16-158(i-5) are $76,838,015, $9,845,000, and $2,121,410, 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

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, 2026
1.	Present value as of June 30, 2025, of future obligations to fund:			
	a.	90% of June 30, 2045, Actuarial Accrued Liability		$50,203,422,400
	b.	Benefit disbursements and administrative expenses through June 30, 2045		129,649,491,560
	c.	Total		179,852,913,960
2.	Projected actuarial value of assets as of June 30, 2025			
	a.	With POB proceeds		74,239,364,409
	b.	Without POB proceeds		70,054,415,381
3.	Present value as of June 30, 2025, of future member contributions through June 30, 2045			15,548,641,743
4.	Present value as of June 30, 2025, of future School District contributions through June 30, 2045			
	a.	2.2% formula under §16-158(e)		1,002,023,579
	b.	6% FAS cap increases under §16-158(f)		120,850,664
	c.	Salaries above the Governor's salary under §16-158(i-5)		31,664,336
	d.	Total		1,154,538,579
5.	Present value as of June 30, 2025, of future Federal Funds contributions through June 30, 2045			233,211,658
6.	Present value as of June 30, 2025, of future State contributions through June 30, 2045			
	a.	Including POB proceeds: (1c) – (2a) – (3) – (4d) – (5)		88,677,157,571
	b.	Excluding POB proceeds: (1c) – (2b) – (3) – (4d) – (5)		92,862,106,599
7.	Present value as of June 30, 2025, of future covered payroll through June 30, 2045			172,762,686,035
8.	Determination of contribution rates for State and Federal Funds for year ended June 30, 2025			
	a.	Including POB proceeds: (6a) ÷ (7)		51.33%
	b.	Excluding POB proceeds: (6b) ÷ (7)		53.75%
9.	Determination of State contribution for year ending June 30, 2026:			
	a.	Projected payroll:		$13,247,933,643
	b.	State contribution before maximum:		
		i.	Gross contribution: (8a) x (9a)	6,800,016,405
		ii.	Phase-in of the effect of assumption changes	83,664,008
		iii.	Net contribution: (i) – (ii)	6,716,352,397
	c.	State contribution before maximum:		
		i.	Gross maximum: (8b) x (9a)	7,120,930,187
		ii.	State's debt service	541,748,515
		iii.	Phase-in of the effect of assumption changes	83,664,008
		iv.	Net contribution: (i) – (ii) – (iii)	6,495,517,664
	d.	**State contribution after maximum: minimum of (9b)(iii) and (9c)(iv)**		**6,495,517,664**

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

			Fiscal Year Ending June 30, 2026
1.	Projected employer Normal Cost for year ending June 30, 2026		
	a.	Total Normal cost	$2,465,293,983
	b.	Administrative expenses	60,984,221
	c.	Member contributions	1,192,314,028
	d.	Employer Normal Cost: **(a) + (b) – (c)**	1,333,964,176
2.	Projected Unfunded Actuarial Accrued Liability as of June 30, 2025		
	a.	Actuarial Accrued Liability	161,759,231,035
	b.	Actuarial Value of Assets	74,239,364,409
	c.	Unfunded Actuarial Accrued Liability: **(a) – (b)**	87,519,866,626
3.	Payment toward projected Unfunded Actuarial Accrued Liability for year ending June 30, 2025 (see Exhibit IV)		9,516,398,980
4.	Total employer contribution for year ending June 30, 2026: **(1d) + (3)**		10,850,363,156
5.	Projected School District contributions for year ending June 30, 2026		
	a.	2.2% formula under §16-158(e)	76,838,015
	b.	6% FAS cap increases under §16-158(f)	9,845,000
	c.	Salaries above the Governor's salary under §16-158(i-5)	2,121,410
	d.	Total	88,804,425
6.	Estimated Federal Funds contribution for year ending June 30, 2026		27,396,727
7.	**State contribution for year ending June 30, 2026: (4) – (5d) – (6)**		**10,734,162,004**

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

Type	Date Established as of June 30	Initial Period	Initial Amount	Annual Payment	Years Remaining	Outstanding Balance
June 30, 2015, valuation base	2016	20	$68,126,860,208	$6,399,410,606	11	$54,185,653,850
June 30, 2016, valuation base	2017	20	8,625,889,107	793,049,991	12	7,167,868,939
June 30, 2017, valuation base	2018	20	3,216,359,048	289,908,565	13	2,778,118,504
June 30, 2018, valuation base	2019	20	3,150,844,586	278,434,683	14	2,812,659,534
June 30, 2019, valuation base	2020	20	4,015,729,497	347,904,967	15	3,686,533,363
June 30, 2020, valuation base	2021	20	4,329,096,839	367,699,727	16	4,069,685,465
June 30, 2021, valuation base	2022	20	1,156,211,108	96,279,311	17	1,108,897,061
June 30, 2022, valuation base	2023	20	2,923,719,908	238,688,463	18	2,851,381,104
June 30, 2023, valuation base	2024	20	4,033,492,504	322,832,125	19	3,988,444,678
June 30, 2024, valuation base	2025	20	4,870,624,128	382,190,542	20	4,870,624,128
Total				**9,516,398,980**		**87,519,866,626**

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

Phase in of the Effect of Assumption Changes for Fiscal Year

Valuation Date June 30	Fiscal Year State Contribution First Affected	Effect on State Contribution	2025	2026	2027	2028	2029
2020	2022	-	-	-	-	-	-
2021	2023	282,800,000	($113,120,000)	($56,560,000)	-	-	-
2022	2024	(69,300,000)	41,580,000	27,720,000	$13,860,000		-
2023	2025	-	-	-	-	-	-
2024	2026	68,530,010	-	(54,824,008)	(41,118,006)	($27,412,004)	($13,706,002)
Total			**(71,540,000)**	**(83,664,008)**	**(27,258,006)**	**(27,412,004)**	**(13,706,002)**

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

As of June 30	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets (AVA)	Fair Value of Assets (FVA)	Unfunded AAL (UAAL on AVA)	Unfunded AAL (UAAL on FVA)	Funded Ratio (on AVA)	Funded Ratio (on FVA)
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
2024	154,325,159	70,687,607	71,424,802	83,637,552	82,900,357	45.8	46.3

A critical piece of information regarding the System's financial status is the funded ratio. The ratio compares the actuarial value and fair value of assets to the actuarial accrued liabilities of the System as calculated.

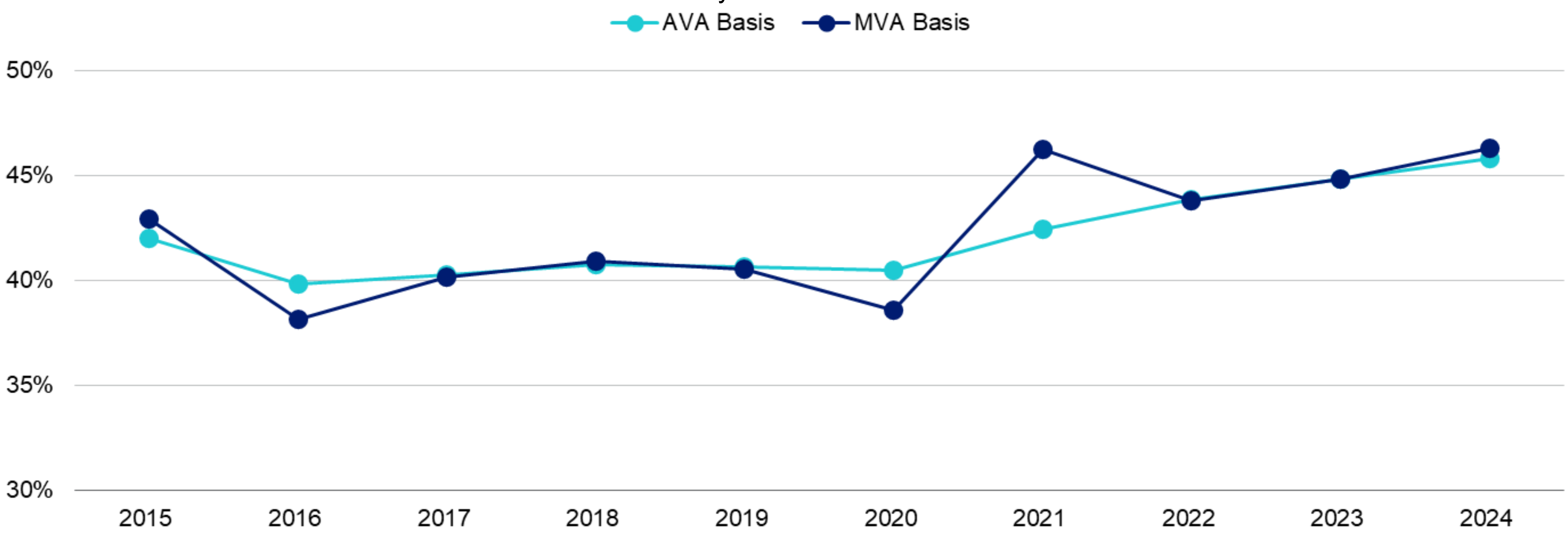


Exhibit VII – Department of Insurance Information

	June 30, 2024	June 30, 2023
Actuarial Accrued Liabilities:		
• Retired members and beneficiaries:		
– Service Retirement	$91,526,093,959	$88,944,495,813
– Disability Retirement	418,253,050	418,228,166
– Survivor	3,377,766,738	3,153,122,633
– Subtotal	95,322,113,747	92,515,846,612
• Inactive	4,778,911,268	4,421,533,883
• Active	54,224,134,149	51,460,915,585
Total	**154,325,159,164**	**148,398,296,080**
Headcounts and Salaries for Active Members:		
• Male		
– Count	38,769	38,249
– Salaries	$3,131,778,900	$3,025,565,194
• Female		
– Count	130,983	128,465
– Salaries	$8,809,194,045	$8,473,131,603
• Total		
– Count	169,752	166,714
– Salaries	$11,940,972,945	$11,498,696,797

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

Actuarial Accrued Liabilities Developed for June 30, 2024, Valuation

Item	Amount
1. Actuarial Accrued Liability measured as of June 30, 2023	$149,726,457,705
2. Normal Cost measured for fiscal year ended June 30, 2024	2,349,582,293
3. Expected benefit payments for fiscal year ended June 30, 2024	8,430,854,230
4. Interest on (1), (2), and (3) to June 30, 2024	10,350,242,902
5. Adjustment for future AAI and APB buyouts as of June 30, 2024	329,730,494
6. Actuarial Accrued Liability as of June 30, 2024: (1) + (2) – (3) + (4) + (5)	154,325,159,164
7. Normal Cost measured for fiscal year ended June 30, 2025	2,383,910,521
8. Expected benefit payments for fiscal year ended June 30, 2025[1]	8,938,536,881
9. Interest on (6), (7), and (8) to June 30, 2025	10,656,786,087
10. Actuarial Accrued Liability as of June 30, 2025: (6) + (7) – (8) + (9)	158,427,318,891

[1] Includes $174,403,527 of projected buyout payments expected to be paid via additional state funds not included in the FY2024 State contribution amount.

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

		Fiscal Year 2026
1.	Employer normal cost plus interest on UAAL	
	a. Employer normal cost	$1,369,286,078
	b. Interest on the projected June 30, 2025 UAAL	5,617,396,726
	c. Total employer normal cost plus interest on UAAL	6,986,682,804
2.	Contributions from sources other than State and Federal Funds	
	a. School District contributions under §16-158(e)	(76,838,015)
	b. School District contributions under §16-158(f)	(9,845,000)
	c. School District contributions under §16-158(i-5)	(2,121,410)
	d. Federal Funds contribution	(27,396,727)
	e. Total contributions from sources other than State and Federal Funds	(116,201,152)
3.	State share of normal cost plus interest on UAAL: (1c) + (2e)	6,870,481,653
4.	State contribution requirement (per Section 22-1001 of Illinois Pension Code)	
	a. State's share of normal cost plus interest on UAAL	6,870,481,653
	b. Guaranteed Minimum Annuity Reserve contribution	200,000
	c. Total State contribution requirement	6,870,681,653

Exhibit X – Development of Actuarial Determined Contribution (ADC)

Development of the ADC	Fiscal Year Ended June 30, 2024
1. Projected total Normal Cost	$2,272,944,623
2. Administrative expenses	44,851,616
3. Member contributions	1,092,235,571
4. Employer Normal Cost: (1) + (2) – (3)	1,225,560,668
5. Amortization of Unfunded Actuarial Accrued Liability	8,469,219,831
6. Actuarially Determined Contribution: (4) + (5)	9,694,780,499

The ADC for fiscal year ended June 30, 2024, is based on the valuation date of June 30, 2022, prepared by Segal.

