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Indiana Public Retirement System

Teachers' Retirement Fund
Pre-1996 Account

Actuarial Valuation as of
June 30, 2023

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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 Pre-1996 Account (TRF Pre-'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 Pre-'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.

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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 Pre-'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,

Brent A. Banister

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

Edward J. Koebel

Edward Koebel, FCA, EA, MAAA
Chief Executive Officer

Virginia Fritz

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

Sections	Page

This report presents the results of the June 30, 2023 actuarial valuation of the Teachers' Retirement Fund Pre-1996 Account (TRF Pre-'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 amount 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 current funded status of the plan 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 decreased from $8.8 billion last year to $5.0 billion this year and the funded ratio increased from 37.5% to 63.6%. The funded ratio increase is primarily due to contributions to the plan assets of $4.2 billion, which included additional contributions of $2.5 billion and $700 million. These additional contributions were funding that exceeded the contributions outlined by the funding policy. Slightly offsetting this, there was an actuarial loss on the actuarial value of assets along with actuarial losses related to retirement experience and salaries that we more than expected. There were no changes adopted by the Board to the ongoing benefit provisions, actuarial assumptions and methods, and funding policy.

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	$	8,785,753,113	$	4,986,435,319
Funded Ratio (Actuarial Assets)		37.51%		63.61%
Normal Cost		5.42%		5.40%
Actuarially Determined Contribution Rate		195.76%		225.09%
Scheduled Appropriation	$	1,005,000,000	$	1,035,200,000
Additional Contribution	$	3,200,000,000	$	TBD

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 between June 30, 2022 and June 30, 2023. In keeping with the funding policy adopted by the Board at its October 26, 2018 meeting, the Scheduled Appropriation results shown herein reflect the funding approach set out in IC-5.10.4-2-5 that the Indiana Legislature has followed. Additional contributions show the amount of funding that has exceeded that policy.

ASSETS

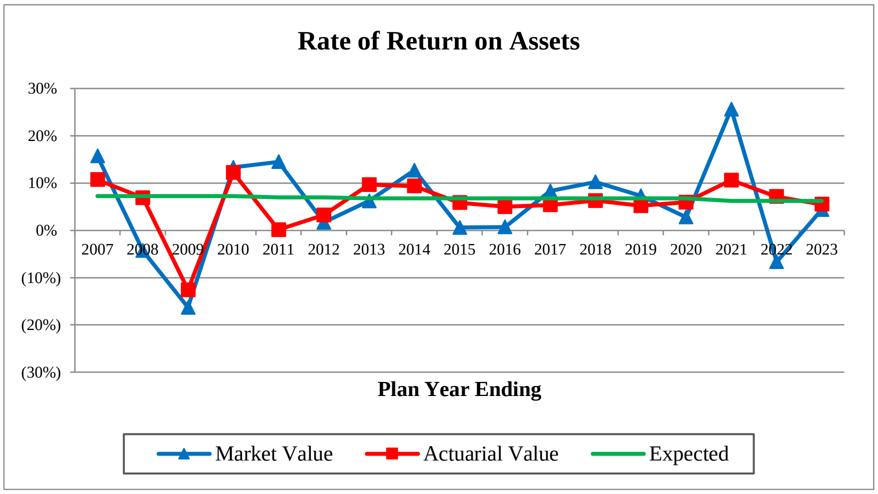
As of June 30, 2023, the plan had net assets of $8.473 billion when measured on a market value basis. This was an increase of $3.360 billion from the prior year.

The market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the actuarially determined contribution. 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 $8.717 billion, an increase of $3.443 billion 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	$	5,113,121,284	$	5,273,369,363
- Receipts	+	4,238,169,111	+	4,238,169,111
- Expenditures, Net of Administrative Expenses	-	1,170,517,923	-	1,170,517,923
- Net Investment Income	+	292,130,667	+	375,839,547
Net Assets, June 30, 2023	$	8,472,903,139	$	8,716,860,098
Estimated Rate of Return, Net of Expenses		4.4%		5.5%

The estimated rate of return on the actuarial value of assets was 5.5%, 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 $50 million. The FY 2023 return on the market value of assets of 4.4% increased the net deferred investment loss from $160 million in last year's valuation to $244 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.

