



Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

Indiana Public Retirement System

Teachers' Retirement Fund 1996 Account

Actuarial Valuation as of
June 30, 2023





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

November 7, 2023

Board of Trustees
Indiana Public Retirement System
1 North Capitol, Suite 001
Indianapolis, IN 46204

Dear Members of the Board:

At your request, we performed an actuarial valuation of the Teachers' Retirement Fund 1996 Account (TRF '96) as of June 30, 2023, for the purpose of estimating the actuarially determined contribution for the plan year ending June 30, 2025. Actuarial valuations are performed annually. The major findings of the valuation are contained in this report, which reflects the benefit and funding provisions in place on June 30, 2023. There were no changes to the actuarial assumptions or actuarial methods from last year. While there was a change to the plan's eligibility requirements for a Millie Morgan Retirement, it is expected that any impact on the plan's actuarial valuation would be immaterial and is not reflected.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by Indiana Public Retirement System (INPRS) staff. This information includes, but is not limited to, statutory provisions, member data and financial information. We did review the data to ensure that it was reasonably consistent and comparable with data from prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We certify that all costs and liabilities for TRF '96 have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the plan and reasonable expectations); and which, in combination, offer the best estimate of anticipated experience affecting the plan. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions.

We believe the actuarial assumptions used herein are reasonable. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C. Specifically, we presented the proposed assumptions for the 2023 valuations to the Board on February 24, 2023, and the Board subsequently adopted their use at its May 5, 2023 meeting. These assumptions are applicable to both the funding and Governmental Accounting Standards Board (GASB) Statement Number 67 valuation calculations, unless otherwise noted.



In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results. 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 (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

We prepared a Risk Report for the INPRS Board in August 2019 that contains information which is relevant to TRF '96 and should be considered part of this valuation report. Although the report was prepared using the data, methods, and assumptions of the June 30, 2018 valuation report, it is our professional opinion that the general results of the risk report are applicable to the June 30, 2023 valuation report as well.

Actuarial computations presented in this report are for purposes of determining the funding rates for the Plan. The calculations in the enclosed report have been made on a basis consistent with our understanding of the Plan's funding requirements and goals as adopted by the Board. Additionally, we have included actuarial computations for use in preparing certain reporting and disclosure requirements under Governmental Accounting Standards Board Statements Number 67 and Number 68. Determinations for purposes other than meeting these funding and disclosure requirements may be significantly different from the results contained in this report and require additional analysis.

The Annual Comprehensive Financial Report (ACFR) for INPRS contains several exhibits that disclose the actuarial position of the System. This annual report, prepared as of June 30, 2023, provides data and tables that we prepared for use in the following sections of the ACFR:

Financial Section:

- Note 1 - Tables of Plan Membership
- Note 8 - Net Pension Liability and Actuarial Information - Defined Benefit Plans
- Schedule of Changes in Net Pension Liability and Plan Fiduciary Net Position
- Schedule of Contributions
- Schedule of Notes to Required Supplementary Information

Actuarial Section:

- Summary of INPRS Funded Status (Included in the Board Summary)
- Historical Summary of Actuarial Valuation Results by Retirement Plan
- Summary of Actuarial Assumptions, Methods and Plan Provisions
- Analysis of Financial Experience (Included in the Unfunded Actuarial Accrued Liability Reconciliation)
- Solvency Test
- Schedule of Active Member Valuation Data
- Schedule of Retirants and Beneficiaries



Statistical Section:

- Membership Data Summary
- Ratio of Active Members to Annuitants
- Schedule of Benefit Recipients by Type of Benefit Option
- Schedule of Average Benefit Payments

The consultants who worked on this assignment are pension actuaries. Cavanaugh Macdonald's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate, and the assumptions and methods used meet the guidance provided in the applicable Actuarial Standards of Practice. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

The calculations were completed in compliance with applicable law and the calculations for GASB disclosure, in our opinion, meet the requirements of GASB 67 and GASB 68. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

We respectfully submit the following report and look forward to discussing it with you.

Sincerely,

A handwritten signature in blue ink that reads 'Brent A. Banister'.

Brent A. Banister, PhD, FSA, EA, FCA, MAAA
Chief Actuary

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward Koebel, FCA, EA, MAAA
Chief Executive Officer

A handwritten signature in blue ink that reads 'Virginia Fritz'.

Virginia Fritz, FSA, EA, FCA, MAAA
Senior Actuary



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SECTION 1 – BOARD SUMMARY FOR COMBINED BASE AND SUPPLEMENTAL BENEFITS

This report presents the results of the June 30, 2023 actuarial valuation of the Teachers’ Retirement Fund 1996 Account (TRF ’96). The primary purposes of performing this actuarial valuation are to:

- Determine the level of contributions for the plan year ending June 30, 2025, along with the actuarial surcharge rate for the 2024 calendar year, that will be sufficient to meet the funding policy set out by the Board to comply with Indiana statutes.
- Disclose asset and liability measurements as well as the plan’s funded status on the valuation date.
- Compare actual and expected experience of the Fund during the plan year ending June 30, 2023.
- Analyze and report on trends in plan contributions, assets and liabilities over the past several years.

VALUATION RESULTS

The actuarial valuation results provide a “snapshot” view of the plan’s financial condition on June 30, 2023. The plan’s UAAL increased from \$439 million last year to \$656 million this year, and the funded ratio decreased from 94.6% last year to 92.6% this year. The primary factors behind the decrease in the funded ratio was an actuarial loss on liabilities due to overall pay increases higher than what was expected and an actuarial loss on assets.

A summary of the key results from the June 30, 2023 actuarial valuation compared to the June 30, 2022 valuation is shown in the following table.

Valuation Results	June 30, 2022	June 30, 2023
Unfunded Actuarial Accrued Liability	\$ 438,639,913	\$ 655,708,629
Funded Ratio (Actuarial Assets)	94.62%	92.58%
Normal Cost	5.72%	5.72%
UAAL Amortization	0.07%	0.43%
Actuarially Determined Contribution Rate	5.79%	6.15%
Actuarially Determined Surcharge Rate	0.22%	0.00%

Further detail on the valuation results can be found in the following sections of this Board Summary, including discussion regarding the change in the plan’s assets, liabilities, and actuarial determined contribution rate between June 30, 2022 and June 30, 2023.



SECTION 1 – BOARD SUMMARY FOR COMBINED BASE AND SUPPLEMENTAL BENEFITS

ASSETS

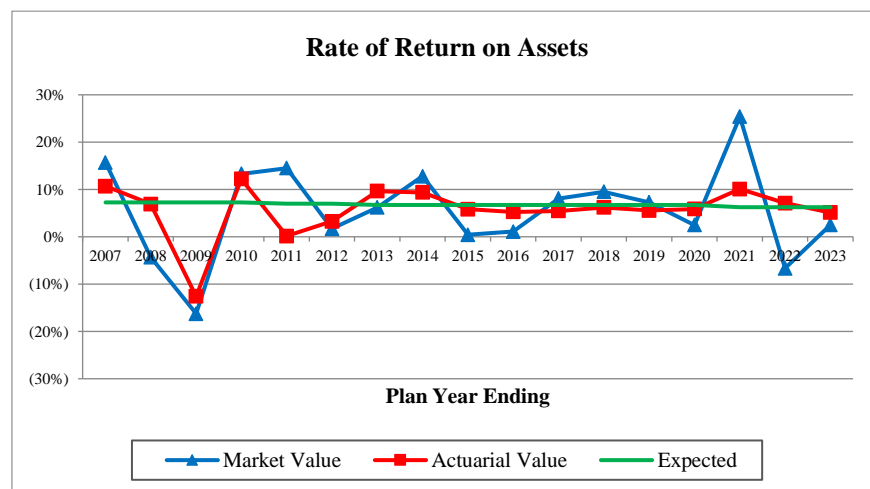
As of June 30, 2023, the plan had net assets of \$7.746 billion when measured on a market value basis. This was an increase of \$249 million from the prior year.

The market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the actuarially determined contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is applied to determine the value of assets used in the valuation. The resulting amount is called the actuarial value of assets. In this year’s valuation, the actuarial value of assets is \$8.177 billion, an increase of \$461 million from the prior year.

The components of change in the asset values are shown in the following table:

	Market Value	Actuarial Value
Net Assets, June 30, 2022	\$ 7,496,539,626	\$ 7,716,351,537
- Receipts	+ 250,136,777	+ 250,136,777
- Expenditures, Net of Administrative Expenses	- 185,166,778	- 185,166,778
- Net Investment Income	+ 184,965,965	+ 395,796,709
Net Assets, June 30, 2023	\$ 7,746,475,590	\$ 8,177,118,245
Estimated Rate of Return, Net of Expenses	2.5%	5.1%

The estimated rate of return on the actuarial value of assets was 5.1%, which was lower than the 6.25% investment return assumption applicable for the year ended June 30, 2023. As a result, there was an experience loss on assets of approximately \$89 million. The FY 2023 return on the market value of assets of 2.5% increased the net deferred investment loss from \$220 million in last year’s valuation to \$431 million in the current valuation. See Tables 1 through 4 of this report for detailed information on the market and actuarial value of assets.



The rate of return of the actuarial value of assets has been less volatile than the market value return, illustrating the benefits of using an asset smoothing method. The smoothed actuarial value of plan assets has led to relatively steady actuarial valuation results over the last few years, even with a large gain followed by an offsetting loss.



SECTION 1 – BOARD SUMMARY FOR COMBINED BASE AND SUPPLEMENTAL BENEFITS

LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that is allocated to past service. The remaining portion will be paid by future normal costs. The difference between this liability and the actuarial value of assets as of the valuation date is called the unfunded actuarial accrued liability (UAAL). The dollar amount of unfunded actuarial accrued liability is reduced if the contributions to the plan exceed the normal cost for the year plus interest on the prior year's UAAL.

The unfunded actuarial accrued liability, including expected future COLAs, on both a market value and actuarial value of assets basis is shown as of June 30, 2023 in the following table:

	Market Value		Actuarial Value	
Actuarial Accrued Liability	\$	8,832,826,874	\$	8,832,826,874
Value of Assets		7,746,475,590		8,177,118,245
Unfunded Actuarial Accrued Liability	\$	1,086,351,284	\$	655,708,629
Funded Ratio		87.70%		92.58%

See Table 5 of this report for the development of the unfunded actuarial accrued liability.

The total plan UAAL (on an actuarial basis) as of June 30, 2023 was \$656 million, a \$217 million increase from the \$439 million UAAL last year. This change was primarily driven by an actuarial loss on liability experience of \$97 million, largely due to salaries increasing more than expected. The change in UAAL also includes an actuarial loss of \$89 million on the actuarial value of assets. The components of the change in the base UAAL are quantified in Table 7 of this report. See Table 8 and Table 9 of this report for a breakdown of the components of experience gains/losses for greater detail on the base plan benefits.

An evaluation of the UAAL on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both large numbers) is reflected. Another way to evaluate the UAAL and the progress made in its funding is to track the funded ratio, the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status information, which is based on the actuarial value of assets, is shown below (in millions).

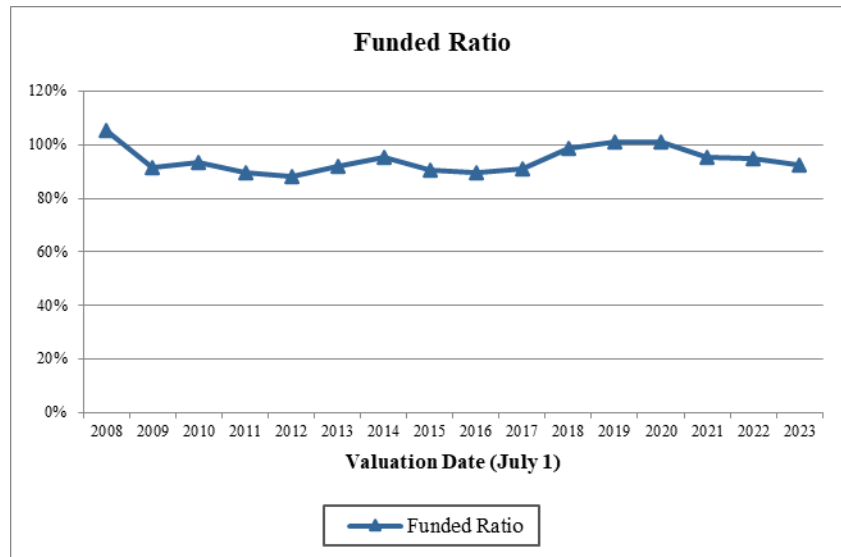
	6/30/2019	6/30/2020	6/30/2021	6/30/2022	6/30/2023
Funded Ratio	101.3%	100.9%	95.3%	94.6%	92.6%
UAAL (in millions)	(\$76)	(\$57)	\$355	\$439	\$656

Note that the funded ratio does not indicate whether or not the plan assets are sufficient to settle benefits earned to date. The funded ratio, by itself, also may not be indicative of future funding requirements. In addition, if the funded ratios were shown using the market value of assets, the results would differ.



SECTION 1 – BOARD SUMMARY FOR COMBINED BASE AND SUPPLEMENTAL BENEFITS

The funded ratio over a long period of time is shown in the following graph. The Plan’s funded status had been gradually decreasing for a number of years.



Note: Funded ratios exclude DC account balances.

ACTUARIALLY DETERMINED CONTRIBUTION RATE

The Plan’s actuarially determined contribution rate (ADC) consists of two components:

- A “normal cost” for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date.
- An “unfunded actuarial accrued liability contribution” for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

The UAAL contribution rate is determined by calculating the amortization payment on the UAAL as a level dollar amount over 20 years for each new amortization base. Because the COLA portion of the benefits are funded through the surcharge, the calculation of the UAAL for amortization purposes only considers the base benefit without any COLA. If the Fund’s funded ratio exceeds 100% on a combined basis (base benefits plus future assumed COLAs), all prior amortization bases are eliminated and the negative UAAL (or “surplus”) is amortized over an open 30-year period, as an offset to other Fund costs.

In addition to the components above that are designed to fund the guaranteed base benefit, the Board is responsible for determining the surcharge to fund future COLAs and/or 13th checks. Because there are five plans that must, by law, provide the same COLA or 13th check each year, the funding strategy needs to consider the funding needs of the entire System as well as the specific fund. The Legislature did not authorize a COLA or 13th check for fiscal years ending 2024 or 2025.