Assumption Type	Assumption
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:	3.75% – 8.75%; composite approximately 4.73%
Includes Inflation at:	2.50%
Post-retirement Increase:	Tier 1: 3.00% compounded Tier 2: 1.25% 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, 2024, actuarial valuation, we have projected valuation results to June 30, 2046, commencing with Fiscal Year 2025.

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 2025 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, 2024, 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 dark blue line are based on prior valuations and amounts below the line are based on the current valuation.

Year Ended June 30	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets (AVA)	Unfunded Actuarial Accrued Liability (UAAL)	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%
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%

Table 1 – Projection of Funded Ratio to 2046 continued

Year Ended June 30	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets (AVA)	Unfunded Actuarial Accrued Liability (UAAL)	Tier 1 Funded Ratio	Tier 2 Funded Ratio	Total Funded Ratio
2023	$148,398,296,080	$66,502,286,971	$81,896,009,109	44.1%	118.8%	44.8%
2024	154,325,159,164	70,687,607,499	83,637,551,665	45.0%	118.5%	45.8%
2025	158,427,318,891	75,370,095,864	83,057,223,027	46.6%	119.4%	47.6%
2026	162,496,071,460	78,408,427,199	84,087,644,261	47.1%	117.3%	48.3%
2027	166,707,501,714	82,601,164,831	84,106,336,883	48.2%	116.8%	49.5%
2028	170,870,539,120	86,974,454,859	83,896,084,262	49.4%	116.3%	50.9%
2029	175,037,247,053	91,312,700,585	83,724,546,468	50.5%	115.5%	52.2%
2030	179,120,091,778	95,758,063,397	83,362,028,381	51.6%	114.8%	53.5%
2031	183,098,491,650	100,316,683,504	82,781,808,146	52.7%	114.1%	54.8%
2032	186,947,821,767	105,001,248,342	81,946,573,425	53.9%	113.4%	56.2%
2033	190,638,786,981	109,821,812,881	80,816,974,100	55.1%	112.8%	57.6%
2034	194,145,244,268	115,388,129,619	78,757,114,649	56.7%	112.1%	59.4%
2035	197,444,000,565	121,131,686,687	76,312,313,878	58.4%	111.5%	61.3%
2036	200,511,666,999	127,060,984,478	73,450,682,521	60.2%	110.9%	63.4%
2037	203,328,614,256	133,192,380,595	70,136,233,661	62.1%	110.4%	65.5%
2038	205,869,954,754	139,544,807,382	66,325,147,372	64.2%	109.8%	67.8%
2039	208,119,995,711	146,146,002,589	61,973,993,122	66.5%	109.3%	70.2%
2040	210,066,050,567	153,032,811,771	57,033,238,795	68.9%	108.8%	72.8%
2041	211,712,783,571	160,261,695,191	51,451,088,380	71.7%	108.3%	75.7%
2042	213,074,401,154	167,900,755,382	45,173,645,772	74.8%	107.8%	78.8%
2043	214,180,377,998	176,038,251,800	38,142,126,198	78.3%	107.3%	82.2%
2044	215,084,777,147	184,785,240,874	30,299,536,273	82.2%	106.9%	85.9%
2045	215,857,115,139	194,271,403,625	21,585,711,514	86.8%	106.4%	90.0%
2046	216,579,095,747	194,921,186,172	21,657,909,575	86.5%	106.0%	90.0%

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

Amounts above the dark blue line are based on prior valuations and amounts below the line are based on the current valuation. See notes.

Year Ended June 30	Member	School District §16-158(e) (2.2 Formula)	School District §16-158(f) (6% FAS Cap)	School District §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
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

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

Year Ended June 30	Member	School District §16-158(e) (2.2 Formula)	School District §16-158(f) (6% FAS Cap)	School District §16-158(i-5) (Payroll above Gov.)	Total	Federal Funds	State	Total
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	1,192,314,028	76,838,015	9,845,000	2,121,410	88,804,425	27,396,727	6,495,517,664	7,804,032,844
2027	1,224,548,881	78,915,372	10,143,100	2,254,909	91,313,381	27,293,834	6,651,101,350	7,994,257,446
2028	1,256,420,364	80,969,312	10,553,400	2,403,813	93,926,525	26,999,078	6,883,227,585	8,260,573,552
2029	1,288,081,808	83,009,717	10,766,800	2,549,633	96,326,149	26,563,109	7,041,673,392	8,452,644,458
2030	1,319,505,499	85,034,799	11,069,300	2,716,097	98,820,195	26,008,919	7,185,946,764	8,630,281,377
2031	1,350,543,939	87,035,054	11,289,300	2,900,360	101,224,714	25,360,214	7,337,229,825	8,814,358,693
2032	1,381,104,184	89,004,492	11,454,300	3,063,254	103,522,046	24,583,654	7,503,490,427	9,012,700,312
2033	1,410,976,417	90,929,591	11,836,000	3,175,140	105,940,731	23,641,694	7,682,729,842	9,223,288,684
2034	1,439,970,065	92,798,071	11,896,500	3,262,578	107,957,149	22,559,531	8,450,024,832	10,020,511,576
2035	1,468,874,096	94,660,775	12,138,500	3,365,212	110,164,487	21,314,995	8,619,639,316	10,219,992,894
2036	1,497,441,352	96,501,776	12,070,300	3,479,474	112,051,550	19,932,608	8,787,277,539	10,416,703,049
2037	1,525,951,247	98,339,080	12,203,400	3,561,896	114,104,376	18,379,235	8,954,579,154	10,613,014,012
2038	1,554,882,206	100,203,520	12,444,300	3,624,914	116,272,734	16,689,069	9,124,351,658	10,812,195,667
2039	1,583,913,335	102,074,415	12,219,900	3,624,171	117,918,485	14,818,389	9,294,711,980	11,011,362,190
2040	1,613,721,155	103,995,363	12,108,800	3,534,070	119,638,233	12,802,188	9,469,630,074	11,215,791,650
2041	1,645,046,091	106,014,081	11,550,000	3,321,871	120,885,953	10,747,634	9,653,450,899	11,430,130,577
2042	1,678,488,775	108,169,277	10,708,500	3,075,255	121,953,031	8,765,441	9,849,699,084	11,658,906,332
2043	1,714,710,678	110,503,577	9,909,900	2,762,179	123,175,656	6,896,947	10,062,256,266	11,907,039,548
2044	1,754,043,045	113,038,330	8,398,500	2,484,982	123,921,811	5,340,087	10,293,066,255	12,176,371,197
2045	1,797,316,109	115,827,038	6,947,600	2,304,854	125,079,493	4,193,738	10,547,001,026	12,473,590,365
2046	1,845,484,050	118,931,194	5,442,800	-	124,373,994	-	1,438,555,692	3,408,413,736

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 – 2026, the estimate is 2.00% of payroll. All payrolls are assumed to increase at the same rate for years subsequent to 2026.
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 – 2026 are based on the June 30, 1993 – June 30, 2024, 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 2025 are based on the June 30, 2024, 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 dark blue line are based on prior valuations and amounts below the line are based on the current valuation. See notes.

Year Ended June 30	Assumed Payroll	Member	School District §16-158(e) (2.2 Formula)	School District §16-158(f) (6% FAS Cap)	School District §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%
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%

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

Year Ended June 30	Assumed Payroll	Member	School District §16-158(e) (2.2 Formula)	School District §16-158(f) (6% FAS Cap)	School District §16-158(i-5) (Payroll above Gov.)	Total	Federal Funds	State	Total
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	13,247,933,643	9.00%	0.58%	0.07%	0.02%	0.67%	0.21%	49.03%	58.91%
2027	13,606,098,680	9.00%	0.58%	0.07%	0.02%	0.67%	0.20%	48.88%	58.75%
2028	13,960,226,271	9.00%	0.58%	0.08%	0.02%	0.67%	0.19%	49.31%	59.17%
2029	14,312,020,089	9.00%	0.58%	0.08%	0.02%	0.67%	0.19%	49.20%	59.06%
2030	14,661,172,206	9.00%	0.58%	0.08%	0.02%	0.67%	0.18%	49.01%	58.86%
2031	15,006,043,770	9.00%	0.58%	0.08%	0.02%	0.67%	0.17%	48.90%	58.74%
2032	15,345,602,047	9.00%	0.58%	0.07%	0.02%	0.67%	0.16%	48.90%	58.73%
2033	15,677,515,749	9.00%	0.58%	0.08%	0.02%	0.68%	0.15%	49.00%	58.83%
2034	15,999,667,387	9.00%	0.58%	0.07%	0.02%	0.67%	0.14%	52.81%	62.63%
2035	16,320,823,287	9.00%	0.58%	0.07%	0.02%	0.67%	0.13%	52.81%	62.62%
2036	16,638,237,244	9.00%	0.58%	0.07%	0.02%	0.67%	0.12%	52.81%	62.61%
2037	16,955,013,851	9.00%	0.58%	0.07%	0.02%	0.67%	0.11%	52.81%	62.60%
2038	17,276,468,952	9.00%	0.58%	0.07%	0.02%	0.67%	0.10%	52.81%	62.58%
2039	17,599,037,057	9.00%	0.58%	0.07%	0.02%	0.67%	0.08%	52.81%	62.57%
2040	17,930,235,057	9.00%	0.58%	0.07%	0.02%	0.67%	0.07%	52.81%	62.55%
2041	18,278,289,898	9.00%	0.58%	0.06%	0.02%	0.66%	0.06%	52.81%	62.53%
2042	18,649,875,279	9.00%	0.58%	0.06%	0.02%	0.65%	0.05%	52.81%	62.51%
2043	19,052,340,867	9.00%	0.58%	0.05%	0.01%	0.65%	0.04%	52.81%	62.50%
2044	19,489,367,162	9.00%	0.58%	0.04%	0.01%	0.64%	0.03%	52.81%	62.48%
2045	19,970,178,988	9.00%	0.58%	0.03%	0.01%	0.63%	0.02%	52.81%	62.46%
2046	20,505,378,331	9.00%	0.58%	0.03%	0.00%	0.61%	0.00%	7.02%	16.62%

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 84 and 85 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 Rate and Amount to 2046

Amounts above the dark blue 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	Total Employer Contribution Rate	Normal Cost	Portion of UAAL	Total Employer Contribution Amount	Normal Cost	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
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

Table 4 – Projection of Total Employer Contribution to 2046 continued

Year Ended June 30	Amortization Year	Total Employer Contribution Rate	Normal Cost	Portion of UAAL	Total Employer Contribution Amount	Normal Cost	Portion of UAAL
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	49.91%	10.34%	39.57%	6,611,718,816	1,369,286,078	5,242,432,738
2027	32	49.75%	10.03%	39.73%	6,769,708,565	1,364,319,570	5,405,388,995
2028	33	50.17%	9.67%	40.50%	7,004,153,187	1,349,601,377	5,654,551,811
2029	34	50.06%	9.28%	40.78%	7,164,562,650	1,327,610,185	5,836,952,465
2030	35	49.86%	8.87%	40.99%	7,310,775,879	1,300,906,540	6,009,869,338
2031	36	49.74%	8.45%	41.29%	7,463,814,754	1,268,119,491	6,195,695,262
2032	37	49.73%	8.01%	41.72%	7,631,596,128	1,228,740,134	6,402,855,993
2033	38	49.83%	7.54%	42.29%	7,812,312,267	1,181,513,741	6,630,798,526
2034	39	53.63%	7.05%	46.58%	8,580,541,512	1,127,308,425	7,453,233,086
2035	40	53.62%	6.53%	47.09%	8,751,118,798	1,065,236,278	7,685,882,520
2036	41	53.61%	5.99%	47.62%	8,919,261,697	995,944,915	7,923,316,782
2037	42	53.60%	5.42%	48.17%	9,087,062,766	919,725,208	8,167,337,557
2038	43	53.58%	4.83%	48.75%	9,257,313,461	834,232,226	8,423,081,235
2039	44	53.57%	4.21%	49.36%	9,427,448,855	740,241,472	8,687,207,383
2040	45	53.55%	3.57%	49.99%	9,602,070,495	639,399,192	8,962,671,303
2041	46	53.53%	2.94%	50.60%	9,785,084,486	536,780,754	9,248,303,732
2042	47	53.51%	2.35%	51.17%	9,980,417,557	437,793,764	9,542,623,794
2043	48	53.50%	1.81%	51.68%	10,192,328,870	345,623,535	9,846,705,335
2044	49	53.48%	1.37%	52.10%	10,422,328,153	267,495,010	10,154,833,142
2045	50	53.46%	1.05%	52.41%	10,676,274,256	210,066,318	10,466,207,938
2046	51	7.62%	0.85%	6.77%	1,562,929,686	174,985,639	1,387,944,047