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	$ 13,703,295,417	$ 13,703,295,417
Value of Assets	8,472,903,139	8,716,860,098
Unfunded Actuarial Accrued Liability	$ 5,230,392,278	$ 4,986,435,319
Funded Ratio	61.83%	63.61%

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

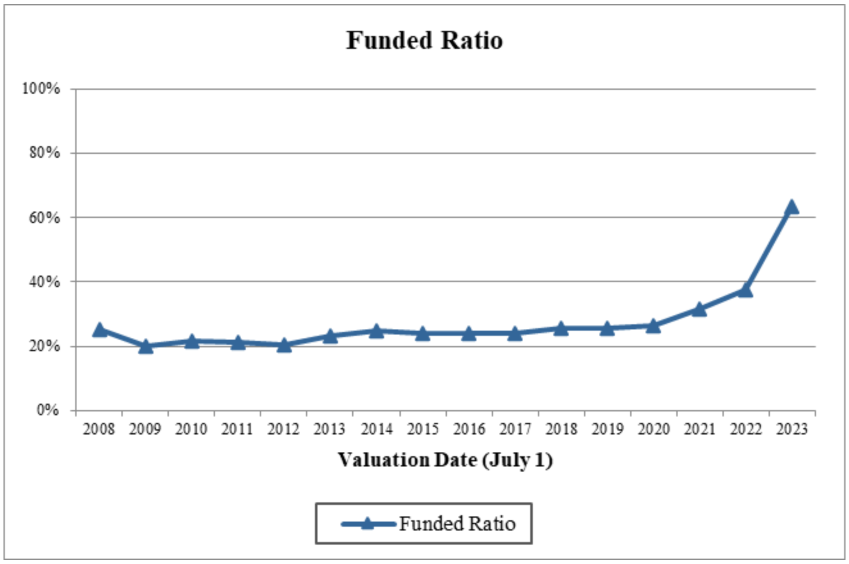
The total plan UAAL (on an actuarial basis) as of June 30, 2023 was $4.986 billion, a $3.8 billion decrease from the $8.786 billion total UAAL last year. The change in UAAL includes approximately $3.302 billion of contributions in excess of those actuarially determined, offset by an actuarial loss on assets of $50 million. Additionally, liabilities experienced an actuarial gain of $59 million due in large part to a gain on the supplemental benefits, as no benefits were provided for this biennium. 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 billions).

	6/30/2019	6/30/2020	6/30/2021	6/30/2022	6/30/2023
Funded Ratio	25.7%	26.5%	31.7%	37.5%	63.6%
UAAL (in billions)	$10.7	$10.3	$9.8	$8.8	$5.0

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.

The funded ratio over a long period of time is shown in the following graph. While the Pre-1996 Account is intended to be funded on a "pay-as-you-go" basis, the plan has received additional contributions that have helped to accelerate the funding of the plan over the past three years.



Note: Funded ratios exclude DC account balances.

ACTUARIALLY DETERMINED CONTRIBUTION AMOUNT

The Plan's actuarially determined contribution (ADC) is based on the approach set out in IC-5.10.4-2-5 that the Indiana Legislature has followed in appropriating funds. The basic contribution is the lesser of 3% above the prior year's basic contribution and the anticipated benefit payments for the year. However, the contributed funds should not result in the funded ratio exceeding 100%.

In addition to the components above that are designed to fund the guaranteed base benefit, the Board is responsible for determining the allocation of lottery proceeds 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-term goal is to accumulate funds by June 30, 2025 to fund the two COLAs in the following biennium (January 2026 and January 2027). This is currently projected to require no additional funding from January 2024 through June of 2025. The $30 million annual allocation from lottery proceeds provides the needed funds for the next biennium and is expected to allow for a sufficient reserve to provide the accumulations in subsequent biennial periods. See Table 11 for further details.