The long-term assumption is that COLAs of 0.4% will be granted starting in 2026, then 0.5% starting in 2034, and finally 0.6% in 2039 and beyond. Considering the biennial budgeting cycle in Indiana, the near-



SECTION 1 – BOARD SUMMARY FOR COMBINED BASE AND SUPPLEMENTAL BENEFITS

term goal is to accumulate funds by June 30, 2025 to fund the two COLAs in the following biennium (January 2026 and January 2027). The surcharge rate for calendar year 2023 is 0.22%, and the actuarially determined surcharge rate effective January 1, 2024 is 0.00%. See Table 12 for further details. Note that this surcharge rate, while it will apply to calendar year 2024, is designed to bring the Supplemental Reserve Account to a target level as of June 30, 2025 and may not be reflective of what is needed for long-term funding of the target COLA. To provide flexibility to the legislature, the Board adopted surcharge rate of 0.21% applicable for calendar year 2023 was approved to continue at that rate on January 1, 2024.

The total employer rate is the sum of the contributions to fund the base benefits plus the surcharge. The rate set for the base benefits is equal to the greater of the current employer contribution rate or the ADC. Once the plan reaches 95% funded, the employer contribution rate will be decreased by 25% of the difference between the existing rate and the base benefit ADC until the plan reaches 110% funded status. When the plan reaches 110% funded status, the employer contribution rate will be decreased to equal the base benefit ADC. The employer contribution rate will then be increased for the surcharge rate. The Board could decide, however, to set the rate higher in order to provide a sufficient surcharge for the COLA funding while preserving the base funding.

See Table 13 of this report for the detailed development of the contribution rates which are summarized in the following table:

	June 30, 2022	June 30, 2023
Normal Cost	5.72%	5.72%
UAAL Amortization	0.07%	0.43%
Actuarially Determined Contribution Rate	5.79%	6.15%
Actuarially Determined Surcharge Rate	0.22%	0.00%
Approved Employer Funding Rate	6.00%	TBD

To maintain the funded level of the plan, the plan’s funding policy increases the employer funding rate as necessary to ensure they are contributing a minimum of the combined actuarially determined contribution rates for the base and supplemental plans. The actuarially determined contribution, determined this year based on the snapshot of the plan taken on the valuation date of June 30, 2023, will change each year as the deferred investment experience is recognized and other experience (both investment and demographic) impacts the plan.

The June 30, 2023 actuarially determined contribution rate increased to 6.15% for the base benefits and decreased to 0.00% for the supplemental benefits. This results in the employer funding rate changing from 6.00% to a recommended rate of 6.20% starting July 1, 2024 for base benefits. This information is under review by the Board which will determine the approved employer funding rate for both base and supplemental benefits. The current Board approved surcharge rate of 0.21% will continue at January 1, 2024, and the new employer funding rate for the base benefits (and possibly for supplemental benefits) is applicable for the fiscal year beginning July 1, 2024.

**SECTION 1 – BOARD SUMMARY FOR COMBINED BASE AND SUPPLEMENTAL BENEFITS****SUMMARY OF PRINCIPAL RESULTS**

	June 30, 2021	June 30, 2022	June 30, 2023
MEMBERSHIP			
Active Members	59,866	59,567	60,057
Retired Members and Beneficiaries	8,287	9,035	10,127
Inactive Vested Members	6,827	7,496	8,029
Total Members	74,980	76,098	78,213
Projected Annual Salaries of Active Members	\$ 3,781,121,764	\$ 3,956,756,111	\$ 4,386,264,081
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	\$ 143,690,023	\$ 157,029,561	\$ 179,664,013
ASSETS AND LIABILITIES			
Net Assets			
Market Value of Assets (MVA)	\$ 7,987,495,378	\$ 7,496,539,626	\$ 7,746,475,590
Actuarial Value of Assets (AVA)	7,162,958,020	7,716,351,537	8,177,118,245
Actuarial Accrued Liability (AAL)	7,517,703,347	8,154,991,450	8,832,826,874
Unfunded Actuarial Accrued Liability (UAAL): AAL - AVA	\$ 354,745,327	\$ 438,639,913	\$ 655,708,629
Funded Ratios			
AVA / AAL	95.28%	94.62%	92.58%
MVA / AAL	106.25%	91.93%	87.70%
CONTRIBUTIONS			
Normal Cost	5.73%	5.72%	5.72%
Amortization of UAAL	(0.03%)	0.07%	0.43%
Actuarially Determined Contribution Rate	5.70%	5.79%	6.15%
Actuarially Determined Surcharge Rate (applicable next calendar year)	0.21%	0.22%	0.00%

Note: Liability and funded ratio results include both the base benefits and the supplemental benefits.



SECTION 2 – SCOPE OF THE REPORT

This report presents the actuarial valuation results of the Teachers’ Retirement Fund 1996 Account as of June 30, 2023. This valuation was prepared at the request of the Indiana Public Retirement System.

Please pay particular attention to our actuarial certification letter, where the guidelines employed in the preparation of this report are outlined. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings are based. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings which result from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the plan. Sections 4 and 5 describe how the obligations of the plan are to be met under the actuarial cost method in use. Section 6 provides information required by the Governmental Accounting Standards Board (GASB) for reporting and disclosure under GASB 67 and GASB 68.

This report includes several appendices:

- Appendix A Schedules of valuation data classified by various categories of members.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on June 30, 2023.
- Appendix C A summary of the actuarial methods and assumptions used to estimate liabilities and determine contribution rates.
- Appendix D A glossary of actuarial terms.



SECTION 3 – ASSETS

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is June 30, 2023. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the plan, which are generally in excess of assets. The actuarial process then leads to a method of determining the contributions needed by members and the employer in the future to balance the plan assets and liabilities.

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of plan assets as of the valuation date. In addition, the market value of assets provides a basis for measuring investment performance from time to time.

Table 1 summarizes the changes in the market value of assets for the last two years for the base benefits, whereas Table 2 shows the changes for the supplemental benefit reserve account. Table 15 (in the GASB section) provides detail regarding the allocation of investments in the trust.

Actuarial Value of Assets

The market value of assets, representing a "cash-out" value of plan assets, may not be the best measure of the plan's ongoing ability to meet its obligations. To arrive at a suitable value of assets for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. Under the asset smoothing methodology, the difference between the actual and assumed investment return on the market value of assets is recognized evenly over a five-year period.

Table 3 shows the development of the actuarial value of assets (AVA) as of the valuation date for the base benefits and Table 4 shows the information for the supplemental benefits.



TABLE 1
DEVELOPMENT OF MARKET VALUE OF ASSETS
(Base Benefits)

	June 30, 2022	June 30, 2023
1. Market Value of Assets, Beginning of Year	\$ 7,967,403,163	\$ 7,472,374,625
2. Receipts		
a. Member (Includes Purchased Service) ¹	\$ 432,657	\$ 379,364
b. Employer (Includes Purchased Service) ²	203,955,340	236,070,779
c. Member Reassignment Transfers	4,037,179	5,157,618
d. Miscellaneous Income	2,963	300
e. Total	\$ 208,428,139	\$ 241,608,061
3. Expenditures		
a. Benefit Payments	\$ 167,722,041	\$ 183,631,879
b. Refund of Contributions	0	0
c. Administrative Expense	5,291,695	6,319,264
d. Miscellaneous Expenditures	0	0
e. Total	\$ 173,013,736	\$ 189,951,143
4. Investment Return		
a. Investment Income	\$ (530,704,600)	\$ 189,959,058
b. Securities Lending Income	261,659	522,692
c. Total	\$ (530,442,941)	\$ 190,481,750
5. Market Value of Assets, End of Year: (1) + (2e) - (3e) + (4c)	\$ 7,472,374,625	\$ 7,714,513,293
6. Rate of Return on Market Value of Assets, Net of Expenses ³	(6.71%)	2.46%

¹ Includes \$432,657 of member service purchases during fiscal year 2022 and \$379,364 of member service purchases during fiscal year 2023.

² Includes \$63,837 of employer service purchases during fiscal year 2022 and \$175,702 of employer service purchases during fiscal year 2023.

³ Based on individual fund experience. Assumes cash flows occur at mid-year.



TABLE 2
DEVELOPMENT OF MARKET VALUE OF ASSETS
(Supplemental Benefits)

	June 30, 2022	June 30, 2023
1. Market Value of Assets, Beginning of Year	\$ 20,092,215	\$ 24,165,001
2. Receipts		
a. Employer Surcharge	\$ 6,709,942	\$ 8,528,716
b. Lottery Allocation	0	0
c. Non-Employer Entity Contributions	0	0
d. Miscellaneous	0	0
e. Total	\$ 6,709,942	\$ 8,528,716
3. Expenditures		
a. Benefit Payments	\$ 898,923	\$ 1,534,899
b. Administrative Expense	0	0
c. Miscellaneous Expenditures	0	0
d. Total	\$ 898,923	\$ 1,534,899
4. Investment Return		
a. Investment Income	\$ (1,738,995)	\$ 801,537
b. Securities Lending Income	762	1,942
c. Total Investment Return	\$ (1,738,233)	\$ 803,479
5. Market Value of Assets, End of Year: (1) + (2e) - (3d) + (4c)	\$ 24,165,001	\$ 31,962,297
6. Rate of Return on Market Value of Assets, Net of Expenses ¹	(7.56%)	2.90%

¹ Based on individual fund experience. Assumes cash flows occur at mid-year.



TABLE 3

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
(Base Benefits)

		For Plan Year Ending June 30, 2023		
1. Market Value, as of June 30, 2022	\$		7,472,374,625	
2. Receipts ¹	\$		241,608,061	
3. Expenditures, Net of Administrative Expenses ²	\$		(183,631,879)	
4. Expected Return on Assets ³	\$		468,835,170	
5. Expected Market Value as of June 30, 2023: (1) + (2) + (3) + (4)	\$		7,999,185,977	
6. Actual Market Value as of June 30, 2023	\$		7,714,513,293	
7. Year end 2023 asset gain/(loss): (6) - (5)	\$		(284,672,684)	
8. Deferred Investment Gains and Losses				
	Year Ended June 30:	Gain/(Loss)	Factor	Deferred Amount
a.	2020	\$ (261,795,231)	20%	\$ (52,359,046)
b.	2021	1,180,936,888	40%	472,374,755
c.	2022	(1,034,969,399)	60%	(620,981,639)
d.	2023	(284,672,684)	80%	(227,738,147)
e.	Total			\$ (428,704,077)
9. Initial Actuarial Value as of June 30, 2023: (6) - (8e)	\$		8,143,217,370	
10. Constraining Values				
a.	80% of Market Value: (6) x 0.8		\$ 6,171,610,634	
b.	120% of Market Value: (6) x 1.2		\$ 9,257,415,952	
11. Actuarial Value as of June 30, 2023	\$		8,143,217,370	
12. Actuarial Rate of Return, Net of Expenses ⁴			5.11%	
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)			105.6%	
14. Actuarial Value of Assets				
a.	Base Benefits	\$	8,143,217,370	
b.	Supplemental Benefits	\$	33,900,875	
c.	Total	\$	8,177,118,245	

¹ Includes Employer Contributions, Service Purchases, Member Reassignment Transfers, and Miscellaneous Receipts.

² Includes DB Benefit Payments.

³ Assumes cash flows occur at mid-year and a return assumption of 6.25%.

⁴ Assumes cash flows occur at mid-year.



TABLE 4
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
(Supplemental Benefits)

		For Plan Year Ending June 30, 2023		
1. Market Value, as of June 30, 2022	\$		24,165,001	
2. Receipts	\$		8,528,716	
3. Expenditures, Net of Administrative Expenses	\$		(1,534,899)	
4. Expected Return on Assets ¹	\$		1,728,869	
5. Expected Market Value as of June 30, 2023: (1) + (2) + (3) + (4)	\$		32,887,687	
6. Actual Market Value as of June 30, 2023	\$		31,962,297	
7. Year end 2023 asset gain/(loss): (6) - (5)	\$		(925,390)	
8. Deferred Investment Gains and Losses				
	Year Ended June 30:	Gain/(Loss)	Factor	Deferred Amount
a.	2020	\$ (226,529)	20%	\$ (45,306)
b.	2021	1,880,988	40%	752,395
c.	2022	(3,175,591)	60%	(1,905,355)
d.	2023	(925,390)	80%	(740,312)
e.	Total			\$ (1,938,578)
9. Initial Actuarial Value as of June 30, 2023: (6) - (8e)	\$			33,900,875
10. Constraining Values				
a.	80% of Market Value: (6) x 0.8			\$ 25,569,838
b.	120% of Market Value: (6) x 1.2			\$ 38,354,756
11. Actuarial Value as of June 30, 2023	\$			33,900,875
12. Actuarial Rate of Return, Net of Expenses ²				4.27%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)				106.1%

¹ Assumes cash flows occur at mid-year and a discount rate of 6.25%.

² Assumes cash flows occur at mid-year.



SECTION 4 – PLAN LIABILITIES

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the Teachers' Retirement Fund 1996 Account as of the valuation date, June 30, 2023. In this section, the discussion will focus on the commitments (future benefit payments) of the plan, which are referred to as its liabilities.

The liability calculations for the June 30, 2023 Teachers' Retirement Fund 1996 Account valuation are based on census data collected as of June 30, 2022. Standard actuarial techniques are used to adjust these results from June 30, 2022 to June 30, 2023. While these roll-forward techniques are based on all actuarial assumptions being met during the intervening year, there will, of course, be many of the assumptions that will not be met exactly. In general, this does not materially affect the resulting calculations or conclusions in this report. Should there be a year in which events, such as a plan change, occur that would affect the results, adjustments in the roll-forward methods would be made to appropriately reflect the events.

All liabilities reflect the benefit provisions and actuarial assumptions in place as of June 30, 2023.

Actuarial Accrued Liability

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to "breakdown" the present value of future benefits into two components:

- (1) that which is attributable to the past and
- (2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability." The portion allocated to the future is known as the present value of future normal costs, with the specific piece of it allocated to the current year being called the "normal cost."