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 2025 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 – 2026 are based on the June 30, 1993 – June 30, 2024, 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 2025 are based on the June 30, 2024, 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 Total Employer Contribution 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 dark blue 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	FVA Return	AVA	FVA	AAL	UAAL	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%
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%

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

Year Ended June 30	Contributions	Benefits and Expenses	FVA Return	AVA	FVA	AAL	UAAL	AVA Funded Ratio
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	7,459,493,780	8,297,316,222	5,757,906,980	70,687,607,499	71,424,801,957	154,325,159,164	83,637,551,665	45.8%
2025	7,466,370,312	8,815,525,494	4,952,515,705	75,370,095,864	75,028,162,480	158,427,318,891	83,057,223,027	47.6%
2026	7,804,032,844	9,164,339,073	5,204,360,656	78,408,427,199	78,872,216,907	162,496,071,460	84,087,644,261	48.3%
2027	7,994,257,446	9,507,037,301	5,468,107,889	82,601,164,831	82,827,544,940	166,707,501,714	84,106,336,883	49.5%
2028	8,260,573,552	9,855,760,245	5,742,096,612	86,974,454,859	86,974,454,859	170,870,539,120	83,896,084,262	50.9%
2029	8,452,644,458	10,143,432,974	6,029,034,242	91,312,700,585	91,312,700,585	175,037,247,053	83,724,546,468	52.2%
2030	8,630,281,377	10,510,983,048	6,326,064,482	95,758,063,397	95,758,063,397	179,120,091,778	83,362,028,381	53.5%
2031	8,814,358,693	10,886,285,582	6,630,546,997	100,316,683,504	100,316,683,504	183,098,491,650	82,781,808,146	54.8%
2032	9,012,700,312	11,271,253,942	6,943,118,468	105,001,248,342	105,001,248,342	186,947,821,767	81,946,573,425	56.2%
2033	9,223,288,684	11,667,272,110	7,264,547,964	109,821,812,881	109,821,812,881	190,638,786,981	80,816,974,100	57.6%
2034	10,020,511,576	12,069,989,995	7,615,795,157	115,388,129,619	115,388,129,619	194,145,244,268	78,757,114,649	59.4%
2035	10,219,992,894	12,474,690,484	7,998,254,658	121,131,686,687	121,131,686,687	197,444,000,565	76,312,313,878	61.3%
2036	10,416,703,049	12,880,394,139	8,392,988,880	127,060,984,478	127,060,984,478	200,511,666,999	73,450,682,521	63.4%
2037	10,613,014,012	13,282,456,328	8,800,838,432	133,192,380,595	133,192,380,595	203,328,614,256	70,136,233,661	65.5%
2038	10,812,195,667	13,682,765,575	9,222,996,695	139,544,807,382	139,544,807,382	205,869,954,754	66,325,147,372	67.8%
2039	11,011,362,190	14,071,208,866	9,661,041,883	146,146,002,589	146,146,002,589	208,119,995,711	61,973,993,122	70.2%
2040	11,215,791,650	14,446,140,442	10,117,157,974	153,032,811,771	153,032,811,771	210,066,050,567	57,033,238,795	72.8%
2041	11,430,130,577	14,795,747,393	10,594,500,235	160,261,695,191	160,261,695,191	211,712,783,571	51,451,088,380	75.7%
2042	11,658,906,332	15,117,127,078	11,097,280,937	167,900,755,382	167,900,755,382	213,074,401,154	45,173,645,772	78.8%
2043	11,907,039,548	15,400,330,813	11,630,787,682	176,038,251,800	176,038,251,800	214,180,377,998	38,142,126,198	82.2%
2044	12,176,371,197	15,631,142,745	12,201,760,622	184,785,240,874	184,785,240,874	215,084,777,147	30,299,536,273	85.9%
2045	12,473,590,365	15,805,768,248	12,818,340,635	194,271,403,625	194,271,403,625	215,857,115,139	21,585,711,514	90.0%
2046	3,408,413,736	15,919,733,259	13,161,102,070	194,921,186,172	194,921,186,172	216,579,095,747	21,657,909,575	90.0%

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

Amounts above the dark blue 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	FVA Return	AVA	FVA	AAL	UAAL	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	7,132,382,825	8,236,497,389	5,597,037,933	68,569,325,233	69,284,428,323	152,536,950,734	83,967,625,502	45.0%
2025	7,104,831,457	8,748,758,699	4,792,372,529	72,762,979,222	72,432,873,610	156,243,692,160	83,480,712,938	46.6%
2026	7,395,677,993	9,087,854,264	5,011,074,983	75,306,331,661	75,751,772,322	159,850,662,963	84,544,331,301	47.1%
2027	7,537,174,739	9,422,178,213	5,236,648,941	78,887,216,277	79,103,417,788	163,527,546,742	84,640,330,465	48.2%
2028	7,752,678,164	9,763,357,134	5,466,865,481	82,559,604,299	82,559,604,299	167,073,712,660	84,514,108,361	49.4%
2029	7,891,299,785	10,036,869,607	5,704,077,357	86,118,111,834	86,118,111,834	170,540,745,989	84,422,634,155	50.5%
2030	8,013,520,842	10,392,867,416	5,944,990,698	89,683,755,959	89,683,755,959	173,828,811,683	84,145,055,724	51.6%
2031	8,139,468,193	10,755,257,034	6,186,310,308	93,254,277,425	93,254,277,425	176,908,623,650	83,654,346,225	52.7%
2032	8,277,011,483	11,126,018,354	6,428,084,179	96,833,354,733	96,833,354,733	179,746,307,370	82,912,952,637	53.9%
2033	8,423,952,504	11,506,849,467	6,670,433,438	100,420,891,208	100,420,891,208	182,301,968,019	81,881,076,811	55.1%
2034	9,154,611,912	11,888,744,114	6,933,767,757	104,620,526,764	104,620,526,764	184,542,692,641	79,922,165,877	56.7%
2035	9,284,808,479	12,272,875,283	7,218,854,535	108,851,314,495	108,851,314,495	186,432,552,166	77,581,237,671	58.4%
2036	9,409,442,471	12,655,356,407	7,505,985,027	113,111,385,586	113,111,385,586	187,936,952,103	74,825,566,517	60.2%
2037	9,530,945,889	13,031,450,740	7,795,279,321	117,406,160,056	117,406,160,056	189,024,456,430	71,618,296,375	62.1%
2038	9,652,933,815	13,401,425,354	8,087,234,000	121,744,902,517	121,744,902,517	189,660,636,529	67,915,734,012	64.2%
2039	9,772,476,139	13,756,481,699	8,382,702,982	126,143,599,938	126,143,599,938	189,816,717,963	63,673,118,026	66.5%
2040	9,895,296,857	14,093,559,660	8,683,112,798	130,628,449,933	130,628,449,933	189,468,572,884	58,840,122,951	68.9%
2041	10,026,844,887	14,403,700,417	8,990,801,552	135,242,395,955	135,242,395,955	188,606,053,071	53,363,657,116	71.7%
2042	10,172,331,046	14,681,171,885	9,309,158,287	140,042,713,402	140,042,713,402	187,230,707,801	47,187,994,399	74.8%
2043	10,337,755,063	14,913,031,824	9,642,855,252	145,110,291,892	145,110,291,892	185,363,944,439	40,253,652,546	78.3%
2044	10,526,362,872	15,086,273,189	9,998,123,571	150,548,505,147	150,548,505,147	183,049,473,051	32,500,967,904	82.2%
2045	10,745,748,754	15,192,622,222	10,382,754,789	156,484,386,467	156,484,386,467	180,352,880,370	23,868,493,903	86.8%
2046	1,608,123,867	15,227,584,302	10,477,225,937	153,342,151,970	153,342,151,970	177,353,663,684	24,011,511,714	86.5%

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

Amounts above the dark blue 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	FVA Return	AVA	FVA	AAL	UAAL	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	327,110,955	60,818,833	160,869,047	2,118,282,266	2,140,373,634	1,788,208,429	(330,073,837)	118.5%
2025	361,538,855	66,766,795	160,143,176	2,607,116,641	2,595,288,870	2,183,626,730	(423,489,911)	119.4%
2026	408,354,851	76,484,808	193,285,672	3,102,095,537	3,120,444,585	2,645,408,497	(456,687,040)	117.3%
2027	457,082,707	84,859,088	231,458,948	3,713,948,553	3,724,127,152	3,179,954,972	(533,993,582)	116.8%
2028	507,895,388	92,403,111	275,231,130	4,414,850,559	4,414,850,559	3,796,826,460	(618,024,100)	116.3%
2029	561,344,674	106,563,367	324,956,885	5,194,588,751	5,194,588,751	4,496,501,064	(698,087,687)	115.5%
2030	616,760,535	118,115,632	381,073,784	6,074,307,438	6,074,307,438	5,291,280,095	(783,027,343)	114.8%
2031	674,890,500	131,028,548	444,236,689	7,062,406,079	7,062,406,079	6,189,868,000	(872,538,079)	114.1%
2032	735,688,829	145,235,589	515,034,289	8,167,893,609	8,167,893,609	7,201,514,396	(966,379,212)	113.4%
2033	799,336,181	160,422,643	594,114,526	9,400,921,673	9,400,921,673	8,336,818,962	(1,064,102,711)	112.8%
2034	865,899,664	181,245,881	682,027,400	10,767,602,855	10,767,602,855	9,602,551,627	(1,165,051,228)	112.1%
2035	935,184,415	201,815,201	779,400,122	12,280,372,192	12,280,372,192	11,011,448,399	(1,268,923,793)	111.5%
2036	1,007,260,579	225,037,732	887,003,853	13,949,598,892	13,949,598,892	12,574,714,896	(1,374,883,996)	110.9%
2037	1,082,068,123	251,005,587	1,005,559,111	15,786,220,539	15,786,220,539	14,304,157,826	(1,482,062,713)	110.4%
2038	1,159,261,852	281,340,221	1,135,762,695	17,799,904,865	17,799,904,865	16,209,318,226	(1,590,586,639)	109.8%
2039	1,238,886,052	314,727,167	1,278,338,902	20,002,402,651	20,002,402,651	18,303,277,747	(1,699,124,904)	109.3%
2040	1,320,494,793	352,580,782	1,434,045,176	22,404,361,838	22,404,361,838	20,597,477,683	(1,806,884,156)	108.8%
2041	1,403,285,690	392,046,976	1,603,698,684	25,019,299,236	25,019,299,236	23,106,730,500	(1,912,568,737)	108.3%
2042	1,486,575,287	435,955,193	1,788,122,650	27,858,041,980	27,858,041,980	25,843,693,353	(2,014,348,626)	107.8%
2043	1,569,284,485	487,298,988	1,987,932,431	30,927,959,907	30,927,959,907	28,816,433,559	(2,111,526,348)	107.3%
2044	1,650,008,325	544,869,556	2,203,637,050	34,236,735,727	34,236,735,727	32,035,304,096	(2,201,431,631)	106.9%
2045	1,727,841,611	613,146,026	2,435,585,846	37,787,017,158	37,787,017,158	35,504,234,769	(2,282,782,389)	106.4%
2046	1,800,289,869	692,148,958	2,683,876,133	41,579,034,202	41,579,034,202	39,225,432,062	(2,353,602,140)	106.0%

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 (AAL) to 2046 by Member Group