See Table 12 of this report for the detailed development of the contribution amounts which are summarized in the following table:

	June 30, 2022	June 30, 2023
Normal Cost	5.42%	5.40%
Scheduled Appropriation	$ 1,005,000,000	$ 1,035,200,000
Estimated Payroll	$ 513,392,992	$ 459,902,383
Actuarially Determined Contribution Rate	195.76%	225.09%
Semi-Annual Lottery Proceeds for Anticipated COLA	$ 7,873,802	$ 0

In addition to the scheduled appropriation, additional contributions of $2.5 billion and $700 million were made for FY 2023, for total contributions of $4.205 billion. The actuarially determined contribution, based on the funding policy, is expected to increase 3% for the next fiscal year, resulting in an actuarially determined contribution for FY 2024 of $1,035,200,000. The annual allocation from lottery proceeds is expected to be close to $30 million, which will help fund a reserve for future cost of living increases.

SUMMARY OF PRINCIPAL RESULTS

	June 30, 2021	June 30, 2022	June 30, 2023
MEMBERSHIP			
Active Members	8,375	7,291	6,287
Retired Members and Beneficiaries	53,537	53,157	53,282
Inactive Vested Members	1,964	1,875	1,502
Total Members	63,876	62,323	61,071
Projected Annual Salaries of Active Members	$ 573,238,565	$ 513,392,992	$ 459,902,383
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	$ 1,152,667,249	$ 1,154,854,791	$ 1,180,021,736
ASSETS AND LIABILITIES			
Net Assets			
Market Value of Assets (MVA)	$ 5,074,750,956	$ 5,113,121,284	$ 8,472,903,139
Actuarial Value of Assets (AVA)	4,546,007,134	5,273,369,363	8,716,860,098
Actuarial Accrued Liability (AAL)	14,338,188,132	14,059,122,476	13,703,295,417
Unfunded Actuarial Accrued Liability (UAAL): AAL - AVA	$ 9,792,180,998	$ 8,785,753,113	$ 4,986,435,319
Funded Ratios			
AVA / AAL	31.71%	37.51%	63.61%
MVA / AAL	35.39%	36.37%	61.83%
CONTRIBUTIONS			
Normal Cost	5.47%	5.42%	5.40%
Actuarially Determined Contribution Rate	170.09%	195.76%	225.09%
Estimated Contribution Amount	$ 975,000,000	$ 1,005,000,000	$ 1,035,200,000

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

This report presents the actuarial valuation results of the Teachers' Retirement Fund Pre-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.

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 14 (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	$	4,939,999,266	$	4,964,881,993
2. Receipts				
a. Member (Includes Purchased Service) [1]	$	63,594	$	4,103
b. Employer (Includes Purchased Service) [2]		2,205,029		2,466,503
c. Non-Employer Entity Contributions		1,520,410,326		4,205,000,000
d. Member Reassignment Transfers		1,544,256		698,505
e. Miscellaneous Income		579		0
f. Total	$	1,524,223,784	$	4,208,169,111
3. Expenditures				
a. Benefit Payments	$	1,158,262,841	$	1,160,325,180
b. Refund of Contributions		0		0
c. Member Reassignment Transfers		0		0
d. Administrative Expense		5,067,084		5,761,105
e. Miscellaneous Expenditures		0		0
f. Total	$	1,163,329,925	$	1,166,086,285
4. Investment Return				
a. Investment Income	$	(336,199,105)	$	293,025,660
b. Securities Lending Income		187,973		519,274
c. Total	$	(336,011,132)	$	293,544,934
5. Market Value of Assets, End of Year: (1) + (2f) - (3e) + (4c)	$	4,964,881,993	$	8,300,509,753
6. Rate of Return on Market Value of Assets, Net of Expenses [3]		(6.66%)		4.44%