Table 5 contains the calculation of actuarial accrued liability for the Plan under the Entry Age Normal actuarial cost. This amount is split between the base benefit and the supplemental COLA benefit. Granted supplemental benefits are the present value of legislated benefits, whereas future supplemental benefits represent those assumed to occur based on the Plan's COLA assumption.

Low-Default-Risk Obligation Measure

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we are required to include a low-default-risk obligation measure of the System's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of the plan. This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation (including the assumed COLA paid from the SRA), except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2023 and with the 30-year spot rate used for all durations beyond 30 because this provides an appropriate set of discount rates for this intended purpose. Using these



SECTION 4 – PLAN LIABILITIES

assumptions, we calculate a liability of approximately \$8,170,028,000. This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. If the plan were funded with the intent of being able to be terminated at any valuation date, contribution requirements may need to increase and would also be more volatile. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan. However, this informational disclosure is required for all plans whether corporate or governmental and care should be taken to ensure the one size fits all metric is not misconstrued.



SECTION 4 – PLAN LIABILITIES

TABLE 5

ACTUARIAL ACCRUED LIABILITY
(Base and Supplemental Benefits)

As of June 30, 2023	Base Benefits	Supplemental Benefits		Total
		Granted	Future	
1. Actuarial Accrued Liability				
a. Active & Inactive Members	\$ 6,412,016,933	\$ 0	\$ 383,322,659	\$ 6,795,339,592
b. In-pay Members	<u>1,958,601,591</u>	<u>16,894,646</u>	<u>61,991,045</u>	<u>2,037,487,282</u>
c. Total	\$ 8,370,618,524	\$ 16,894,646	\$ 445,313,704	\$ 8,832,826,874
2. Actuarial Value of Assets	\$ 8,143,217,370	\$ 16,894,646	\$ 17,006,229	\$ 8,177,118,245
3. Unfunded Actuarial Accrued Liability: (1c) - (2)	\$ 227,401,154	\$ 0	\$ 428,307,475	\$ 655,708,629
4. Funded Ratio: (2) / (1c)	97.3%	100.0%	3.8%	92.6%



SECTION 4 – PLAN LIABILITIES

TABLE 6
SOLVENCY TEST
(Base and Supplemental Benefits)

Actuarial Valuation as of June 30	Actuarial Accrued Liabilities (AAL)				Portion of AAL Covered by Assets				
	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total Actuarial Accrued Liabilities	Actuarial Value of Assets	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total Actuarial Accrued Liabilities
2023	\$0	\$2,037,487	\$6,795,340	\$8,832,827	\$8,177,118	N/A	100.0%	90.4%	92.6%
2022	0	1,795,341	6,359,650	8,154,991	7,716,352	N/A	100.0	93.1	94.6
2021	0	1,648,130	5,869,573	7,517,703	7,162,958	N/A	100.0	94.0	95.3
2020	0	1,454,955	4,948,297	6,403,252	6,460,070	N/A	100.0	101.1	100.9
2019	0	1,371,702	4,608,724	5,980,426	6,056,317	N/A	100.0	101.4	101.3
2018	0	1,232,059	4,331,205	5,563,264	5,478,482	N/A	100.0	98.0	98.5
2017	1,378,143	1,213,780	4,322,314	6,914,237	6,414,134	100.0	100.0	88.4	92.8
2016	1,204,885	1,091,802	4,095,063	6,391,750	5,865,729	100.0	100.0	87.2	91.8
2015	1,159,597	908,353	3,837,741	5,905,691	5,461,172	100.0	100.0	88.4	92.5
2014	1,102,686	777,287	3,357,020	5,236,993	5,035,232	100.0	100.0	94.0	96.1

Note: Dollar amounts are in thousands of dollars. Amounts before 2018 reflect the inclusion of DC balances in both the active member contributions and the assets.



TABLE 7

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
(Base and Supplemental Benefits)

For Year Ending June 30, 2023

	Base	Base and Supplemental
1. Unfunded Actuarial Accrued Liability as of June 30, 2022	\$ 31,137,471	\$ 438,639,913
2. Normal Cost	226,326,450	240,570,772
3. Actuarially Determined Contribution	(228,899,555)	(237,604,418)
4. Interest	1,785,273	27,600,392
5. Expected Unfunded Actuarial Accrued Liability as of June 30, 2023	\$ 30,349,639	\$ 469,206,659
6. Actuarial Value of Asset Changes		
a. Investment Experience (Gain)/Loss	\$ 87,927,592	\$ 88,505,575
b. Contributions (Above)/Below the Actuarially Determined Contribution and Other (Gain)/Loss	\$ 86,256	\$ 539,934
7. Actuarial Accrued Liability Changes		
a. Actuarial Accrued Liability Experience (Gain)/Loss	\$ 109,037,667	\$ 97,456,461
b. Additional Liability Due to Benefit Changes	0	0
c. Additional Liability Due to Assumption Changes	0	0
8. Total Experience (Gain)/Loss	\$ 197,051,515	\$ 186,501,970
9. Unfunded Actuarial Accrued Liability as of June 30, 2023: (5) + (8)	\$ 227,401,154	\$ 655,708,629

**SECTION 4 – PLAN LIABILITIES****TABLE 8****ACTUARIAL GAIN/(LOSS)**
(Base and Supplemental Benefits)

Liabilities	Base	Base and Supplemental
1. Actuarial Accrued Liability as of June 30, 2022	\$ 7,721,826,435	\$ 8,154,991,450
2. Normal Cost for Plan Year Ending June 30, 2023	226,326,450	240,570,772
3. Benefit Payments During Plan Year ¹	(183,488,765)	(185,023,664)
4. Service Purchases (employee and employer)	555,066	555,066
5. Member Reassignment Transfers	5,157,618	5,157,618
6. Interest at 6.25%	491,204,053	519,119,171
7. Change Due to Benefit Changes	0	0
8. Change Due to Assumption Changes	0	0
9. Expected Actuarial Accrued Liability as of June 30, 2023	\$ 8,261,580,857	\$ 8,735,370,413
10. Actuarial Accrued Liability as of June 30, 2023	\$ 8,370,618,524	\$ 8,832,826,874
Assets		
11. Actuarial Value of Assets as of June 30, 2022	\$ 7,690,688,964	\$ 7,716,351,537
12. Receipts During Plan Year	241,608,061	250,136,777
13. Expenditures, Excluding Expenses, During Plan Year	(183,631,879)	(185,166,778)
14. Interest at 6.25%	482,479,816	484,302,284
15. Expected Actuarial Value of Assets as of June 30, 2023	\$ 8,231,144,962	\$ 8,265,623,820
16. Actuarial Value of Assets as of June 30, 2023	\$ 8,143,217,370	\$ 8,177,118,245
Experience Gain / (Loss)		
17. Liability Actuarial Experience Gain/(Loss): (9) - (10)	\$ (109,037,667)	\$ (97,456,461)
18. Asset Actuarial Experience Gain/(Loss): (16) - (15)	(87,927,592)	(88,505,575)
19. Total Actuarial Experience Gain/(Loss): (17) + (18)	\$ (196,965,259)	\$ (185,962,036)

¹ Does not include miscellaneous expenses or benefit overpayments.



TABLE 9
EXPERIENCE GAIN/(LOSS) ANALYSIS BY SOURCE
(Base Benefits)

Liability Sources (in thousands)		Gain/(Loss)*
Retirement	\$	(24,677)
Termination		51,099
Disability		(559)
Mortality		(1,078)
Salary		(94,823)
New Entrants/Rehires		(68,332)
Miscellaneous/COLA		29,332
Total Liability Experience Gain/(Loss)	\$	(109,038)
as a % of AAL		(1.3%)
Asset Experience Gain/(Loss)	\$	(87,928)
Net Actuarial Experience Gain/(Loss)	\$	(196,965)

*Numbers may not add due to rounding.



TABLE 10

PROJECTED BENEFIT PAYMENTS
(Base and Supplemental Benefits)

Plan Year Ending June 30	Benefit Amount
2024	\$ 213,115,426
2025	230,854,996
2026	251,386,228
2027	275,153,866
2028	301,569,734
2029	332,618,362
2030	366,462,138
2031	404,228,039
2032	445,858,390
2033	491,032,961
2034	539,533,963
2035	590,653,949
2036	644,486,717
2037	700,442,944
2038	757,818,176
2039	815,904,647
2040	874,645,821
2041	932,414,977
2042	989,419,791
2043	1,045,174,723
2044	1,099,111,027
2045	1,150,546,771
2046	1,199,438,722
2047	1,245,099,739
2048	1,287,626,396
2049	1,326,638,193
2050	1,362,079,153
2051	1,394,467,362
2052	1,422,865,334
2053	1,446,079,228

Note: Payouts reflect nominal payouts for current members, assuming that all future assumptions are met.



SECTION 5 – EMPLOYER CONTRIBUTIONS

The previous two sections were devoted to a discussion of the assets and liabilities of the plan. We now turn to considering how the benefits will be funded. The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost rate and (2) the unfunded actuarial accrued liability contribution rate.

The term "fully funded" is often applied to a plan in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, plans are not fully funded, either because of past benefit improvements that have not been completely funded, contribution levels, or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated by the actuarial assumptions. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists. Likewise, when the actuarial value of assets is greater than the actuarial accrued liability, a surplus exists.

Description of Contribution Rate Components

The Entry Age Normal (EAN) actuarial cost method is used for the valuation. Under that method, the normal cost for each year from entry age to assumed exit age is a constant percentage of the member's year by year projected compensation. The portion of the present value of future benefits not provided by the present value of future normal costs is the actuarial accrued liability. The unfunded actuarial accrued liability/(surplus) represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. For TRF '96 purposes, this calculation excludes consideration of future COLAs. The unfunded actuarial accrued liability is calculated each year and reflects experience gains and losses. New amortization bases are funded over 20 years using a level dollar payment approach. If there is a surplus, all prior bases are eliminated, and a new 30-year open amortization base is established.

Funding for future COLAs is provided by using a surcharge. This rate is intended to fund the COLAs anticipated to be granted in the next biennium by the start of that biennium.

The contribution rate based on the June 30, 2023 actuarial valuation will be used to calculate the actuarially determined employer contribution rate to the Teachers' Retirement Fund 1996 Account for the plan year ending June 30, 2025. The supplemental benefit surcharge rate will be used to calculate the actuarially determined employer contribution rate for the 2024 calendar year. In general, contributions are computed in accordance with a stable percent-of-payroll funding objective.

The methodology of developing the contribution rate is designed to fund the benefits over a reasonable period with a stable contribution pattern. The current UAAL for the base benefits will be funded over the next 20 years, although the funding policy is likely to result in this being accomplished sooner. The COLA benefits are not intended to be funded beyond those granted in the past and those expected to be granted in the next biennium. Because benefits cannot be granted if they are not funded, this approach is expected to adequately fund benefits. While not how benefits are actually funded, the contribution rate shown in Table 14 under the current assumptions reflects a rate that could fund both the base benefits and COLAs in a reasonable manner.



SECTION 5 – EMPLOYER CONTRIBUTIONS

Contribution Rate Summary

In Table 11 the amortization payment related to the unfunded actuarial accrued liability/(surplus), as of June 30, 2023, is developed. The surcharge needed to fund the assumed COLAs is developed in Table 12. Table 13 develops the actuarially determined contribution rate for the Plan. The contribution rates shown in this report are based on the actuarial assumptions and cost methods described in Appendix C. Additionally, in Table 14 the contribution amounts under alternative discount rates are provided to illustrate the sensitivity of the contribution requirements relative to the selection of the investment return assumption.



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 11

SCHEDULE OF AMORTIZATION BASES
(Base Benefits)

Amortization Bases	Original Amount	June 30, 2023 Remaining Payments	Date of Last Payment	Outstanding Balance as of June 30, 2023	Annual Contribution
2021 UAAL Base	(15,350,208)	18	7/1/2041	(14,512,418)	(1,285,261)
2022 UAAL Base	46,081,477	19	7/1/2042	44,862,057	3,858,365
2023 UAAL Base	197,051,515	20	7/1/2043	<u>197,051,515</u>	<u>16,498,965</u>
Total				\$ 227,401,154	\$ 19,072,069
1. Total UAAL Amortization Payments				\$	19,072,069
2. Projected Payroll for FY 2024				\$	4,386,264,081
3. UAAL Amortization Payment Rate					0.43%



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 12

**DEVELOPMENT OF SURCHARGE RATE
(Supplemental Benefits)**

Projected COLAs in Next Biennium Beginning July 1, 2025

First Anticipated COLA

1. Date of COLA commencement		January 1, 2026
2. Rate of COLA		0.4%
3. Value as of July 1, 2025 of COLA	\$	9,669,677

Second Anticipated COLA

4. Date of COLA commencement		January 1, 2027
5. Rate of COLA		0.4%
6. Value as of July 1, 2025 of COLA		9,942,055
7. Total COLA Funding Requirement as of July 1, 2025: (3) + (6)	\$	19,611,732

Funding Sources for Projected COLAs

8. Assets as of June 30, 2023 Available for Future COLAs	\$	17,006,229
9. Projected Contributions from 7/1/2023 to 12/31/2023		4,459,533
10. Expected Earnings through July 1, 2025		2,693,036
11. Projected Available Assets at July 1, 2025	\$	24,158,798
12. Required Additional Funding for Anticipated COLAs: (7) - (11)		0

Surcharge Rate

13. Projected Payroll from 1/1/2024 to 6/30/2024		2,123,586,961
14. Projected Payroll from 7/1/2024 to 6/30/2025		4,359,724,031
15. Value of (13) and (14) as of July 1, 2025	\$	6,787,531,415
16. Surcharge Rate: (12)/(15)		0.00%



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 13

ACTUARIALLY DETERMINED CONTRIBUTION RATE
(Base and Supplemental Benefits)

	Base Benefits	Supplemental Benefits	Total
1. Projected Payroll for FY 2024	\$ 4,386,264,081		
2. Normal Cost Rate as of June 30, 2022	5.72%	0.36%	6.08%
3. Amortization of UAAL as of June 30, 2023			
a. Dollar Amount	\$ 19,072,069		
b. Percent of Projected Pay	0.43%		
4. Preliminary Actuarially Determined Contribution Rate: (2) + (3b)	6.15%		
5. Supplemental Benefit Surcharge Rate		0.00%	
6. Actuarially Determined Contribution Rate Subject to Legal Constraints	6.15%	0.00%	
7. Board Policy Surcharge Rate (for 2024 calendar year)		TBD	
8. Board Policy Contribution Rate			TBD