Year Ended June 30	Tier 1 Current Active	Tier 2 Current Active	New Entrants	Inactive	Total AAL
2024	$52,641,594,793	$1,788,208,429	-	$99,895,355,942	$154,325,159,164
2025	58,499,024,230	2,147,428,513	$36,198,217	97,744,667,930	158,427,318,891
2026	64,340,669,204	2,537,703,486	107,705,011	95,509,993,759	162,496,071,460
2027	70,142,627,003	2,965,733,072	214,221,899	93,384,919,739	166,707,501,714
2028	76,024,795,208	3,441,301,655	355,524,805	91,048,917,453	170,870,539,120
2029	81,957,175,988	3,964,883,776	531,617,288	88,583,570,001	175,037,247,053
2030	87,905,709,651	4,538,082,427	753,197,668	85,923,102,032	179,120,091,778
2031	93,830,691,075	5,165,102,502	1,024,765,498	83,077,932,575	183,098,491,650
2032	99,687,454,492	5,850,140,260	1,351,374,137	80,058,852,879	186,947,821,767
2033	105,422,554,993	6,597,794,398	1,739,024,564	76,879,413,026	190,638,786,981
2034	110,984,955,396	7,408,393,304	2,194,158,323	73,557,737,245	194,145,244,268
2035	116,321,177,150	8,284,925,298	2,726,523,101	70,111,375,017	197,444,000,565
2036	121,375,836,802	9,230,658,917	3,344,055,979	66,561,115,301	200,511,666,999
2037	126,093,867,903	10,248,797,075	4,055,360,751	62,930,588,527	203,328,614,256
2038	130,419,311,193	11,341,085,612	4,868,232,614	59,241,325,335	205,869,954,754
2039	134,298,351,147	12,510,408,776	5,792,868,972	55,518,366,817	208,119,995,711
2040	137,684,082,302	13,758,809,287	6,838,668,396	51,784,490,582	210,066,050,567
2041	140,540,164,164	15,087,969,900	8,018,760,600	48,065,888,906	211,712,783,571
2042	142,843,060,451	16,500,132,868	9,343,560,485	44,387,647,350	213,074,401,154
2043	144,588,684,559	17,995,005,727	10,821,427,832	40,775,259,880	214,180,377,998
2044	145,794,516,180	19,571,138,647	12,464,165,448	37,254,956,871	215,084,777,147
2045	146,506,857,069	21,224,540,736	14,279,694,033	33,846,023,301	215,857,115,139
2046	146,784,379,451	22,950,187,423	16,275,244,639	30,569,284,234	216,579,095,747

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
2024	$2,160,944,233	$270,873,440	-	$2,431,817,673
2025	2,155,860,902	275,087,299	$36,399,188	2,467,347,389
2026	2,146,530,878	281,439,889	72,645,118	2,500,615,885
2027	2,126,744,824	290,338,589	109,152,076	2,526,235,489
2028	2,093,879,382	301,857,505	146,021,736	2,541,758,623
2029	2,052,164,635	314,356,716	183,288,112	2,549,809,463
2030	2,001,931,211	327,497,384	223,493,662	2,552,922,256
2031	1,942,045,433	341,292,138	266,248,529	2,549,586,100
2032	1,872,036,508	355,550,457	311,616,934	2,539,203,900
2033	1,790,094,742	370,227,612	359,999,487	2,520,321,841
2034	1,696,671,538	385,317,214	411,638,460	2,493,627,212
2035	1,592,201,940	400,969,940	465,808,839	2,458,980,718
2036	1,476,534,867	417,160,892	523,099,701	2,416,795,460
2037	1,350,308,331	433,764,881	583,554,219	2,367,627,430
2038	1,212,981,362	450,179,784	646,424,506	2,309,585,652
2039	1,063,564,450	466,726,134	712,850,566	2,243,141,150
2040	905,379,411	483,145,323	782,057,352	2,170,582,086
2041	744,534,229	499,274,597	853,877,556	2,097,686,382
2042	587,226,507	515,255,042	927,950,008	2,030,431,557
2043	439,513,683	530,378,654	1,002,738,224	1,972,630,561
2044	308,408,591	544,215,985	1,079,198,064	1,931,822,640
2045	203,740,589	556,141,856	1,155,571,244	1,915,453,690
2046	129,847,959	565,719,417	1,230,509,893	1,926,077,269

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[1]	Administrative Expenses	Total Benefits and Expenses
2024	$150,097,306	$50,481,520	-	$8,155,838,648	$8,356,417,474	$36,932,370	$8,393,349,844
2025	372,198,597	49,367,951	$1,383,441	8,341,183,365	8,764,133,354	51,392,140	8,815,525,494
2026	611,617,441	49,676,818	5,921,544	8,436,139,049	9,103,354,852	60,984,221	9,164,339,073
2027	870,099,301	48,083,537	13,396,784	8,512,824,718	9,444,404,339	62,632,962	9,507,037,302
2028	1,152,176,409	42,606,743	23,818,644	8,572,895,332	9,791,497,128	64,263,118	9,855,760,245
2029	1,459,822,600	40,865,827	36,986,004	8,539,876,013	10,077,550,444	65,882,531	10,143,432,974
2030	1,795,263,791	41,464,143	45,105,554	8,561,659,777	10,443,493,265	67,489,783	10,510,983,048
2031	2,160,518,569	42,008,805	54,500,589	8,560,180,288	10,817,208,251	69,077,330	10,886,285,581
2032	2,557,224,202	42,602,242	65,004,493	8,535,782,586	11,200,613,523	70,640,419	11,271,253,942
2033	2,989,034,454	43,094,750	76,443,618	8,486,530,969	11,595,103,791	72,168,318	11,667,272,109
2034	3,450,459,276	47,916,876	89,040,156	8,408,922,410	11,996,338,718	73,651,278	12,069,989,996
2035	3,940,840,233	54,671,350	99,311,240	8,304,738,004	12,399,560,827	75,129,656	12,474,690,483
2036	4,458,249,996	63,264,670	110,253,915	8,172,034,751	12,803,803,332	76,590,807	12,880,394,139
2037	4,999,273,822	73,856,256	121,803,944	8,009,473,280	13,204,407,302	78,049,025	13,282,456,328
2038	5,560,509,680	87,469,095	134,577,451	7,820,680,569	13,603,236,795	79,528,780	13,682,765,575
2039	6,135,113,263	103,441,519	147,919,371	7,603,721,055	13,990,195,208	81,013,658	14,071,208,866
2040	6,716,086,504	122,523,356	162,517,043	7,362,475,277	14,363,602,180	82,538,262	14,446,140,442
2041	7,296,150,351	145,037,987	175,234,035	7,095,184,558	14,711,606,931	84,140,463	14,795,747,394
2042	7,866,666,293	170,699,565	189,220,596	6,804,689,642	15,031,276,096	85,850,982	15,117,127,078
2043	8,413,301,051	201,401,551	205,632,013	6,492,292,546	15,312,627,161	87,703,652	15,400,330,813
2044	8,921,946,053	237,813,435	222,661,851	6,159,005,992	15,541,427,331	89,715,415	15,631,142,746
2045	9,375,754,214	281,667,829	243,102,927	5,813,314,542	15,713,839,512	91,928,737	15,805,768,248
2046	9,770,238,228	333,257,188	266,810,932	5,455,034,491	15,825,340,839	94,392,420	15,919,733,259

[1] Benefit payments shown above do not include projected buyout amounts of $174,403,527 and $178,130,682 for the years ending June 30, 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
2024	$9,031,009,655	$3,510,290,495	-	$12,541,300,150
2025	8,873,447,174	3,529,166,433	$487,931,951	12,890,545,558
2026	8,710,657,526	3,558,953,999	978,322,118	13,247,933,643
2027	8,527,401,934	3,602,927,744	1,475,769,002	13,606,098,680
2028	8,316,944,182	3,662,763,016	1,980,519,073	13,960,226,271
2029	8,074,857,047	3,744,975,783	2,492,187,259	14,312,020,089
2030	7,808,277,375	3,831,678,511	3,021,216,320	14,661,172,206
2031	7,507,260,438	3,918,657,188	3,580,126,144	15,006,043,770
2032	7,171,281,722	4,004,935,862	4,169,384,463	15,345,602,047
2033	6,796,002,631	4,088,745,031	4,792,768,087	15,677,515,749
2034	6,378,560,006	4,168,351,590	5,452,755,791	15,999,667,387
2035	5,929,885,341	4,243,913,534	6,147,024,412	16,320,823,287
2036	5,446,453,037	4,314,868,866	6,876,915,341	16,638,237,244
2037	4,932,034,705	4,380,127,095	7,642,852,051	16,955,013,851
2038	4,395,781,710	4,437,155,561	8,443,531,681	17,276,468,952
2039	3,833,636,483	4,483,672,911	9,281,727,663	17,599,037,057
2040	3,258,070,690	4,520,788,274	10,151,376,093	17,930,235,057
2041	2,686,226,675	4,547,239,351	11,044,823,872	18,278,289,898
2042	2,132,372,094	4,561,618,347	11,955,884,838	18,649,875,279
2043	1,615,846,587	4,564,552,710	12,871,941,570	19,052,340,867
2044	1,155,941,326	4,552,250,785	13,781,175,051	19,489,367,162
2045	771,938,868	4,524,266,501	14,673,973,619	19,970,178,988
2046	502,157,566	4,477,033,282	15,526,187,483	20,505,378,331

Table 10 – Projection of Member Count to 2046 by Member Group[1]

Year Ended June 30	Tier 1 Active	Tier 1 Retired and Inactive	Tier 1 Subtotal	Tier 2 Active	Tier 2 Retired and Inactive	Tier 2 Subtotal	Total Active	Total Retired and Inactive	Grand Total
2024	94,623	230,869	325,492	75,129	43,016	118,145	169,752	273,885	443,637
2025	88,911	227,973	316,884	80,841	41,126	121,967	169,752	269,098	438,850
2026	83,460	224,918	308,378	86,292	39,301	125,593	169,752	264,219	433,971
2027	78,185	221,755	299,940	91,567	37,540	129,107	169,752	259,294	429,046
2028	73,023	218,511	291,534	96,729	35,842	132,571	169,752	254,353	424,105
2029	68,002	215,076	283,078	101,750	34,213	135,963	169,752	249,288	419,040
2030	63,033	211,504	274,537	106,719	32,654	139,373	169,752	244,158	413,910
2031	58,115	207,785	265,900	111,637	31,163	142,800	169,752	238,947	408,699
2032	53,227	203,929	257,156	116,525	29,758	146,283	169,752	233,687	403,439
2033	48,352	199,952	248,304	121,400	28,453	149,853	169,752	228,404	398,156
2034	43,537	195,802	239,339	126,215	27,128	153,343	169,752	222,930	392,682
2035	38,768	191,499	230,267	130,984	25,903	156,887	169,752	217,402	387,154
2036	34,079	187,017	221,096	135,673	24,764	160,437	169,752	211,781	381,533
2037	29,500	182,340	211,840	140,252	23,708	163,960	169,752	206,048	375,800
2038	25,020	177,486	202,506	144,732	22,765	167,497	169,752	200,251	370,003
2039	20,711	172,404	193,115	149,041	21,898	170,939	169,752	194,302	364,054
2040	16,659	167,020	183,679	153,093	21,131	174,224	169,752	188,151	357,903
2041	12,930	161,291	174,221	156,822	20,458	177,280	169,752	181,749	351,501
2042	9,608	155,150	164,758	160,144	19,865	180,009	169,752	175,015	344,767
2043	6,771	148,539	155,310	162,981	19,411	182,392	169,752	167,950	337,702
2044	4,490	141,406	145,896	165,262	19,061	184,323	169,752	160,467	330,219
2045	2,919	138,177	141,096	166,833	21,016	187,849	169,752	159,193	328,945
2046	1,881	134,482	136,363	167,871	23,108	190,979	169,752	157,590	327,342

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

Table 11 – Projection of Employer Normal Cost (ER NC) Amount and % of Pay to 2046 by Member Group

Year Ended June 30	Tier 1 Payroll	Tier 2 Payroll	Total Payroll	Tier 1 ER NC Amount	Tier 2 ER NC Amount	Admin. Expenses	Total ER NC Amount	Tier 1 ER NC Rate	Tier 2 ER NC Rate	Admin. Expenses	Total ER NC Rate
2026	$8,710,657,526	$4,537,276,117	$13,247,933,643	$1,362,571,700	($54,269,843)	$60,984,221	$1,369,286,078	15.64%	(1.20%)	0.46%	10.34%
2027	8,527,401,934	5,078,696,746	13,606,098,680	1,359,278,650	(57,592,042)	62,632,962	1,364,319,570	15.94%	(1.13%)	0.46%	10.03%
2028	8,316,944,182	5,643,282,089	13,960,226,271	1,345,354,406	(60,016,147)	64,263,118	1,349,601,377	16.18%	(1.06%)	0.46%	9.67%
2029	8,074,857,047	6,237,163,042	14,312,020,089	1,325,427,500	(63,699,846)	65,882,531	1,327,610,185	16.41%	(1.02%)	0.46%	9.28%
2030	7,808,277,375	6,852,894,831	14,661,172,206	1,299,186,247	(65,769,489)	67,489,783	1,300,906,540	16.64%	(0.96%)	0.46%	8.87%
2031	7,507,260,438	7,498,783,332	15,006,043,770	1,266,391,994	(67,349,832)	69,077,330	1,268,119,491	16.87%	(0.90%)	0.46%	8.45%
2032	7,171,281,722	8,174,320,325	15,345,602,047	1,226,621,153	(68,521,438)	70,640,419	1,228,740,134	17.10%	(0.84%)	0.46%	8.01%
2033	6,796,002,631	8,881,513,118	15,677,515,749	1,178,454,505	(69,109,082)	72,168,318	1,181,513,741	17.34%	(0.78%)	0.46%	7.54%
2034	6,378,560,006	9,621,107,381	15,999,667,387	1,122,601,137	(68,943,990)	73,651,278	1,127,308,425	17.60%	(0.72%)	0.46%	7.05%
2035	5,929,885,341	10,390,937,946	16,320,823,287	1,058,512,259	(68,405,636)	75,129,656	1,065,236,278	17.85%	(0.66%)	0.46%	6.53%
2036	5,446,453,037	11,191,784,207	16,638,237,244	986,354,093	(66,999,986)	76,590,807	995,944,915	18.11%	(0.60%)	0.46%	5.99%
2037	4,932,034,705	12,022,979,146	16,955,013,851	906,425,207	(64,749,024)	78,049,025	919,725,208	18.38%	(0.54%)	0.46%	5.42%
2038	4,395,781,710	12,880,687,242	17,276,468,952	817,361,009	(62,657,562)	79,528,780	834,232,226	18.59%	(0.49%)	0.46%	4.83%
2039	3,833,636,483	13,765,400,574	17,599,037,057	718,537,166	(59,309,352)	81,013,658	740,241,472	18.74%	(0.43%)	0.46%	4.21%
2040	3,258,070,690	14,672,164,367	17,930,235,057	612,153,049	(55,292,119)	82,538,262	639,399,192	18.79%	(0.38%)	0.46%	3.57%
2041	2,686,226,675	15,592,063,223	18,278,289,898	502,773,828	(50,133,537)	84,140,463	536,780,754	18.72%	(0.32%)	0.46%	2.94%
2042	2,132,372,094	16,517,503,185	18,649,875,279	395,313,019	(43,370,237)	85,850,982	437,793,764	18.54%	(0.26%)	0.46%	2.35%
2043	1,615,846,587	17,436,494,280	19,052,340,867	294,087,490	(36,167,607)	87,703,652	345,623,535	18.20%	(0.21%)	0.46%	1.81%
2044	1,155,941,326	18,333,425,836	19,489,367,162	204,373,872	(26,594,277)	89,715,415	267,495,010	17.68%	(0.15%)	0.46%	1.37%
2045	771,938,868	19,198,240,120	19,970,178,988	134,266,091	(16,128,510)	91,928,737	210,066,318	17.39%	(0.08%)	0.46%	1.05%
2046	502,157,566	20,003,220,765	20,505,378,331	84,653,778	(4,060,559)	94,392,420	174,985,639	16.86%	(0.02%)	0.46%	0.85%

Table 12 – Projection of Debt Service to 2033

Fiscal Year	Debt Service
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

Exhibit 1: Actuarial assumptions, methods and models

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 August 16, 2024, and the economic experience review dated June 18, 2024. Current data is reviewed in conjunction with each annual valuation.

All assumptions were adopted by the Board on August 16, 2024, effective June 30, 2024, 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 the 2024 Adjusted Scale MP-2021, with female rates multiplied by 91% for ages under 75 and 103% for ages 75 and older and male rates multiplied by 103% for ages under 85 and 111% for ages 85 and older.

Disabled Post-Retirement: PubNS-2010 Non-Safety Disabled Retiree Mortality Table projected generationally with the 2024 Adjusted Scale MP-2021, with no adjustments to female or male rates.

Beneficiary post-retirement: Pub-2010 Contingent Survivor Mortality Table projected generationally with the 2024 Adjusted Scale MP-2021, with female rates multiplied by 94% for all ages and male rates multiplied by 106% for all ages.

Pre-retirement: PubT-2010 Employee Mortality Table projected generationally with the 2024 Adjusted Scale MP-2021, with female and male rates multiplied by 94% for all ages.

Salary increases

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	8.50
2	7.00
3	6.50
4	6.50
5	6.25
10	5.50
15	4.75
20 and above	4.00

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 4.90% per year.

The actual average salary increases for teachers who were in full-time or regular part-time status at June 30, 2022 and June 30, 2023 is 5.28%.

Disability rates

Shown below for selected ages.

Rate (%)

Age	Male	Female
25	0.005	0.015
30	0.005	0.024
35	0.010	0.036
40	0.015	0.042
45	0.025	0.060
50	0.049	0.107
55	0.068	0.119
60	0.088	0.160

Termination rates

Termination rates based on service, for causes other than death, disability, or retirement. Select termination rates apply for members with less than 5 years of service and ultimate termination rates apply for members with 5 or more years of service.

Rate (%)

Age	Select Termination Male	Select Termination Female	Ultimate Termination Male	Ultimate Termination Female
25	6.50	6.50	3.75	4.50
30	7.25	7.45	3.00	4.25
35	7.45	7.75	1.75	2.50
40	8.70	7.25	1.50	1.25
45	10.20	7.50	1.00	1.00
50	11.10	8.55	0.75	1.25
55	12.00	10.60	2.00	2.25
60	16.30	14.00	3.00	2.25
65	29.25	27.50	3.00	2.25

Active retirement rates

The following rates of retirement based on years of service (YOS) are assumed for active members hired before January 1, 2011.

Rate (%)

Age	5 – 18 YOS	19 – 29 YOS	30 – 33 YOS	34+ YOS
54	0	7	24	50
55	0	7	24	50
56	0	7	27	50
57	0	9	33	47
58	0	10	33	46
59	0	35	50	44
60	23	35	59	44
61	16	27	36	37
62	17	27	43	37
63	16	28	38	39
64	26	40	46	36
65	28	41	45	41
66	25	38	39	40
67	25	39	40	34
68	23	35	44	39
69	29	40	37	32
70	100	100	36	32
71			35	38
72			100	29
73				36
74				37
75				100

Active retirement rates (continued)

The following rates of retirement based on years of service (YOS) are assumed for active members hired on or after January 1, 2011 (adopted effective June 30, 2012):

Age	5 – 18 YOS	19 – 30 YOS	31 YOS	32 – 33 YOS	34+ YOS
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 retirement rates

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

The following rates of retirement are assumed for inactive members hired before January 1, 2011 who are eligible for Early Retirement.

Age	Rate (%)
55	50
56	15
57	15
58	15
59	50

Inactive retirement rates (continued)

The following rates of retirement are assumed for inactive members hired on or after January 1, 2011 who are eligible for Early Retirement.

Age	Rate (%)
62	50
63	15
64	15
65	15
66	50

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). An additional 1% of current inactive vested members are assumed to elect the inactive vested buyout to reflect the re-issue of buyout election packages to all eligible current inactive vested participants during fiscal year 2023. This is consistent with recent plan experience and was changed to better align the assumption with actual administrative practice.

Automatic annual increase buyout

25% 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

20% of retirees are assumed to receive severance pay and the average severance payment will be 10% 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.

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	0.073 years
15 years	0.233 years
20 years	0.440 years
25 years	0.580 years
30 years	0.538 years
34 or more	None

- Actual optional service credit for each current member is provided by TRS;
- No additional service purchases will be assumed for members who currently have optional service credit;
- Members will not purchase service if it does not improve their pension benefit; and
- 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	0.291 years
15 years	0.692 years
20 years	0.949 years
25 years	1.148 years
30 years	1.371 years
34 years	1.623 years
35 or more	None

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

Future service accrual rate

1.00 years of service per year for current and future Full-Time and Regular Part-Time members.

Actual service accrual in the prior year for current Substitute, Part-Time, and Hourly-Paid members.

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

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, 2018 – June 30, 2023). New entrant salaries assumed to increase by 2.50% per annum during the projection period (adopted effective June 30, 2022):

Future normal costs continued

Full-Time and regular part-time:

Age	Male Salary	Male Proportion	Female Salary	Female Proportion
22	$49,417	5.3%	$48,729	28.6%
27	51,979	6.3	53,276	25.8
32	58,525	3.0	56,967	10.8
37	61,917	1.9	58,624	5.7
42	64,174	1.3	59,469	3.8
47	63,159	0.8	60,667	2.5
52	64,111	0.6	60,826	1.6
57	66,273	0.4	59,757	0.9
62	65,677	0.2	60,485	0.4
67	63,309	0.1	66,065	0.1

Substitutes, part-time, and hourly-paid:

Age	Male Salary	Male Proportion	Female Salary	Female Proportion
22	$22,639	6.6%	$22,788	20.4%
27	23,025	6.1	23,344	12.7
32	22,417	2.7	21,433	7.8
37	21,993	1.7	19,529	8.5
42	21,665	1.3	19,305	9.1
47	21,612	1.2	19,318	6.4
52	20,666	1.1	19,435	4.5
57	20,826	1.1	19,275	2.8
62	19,974	1.1	19,208	1.8
67	19,356	1.1	18,783	1.1
70	18,751	0.5	19,107	0.4

Based on the demographic mix shown above, the average age and salary at hire for full-time and regular part time new entrants is 30 and $55,401 (in 2024 dollars) and for substitutes, part-time, and hourly-paid new entrants is 35 and $21,942 (in 2024 dollars). The average ages are assumed to remain constant throughout the projection period.

2.2 upgrade 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 $125,774 applicable for fiscal year ending June 30, 2025.

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 $226,800 for fiscal year ending June 30, 2025, as reported in the Illinois State Budget.

Substitute, part-time, and hourly-paid minimum annual salary

$1,000

Average cost of excess salary increases over 6% FAS Cap at retirement

$2,200

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

$49,915,900 of administrative expenses is expected to be paid for the year beginning July 1, 2024. $59,339,056 of administrative expenses is expected to be paid for the year beginning July 1, 2025 and each year thereafter, increased by the rate at which payroll is expected to increase.

Actuarial 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.

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 and period 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 actuaries.

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 actuaries, 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.

Exhibit 2: 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.

Membership

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;

Membership (continued)

- 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
- 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.

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 (1), (2) and (3) below. For members who first became a teacher on or after July 1, 2005, the annual benefit amount is the greater of (1) and (2) below.

Tier 2: The annual benefit is the amount under (1) below.

(1) 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]

(2) 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.

(3) 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 (1) and (2) above is 75% of final average salary.

[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.

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.

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:

(1) 35% of the member's most recent annual contract salary, or

(2) 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.

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:

Time of Death	Dependent Beneficiaries	Non-Dependent Beneficiaries
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 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]

Automatic post-retirement 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.

[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.

Automatic post-retirement benefit – cost of living adjustment continued

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. The Tier 1 increase is 3% annually thereafter of the then current benefit amount. 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.

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.

Historical changes to membership 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.

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

General information about the pension plan

Plan membership[1]. At June 30, 2023, pension plan membership consisted of the following:

Membership	Counts
Retirees and beneficiaries	131,568
Inactive participants with a vested right to a deferred or immediate benefit	19,265
Inactive participants entitled to a refund of member contributions	133,931
Active members	169,752
Total	**454,516**

Benefits provided. 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, 2024.

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

Exhibit 1: Net Pension Liability

Components of the Net Pension Liability	Current	Prior
Measurement date and reporting date for the Plan under GASB 67	June 30, 2024	June 30, 2023
Total Pension Liability (TPL)	$157,290,420,223	$151,485,294,234
System Fiduciary Net Position (FNP)	71,424,801,957	66,504,717,419
Net Pension Liability (NPL)	85,865,618,266	84,980,576,815
System FNP as a percentage of the TPL	45.4%	43.9%

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of June 30, 2024, using the following actuarial assumptions, applied to all periods included in the measurement:

Assumption Type	Assumption
Inflation	2.50%
Salary increases	8.50% at one year of service to 4.00% at 20 and more years of service
Investment rate of return	7.00%
Cost-of-living adjustments	Tier 1: 3.00% 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 the 2024 Adjusted Scale MP-2021.

The actuarial assumptions used were based on the results of an experience study dated August 16, 2024, and the economic experience review presented at the June 18, 2024, Board meeting.

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns 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, adding expected inflation. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Expected Arithmetic Returns Over 10-20 Year Horizon
Global Equity	37.0%	7.55%
Private Equity	15.0	10.28
Public Income	18.0	5.81
Private Credit	8.0	9.20
Real Assets	18.0	7.01
Diversifying Strategies	4.0	5.18
Total	**100.0%**	

The 2024 capital market assumptions and TRS' current target asset allocation were provided by RVK, the System's investment consultant.