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 14

INVESTMENT RETURN SENSITIVITY
(Base and Supplemental Benefits)

	1.00% Decrease: (5.25%)	0.75% Decrease: (5.50%)	0.50% Decrease: (5.75%)	0.25% Decrease: (6.00%)	Current Assumption: (6.25%)
Funded Status					
Actuarial Accrued Liability	\$10,375,086,841	\$9,957,618,734	\$9,562,300,985	\$9,187,788,726	\$8,832,826,874
Actuarial Value of Assets	8,177,118,245	8,177,118,245	8,177,118,245	8,177,118,245	8,177,118,245
Unfunded Actuarial Accrued Liability	\$2,197,968,596	\$1,780,500,489	\$1,385,182,740	\$1,010,670,481	\$655,708,629
Funded Ratio	78.8%	82.1%	85.5%	89.0%	92.6%
Actuarially Determined Contribution Amount					
Normal Cost	\$358,576,072	\$332,804,950	\$309,002,042	\$287,010,086	\$266,684,856
UAAL Amortization	171,176,810	141,256,755	111,925,934	83,159,526	54,933,908
Actuarially Determined Contribution Amount	\$529,752,882	\$474,061,705	\$420,927,976	\$370,169,612	\$321,618,764
Actuarially Determined Contribution Rate	12.08%	10.81%	9.60%	8.44%	7.33%
	0.25% Increase: (6.50%)	0.50% Increase: (6.75%)	0.75% Increase: (7.00%)	1.00% Increase: (7.25%)	1.25% Increase: (7.50%)
Funded Status					
Actuarial Accrued Liability	\$8,496,243,622	\$8,176,944,448	\$7,873,906,588	\$7,586,173,936	\$7,312,852,343
Actuarial Value of Assets	8,177,118,245	8,177,118,245	8,177,118,245	8,177,118,245	8,177,118,245
Unfunded Actuarial Accrued Liability	\$319,125,377	(\$173,797)	(\$303,211,657)	(\$590,944,309)	(\$864,265,902)
Funded Ratio	96.2%	100.0%	103.9%	107.8%	111.8%
Actuarially Determined Contribution Amount					
Normal Cost	\$247,894,050	\$230,516,264	\$214,440,070	\$199,563,161	\$185,791,588
UAAL Amortization	27,226,594	(12,792)	(22,836,203)	(45,523,164)	(68,072,988)
Actuarially Determined Contribution Amount	\$275,120,644	\$230,503,472	\$191,603,867	\$154,039,997	\$117,718,600
Actuarially Determined Contribution Rate	6.27%	5.26%	4.37%	3.51%	2.68%

Note: Comparisons are based on funding the COLA in the same method as the base benefit, rather than with a surcharge. Consequently, these results are for comparative purposes only and will not match the actual results under the funding policy.



SECTION 6 – GASB INFORMATION

GASB NO. 67 AND GASB NO. 68

The Governmental Accounting Standards Board issued Statement No. 67 (GASB 67), “Financial Reporting for Pension Plans” and Statement No. 68 (GASB 68), “Accounting and Financial Reporting for Pensions” in June 2012. The effective date for reporting under GASB 67 for the INPRS Plans was the fiscal year ending June 30, 2014. GASB 68’s effective date for employers is the first fiscal year beginning after June 15, 2014.

The sections that follow provide the results of the required actuarial calculations set out in GASB 67 and GASB 68 for note disclosure and Required Supplementary Information (RSI). Some of this information was provided by the INPRS for use in this report.

The discount rate used for these disclosures is the assumed return on assets of 6.25%. We have verified that the current assets in conjunction with future contributions made on behalf of current members (including all contributions to fund any past service liability) will be sufficient to make the anticipated benefit payments to be provided to the current members.

To the best of our knowledge, the information contained in this report is complete and accurate. The calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the plan, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of the plan. In addition, the calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 67 and GASB 68.



TABLE 15

STATEMENT OF FIDUCIARY NET POSITION

	June 30, 2023
1. Assets	
a. Cash	\$ 313,575
b. Receivables	
i. Contributions and Miscellaneous Receivables	\$ 3,499,132
ii. Investments Receivable	63,673,759
iii. Foreign Exchange Contracts Receivable	1,349,250,028
iv. Interest and Dividends	20,258,558
v. Receivables Due From Other Funds	0
vi. Total Receivables	\$ 1,436,681,477
c. Investments	
i. Short-Term Investments	\$ 0
ii. Pooled Repurchase Agreements	3,520,736
iii. Pooled Short-Term Investments	697,232,312
iv. Pooled Fixed Income	2,127,350,286
v. Pooled Equity	1,080,548,684
vi. Pooled Alternative Investments	4,075,990,014
vii. Pooled Derivatives	(2,573,394)
viii. Pooled Investments	0
ix. Securities Lending Collateral	31,015,435
x. Total Investments	\$ 8,013,084,073
d. Net Capital Assets	0
e. Other Assets	0
f. Total Assets: a + b(vi) + c(x) + d + e	\$ 9,450,079,125
2. Liabilities	
a. Administrative Payable	\$ 55,167
b. Retirement Benefits Payable	155,066
c. Investments Payable	270,310,468
d. Foreign Exchange Contracts Payable	1,353,946,565
e. Securities Lending Obligations	31,015,435
f. Securities Sold Under Agreement to Repurchase	47,072,716
g. Due To Other Funds	1,048,118
h. Due to Other Governments	0
i. Total Liabilities: a + b + c + d + e + f + g + h	\$ 1,703,603,535
3. Fiduciary Net Position Restricted for Pensions: (1)(f) - (2)(i)	\$ 7,746,475,590



TABLE 16

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

		For Fiscal Year Ending June 30, 2023	
1. Fiduciary Net Position as of June 30, 2022		\$	7,496,539,626
2. Additions			
a. Contributions			
i. Member Contributions		\$	0
ii. Employer Contributions			244,423,793
iii. Service Purchases (Employer and Member) ¹			555,066
iv. Non-Employer Contributing Entity Contributions			0
v. Total Contributions		\$	244,978,859
b. Investment Income/(Loss)			
i. Net Appreciation/(Depreciation)		\$	134,204,320
ii. Net Interest and Dividend Income			100,181,454
iii. Securities Lending Income			584,195
iv. Other Net Investment Income			234,082
v. Investment Management Expenses			(41,738,894)
vi. Direct Investment Expenses			(2,120,367)
vii. Securities Lending Expenses			(59,561)
viii. Total Investment Income/(Loss)		\$	191,285,229
c. Other Additions			
i. Member Reassignments			10,802,586
ii. Miscellaneous Receipts			300
iii. Total Other Additions		\$	10,802,886
d. Total Revenue (Additions): a(v) + b(viii) + c(iii)		\$	447,066,974
3. Deductions			
a. Pension, Survivor and Disability Benefits		\$	185,166,778
b. Death and Funeral Benefits			0
c. Distributions of Contributions and Interest			0
d. Administrative Expenses ²			6,319,264
e. Member Reassignments			5,644,968
f. Miscellaneous Expenses			0
g. Total Expenses (Deductions)		\$	197,131,010
4. Net Increase (Decrease) in Fiduciary Net Position: (2)(d) - (3)(g)		\$	249,935,964
5. Fiduciary Net Position as of June 30, 2023: (1) + (4)		\$	7,746,475,590

¹ Service purchases paid by employer of \$175,702 and employee of \$379,364.

² Includes \$67,868 of hybrid plan contributions and \$0 of My Choice plan contributions made by INPRS.



TABLE 17
SCHEDULE OF CHANGES IN NET PENSION LIABILITY

	For Fiscal Year Ending June 30, 2023		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
1. Balance at June 30, 2022	\$ 8,154,991,450	\$ 7,496,539,626	\$ 658,451,824
2. Changes for the Year:			
Service Cost (SC) ¹	240,570,772		240,570,772
Interest Cost	519,114,698		519,114,698
Experience (Gains)/Losses	97,604,048		97,604,048
Assumption Changes	0		0
Plan Amendments	0		0
Benefit Payments	(185,166,778)	(185,166,778)	0
Service Purchases			
Employer Contributions	175,702	175,702	0
Employee Contributions	379,364	379,364	0
Member Reassignments ²	5,157,618	5,157,618	0
Employer Contributions		244,423,793	(244,423,793)
Non-employer Contributions		0	0
Employee Contributions		0	0
Net Investment Income		191,285,229	(191,285,229)
Administrative Expenses ³		(6,319,264)	6,319,264
Other		300	(300)
Net Changes	\$ 677,835,424	\$ 249,935,964	\$ 427,899,460
3. Balance at June 30, 2023	\$ 8,832,826,874	\$ 7,746,475,590	\$ 1,086,351,284

¹ Service cost provided as of beginning of year. Interest to end of year is included in the interest cost.

² Includes net interfund transfers of employer contributed amounts.

³ Includes contributions made by INPRS for its employees of \$67,868 in the hybrid plan and \$0 in the My Choice plan.



TABLE 18
DEFERRED OUTFLOWS OF RESOURCES

	June 30, 2022	Remaining Period	Recognition	June 30, 2023
1. Liability Experience				
June 30, 2023 Loss	\$ 97,604,048	9.80	\$ 9,959,597	\$ 87,644,451
June 30, 2022 Loss	82,904,052	9.13	9,080,401	73,823,651
June 30, 2021 Loss	78,337,477	8.43	9,292,703	69,044,774
June 30, 2020 Loss	0	7.60	0	0
June 30, 2019 Loss	0	7.07	0	0
June 30, 2018 Loss	0	6.47	0	0
June 30, 2017 Loss	26,548,515	8.00	3,318,564	23,229,951
June 30, 2016 Loss	14,938,013	7.00	2,134,001	12,804,012
June 30, 2015 Loss	0	6.00	0	0
June 30, 2014 Loss	155,102	4.00	38,775	116,327
2. Assumption Changes				
June 30, 2023 Loss	\$ 0	9.80	\$ 0	\$ 0
June 30, 2022 Loss	0	9.13	0	0
June 30, 2021 Loss	433,368,548	8.43	51,407,895	381,960,653
June 30, 2020 Loss	0	7.60	0	0
June 30, 2019 Loss	0	7.07	0	0
June 30, 2018 Loss	0	6.47	0	0
June 30, 2017 Loss	0	8.00	0	0
June 30, 2016 Loss	0	7.00	0	0
June 30, 2015 Loss	113,139,018	6.00	18,856,504	94,282,514
3. Investment Experience				
June 30, 2023 Loss	\$ 279,081,333	5.00	\$ 55,816,267	\$ 223,265,066
June 30, 2022 Loss	826,150,344	4.00	206,537,586	619,612,758
June 30, 2021 Loss	0	3.00	0	0
June 30, 2020 Loss	102,704,241	2.00	51,352,121	51,352,120
June 30, 2019 Loss	0	1.00	0	0
Total Outflows: (1)+(2)+(3)	\$ 2,054,930,691		\$ 417,794,414	\$ 1,637,136,277

Results prior to 2018 were produced by the prior actuary.

In accordance with GASB, the original amortization period for liability experience and assumption changes are amortized over the expected future working lifetime of all members, whereas the investment experience is amortized over five years.



TABLE 19
DEFERRED INFLOWS OF RESOURCES

	June 30, 2022	Remaining Period	Recognition	June 30, 2023
1. Liability Experience				
June 30, 2023 Gain	\$ 0	9.80	\$ 0	\$ 0
June 30, 2022 Gain	0	9.13	0	0
June 30, 2021 Gain	0	8.43	0	0
June 30, 2020 Gain	22,536,872	7.60	2,965,379	19,571,493
June 30, 2019 Gain	13,787,423	7.07	1,950,131	11,837,292
June 30, 2018 Gain	80,254,374	6.47	12,404,078	67,850,296
June 30, 2017 Gain	0	8.00	0	0
June 30, 2016 Gain	0	7.00	0	0
June 30, 2015 Gain	17,510,253	6.00	2,918,375	14,591,878
June 30, 2014 Gain	0	4.00	0	0
2. Assumption Changes				
June 30, 2023 Gain	\$ 0	9.80	\$ 0	\$ 0
June 30, 2022 Gain	0	9.13	0	0
June 30, 2021 Gain	0	8.43	0	0
June 30, 2020 Gain	81,479	7.60	10,722	70,757
June 30, 2019 Gain	0	7.07	0	0
June 30, 2018 Gain	161,012,452	6.47	24,886,005	136,126,447
June 30, 2017 Gain	66,003,229	8.00	8,250,404	57,752,825
June 30, 2016 Gain	0	7.00	0	0
June 30, 2015 Gain	0	6.00	0	0
3. Investment Experience				
June 30, 2023 Gain	\$ 0	5.00	\$ 0	\$ 0
June 30, 2022 Gain	0	4.00	0	0
June 30, 2021 Gain	712,771,082	3.00	237,590,362	475,180,720
June 30, 2020 Gain	0	2.00	0	0
June 30, 2019 Gain	6,863,655	1.00	6,863,655	0
Total Inflows: (1)+(2)+(3)	\$ 1,080,820,819		\$ 297,839,111	\$ 782,981,708

Results prior to 2018 were produced by the prior actuary.

In accordance with GASB, the original amortization period for liability experience and assumption changes are amortized over the expected future working lifetime of all members, whereas the investment experience is amortized over five years.



TABLE 20

DEFERRED INFLOWS / OUTFLOWS TO BE RECOGNIZED IN PENSION EXPENSE

Fiscal Year Ending June 30	Deferred Outflows	Deferred Inflows	Net Deferred Outflows/(Inflows)
Current Year:			
2023	\$ 417,794,414	\$ 297,839,111	\$ 119,955,303
Future Years:			
2024	\$ 417,794,413	\$ 290,975,456	\$ 126,818,957
2025	366,442,293	290,975,452	75,466,841
2026	366,442,293	53,385,094	313,057,199
2027	159,865,932	53,385,094	106,480,838
2028	104,049,659	53,385,094	50,664,565
Thereafter	222,541,687	40,875,518	181,666,169



TABLE 21

PENSION EXPENSE UNDER GASB NO. 68

		For Fiscal Year Ending June 30, 2023
1. Service Cost, beginning of year	\$	240,570,772
2. Interest Cost, including interest on service cost		519,114,698
3. Member Contributions ¹		0
4. Administrative Expenses ²		6,251,396
5. Expected Return on Assets ³		(470,366,562)
6. Plan Amendments		0
7. Recognition of Deferred Inflows / Outflows of Resources Related to:		
a. Liability Experience (Gains) / Losses	13,586,078	
b. Assumption Change (Gains) / Losses	37,117,268	
c. Investment Experience (Gains) / Losses	<u>69,251,957</u>	
d. Total: (7a)+(7b)+(7c)		119,955,303
8. Miscellaneous (Income) / Expense		(300)
9. Total Collective Pension Expense: (1)+(2)+(3)+(4)+(5)+(6)+(7d)+(8)		415,525,307
10. Employer Service Purchases ⁴		175,702
Pension Expense / (Income): (9) + (10)	\$	415,701,009

¹ Excludes member paid service purchases of \$379,364.

² Excludes contributions made by INPRS for its employees of \$67,868 in the hybrid plan and \$0 in the My Choice plan.

³ Cash flows assumed to occur mid-year.

⁴ To be expensed by the employers who purchased the service.



**GASB NO. 67 and GASB NO. 68
NOTES TO THE FINANCIAL STATEMENTS**

The material presented herein is a subset of the information requested as Notes to the Financial Statements. Required information not provided herein is to be supplied by the plan.

Actuarial Assumptions and Inputs

Significant actuarial assumptions and other inputs used to measure the total pension liability:

Type of Plan	The Teachers’ Retirement Fund 1996 Account is a cost-sharing multiple-employer plan for GASB accounting purposes.
Measurement Date	June 30, 2023
Valuation Date	
Assets:	June 30, 2023
Liabilities:	June 30, 2022 – The TPL as of June 30, 2023 was determined based on an actuarial valuation prepared as of June 30, 2022 rolled forward one year to June 30, 2022, using the following key actuarial assumptions and other inputs, such as benefit accruals and actual benefit payments during that time period.
Inflation	2.00%
Future Salary Increases	2.65% - 11.90% based on years of service
Cost-of-Living Increases	As of June 30, 2023: No COLA was granted for the 2023-2025 biennium. Thereafter, the following COLAs, compounded annually, were assumed: 0.4% beginning on January 1, 2026 0.5% beginning on January 1, 2034 0.6% beginning on January 1, 2039 As of June 30, 2022: Members in pay were granted a 1.00% COLA on January 1, 2022 and no COLA on January 1, 2023. Thereafter, the following COLAs, compounded annually, were assumed: 0.4% beginning on January 1, 2024 0.5% beginning on January 1, 2034 0.6% beginning on January 1, 2039
Mortality Assumption	Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019. <i>Healthy Employees</i> – Teacher Employee table with a 1 year set forward for males and a 1 year set forward for females.



SECTION 6 – GASB INFORMATION

Retirees – Teacher Retiree table with a 1 year set forward for males and a 1 year set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.

Experience Study

The most recent comprehensive experience study, based on member experience between June 30, 2014 and June 30, 2019, was completed in February 2020. The demographic assumptions were approved by the Board in June 2020 and were used beginning with the June 30, 2020 actuarial valuation. Economic assumptions were updated and approved by the Board in May 2021 following the completion of an Asset-Liability study and first used in the June 30, 2021 actuarial valuation.

Discount Rate

6.25%, net of investment expenses

The discount rate is equal to the expected long-term rate of return on plan investments, net of investment expense and including price inflation. There was no change in the discount rate from the prior measurement date.

The INPRS Board of Trustees has established a funding policy of setting the employer contribution rate equal to the greater of the current contribution rate (currently 6.00%) and a rate equal to the actuarially determined contribution rate which is based on the assumptions and methods selected by the Board for the annual actuarial valuations and projected covered member payroll. Based on this policy, the employer contribution rate will increase to 6.20% for base benefits plus any contributions the Board determines to include for supplemental benefits. The June 30, 2023 actuarial valuation assumes a long-term rate of return on assets of 6.25%, a 20-year level dollar closed method for amortizing the future layers of unfunded actuarial accrued liability (below 100% funded on an actuarial basis as of June 30, 2023), and a 5-year smoothing method for recognizing investment gains and losses in the actuarial value of assets.

For the past several years, the Board has followed its current funding policy and employers have made their contributions to the plan. Therefore, if past practice is continued, the appropriations will be sufficient to make the Fund fully funded. As a result, it is presumed that the projected plan assets will be sufficient to cover the future benefit payments for current members and a detailed projection of plan assets and cash flows has not been prepared.

**SECTION 6 – GASB INFORMATION****Discount Rate Sensitivity**

	1% Decrease 5.25%	Current Rate 6.25%	1% Increase 7.25%
Net Pension Liability	\$2,628,611,251	\$1,086,351,284	(\$160,301,654)

Classes of Plan Members Covered

The June 30, 2023 valuation was performed using census data provided by INPRS as of June 30, 2022. Standard actuarial techniques were used to roll forward the total pension liability computed as of June 30, 2022 to the June 30, 2023 measurement date using actual benefit payments during that period of time.

Number as of June 30, 2022	
1. Currently Receiving Benefits:	
Retired Members, Disabled Members, and Beneficiaries	10,127
2. Inactive Members Entitled To But Not Yet Receiving Benefits	8,029
3. Inactive Non-vested Members Entitled to a Refund of Member Contributions	0
4. Active Members	60,057
Total Covered Plan Members: (1)+(2)+(3)+(4)	78,213

Money-Weighted Rate of Return

The money-weighted rate of return equals investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested. For the fiscal year ending June 30, 2023, the money-weighted return on the plan assets is 2.5%.

Components of Net Pension Liability

As of June 30, 2023	
Total Pension Liability	\$ 8,832,826,874
Fiduciary Net Position	7,746,475,590
Net Pension Liability	\$ 1,086,351,284
Ratio of Fiduciary Net Position to Total Pension Liability	87.70%



SECTION 6 – GASB INFORMATION

**GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION
SCHEDULE OF CHANGES IN THE TOTAL PENSION LIABILITY AND PLAN FIDUCIARY NET POSITION**

Fiscal Year Ending June 30	2019	2020	2021	2022	2023
Total Pension Liability					
Total Pension Liability - beginning	\$5,563,263,694	\$5,980,426,336	\$6,403,252,089	\$7,517,703,347	\$8,154,991,450
DC Account Balances - beginning ¹	0	0	0	0	0
DB Pension Liability - beginning	\$5,563,263,694	\$5,980,426,336	\$6,403,252,089	\$7,517,703,347	\$8,154,991,450
Service Cost (SC), beginning-of-year	180,559,476	183,632,094	190,036,960	230,270,315	240,570,772
Interest Cost, including interest on SC	383,383,638	411,329,073	439,928,627	479,120,626	519,114,698
Experience (Gains)/Losses	(21,587,947)	(31,433,009)	96,922,883	91,984,453	97,604,048
Assumption Changes	0	(113,645)	536,184,338	0	0
Plan Amendments	2,938,618	0	3,034,254	0	0
DC Annuity Payments	0	0	0	0	0
Actual Benefit Payments	(132,572,511)	(143,371,247)	(155,348,220)	(168,620,964)	(185,166,778)
Member Reassignments	4,293,211	2,678,802	3,091,717	4,037,179	5,157,618
Service Purchases	148,157	103,685	600,700	496,494	555,066
Net Change in Total Pension Liability	417,162,642	422,825,753	1,114,451,259	637,288,103	677,835,424
DB Pension Liability - ending	\$5,980,426,336	\$6,403,252,089	\$7,517,703,347	\$8,154,991,450	\$8,832,826,874
DC Account Balances - ending ¹	0	0	0	0	0
(a) Total Pension Liability - ending	\$5,980,426,336	\$6,403,252,089	\$7,517,703,347	\$8,154,991,450	\$8,832,826,874
Plan Fiduciary Net Position					
Plan Fiduciary Net Position – beginning	\$5,452,351,707	\$6,124,085,498	\$6,325,311,322	\$7,987,495,378	\$7,496,539,626
DC Account Balances - beginning ¹	0	0	0	0	0
DB Plan Fiduciary Net Position – beginning	\$5,452,351,707	\$6,124,085,498	\$6,325,311,322	\$7,987,495,378	\$7,496,539,626
Contributions – employer	393,172,165	188,789,351	202,488,745	210,665,282	244,599,495
Contributions – non-employer	0	0	0	0	0
Contributions – member	127,304	103,685	464,713	432,657	379,364
Net investment income	411,146,841	158,071,621	1,616,453,718	(532,181,174)	191,285,229
Actual benefit payments	(132,572,511)	(143,371,247)	(155,348,220)	(168,620,964)	(185,166,778)
Net member reassignments	4,293,211	2,678,802	3,091,717	4,037,179	5,157,618
DC Annuity Payments	0	0	0	0	0
Administrative expense	(5,037,962)	(5,089,388)	(4,966,317)	(5,291,695)	(6,319,264)
Other	604,743	43,000	(300)	2,963	300
Net change in Plan Fiduciary Net Position	671,733,791	201,225,824	1,662,184,056	(490,955,752)	249,935,964
DB Plan Fiduciary Net Position – ending	\$6,124,085,498	\$6,325,311,322	\$7,987,495,378	\$7,496,539,626	\$7,746,475,590
DC Account Balances - ending ¹	0	0	0	0	0
(b) Plan Fiduciary Net Position - ending	\$6,124,085,498	\$6,325,311,322	\$7,987,495,378	\$7,496,539,626	\$7,746,475,590
Net Pension Liability - ending, (a) - (b)	(\$143,659,162)	\$77,940,767	(\$469,792,031)	\$658,451,824	\$1,086,351,284

¹ Effective January 1, 2018, DC account balances are handled by a third party annuity provider and are treated as a separate defined contribution plan. Results prior to 2018 were produced by the prior actuary.



SECTION 6 – GASB INFORMATION

**GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION
SCHEDULE OF CHANGES IN THE TOTAL PENSION LIABILITY AND PLAN FIDUCIARY NET POSITION (continued)**

Fiscal Year Ending June 30	2014	2015	2016	2017	2018
Total Pension Liability					
Total Pension Liability - beginning	\$4,748,148,931	\$5,236,993,169	\$5,905,691,033	\$6,391,750,065	\$6,914,237,041
DC Account Balances - beginning ¹	990,704,762	1,120,728,729	1,170,914,523	1,217,432,610	1,378,142,685
DB Pension Liability - beginning	\$3,757,444,169	\$4,116,264,440	\$4,734,776,510	\$5,174,317,455	\$5,536,094,356
Service Cost (SC), beginning-of-year	155,314,388	170,892,424	167,836,193	168,650,636	182,558,143
Interest Cost, including interest on SC	262,263,149	287,264,315	328,017,487	357,392,165	382,297,585
Experience (Gains)/Losses	504,077	(40,857,253)	29,876,020	46,459,899	(142,274,764)
Assumption Changes	0	263,991,050	0	(115,505,653)	(285,442,477)
Plan Amendments	(4,504,201)	0	0	1,352,763	0
DC Annuity Payments	15,151,081	22,574,841	8,931,954	8,503,495	6,503,849
Actual Benefit Payments	(77,253,362)	(90,266,941)	(99,506,626)	(109,334,779)	(122,239,791)
Member Reassignments	6,922,378	4,889,464	4,370,023	4,258,375	5,602,016
Service Purchases	422,761	24,170	15,894	0	164,777
Net Change in Total Pension Liability	358,820,271	618,512,070	439,540,945	361,776,901	27,169,338
DB Pension Liability - ending	\$4,116,264,440	\$4,734,776,510	\$5,174,317,455	\$5,536,094,356	\$5,563,263,694
DC Account Balances - ending ¹	1,120,728,729	1,170,914,523	1,217,432,610	1,378,142,685	0
(a) Total Pension Liability - ending	\$5,236,993,169	\$5,905,691,033	\$6,391,750,065	\$6,914,237,041	\$5,563,263,694
Plan Fiduciary Net Position					
Plan Fiduciary Net Position – beginning	\$4,433,677,345	\$5,189,442,330	\$5,379,113,041	\$5,611,229,693	\$6,252,040,308
DC Account Balances - beginning ¹	990,704,762	1,120,728,729	1,170,914,523	1,217,432,610	1,378,142,685
DB Plan Fiduciary Net Position – beginning	\$3,442,972,583	\$4,068,713,601	\$4,208,198,518	\$4,393,797,083	\$4,873,897,623
Contributions – employer	194,750,861	205,763,142	215,625,986	227,206,663	235,819,031
Contributions – non-employer	0	0	0	0	0
Contributions – member	0	0	43,175	57,709	129,780
Net investment income	492,856,485	2,684,489	61,722,129	354,926,957	457,707,449
Actual benefit payments	(77,253,362)	(90,266,941)	(99,506,625)	(109,334,779)	(122,239,791)
Net member reassignments	6,922,371	4,890,290	4,369,512	4,258,236	5,602,016
DC Annuity Payments	15,151,500	22,575,000	8,931,800	8,504,000	6,503,849
Administrative expense	(6,707,587)	(6,185,233)	(5,603,306)	(5,552,446)	(5,208,400)
Other	20,750	24,170	15,894	34,200	140,150
Net change in Plan Fiduciary Net Position	625,741,018	139,484,917	185,598,565	480,100,540	578,454,084
DB Plan Fiduciary Net Position – ending	\$4,068,713,601	\$4,208,198,518	\$4,393,797,083	\$4,873,897,623	\$5,452,351,707
DC Account Balances - ending ¹	1,120,728,729	1,170,914,523	1,217,432,610	1,378,142,685	0
(b) Plan Fiduciary Net Position - ending	\$5,189,442,330	\$5,379,113,041	\$5,611,229,693	\$6,252,040,308	\$5,452,351,707
Net Pension Liability - ending, (a) - (b)	\$47,550,839	\$526,577,992	\$780,520,372	\$662,196,733	\$110,911,987

¹ Effective January 1, 2018, DC account balances are handled by a third party annuity provider and are treated as a separate defined contribution plan. Results prior to 2018 were produced by the prior actuary.