Discount rate. The discount rate used to measure the total pension liability was 7.00% as of June 30, 2024. 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, 2024, 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, 2024. 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, 2024.

The projection of cash flows used to determine the discount rate assumed plan member and employer contributions will be made at rates equal to those based on the 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 employer contributions that are intended to fund the service costs of future plan members and their beneficiaries are excluded, as are projected employee contributions from future plan members. Based on those assumptions, the System's FNP was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2024, and June 30, 2023.

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability (NPL) of the System as of June 30, 2024, calculated using the discount rate of 7.00%, as well as what the NPL 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.

Item	1% Decrease (6.00%)	Current (7.00%)	1% Increase (8.00%)
Net Pension Liability	$106,046,487,013	$85,865,618,266	$69,136,581,959

Exhibit 2: Schedule of changes in Net Pension Liability

Fiscal Year Ended June 30	2024	2023	2022	2021	2020
Total Pension Liability					
Service cost	$2,309,476,634	$2,229,200,487	$2,097,274,410	$2,032,149,463	$1,991,622,987
Interest	10,476,520,526	10,144,364,716	9,834,039,952	9,580,886,840	9,296,897,060
Change of benefit terms	0	0	0	0	0
Differences between expected and actual experience	76,540,137	405,098,326	(260,304,587)	(370,469,646)	(28,215,833)
Changes of assumptions	1,202,972,544	0	448,727,943	(162,359,084)	0
Benefit payments, including refunds of member contributions	(8,260,383,852)	(7,967,329,515)	(7,669,576,246)	(7,388,142,712)	(7,099,524,955)
Net change in Total Pension Liability	**5,805,125,989**	**4,811,334,014**	**4,450,161,472**	**3,692,064,861**	**4,160,779,259**
Total Pension Liability — beginning	151,485,294,234	146,673,960,220	142,223,798,748	138,531,733,887	134,370,954,628
Total Pension Liability — ending	**157,290,420,223**	**151,485,294,234**	**146,673,960,220**	**142,223,798,748**	**138,531,733,887**
Plan Fiduciary Net Position					
Contributions – employer	132,235,207	124,748,100	120,876,570	97,594,081	92,658,238
Contributions – nonemployer contributing entity[1]	6,158,581,314	6,009,158,073	5,866,799,836	5,140,648,356	4,813,451,679
Contributions – member	1,168,677,259	1,109,497,833	1,072,639,330	1,023,531,951	994,400,416
Net investment income	5,757,906,980	4,427,042,975	(743,042,373)	13,046,153,685	275,669,398
Benefit payments, including refunds of member contributions	(8,260,383,852)	(7,967,329,515)	(7,669,576,246)	(7,388,142,712)	(7,099,524,955)
Administrative expense	(36,932,370)	(32,026,386)	(26,575,798)	(23,758,112)	(22,966,372)
Net change in Plan Fiduciary Net Position	**4,920,084,538**	**3,671,091,080**	**(1,378,878,681)**	**11,896,027,249**	**(946,311,596)**
Plan Fiduciary Net Position — beginning	66,507,717,419	62,833,626,339	64,212,505,020	52,316,477,771	53,262,789,367
Plan Fiduciary Net Position — ending	**71,424,801,957**	**66,504,717,419**	**62,833,626,339**	**64,212,505,020**	**52,316,477,771**
Net Pension Liability					
Net Pension Liability – ending	85,865,618,266	84,980,576,815	83,840,333,881	78,011,293,728	86,215,256,116
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	45.4%	43.9%	42.8%	45.1%	37.8%
Covered payroll	$12,721,190,256	$12,382,202,189	$11,647,247,711	$11,120,776,122	$10,827,438,800
Plan Net Pension Liability as percentage of covered payroll	675.0%	686.3%	719.8%	701.5%	796.3%

Notes to Schedule:

- **Benefit changes:** None
- **Change of Assumptions:** See page 42 for additional details on assumption changes implemented for the June 30, 2024, actuarial valuation

[1] Includes the additional one-time contributions of $172,823,300 (per Public Act 102-0696), $115,215,500 (per Public Act 102-0698), and $115,215,500 (per Public Act 102-0698) paid in fiscal 2022, fiscal 2023, and fiscal 2024, respectively.

Exhibit 3: Schedule of employer contributions

($ in thousands)

Fiscal Year Ended June 30	Actuarially Determined Contributions[1]	State Contributions	Federal and Employer Contributions	Total Non-Member Contributions	Contribution Deficiency	% Contributed	Covered Payroll	Total Non-Member Contributions as a % of Covered Payroll	Annual Required Contribution per State Statute	% Contributed for Annual Required Contributions
2015	$4,119,526	$3,376,878	$144,780	$3,521,658	$597,868	85.5%	$9,641,171	36.5%	$3,497,366	100.7%
2016	4,582,530	3,741,802	147,408	3,889,210	693,320	84.9	9,811,614	39.6	3,883,544	100.1
2017	6,248,879	3,985,783	148,749	4,134,532	2,114,347	66.2	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	59.0	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	61.3	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	60.8	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	62.0	11,120,776	47.1	5,237,798	100.0
2022	8,947,919	5,866,530	120,441	5,986,971	2,960,948	66.9	11,647,248	51.4	5,791,571	103.4
2023	9,201,648	6,008,948	123,194	6,132,142	3,069,506	66.6	12,382,202	49.5	5,994,047	102.3
2024	9,694,780	6,158,370	130,977	6,289,347	3,405,433	64.9	12,721,190	49.4	6,148,119	102.3

Notes to Schedule:

- State Contributions for years ended June 30, 2022, June 30, 2023, and June 30, 2024 reflect a one-time additional contribution of $172 million (per PA 102-0696), $115.2 million (per PA 102-0698) and $115.2 million (per PA 103-0006), respectively.
- Federal and Employer Contributions exclude excess sick leave and penalty contributions, but include temporary increase in federal funds payroll resulting from the Elementary and Secondary Emergency Relief Fund (ESSER) for FYE2022 through FYE2024.
- Total Non-Member Contributions are the sum of State Contribution and Federal and Employer Contribution
- Contribution Deficiency is the difference between Actuarially Determined Contribution and Total Non-Member Contribution

[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.

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, 2024

	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balances at beginning of year	$151,485,294,234	$66,504,717,419	$84,980,576,815
Changes for the year			
Service cost	2,309,476,634		2,309,476,634
Interest	10,476,520,526		10,476,520,526
Differences between expected and actual experience	76,540,137		76,540,137
Contributions – employer		132,235,207	(132,235,207)
Contributions – nonemployer contributing entity[1]		6,158,581,314	(6,158,581,314)
Contributions – member		1,168,677,259	(1,168,677,259)
Net investment income		5,757,906,980	(5,757,906,980)
Benefit payments, including refunds of member contributions	(8,260,383,852)	(8,260,383,852)	-
Administrative expense		(36,932,370)	32,026,386
Change of assumptions	1,202,972,544		1,202,972,544
Change of benefit terms	-		-
Net changes	5,805,125,989	4,920,084,538	885,041,451
Balances at end of year	**157,290,420,223**	**71,424,801,957**	**85,865,618,266**

[1] Includes the remaining portion of the additional $230,431,000 contribution ($115,215,500 paid during fiscal 2024) appropriated to TRS per Public Act 103-0006.

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

	Year Established	Outstanding Balance	Period	Amortization Amount at June 30, 2024	Outstanding Balance at June 30, 2024
Outflows					
Demographic	2019	$258,778,925	5.43	$20,492,620	$0
Assumption	2019	77,241,572	5.43	6,116,737	0
Investment	2020	3,409,956,524	5.00	681,991,304	0
Investment	2022	5,215,663,453	5.00	1,043,132,691	2,086,265,380
Assumption	2022	448,727,943	5.44	82,486,754	201,267,681
Demographic	2023	405,098,326	5.60	72,338,987	260,420,352
Demographic	2024	76,540,137	5.44[1]	14,069,878	62,470,259
Assumption	2024	1,202,972,544	5.44	221,134,659	981,837,885
Total outflows				**2,141,763,630**	**3,592,261,557**
Inflows					
Demographic	2020	28,215,833	5.42	5,205,873	2,186,468
Demographic	2021	370,469,646	5.56	66,631,231	103,944,722
Investment	2021	9,424,254,666	5.00	1,884,850,933	1,884,850,934
Assumption	2021	162,359,084	5.56	29,201,274	45,553,988
Demographic	2022	260,304,587	5.44	47,850,108	116,754,263
Investment	2023	55,147,448	5.00	11,029,490	33,088,468
Investment	2024	1,131,900,547	5.00	226,380,109	905,520,438
Total inflows				**2,271,149,018**	**3,091,899,281**

Membership	Expected Remaining Service	Counts	Average of the Expected Remaining Service
Active members	2,473,400	169,752	14.57
Inactive Members	-	153,196	-
Retirees and Beneficiaries	-	131,496[2]	-
Total	**2,473,400**	**454,444**	**5.44**

[1] Equal to the total expected service lives of 2,473,400 years, divided by total employees that are provided with pensions through the Plan of 454,444 (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*

Deferred outflows and inflows	Current	Prior
Measurement date	June 30, 2024	June 30, 2023
Deferred outflows of resources		
Difference between expected and actual experience in the Total Pension Liability	$322,890,611	$353,251,959
Changes of assumptions or other inputs	1,183,105,566	289,871,172
Net difference between projected and actual earnings on pension plan investments	-	-
Total deferred outflows of resources	**1,505,996,177**	**643,123,131**
Deferred inflows of resources		
Difference between expected and actual experience in the Total Pension Liability	222,885,453	342,572,665
Changes of assumptions or other inputs	45,553,988	74,755,262
Net difference between projected and actual earnings on pension plan investments	737,194,460	2,430,450
Total deferred inflows of resources	**1,005,633,901**	**419,758,377**
Net Deferred Outflows/(Inflows) of Resources	500,362,276	223,364,754
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Year Ended June 30:		
2024	N/A	(138,209,816)
2025	(834,966,645)	(843,791,073)
2026	1,094,237,055	1,085,412,627
2027	85,374,053	76,549,625
2028	52,227,817	43,403,391
2029	103,489,996	0
Thereafter	0	0

Exhibit 6: Collective Pension Expense

Components of pension expense	Current	Prior
Measurement date	June 30, 2024	June 30, 2023
Service cost	$2,309,476,634	$2,229,200,487
Interest on the Total Pension Liability	10,476,520,526	10,144,364,716
Projected earnings on pension plan investments	(4,626,006,433)	(4,371,895,527)
Contributions – member	(1,168,677,259)	(1,109,497,833)
Administrative expense	36,932,370	32,026,386
Current year recognition of:		
Changes of assumptions	280,536,876	11,395,948
Difference between expected and actual experience	(12,785,727)	100,678,926
Difference between projected and actual earnings on pension plan investments	(397,136,537)	23,978,926
Change of benefit terms	-	-
Pension expense	**6,898,860,450**	**7,060,251,942**