SECTION 6 – GASB INFORMATION

GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE OF THE NET PENSION LIABILITY

Fiscal Year Ending June 30	2019	2020	2021	2022	2023
Total Pension Liability	\$5,980,426,336	\$6,403,252,089	\$7,517,703,347	\$8,154,991,450	\$8,832,826,874
Plan Fiduciary Net Position	<u>6,124,085,498</u>	<u>6,325,311,322</u>	<u>7,987,495,378</u>	<u>7,496,539,626</u>	<u>7,746,475,590</u>
Net Pension Liability	(\$143,659,162)	\$77,940,767	(\$469,792,031)	\$658,451,824	\$1,086,351,284
Ratio of Plan Fiduciary Net Position to Total Pension Liability	102.40%	98.78%	106.25%	91.93%	87.70%
Covered-employee payroll ¹	\$3,257,917,777	\$3,465,727,587	\$3,634,648,638	\$3,915,888,158	\$4,199,772,714
Net Pension Liability as a percentage of covered-employee payroll	-4.41%	2.25%	-12.93%	16.81%	25.87%
Fiscal Year Ending June 30	2014	2015	2016	2017	2018
Total Pension Liability	\$5,236,993,169	\$5,905,691,033	\$6,391,750,065	\$6,914,237,041	\$5,563,263,694
Plan Fiduciary Net Position	<u>5,189,442,330</u>	<u>5,379,113,041</u>	<u>5,611,229,693</u>	<u>6,252,040,308</u>	<u>5,452,351,707</u>
Net Pension Liability	\$47,550,839	\$526,577,992	\$780,520,372	\$662,196,733	\$110,911,987
Ratio of Plan Fiduciary Net Position to Total Pension Liability	99.09%	91.08%	87.79%	90.42%	98.01%
Covered-employee payroll ¹	\$2,598,115,000	\$2,742,186,608	\$2,881,397,273	\$3,020,463,178	\$3,129,070,354
Net Pension Liability as a percentage of covered-employee payroll	1.83%	19.20%	27.09%	21.92%	3.54%

¹ As provided by INPRS.
Results prior to 2018 were produced by the prior actuary.



SECTION 6 – GASB INFORMATION

GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ending June 30	2019	2020	2021	2022	2023
Actuarially Determined Contribution ¹	\$226,099,494	\$162,035,175	\$158,762,674	\$171,569,755	\$240,742,499
Actual employer contributions ²	<u>\$393,151,312</u>	<u>\$188,789,351</u>	<u>\$202,352,758</u>	<u>\$210,601,445</u>	<u>\$244,423,793</u>
Annual contribution (deficiency) / excess	\$167,051,818	\$26,754,176	\$43,590,084	\$39,031,690	\$3,681,294
Covered-employee payroll ³	\$3,257,917,777	\$3,465,727,587	\$3,634,648,638	\$3,915,888,158	\$4,199,772,714
Actual contributions as a percentage of covered-employee payroll	12.07%	5.45%	5.57%	5.38%	5.82%

Fiscal Year Ending June 30	2014	2015	2016	2017	2018
Actuarially Determined Contribution ¹	\$177,711,000	\$178,260,000	\$180,375,469	\$198,444,431	\$210,586,435
Actual employer contributions ²	<u>\$194,750,861</u>	<u>\$205,525,842</u>	<u>\$215,625,986</u>	<u>\$227,206,663</u>	<u>\$235,675,239</u>
Annual contribution (deficiency) / excess	\$17,039,861	\$27,265,842	\$35,250,517	\$28,762,232	\$25,088,804
Covered-employee payroll ³	\$2,598,115,000	\$2,742,186,608	\$2,881,397,273	\$3,020,463,178	\$3,129,070,354
Actual contributions as a percentage of covered-employee payroll	7.50%	7.49%	7.48%	7.52%	7.53%

¹ The employer rates were applied to the actual covered employee payroll for the fiscal year to determine the contribution amount.
The actuarially determined amortization and normal cost rates were developed in the actuarial report completed one year prior to the fiscal year.
The surcharge rate uses the valuation completed two years ago for July-December and one year ago for January-June.

² Excludes service purchases paid for by the employer of \$175,702.

³ As provided by INPRS.

Results prior to 2018 were produced by the prior actuary.



GASB NO. 67 AND GASB NO. 68: REQUIRED SUPPLEMENTAL INFORMATION

SCHEDULE OF MONEY-WEIGHTED RETURNS

<u>For Fiscal Year Ending June 30</u>	<u>Money-Weighted Return</u>
2023	2.5%
2022	(6.6%)
2021	25.5%
2020	2.6%
2019	7.5%
2018	9.3%
2017	8.1%
2016	1.0%
2015	0.6%
2014	12.7%

Returns provided by INPRS.



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APPENDIX A – MEMBERSHIP DATA

**MEMBER DATA RECONCILIATION
For June 30, 2022 Data used in the June 30, 2023 Valuation**

	Active Members	Inactive Vested	Inactive Deceased	Disabled	Retired	Beneficiary	Total
1. As of June 30, 2021	59,567	7,483	13	166	8,455	414	76,098
2. Data Adjustments							
New Participants	5,367	0	0	0	0	0	5,367
Rehires	576	(576)	0	0	0	0	0
Terminations:							
Not Vested	(3,132)	0	0	0	0	0	(3,132)
Deferred Vested	(1,593)	1,593	0	0	0	0	0
Disability	(8)	0	0	8	0	0	0
Retirements	(678)	(426)	(3)	0	1,104	3	0
Refund / Benefits Ended	0	(33)	0	0	0	(4)	(37)
Transfer	(4)	(29)	0	0	0	0	(33)
Deaths:							
With Beneficiary	(19)	(15)	0	(7)	(57)	98	0
Without Beneficiary	(19)	(4)	0	(1)	(64)	(9)	(97)
Entitled to Future Pension Benefit	0	0	0	0	0	0	0
Data Corrections ¹	0	26	0	13	1	7	47
Net Change	490	536	(3)	13	984	95	2,115
3. As of June 30, 2022 ²	60,057	8,019	10	179	9,439	509	78,213

¹ Data corrections reflect the movement between Disabled and Retired status, along with other movements in the INPRS data.

² Valuation results as of June 30, 2023 were calculated using June 30, 2022 census data, adjusted for certain activity before the valuation date. Headcounts may include multiple records for individuals, such as members with multiple periods of service.

**APPENDIX A – MEMBERSHIP DATA****SUMMARY OF MEMBERSHIP DATA**

Valuation Date	Combined TRF Plans		1996 Account
	June 30, 2022	June 30, 2023	June 30, 2023
Date of Membership Data ¹	June 30, 2021	June 30, 2022	June 30, 2022
ACTIVE MEMBERS			
Number of Active Members	66,858	66,344	60,057
Annual Membership Data Salary ²	\$ 4,080,815,174	\$ 4,195,444,737	\$ 3,693,669,866
Anticipated Payroll for Next Fiscal Year	\$ 4,470,149,103	\$ 4,846,166,464	\$ 4,386,264,081
Active Member Averages			
Age	43.2	43.3	41.9
Service	13.8	13.8	12.1
Annual Membership Data Salary	\$ 61,037	\$ 63,238	\$ 61,503
INACTIVE MEMBERS			
Number of Inactive Members	9,371	9,531	8,029
Inactive Member Averages			
Age	51.5	50.8	49.2
Service	14.5	13.9	13.4
RETIREES, DISABLEDS, AND BENEFICIARIES			
Number of Members			
Retired	55,915	56,824	9,439
Disabled	271	280	179
Beneficiaries	6,006	6,305	509
Total	62,192	63,409	10,127
Annual Benefits			
Retired	\$ 1,216,521,525	\$ 1,257,281,235	\$ 171,636,572
Disabled	2,808,613	3,012,860	1,681,083
Beneficiaries	92,554,214	99,391,654	6,346,358
Total	\$ 1,311,884,352	\$ 1,359,685,749	\$ 179,664,013
Annual Benefits			
Pension	\$ 1,184,299,456	\$ 1,235,114,007	\$ 168,298,795
DC Plan Annuities	127,584,896	124,571,742	11,365,218
Total	\$ 1,311,884,352	\$ 1,359,685,749	\$ 179,664,013

¹ The valuation results were calculated using the prior year's census data and were adjusted for certain activity during fiscal year.

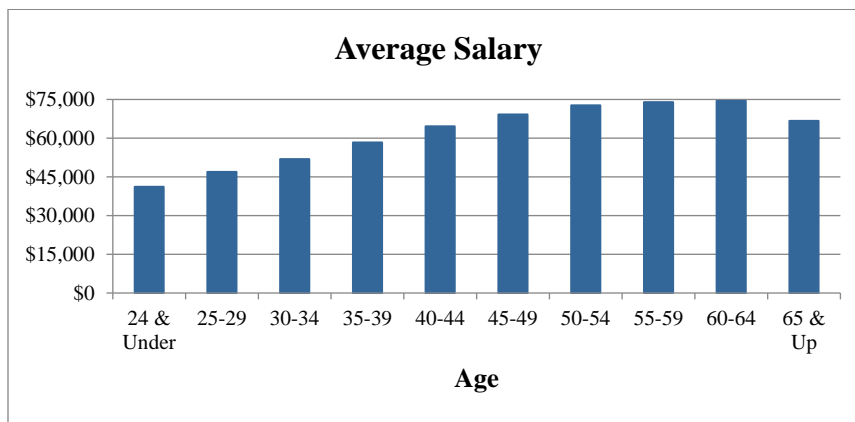
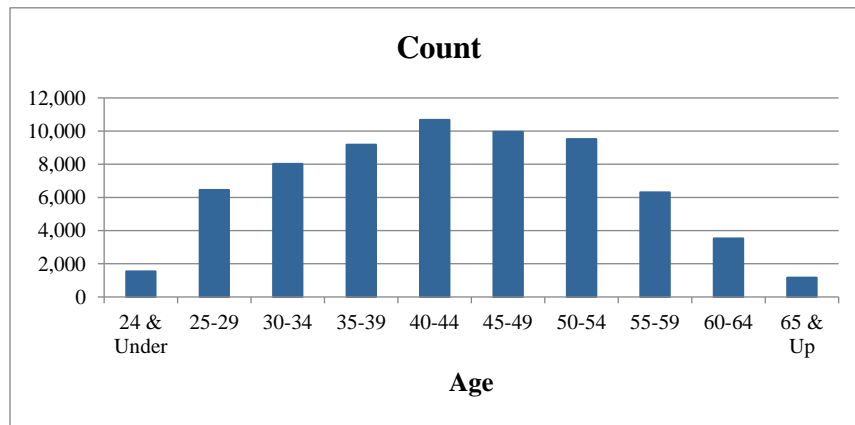
² The 2022 amounts include 36 records from the 1996 Account with less than a year of service who are missing a salary. Their salaries were defaulted to the average, \$59,068. The 2023 amounts include 24 records from the 1996 Account with less than a year of service who are missing a salary. Their salaries were defaulted to the average, \$61,503.



APPENDIX A – MEMBERSHIP DATA

**ACTIVE MEMBERS¹
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans**

<u>Age</u>	<u>Count of Members</u>			<u>FY 2022 Annual Membership Data Salary</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
24 & Under	264	1,273	1,537	\$ 11,055,398	\$ 52,244,032	\$ 63,299,430
25-29	1,292	5,159	6,451	62,232,586	240,513,081	302,745,667
30-34	2,053	5,974	8,027	113,488,141	302,828,027	416,316,168
35-39	2,363	6,819	9,182	149,436,903	386,287,153	535,724,056
40-44	2,818	7,856	10,674	199,348,133	490,024,337	689,372,470
45-49	2,627	7,326	9,953	200,914,833	487,936,253	688,851,086
50-54	2,504	7,017	9,521	201,140,784	491,352,346	692,493,130
55-59	1,690	4,621	6,311	136,960,149	329,672,632	466,632,781
60-64	915	2,609	3,524	73,977,423	188,423,229	262,400,652
65 & Up	<u>354</u>	<u>810</u>	<u>1,164</u>	<u>24,453,439</u>	<u>53,155,858</u>	<u>77,609,297</u>
Total	16,880	49,464	66,344	\$ 1,173,007,789	\$ 3,022,436,948	\$ 4,195,444,737



¹ Includes 24 records from the 1996 Account with less than a year of service who are missing a salary. Their salaries were defaulted to the average, \$61,503.



APPENDIX A – MEMBERSHIP DATA

**AGE AND SERVICE DISTRIBUTION¹
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans**

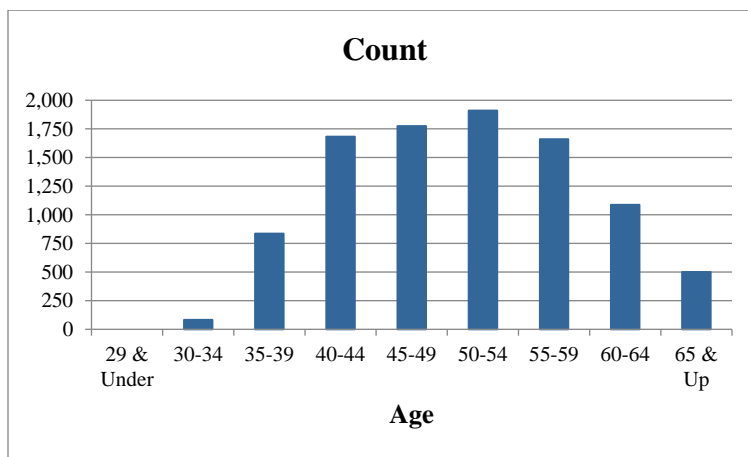
Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
24 & Under	Number	1,536	1	0	0	0	0	0	0	1,537
	Total Salary	\$ 63,249,265	\$ 50,165	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 63,299,430
	Average Sal.	\$ 41,178	\$ 50,165	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 41,184
25-29	Number	4,886	1,565	0	0	0	0	0	0	6,451
	Total Salary	\$ 224,149,704	\$ 78,595,963	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 302,745,667
	Average Sal.	\$ 45,876	\$ 50,221	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 46,930
30-34	Number	1,985	4,900	1,142	0	0	0	0	0	8,027
	Total Salary	\$ 92,092,163	\$ 258,732,852	\$ 65,491,153	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 416,316,168
	Average Sal.	\$ 46,394	\$ 52,803	\$ 57,348	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 51,864
35-39	Number	1,495	2,487	3,877	1,322	1	0	0	0	9,182
	Total Salary	\$ 72,151,455	\$ 136,150,826	\$ 237,615,788	\$ 89,741,118	\$ 64,869	\$ 0	\$ 0	\$ 0	\$ 535,724,056
	Average Sal.	\$ 48,262	\$ 54,745	\$ 61,289	\$ 67,883	\$ 64,869	\$ 0	\$ 0	\$ 0	\$ 58,345
40-44	Number	1,330	1,718	1,881	4,471	1,274	0	0	0	10,674
	Total Salary	\$ 62,622,005	\$ 95,540,232	\$ 117,094,460	\$ 316,342,844	\$ 97,772,929	\$ 0	\$ 0	\$ 0	\$ 689,372,470
	Average Sal.	\$ 47,084	\$ 55,611	\$ 62,251	\$ 70,754	\$ 76,745	\$ 0	\$ 0	\$ 0	\$ 64,584
45-49	Number	948	1,326	1,136	1,765	3,946	830	2	0	9,953
	Total Salary	\$ 45,177,391	\$ 75,056,414	\$ 70,524,524	\$ 122,992,747	\$ 305,708,049	\$ 69,236,294	\$ 155,667	\$ 0	\$ 688,851,086
	Average Sal.	\$ 47,655	\$ 56,604	\$ 62,081	\$ 69,684	\$ 77,473	\$ 83,417	\$ 77,834	\$ 0	\$ 69,210
50-54	Number	659	1,036	946	1,262	1,817	3,178	621	2	9,521
	Total Salary	\$ 32,162,719	\$ 57,866,500	\$ 58,232,397	\$ 86,484,383	\$ 139,478,959	\$ 264,548,867	\$ 53,574,156	\$ 145,149	\$ 692,493,130
	Average Sal.	\$ 48,805	\$ 55,856	\$ 61,556	\$ 68,530	\$ 76,763	\$ 83,244	\$ 86,271	\$ 72,575	\$ 72,733
55-59	Number	364	523	575	795	994	1,131	1,477	452	6,311
	Total Salary	\$ 16,923,277	\$ 30,053,005	\$ 34,972,990	\$ 53,788,056	\$ 74,247,626	\$ 91,405,326	\$ 126,166,445	\$ 39,076,056	\$ 466,632,781
	Average Sal.	\$ 46,493	\$ 57,463	\$ 60,823	\$ 67,658	\$ 74,696	\$ 80,818	\$ 85,421	\$ 86,451	\$ 73,940
60-64	Number	192	284	312	389	498	461	420	968	3,524
	Total Salary	\$ 8,689,962	\$ 16,019,032	\$ 18,126,096	\$ 26,240,362	\$ 36,920,173	\$ 37,228,358	\$ 35,369,405	\$ 83,807,264	\$ 262,400,652
	Average Sal.	\$ 45,260	\$ 56,405	\$ 58,096	\$ 67,456	\$ 74,137	\$ 80,756	\$ 84,213	\$ 86,578	\$ 74,461
65 & Up	Number	139	152	102	141	107	102	92	329	1,164
	Total Salary	\$ 3,918,427	\$ 7,397,031	\$ 5,590,982	\$ 9,126,731	\$ 7,863,099	\$ 8,166,470	\$ 7,607,270	\$ 27,939,287	\$ 77,609,297
	Average Sal.	\$ 28,190	\$ 48,665	\$ 54,814	\$ 64,729	\$ 73,487	\$ 80,063	\$ 82,688	\$ 84,922	\$ 66,675
Total	Number	13,534	13,992	9,971	10,145	8,637	5,702	2,612	1,751	66,344
	Total Salary	\$ 621,136,368	\$ 755,462,020	\$ 607,648,390	\$ 704,716,241	\$ 662,055,704	\$ 470,585,315	\$ 222,872,943	\$ 150,967,756	\$ 4,195,444,737
	Average Sal.	\$ 45,895	\$ 53,992	\$ 60,942	\$ 69,464	\$ 76,653	\$ 82,530	\$ 85,327	\$ 86,218	\$ 63,238

¹ Includes 24 records from the 1996 Account with less than a year of service who are missing a salary. Their salaries were defaulted to the average, \$61,503.



INACTIVE VESTED MEMBERS
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

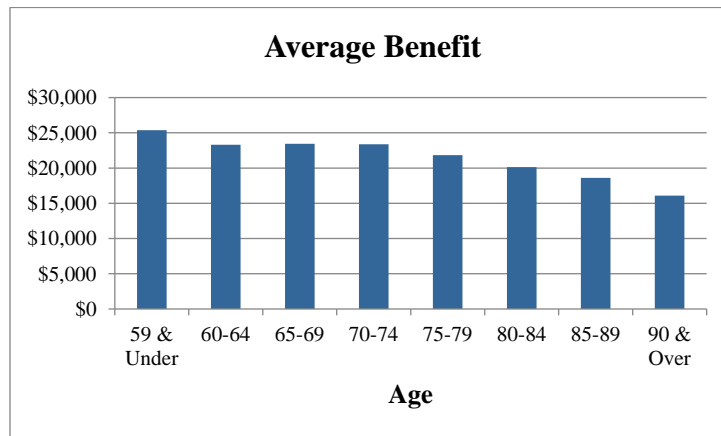
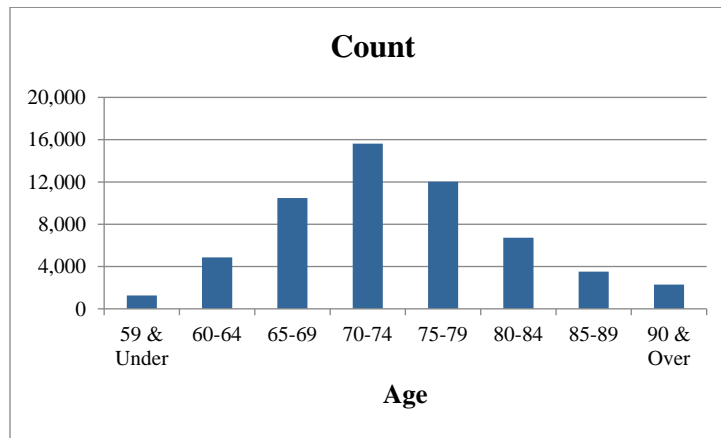
<u>Age</u>	Count of Members		
	<u>Male</u>	<u>Female</u>	<u>Total</u>
29 & Under	0	0	0
30-34	19	63	82
35-39	223	613	836
40-44	442	1,240	1,682
45-49	521	1,253	1,774
50-54	593	1,317	1,910
55-59	400	1,260	1,660
60-64	239	848	1,087
65 & Up	<u>90</u>	<u>410</u>	<u>500</u>
Total	2,527	7,004	9,531





RETIRED MEMBERS
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

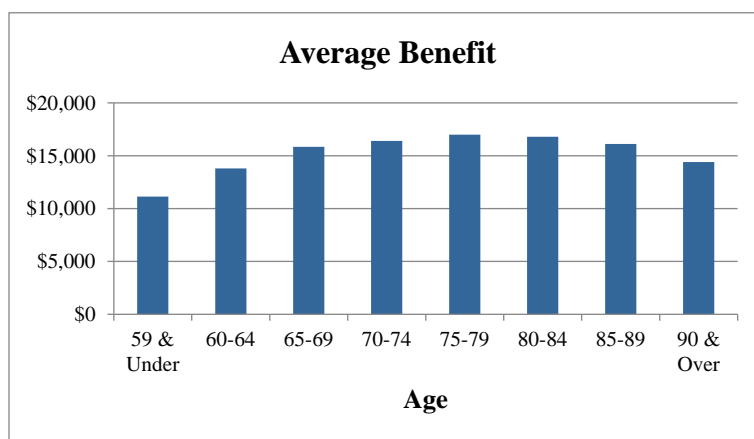
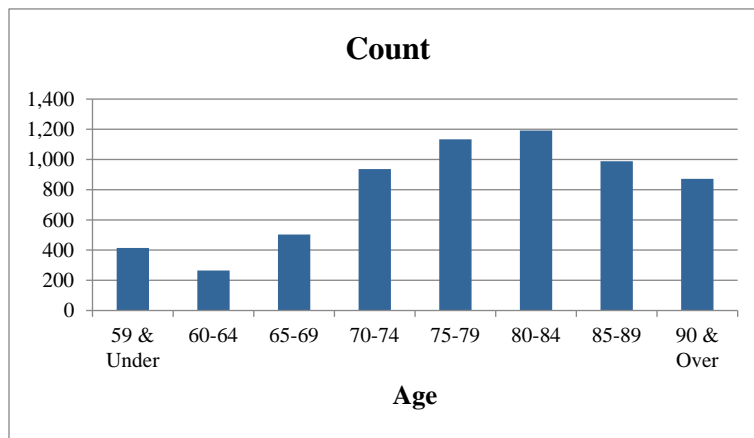
Age	Count of Members			Annual Benefits		
	Male	Female	Total	Male	Female	Total
59 & Under	327	944	1,271	\$ 8,898,845	\$ 23,350,232	\$ 32,249,077
60-64	1,198	3,673	4,871	30,061,587	83,434,552	113,496,139
65-69	2,688	7,796	10,484	69,948,708	175,750,189	245,698,897
70-74	4,178	11,452	15,630	109,486,596	255,891,124	365,377,720
75-79	4,005	8,024	12,029	99,032,123	163,641,400	262,673,523
80-84	2,457	4,269	6,726	56,657,508	78,733,251	135,390,759
85-89	1,319	2,207	3,526	28,652,738	36,978,040	65,630,778
90 & Over	<u>715</u>	<u>1,572</u>	<u>2,287</u>	<u>14,517,618</u>	<u>22,246,724</u>	<u>36,764,342</u>
Total	16,887	39,937	56,824	\$ 417,255,723	\$ 840,025,512	\$ 1,257,281,235





BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

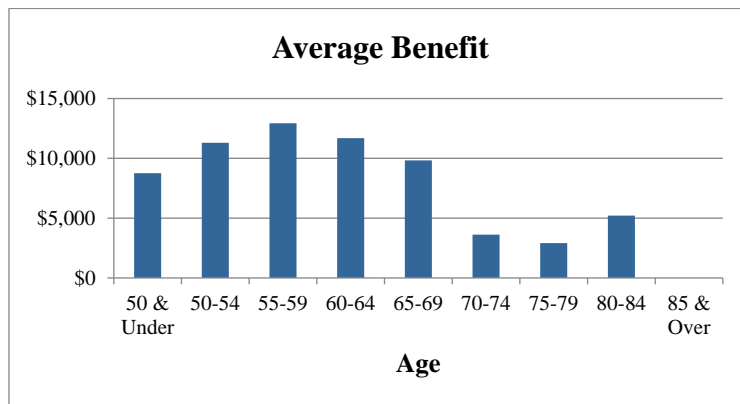
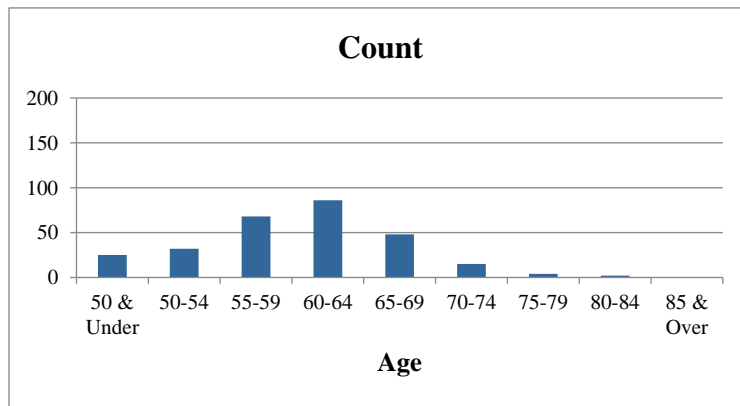
Age	Count of Members			Annual Benefits		
	Male	Female	Total	Male	Female	Total
59 & Under	179	235	414	\$ 1,862,002	\$ 2,749,168	\$ 4,611,170
60-64	103	162	265	1,287,940	2,370,583	3,658,523
65-69	208	295	503	2,846,900	5,123,121	7,970,021
70-74	344	593	937	4,813,970	10,549,740	15,363,710
75-79	361	773	1,134	5,293,604	13,984,515	19,278,119
80-84	275	917	1,192	3,830,270	16,189,519	20,019,789
85-89	197	791	988	2,511,436	13,417,985	15,929,421
90 & Over	<u>149</u>	<u>723</u>	<u>872</u>	<u>1,581,730</u>	<u>10,979,171</u>	<u>12,560,901</u>
Total	1,816	4,489	6,305	\$ 24,027,852	\$ 75,363,802	\$ 99,391,654





DISABLED MEMBERS
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

Age	Count of Members			Annual Benefits		
	Male	Female	Total	Male	Female	Total
50 & Under	5	20	25	\$ 47,663	\$ 171,407	\$ 219,070
50-54	6	26	32	81,304	280,437	361,741
55-59	21	47	68	277,082	601,964	879,046
60-64	17	69	86	219,887	784,894	1,004,781
65-69	10	38	48	116,581	355,175	471,756
70-74	2	13	15	6,957	47,426	54,383
75-79	1	3	4	3,674	7,974	11,648
80-84	0	2	2	0	10,435	10,435
85 & Over	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	62	218	280	\$ 753,148	\$ 2,259,712	\$ 3,012,860





MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2022 for the June 30, 2023 Valuation
1996 Account

Schedule of Average Benefit Payments ^{1,2}

For the Year Ended June 30, 2023	Years of Credited Service						Total
	< 10	10 - 14	15 - 19	20 - 24	25 - 29	30 +	
Average Monthly Defined Benefit	\$168	\$503	\$820	\$1,216	\$1,657	\$2,431	\$1,385
Average Monthly DC Annuity ³	\$64	\$153	\$243	\$337	\$496	\$750	\$395
Average Final Average Salary ⁴	\$38,967	\$47,407	\$56,815	\$64,458	\$70,770	\$79,660	\$64,788
Number of Benefit Recipients	179	1,245	2,533	2,075	1,533	2,562	10,127

¹ Calculated using the prior year census data, adjusted for certain activity during the fiscal year.

² Members with less than 10 years of service are primarily members receiving a disability benefit.