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
2025	$71,424,801,957	$7,520,082,129	$8,764,140,139	$61,380,797	$4,954,045,779	$75,073,408,930
2026	75,073,408,930	7,758,491,913	9,101,598,272	58,877,223	5,206,069,200	78,877,494,548
2027	78,877,494,548	7,916,122,876	9,437,875,763	58,572,778	5,466,113,220	82,763,282,103
2028	82,763,282,103	8,143,763,092	9,777,344,032	58,351,830	5,734,212,100	86,805,561,433
2029	86,805,561,433	8,296,603,728	10,053,054,804	58,193,693	6,012,876,733	91,003,793,398
2030	91,003,793,398	8,433,216,277	10,405,260,427	58,091,489	6,299,210,790	95,272,868,548
2031	95,272,868,548	8,574,892,027	10,769,663,131	57,990,915	6,590,254,128	99,610,360,658
2032	99,610,360,658	8,728,135,710	11,143,338,985	57,855,018	6,886,168,206	104,023,470,571
2033	104,023,470,571	8,890,809,966	11,526,889,306	57,712,719	7,187,360,218	108,517,038,729
2034	108,517,038,729	9,636,946,870	11,916,289,370	57,546,168	7,514,401,608	113,694,551,668
2035	113,694,551,668	9,781,557,606	12,306,716,997	57,360,023	7,868,230,437	118,980,262,691
2036	118,980,262,691	9,920,232,592	12,699,883,603	57,173,931	8,229,329,515	124,372,767,264
2037	124,372,767,264	10,055,006,015	13,089,146,496	56,945,520	8,597,905,698	129,879,586,960
2038	129,879,586,960	10,189,395,255	13,476,161,457	56,704,188	8,974,549,624	135,510,666,194
2039	135,510,666,194	10,320,495,069	13,850,155,654	56,476,704	9,360,231,828	141,284,760,732
2040	141,284,760,732	10,452,693,175	14,210,106,086	56,270,426	9,756,454,334	147,227,531,729
2041	147,227,531,729	10,590,689,145	14,546,456,886	56,118,305	10,165,511,209	153,381,156,892
2042	153,381,156,892	10,739,680,094	14,853,134,316	56,032,902	10,590,748,933	159,802,418,701
2043	159,802,418,701	10,905,561,952	15,120,575,601	56,045,520	11,036,682,238	166,568,041,771
2044	166,568,041,771	11,089,752,481	15,333,471,078	56,191,360	11,509,266,075	173,777,397,889
2045	173,777,397,889	11,300,487,348	15,489,388,723	56,419,135	12,015,831,634	181,547,909,013
2046	181,547,909,013	2,142,276,089	15,581,279,339	56,705,137	12,236,003,837	180,288,204,463
2047	180,288,204,463	2,097,503,875	15,628,301,744	57,023,977	12,144,600,548	178,844,983,166
2048	178,844,983,166	2,065,910,938	15,646,934,608	57,322,537	12,041,806,704	177,248,443,663
2049	177,248,443,663	2,042,578,296	15,646,839,711	57,546,771	11,929,227,770	175,515,863,246
2050	175,515,863,246	2,023,043,605	15,649,096,110	57,663,929	11,807,180,352	173,639,327,164
2051	173,639,327,164	2,004,136,289	15,664,695,303	57,673,828	11,674,614,752	171,595,709,073
2052	171,595,709,073	1,983,939,883	15,701,178,023	57,548,733	11,529,582,095	169,350,504,295
2053	169,350,504,295	1,978,196,397	15,761,883,028	57,274,473	11,370,101,662	166,879,644,853
2054	166,879,644,853	1,969,247,397	15,834,488,046	56,851,644	11,194,301,909	164,151,854,469
2055	164,151,854,469	1,956,665,805	15,927,689,960	56,287,724	10,999,673,897	161,124,216,487
2056	161,124,216,487	1,941,614,863	16,027,024,144	55,523,000	10,783,762,524	157,767,046,730
2057	157,767,046,730	1,925,261,601	16,121,262,092	54,673,586	10,544,919,678	154,061,292,332
2058	154,061,292,332	1,907,384,485	16,200,204,056	53,820,789	10,282,158,051	149,996,810,022
2059	149,996,810,022	1,888,912,354	16,245,704,052	52,970,844	9,995,435,013	145,582,482,495

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
2060	$145,582,482,495	$1,871,065,871	$16,288,652,871	$52,124,038	$9,684,333,888	$140,797,105,345
2061	140,797,105,345	1,854,282,126	16,284,524,120	51,280,652	9,348,944,082	135,664,526,780
2062	135,664,526,780	1,838,818,204	16,222,295,319	50,440,962	8,991,329,742	130,221,938,445
2063	130,221,938,445	1,824,700,190	16,101,780,805	49,605,236	8,614,101,686	124,509,354,281
2064	124,509,354,281	1,812,528,725	15,913,122,412	48,773,734	8,220,426,940	118,580,413,800
2065	118,580,413,800	1,803,358,182	15,703,004,145	47,946,711	7,812,463,222	112,445,284,348
2066	112,445,284,348	1,797,832,295	15,416,720,944	47,124,415	7,392,859,447	106,172,130,731
2067	106,172,130,731	1,795,135,764	15,053,759,561	46,307,085	6,966,376,570	99,833,576,417
2068	99,833,576,417	1,794,625,068	14,630,090,358	45,494,957	6,537,516,741	93,490,132,912
2069	93,490,132,912	1,796,277,046	14,143,546,997	44,688,255	6,110,590,767	87,208,765,473
2070	87,208,765,473	1,800,295,487	13,619,538,170	43,887,200	5,689,404,037	81,035,039,627
2071	81,035,039,627	1,806,371,441	13,046,083,286	43,092,002	5,277,554,639	75,029,790,419
2072	75,029,790,419	1,812,966,180	12,427,122,959	42,302,868	4,879,109,242	69,252,440,015
2073	69,252,440,015	1,819,882,629	11,784,997,446	41,519,993	4,497,438,583	63,743,243,788
2074	63,743,243,788	1,826,984,162	11,110,089,940	40,743,569	4,135,692,338	58,555,086,778
2075	58,555,086,778	1,833,889,013	10,417,764,546	39,973,778	3,797,021,349	53,728,258,816
2076	53,728,258,816	1,840,518,692	9,714,842,102	39,210,796	3,484,004,420	49,298,729,029
2077	49,298,729,029	1,846,829,189	9,008,354,103	38,454,791	3,198,911,742	45,297,661,067
2078	45,297,661,067	1,852,798,068	8,303,887,242	37,705,923	2,943,728,446	41,752,594,416
2079	41,752,594,416	1,858,409,960	7,609,772,873	36,964,346	2,720,090,155	38,684,357,312
2080	38,684,357,312	1,863,649,666	6,932,613,004	36,230,207	2,529,223,238	36,108,387,005
2081	36,108,387,005	1,868,501,554	6,278,692,290	35,503,644	2,371,987,787	34,034,680,413
2082	34,034,680,413	1,872,949,528	5,653,613,483	34,784,789	2,248,886,923	32,468,118,592
2083	32,468,118,592	1,876,977,014	5,062,017,174	34,073,767	2,160,099,314	31,409,103,979
2084	31,409,103,979	1,880,566,949	4,507,406,083	33,370,696	2,105,529,935	30,854,424,085
2085	30,854,424,085	1,883,701,767	3,992,155,178	32,675,685	2,084,870,168	30,798,165,157
2086	30,798,165,157	1,886,363,387	3,517,326,449	31,988,838	2,097,668,244	31,232,881,501
2087	31,232,881,501	1,888,533,195	3,082,866,739	31,310,253	2,143,404,172	32,150,641,877
2088	32,150,641,877	1,890,192,039	2,687,799,993	30,640,017	2,221,556,252	33,543,950,157
2089	33,543,950,157	1,891,320,204	2,330,520,472	29,978,215	2,331,655,264	35,406,426,938
2090	35,406,426,938	1,891,897,404	2,008,996,222	29,324,922	2,473,325,055	37,733,328,254
2091	37,733,328,254	1,891,902,767	1,720,856,613	28,680,208	2,646,315,786	40,522,009,986
2092	40,522,009,986	1,891,314,816	1,463,716,727	28,044,135	2,850,525,087	43,772,089,027
2093	43,772,089,027	1,890,111,455	1,235,244,880	27,416,761	3,086,006,975	47,485,545,816
2094	47,485,545,816	1,888,269,953	1,033,382,783	26,798,135	3,352,971,323	51,666,606,175

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
2095	$51,666,606,175	$1,885,766,928	$856,236,155	$26,188,301	$3,651,779,419	$56,321,728,067
2096	56,321,728,067	1,882,578,328	701,965,494	25,587,296	3,982,946,859	61,459,700,465
2097	61,459,700,465	1,878,679,415	568,869,438	24,995,154	4,347,147,551	67,091,662,839
2098	67,091,662,839	1,874,044,746	455,243,083	24,411,899	4,745,220,040	73,231,272,644
2099	73,231,272,644	1,868,648,157	359,433,734	23,837,551	5,178,177,276	79,894,826,792
2100	79,894,826,792	1,862,462,740	279,806,404	23,272,125	5,647,216,323	87,101,427,325
2101	87,101,427,325	1,855,460,827	214,608,217	22,715,630	6,153,734,707	94,873,299,013
2102	94,873,299,013	1,847,613,972	162,094,246	22,168,068	6,699,348,239	103,235,998,908
2103	103,235,998,908	1,838,892,923	120,504,127	21,629,439	7,285,906,501	112,218,664,767
2104	112,218,664,767	1,829,267,611	88,204,729	21,099,734	7,915,505,244	121,854,133,159
2105	121,854,133,159	1,818,707,122	63,566,106	20,578,942	8,590,498,994	132,179,194,225
2106	132,179,194,225	1,807,179,676	45,159,664	20,067,046	9,313,511,950	143,234,659,141
2107	143,234,659,141	1,794,652,607	31,690,010	19,564,023	10,087,445,090	155,065,502,804
2108	155,065,502,804	1,781,092,339	22,006,303	19,069,848	10,915,485,763	167,721,004,755
2109	167,721,004,755	1,766,464,362	15,234,852	18,584,489	11,801,112,909	181,254,762,685
2110	181,254,762,685	1,750,733,208	10,590,344	18,107,910	12,748,104,611	195,724,902,250
2111	195,724,902,250	1,733,862,427	7,443,689	17,640,073	13,760,550,411	211,194,231,325
2112	211,194,231,325	1,715,814,560	5,337,095	17,180,934	14,842,861,571	227,730,389,428
2113	227,730,389,428	1,696,551,116	3,866,852	16,730,445	15,999,785,644	245,406,128,891
2114	245,406,128,891	1,676,032,541	2,909,156	16,288,554	17,236,418,241	264,299,381,963
2115	264,299,381,963	1,654,218,197	2,248,119	15,855,207	18,558,220,758	284,493,717,592
2116	284,493,717,592	1,631,066,327	1,765,336	15,430,344	19,971,045,704	306,078,633,943
2117	306,078,633,943	1,606,534,033	1,388,160	15,013,905	21,481,158,995	329,149,924,907
2118	329,149,924,907	1,580,577,240	921,574	14,605,823	23,095,271,488	353,810,246,238
2119	353,810,246,238	1,553,150,673	640,901	14,206,030	24,820,557,868	380,169,107,848
2120	380,169,107,848	1,524,207,820	433,991	13,814,455	26,664,686,127	408,343,753,349
2121	408,343,753,349	1,493,700,905	312,142	13,431,024	28,635,861,255	438,459,572,343
2122	438,459,572,343	1,461,580,853	274,374	13,055,659	30,742,858,843	470,650,682,006
2123	470,650,682,006	1,427,797,258	45,566	12,688,282	32,995,074,960	505,060,820,375
2124	505,060,820,375	1,392,298,347	11,826	12,328,811	35,402,555,946	541,843,334,032
2125	541,843,334,032	1,355,030,950	4,577	11,977,161	37,976,040,105	581,162,423,349
2126	581,162,423,349	1,315,940,460	1,657	11,633,246	40,727,020,329	623,193,749,235
2127	623,193,749,235	1,274,970,795	240	11,296,977	43,667,791,022	668,125,213,835
2128	668,125,213,835	1,232,064,367	40	10,968,265	46,811,503,331	716,157,813,229

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 3.93%[1]	Present Value of Benefit Payments at 7.00%
2025	$71,424,801,957	$8,764,140,139	$8,764,140,139	$0	$8,472,614,067	$0	$8,472,614,067
2026	75,073,408,930	9,101,598,272	9,101,598,272	0	8,223,221,643	0	8,223,221,643
2027	78,877,494,548	9,437,875,763	9,437,875,763	0	7,969,201,572	0	7,969,201,572
2028	82,763,282,103	9,777,344,032	9,777,344,032	0	7,715,741,604	0	7,715,741,604
2029	86,805,561,433	10,053,054,804	10,053,054,804	0	7,414,315,295	0	7,414,315,295
2030	91,003,793,398	10,405,260,427	10,405,260,427	0	7,172,031,314	0	7,172,031,315
2031	95,272,868,548	10,769,663,131	10,769,663,131	0	6,937,572,969	0	6,937,572,969
2032	99,610,360,658	11,143,338,985	11,143,338,985	0	6,708,678,961	0	6,708,678,961
2033	104,023,470,571	11,526,889,306	11,526,889,306	0	6,485,597,794	0	6,485,597,794
2034	108,517,038,729	11,916,289,370	11,916,289,370	0	6,266,068,712	0	6,266,068,712
2035	113,694,551,668	12,306,716,997	12,306,716,997	0	6,048,010,661	0	6,048,010,661
2036	118,980,262,691	12,699,883,603	12,699,883,603	0	5,832,923,723	0	5,832,923,723
2037	124,372,767,264	13,089,146,496	13,089,146,496	0	5,618,418,784	0	5,618,418,784
2038	129,879,586,960	13,476,161,457	13,476,161,457	0	5,406,114,091	0	5,406,114,091
2039	135,510,666,194	13,850,155,654	13,850,155,654	0	5,192,659,887	0	5,192,659,887
2040	141,284,760,732	14,210,106,086	14,210,106,086	0	4,979,076,123	0	4,979,076,123
2041	147,227,531,729	14,546,456,886	14,546,456,886	0	4,763,485,991	0	4,763,485,991
2042	153,381,156,892	14,853,134,316	14,853,134,316	0	4,545,712,858	0	4,545,712,858
2043	159,802,418,701	15,120,575,601	15,120,575,601	0	4,324,823,983	0	4,324,823,983
2044	166,568,041,771	15,333,471,078	15,333,471,078	0	4,098,800,811	0	4,098,800,811
2045	173,777,397,889	15,489,388,723	15,489,388,723	0	3,869,606,790	0	3,869,606,790
2046	181,547,909,013	15,581,279,339	15,581,279,339	0	3,637,909,520	0	3,637,909,520
2047	180,288,204,463	15,628,301,744	15,628,301,744	0	3,410,175,971	0	3,410,175,971
2048	178,844,983,166	15,646,934,608	15,646,934,608	0	3,190,880,147	0	3,190,880,147
2049	177,248,443,663	15,646,839,711	15,646,839,711	0	2,982,112,892	0	2,982,112,893
2050	175,515,863,246	15,649,096,110	15,649,096,110	0	2,787,423,306	0	2,787,423,306
2051	173,639,327,164	15,664,695,303	15,664,695,303	0	2,607,665,271	0	2,607,665,271
2052	171,595,709,073	15,701,178,023	15,701,178,023	0	2,442,746,228	0	2,442,746,228
2053	169,350,504,295	15,761,883,028	15,761,883,028	0	2,291,766,866	0	2,291,766,866
2054	166,879,644,853	15,834,488,046	15,834,488,046	0	2,151,704,285	0	2,151,704,285
2055	164,151,854,469	15,927,689,960	15,927,689,960	0	2,022,774,984	0	2,022,774,984
2056	161,124,216,487	16,027,024,144	16,027,024,144	0	1,902,233,800	0	1,902,233,800
2057	157,767,046,730	16,121,262,092	16,121,262,092	0	1,788,241,889	0	1,788,241,889
2058	154,061,292,332	16,200,204,056	16,200,204,056	0	1,679,437,833	0	1,679,437,833
2059	149,996,810,022	16,245,704,052	16,245,704,052	0	1,573,976,367	0	1,573,976,367

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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 3.93%[1]	Present Value of Benefit Payments at 7.00%
2060	$145,582,482,495	$16,288,652,871	$16,288,652,871	$0	$1,474,894,854	$0	$1,474,894,854
2061	140,797,105,345	16,284,524,120	16,284,524,120	0	1,378,057,015	0	1,378,057,015
2062	135,664,526,780	16,222,295,319	16,222,295,319	0	1,282,982,227	0	1,282,982,227
2063	130,221,938,445	16,101,780,805	16,101,780,805	0	1,190,141,144	0	1,190,141,144
2064	124,509,354,281	15,913,122,412	15,913,122,412	0	1,099,249,268	0	1,099,249,268
2065	118,580,413,800	15,703,004,145	15,703,004,145	0	1,013,770,733	0	1,013,770,733
2066	112,445,284,348	15,416,720,944	15,416,720,944	0	930,176,230	0	930,176,231
2067	106,172,130,731	15,053,759,561	15,053,759,561	0	848,856,783	0	848,856,783
2068	99,833,576,417	14,630,090,358	14,630,090,358	0	770,996,984	0	770,996,984
2069	93,490,132,912	14,143,546,997	14,143,546,997	0	696,594,804	0	696,594,804
2070	87,208,765,473	13,619,538,170	13,619,538,170	0	626,903,214	0	626,903,214
2071	81,035,039,627	13,046,083,286	13,046,083,286	0	561,221,738	0	561,221,738
2072	75,029,790,419	12,427,122,959	12,427,122,959	0	499,621,542	0	499,621,542
2073	69,252,440,015	11,784,997,446	11,784,997,446	0	442,808,833	0	442,808,833
2074	63,743,243,788	11,110,089,940	11,110,089,940	0	390,140,090	0	390,140,090
2075	58,555,086,778	10,417,764,546	10,417,764,546	0	341,895,799	0	341,895,799
2076	53,728,258,816	9,714,842,102	9,714,842,102	0	297,969,077	0	297,969,077
2077	49,298,729,029	9,008,354,103	9,008,354,103	0	258,224,307	0	258,224,307
2078	45,297,661,067	8,303,887,242	8,303,887,242	0	222,458,670	0	222,458,670
2079	41,752,594,416	7,609,772,873	7,609,772,873	0	190,526,685	0	190,526,685
2080	38,684,357,312	6,932,613,004	6,932,613,004	0	162,217,348	0	162,217,348
2081	36,108,387,005	6,278,692,290	6,278,692,290	0	137,304,813	0	137,304,813
2082	34,034,680,413	5,653,613,483	5,653,613,483	0	115,547,059	0	115,547,059
2083	32,468,118,592	5,062,017,174	5,062,017,174	0	96,688,010	0	96,688,010
2084	31,409,103,979	4,507,406,083	4,507,406,083	0	80,462,202	0	80,462,202
2085	30,854,424,085	3,992,155,178	3,992,155,178	0	66,602,244	0	66,602,244
2086	30,798,165,157	3,517,326,449	3,517,326,449	0	54,841,629	0	54,841,629
2087	31,232,881,501	3,082,866,739	3,082,866,739	0	44,922,989	0	44,922,989
2088	32,150,641,877	2,687,799,993	2,687,799,993	0	36,603,875	0	36,603,875
2089	33,543,950,157	2,330,520,472	2,330,520,472	0	29,661,920	0	29,661,920
2090	35,406,426,938	2,008,996,222	2,008,996,222	0	23,896,906	0	23,896,906
2091	37,733,328,254	1,720,856,613	1,720,856,613	0	19,130,374	0	19,130,374
2092	40,522,009,986	1,463,716,727	1,463,716,727	0	15,207,297	0	15,207,297
2093	43,772,089,027	1,235,244,880	1,235,244,880	0	11,994,007	0	11,994,007
2094	47,485,545,816	1,033,382,783	1,033,382,783	0	9,377,535	0	9,377,535

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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 3.93%[1]	Present Value of Benefit Payments at 7.00%
2095	$51,666,606,175	$856,236,155	$856,236,155	$0	$7,261,682	$0	$7,261,682
2096	56,321,728,067	701,965,494	701,965,494	0	5,563,853	0	5,563,853
2097	61,459,700,465	568,869,438	568,869,438	0	4,213,944	0	4,213,944
2098	67,091,662,839	455,243,083	455,243,083	0	3,151,633	0	3,151,633
2099	73,231,272,644	359,433,734	359,433,734	0	2,325,559	0	2,325,559
2100	79,894,826,792	279,806,404	279,806,404	0	1,691,930	0	1,691,930
2101	87,101,427,325	214,608,217	214,608,217	0	1,212,795	0	1,212,795
2102	94,873,299,013	162,094,246	162,094,246	0	856,101	0	856,101
2103	103,235,998,908	120,504,127	120,504,127	0	594,806	0	594,806
2104	112,218,664,767	88,204,729	88,204,729	0	406,894	0	406,894
2105	121,854,133,159	63,566,106	63,566,106	0	274,051	0	274,051
2106	132,179,194,225	45,159,664	45,159,664	0	181,959	0	181,959
2107	143,234,659,141	31,690,010	31,690,010	0	119,333	0	119,333
2108	155,065,502,804	22,006,303	22,006,303	0	77,446	0	77,446
2109	167,721,004,755	15,234,852	15,234,852	0	50,108	0	50,108
2110	181,254,762,685	10,590,344	10,590,344	0	32,553	0	32,553
2111	195,724,902,250	7,443,689	7,443,689	0	21,384	0	21,384
2112	211,194,231,325	5,337,095	5,337,095	0	14,329	0	14,329
2113	227,730,389,428	3,866,852	3,866,852	0	9,703	0	9,703
2114	245,406,128,891	2,909,156	2,909,156	0	6,822	0	6,822
2115	264,299,381,963	2,248,119	2,248,119	0	4,927	0	4,927
2116	284,493,717,592	1,765,336	1,765,336	0	3,616	0	3,616
2117	306,078,633,943	1,388,160	1,388,160	0	2,657	0	2,657
2118	329,149,924,907	921,574	921,574	0	1,649	0	1,649
2119	353,810,246,238	640,901	640,901	0	1,072	0	1,072
2120	380,169,107,848	433,991	433,991	0	678	0	678
2121	408,343,753,349	312,142	312,142	0	456	0	456
2122	438,459,572,343	274,374	274,374	0	374	0	374
2123	470,650,682,006	45,566	45,566	0	58	0	58
2124	505,060,820,375	11,826	11,826	0	14	0	14
2125	541,843,334,032	4,577	4,577	0	5	0	5
2126	581,162,423,349	1,657	1,657	0	2	0	2
2127	623,193,749,235	240	240	0	0	0	0
Total					**177,963,757,596**	**0**	**177,963,757,596**

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

Appendix A: Definition of Pension Terms

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

Term	Definition
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. 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., assets earn more than projected, salary increases are less than assumed, members 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 actuarial liabilities that are larger than projected.
Actuarially equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial present value	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, withdrawal, 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.

Appendix A: Definition of Pension Terms

Term	Definition
Actuarial present value of future benefits	The Actuarial Present Value of benefit amounts 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 Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions 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 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, as well as Actuarially Determined Contributions.
Actuarial value of assets (AVA)	The value of the Plan'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 Plan.
Actuarially determined contribution (ADC)	The employer's contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
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 Unfunded Actuarial Accrued Liability. 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 Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization payment	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
Assumptions or actuarial assumptions	The estimates upon which the cost of the Plan is calculated, including: **Investment return** — the rate of investment yield that the Plan will earn over the long-term future; **Mortality rates** — the rate or probability of death at a given age for employees and retirees; **Retirement rates** — the rate or probability of retirement at a given age or service; **Disability rates** — the rate or probability of disability retirement at a given age; **Withdrawal rates** — the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; **Salary increase rates** — the rates of salary increase due to inflation, real wage growth and merit and promotion increases.

Appendix A: Definition of Pension Terms

Term	Definition
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.
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 20 years, it is 19 years at the end of one year, 18 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 withdrawal.
Defined benefit plan	A retirement plan in which benefits are defined by a formula based on the member's compensation, age 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 (ER NC)	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience study	A periodic review and analysis of the actual experience of the Plan 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 based on recommendations from the Actuary.
Funded ratio	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Fair Value of Assets (FVA), rather than the AVA.
GASB 67 and GASB 68	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. 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. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment return	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. 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.

Appendix A: Definition of Pension Terms

Term	Definition
Normal cost (NC)	The portion of the Actuarial Present Value of Future Benefits and expenses, if applicable, allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member 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 each future year in determining the Amortization Period.
Plan Fiduciary Net Position	Fair value of assets.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Total Pension Liability (TPL)	The actuarial 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 or an Overfunded Actuarial Accrued Liability.
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 Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Appendix B: History of Legislative Changes

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

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	Enactment Year	Brief Summary
88-0593	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.
90-0448	1997	Required the System's assets to be valued at fair value instead of book value.
90-0582	1998	Changed the defined benefit formula and added minimum state contribution rates in fiscal year 1999 that remained in effect through fiscal year 2004.
93-0002	2003	Provided pension obligation bond proceeds and placed upper limits on State contributions beginning with the State contribution due for fiscal year 2005.
94-0004	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.
94-1057	2006	Contained exemptions from some of the new employer contribution requirements enacted in 2005.
96-0043	2009	Required the use of a smoothed actuarial value of assets beginning with the June 30, 2009 valuation.
96-0889	2020	Established Tier 2 provisions.
96-1511	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.

Appendix B: History of Legislative Changes

Public Act	Enactment Year	Brief Summary
97-0694	2012	Required the auditor general to hire an actuary to serve as the State Actuary.
98-0042	2013	Provided that the Early Retirement Option 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.
98-0674	2014	As part of the budget implementation bill, requires the state and federal contribution rates to TRS to be the same.
99-0232	2015	Requires the actuaries of the state-funded retirement systems to conduct experience analyses every three years instead of every five years.
100-0023	2017	As part of the budget implementation bill, creates a Tier 2 hybrid benefit plan.
100-0340	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.
100-0587	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.
101-0010	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).
102-0718	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/sites/default/files/documents/pub26-2024.pdf

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