³ This represents those retirees who elected to receive their DC account as a supplemental monthly payment in addition to the monthly Defined Benefit payment.

⁴ Excludes the 257 in-pay members who are missing a final average salary in the data.



**MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2022 for the June 30, 2023 Valuation
1996 Account**

Schedule of Benefit Recipients by Type of Benefit Option ^{1,2}

Amount of Monthly Benefit (in dollars)	Number of Recipients by Benefit Option							Total Benefit Recipients
	5-Year Certain & Life	Straight Life	Joint with 100% Survivor Benefits	Joint with Two-Thirds Survivor Benefits	Joint with One-Half Survivor Benefits	Survivors	Disability	
1 - 500	276	293	191	37	44	138	58	1,037
501 - 1,000	688	734	587	134	207	171	78	2,599
1,001 - 1,500	570	753	586	171	250	87	32	2,449
1,501 - 2,000	397	507	426	133	182	49	6	1,700
2,001 - 2,500	228	269	301	85	142	36	1	1,062
2,501 - 3,000	94	175	164	49	71	14	1	568
Over 3,000	122	174	220	82	97	14	3	712
Total	2,375	2,905	2,475	691	993	509	179	10,127

¹ Calculated using the prior year census data, adjusted for certain activity during the fiscal year.

² Members who elected Social Security Integration were included in their selected benefit option of either 5-Year Certain & Life, Straight Life, Modified Cash Refund Plus 5-Year Certain & Life, Joint With 100% Survivor Benefits, Joint With Two-Thirds Survivor Benefits, or Joint With One-Half Survivor Benefits.



MEMBERS AND BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2022 for the June 30, 2023 Valuation
1996 Account

Schedule of Retirees and Beneficiaries ¹

	<u>Added to Rolls</u>		<u>Removed from Rolls</u>		<u>Rolls - End of Year</u>		Percent Change In Total Annual Benefits	Average Annual Benefit	Percent Change In Average Annual Benefit
	Number	Annual Benefits²	Number	Annual Benefits²	Number	Total Annual Benefits²			
2023 ³	1,171	\$22,491	79	\$1,136	10,127	\$179,664	14.4%	\$17,741	2.1%
2022 ³	824	14,602	76	1,044	9,035	157,030	9.3	17,380	0.2
2021 ³	760	12,813	69	977	8,287	143,690	8.9	17,339	(0.2)
2020 ³	619	10,236	64	927	7,596	132,004	7.4	17,378	(0.5)
2019 ³	798	13,285	46	566	7,041	122,935	11.3	17,460	(0.6)
2018 ³	710	9,562	217	1,002	6,289	110,423	8.1	17,558	(0.4)
2017 ³	855	12,106	36	564	5,796	102,178	12.1	17,629	(3.8)
2016 ³	858	16,075	17	305	4,977	91,160	20.4	18,316	0.1
2015 ³	499	9,101	28	353	4,136	75,714	12.7	18,306	(0.1)
2014 ³	0	12,216	0	251	3,665	67,169	0.0	18,327	0.0

¹ Dollar amounts are in thousands except for the average annual benefit.

² Annual benefits includes members selecting an annuity for their DC account. End of year annual benefits are not equal to prior end of year annual benefits plus additions less removals due to beneficiary benefit changes, data changes, and COLA increases.

³ The valuation results were calculated using the prior year census data, adjusted for certain activity during the fiscal year.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

Definitions

Fiscal year	Twelve month period ending June 30.
Participation	Any full-time Indiana teachers in a public school corporation, certain INPRS employees, and some employees in charter schools, innovation schools, turnaround schools and public universities who were hired after June 30, 1995.
Average annual compensation	Average of highest five years of compensation. Years do not need to be consecutive.
Member contributions	All Fund members are required by state law to contribute 3% of salary contributions to their Defined Contribution Account. These 3% contributions are generally “picked up” by the employer and contributed on a pre-tax basis on behalf of the employee. Extra voluntary contributions by the member are also possible, but on a post-tax basis. At retirement, there are six alternatives for receiving the proceeds of this account, including lump sums, full and partial rollovers, full and partial annuitization of the balance, and deferred distribution.
Minimum pension benefit	The minimum pension benefit paid to a regularly retired member receiving an unreduced pension benefit is \$185 per month effective July 1, 2017 per SEA 46.

Eligibility for Benefits

Deferred vested	Ten years of service. Benefit commences at regular or early retirement eligibility.
Disability retirement	
Regular disability benefit	Five years of service.
Disability retirement benefit	Five years of service and determined to be disabled by the Social Security Administration. Annual verification of Social Security disability is required.
Early retirement	Age 50 with 15 years of service.
Normal retirement	Age 65 with ten years of service, or age 60 with 15 years of service, or if age is at least 55 and the sum of age plus credited service is at least 85. Upon age 65 with 20 or more years of service, members become eligible for a Millie Morgan Retirement and can receive their pension benefit while still working. Election is irrevocable.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

Pre-retirement death 10 years of service. Spouse to whom member had been married for two or more years is automatically eligible, or a dependent may be designated as beneficiary.

Monthly Benefits Payable

Normal retirement State pension equal to total service times 1.1% of Average Annual Compensation. Beginning July 1, 2017, the minimum pension benefit is \$185 per month.

Early retirement State pension is computed as regular retirement benefit, but reduced for each month between age at early retirement and attainment of age 65. The age reduction factor is calculated as the sum of the following:

- 1/10 of 1% for each month from age 60 to 65.
- 5/12 of 1% for each month from age at early retirement to 60.

Deferred retirement Computed as a regular retirement benefit with state pension based on service and Average Annual Compensation at termination.

Disability

Regular disability benefit \$125 per month plus \$5 per month for each year of service credit over five years.

Disability retirement benefit Computed as a regular retirement benefit using creditable service to the date of disability and without reduction for early retirement. The minimum benefit is \$180 per month.

Pre-retirement death The spouse or dependent beneficiary is entitled to receive the monthly life benefit payable immediately under the assumption that the member retired on the later of age 50 or the date before the date of death and elected the joint and full survivor option. If eligible for normal retirement at death, the minimum pension benefit is \$185 per month.

Cost-of-Living-Adjustments The employer-funded monthly pension benefits for members in pay status are increased periodically to preserve purchasing power that is diminished due to inflation. Such increases are not guaranteed by Statute and will only be provided by legislative action.

A "13th check" was paid to each member in pay status during fiscal year 2018, 2019, 2020 and 2021. The amount of the 13th check varied based on the years of creditable service the member had earned prior to retirement.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

Legislation passed in the 2018 legislative session creates a funding mechanism to provide for future benefit increases or 13th checks. The INPRS Board has the authority to have employers contribute up to 1% of member pay into the fund. Increases or payments are made upon passed legislation subject to the availability of funds to provide the benefit. Legislation passed in 2021 provided for a 1% increase effective January 1, 2022 and no increase through the remainder of the biennium.

Forms of payment

The normal form of benefit payment (Option A-1) is a single life annuity with a five-year certain period. There are five optional forms of payment available, as listed below. Additionally, members retiring between ages 50 and 62 may integrate their pension benefit with their Social Security benefit by choosing Social Security Integration (Option A-4) in conjunction with the normal form or any other optional form selected. Optional forms of payment are calculated on an actuarially equivalent basis.

Additional Forms of Payment

Option A-2:	Straight Life benefit with no certain period
Option A-3:	Modified Cash Refund Annuity (operates in conjunction with the Defined Contribution Account)
Option B-1:	100% Survivorship
Option B-2:	66 2/3% Survivorship
Option B-3:	50% Survivorship

State law provides for actuarially-adjusted and re-calculated benefits based on a new optional form election in the event of the death of the member's spouse after retirement.

Changes in Plan Provisions since the Prior Year

Eligibility for a Millie Morgan Retirement, where members can receive their pension benefit while still working, was reduced from age 70 to age 65 (with 20 years of service). There was no impact on the valuation since no assumptions changed.



ACTUARIAL METHODS

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period. However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants. Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, 2022 was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, 2022 and June 30, 2023. The valuation results from June 30, 2022 were rolled-forward to June 30, 2023 to reflect benefit accruals during the year less benefits paid.

2. COLA Surcharge

The COLA Surcharge is developed by determining the assets needed at the start of the next biennium to fund the post-retirement benefit increases anticipated to be granted in that biennium. This amount is divided by the present value of expected payroll over which the accumulations will occur.

3. Asset Valuation Method

Actuarial Value of Assets is equal to a five-year smoothing of gains and losses on the Market Value of Assets subject to a 20% corridor.



4. Anticipated Payroll

The Anticipated Payroll for the fiscal year beginning July 1, 2023 is equal to the actual payroll for the combined TRF '96 and TRF Pre-'96 plans during the year ending June 30, 2023, increased with one year of salary scale, less the TRF Pre-'96 Anticipated Payroll based on expected salary increases and decrements between the census date and the valuation date on June 30, 2023.

5. Employer Contribution Rates

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed for each employer. The Board considers this information and has ultimate authority in setting the employer contribution rates.

Changes in Methods since the Prior Year

None.



APPENDIX C – SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

ACTUARIAL ASSUMPTIONS

Valuation Date June 30, 2023

Economic Assumptions

1. Investment return 6.25% per year, compounded annually (net of administrative and investment expenses)

2. Inflation 2.00% per year

3. Salary increase

Service	Wage Inflation	Merit	Salary Increase
0-1	2.65%	9.25%	11.90%
2	2.65%	4.25%	6.90%
3	2.65%	2.75%	5.40%
4-14	2.65%	1.75%	4.40%
15	2.65%	1.50%	4.15%
16	2.65%	1.25%	3.90%
17	2.65%	1.00%	3.65%
18	2.65%	0.75%	3.40%
19	2.65%	0.50%	3.15%
20	2.65%	0.25%	2.90%
21+	2.65%	0.00%	2.65%

4. Cost-of-Living Adjustment (COLA) No COLA was granted for the 2023-2025 biennium. Thereafter, the following COLAs, compounded annually, were assumed:
0.4% beginning on January 1, 2026
0.5% beginning on January 1, 2034
0.6% beginning on January 1, 2039

Demographic Assumptions

1. Mortality Pub-2010 Public Retirement Plans Mortality Tables (Amount-Weighted) with a fully generational projection of mortality improvements using SOA Scale MP-2019.

Healthy Employees – Teacher Employee table with a 1 year set forward for males and a 1 year set forward for females.

Retirees – Teacher Retiree table with a 1 year set forward for males and a 1 year set forward for females.

Beneficiaries – Contingent Survivor table with no set forward for males and a 2 year set forward for females.

Disableds – General Disabled table with a 140% load.



APPENDIX C – SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

2. Disability

Age	Sample Rates
<=36	0.005%
40	0.009%
45	0.014%
50	0.034%
55	0.061%
56-65	0.070%
66+	0.000%

3. Retirement

Age	Eligible for Reduced Benefit	Eligible for Unreduced Benefit
50-53	2.0%	N/A
54	5.0%	N/A
55-56	5.0%	15%
57	6.5%	15%
58	8.0%	15%
59	12.0%	15%
60	N/A	15%
61	N/A	20%
62	N/A	25%
63	N/A	30%
64	N/A	35%
65-74	N/A	40%
75+	N/A	100%

Active members: 30% commence benefit immediately (reduced for early retirement, if applicable). 70% defer to earliest unreduced retirement date.

Inactive vested members are assumed to commence their retirement benefit at their earliest normal retirement date.



APPENDIX C – SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

4. Termination

Service	Male	Female
0	15.00%	12.50%
1	13.00%	11.50%
2	11.00%	10.50%
3	9.00%	9.50%
4	8.00%	8.50%
5	7.00%	7.50%
6	6.00%	6.50%
7	5.00%	5.50%
8	4.50%	5.00%
9	4.00%	4.50%
10	3.75%	4.00%
11	3.50%	3.50%
12	3.25%	3.25%
13	3.00%	3.00%
14	2.75%	2.75%
15	2.50%	2.50%
16+	2.25%	2.25%

Other Assumptions

- 1. Form of payment 100% of members are assumed to elect the normal form of benefit payment (Option A-1), a single life annuity with a five-year certain period.
- 2. Marital status
 - a. Percent married 80% of male members and 75% of female members are assumed to be married and or to have a dependent beneficiary.
 - b. Spouse’s age Male members are assumed to be three (3) years older than their spouses and female members are assumed to be two (2) years younger than their spouses.
- 3. Decrement timing Decrements are assumed to occur at the beginning of the year.
- 4. Miscellaneous adjustments For active members, the Average Annual Compensation was increased by \$200 for additional wages received upon termination, such as severance or unused sick leave.



APPENDIX C – SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Changes in Assumptions since the Prior Year

None.

Data Adjustments

Active and retired member data is reported as of June 30. Member census data as of June 30, 2022 was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, 2022 and June 30, 2023. Standard actuarial roll-forward techniques were then used to project the total pension liability computed as of June 30, 2022 to the June 30, 2023 measurement date.

The member census data and the asset information for this valuation were furnished as of June 30, 2022. We did not audit the information provided, but we did review it thoroughly for reasonableness and compared it with the prior year's submission for consistency.

Actives and inactives with no date of birth are assumed to be the average age of the member population with their respective status. Additionally, payroll for new hires is annualized, and actives missing a salary are assumed to earn the average active salary amount. For members reported with no gender, the member is assumed to be female.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur at the beginning of the year. Standard adjustments are made for multiple decrements.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date.



APPENDIX D – GLOSSARY OF ACTUARIAL TERMS

Accrued Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Actuarial Assumptions	Estimates of future experience with respect to demographic or economic events. Demographic assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefits between future normal cost and actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”
Actuarial Equivalent	A single amount or series of amounts of equal value to another single amount or series of amounts computed on the basis of a given set of actuarial assumptions.
Actuarial Accrued Liability	The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as “accrued liability” or “actuarial liability.”
Actuarial Present Value	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
Experience Gain (Loss)	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
Normal Cost	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.
Unfunded Actuarial Accrued Liability	<p>The difference between actuarial liability and the actuarial value of assets. Sometimes referred to as “unfunded accrued liability” or “unfunded liability”.</p> <p>Most retirement systems have unfunded actuarial liability. They arise anytime new benefits are added and anytime an actuarial loss is realized.</p>