[1] Includes $63,594 of member service purchases during fiscal year 2022 and $4,103 of member service purchases during fiscal year 2023.
[2] Includes $0 of member service purchases during fiscal year 2022 and $29,828 of member 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	$ 134,751,690	$ 148,239,291
2. Receipts		
a. Employer Surcharge	$ 0	$ 0
b. Lottery Allocation	30,000,000	30,000,000
c. Non-Employer Entity Contributions	0	0
d. Miscellaneous	0	0
e. Total	$ 30,000,000	$ 30,000,000
3. Expenditures		
a. Benefit Payments	$ 6,044,248	$ 10,192,743
b. Administrative Expense	0	0
c. Miscellaneous Expenditures	0	0
d. Total	$ 6,044,248	$ 10,192,743
4. Investment Return		
a. Investment Income	$ (10,472,989)	$ 4,335,880
b. Securities Lending Income	4,838	10,958
c. Total Investment Return	$ (10,468,151)	$ 4,346,838
5. Market Value of Assets, End of Year: (1) + (2e) - (3d) + (4c)	$ 148,239,291	$ 172,393,386
6. Rate of Return on Market Value of Assets, Net of Expenses [1]	(7.13%)	2.75%

[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	$	4,964,881,993
2. Receipts [1]	$	4,208,169,111
3. Expenditures, Net of Administrative Expenses [2]	$	(1,160,325,180)
4. Expected Return on Assets [3]	$	405,550,247
5. Expected Market Value as of June 30, 2023: (1) + (2) + (3) + (4)	$	8,418,276,171
6. Actual Market Value as of June 30, 2023	$	8,300,509,753
7. Year end 2023 asset gain/(loss): (6) - (5)	$	(117,766,418)

8. Deferred Investment Gains and Losses

	Year Ended June 30:		Gain/(Loss)	Factor		Deferred Amount
a.	2020	$	(142,508,289)	20%	$	(28,501,658)
b.	2021		716,398,897	40%		286,559,559
c.	2022		(661,264,450)	60%		(396,758,670)
d.	2023		(117,766,418)	80%		(94,213,134)
e.	Total				$	(232,913,903)

9. Initial Actuarial Value as of June 30, 2023: (6) - (8e)	$	8,533,423,656
10. Constraining Values		
a. 80% of Market Value: (6) x 0.8	$	6,640,407,802
b. 120% of Market Value: (6) x 1.2	$	9,960,611,704
11. Actuarial Value as of June 30, 2023	$	8,533,423,656
12. Actuarial Rate of Return, Net of Expenses [4]		5.55%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)		102.8%
14. Actuarial Value of Assets		
a. Base Benefits	$	8,533,423,656
b. Supplemental Benefits	$	183,436,442
c. Total	$	8,716,860,098

[1] Includes 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	$	148,239,291
2. Receipts	$	30,000,000
3. Expenditures, Net of Administrative Expenses	$	(10,192,743)
4. Expected Return on Assets [1]	$	9,883,932
5. Expected Market Value as of June 30, 2023: (1) + (2) + (3) + (4)	$	177,930,480
6. Actual Market Value as of June 30, 2023	$	172,393,386
7. Year end 2023 asset gain/(loss): (6) - (5)	$	(5,537,094)

8. Deferred Investment Gains and Losses

	Year Ended June 30:		Gain/(Loss)	Factor		Deferred Amount
a.	2020	$	(2,064,369)	20%	$	(412,874)
b.	2021		13,956,855	40%		5,582,742
c.	2022		(19,638,749)	60%		(11,783,249)
d.	2023		(5,537,094)	80%		(4,429,675)
e.	Total				$	(11,043,056)

9. Initial Actuarial Value as of June 30, 2023: (6) - (8e)	$	183,436,442
10. Constraining Values		
a. 80% of Market Value: (6) x 0.8	$	137,914,709
b. 120% of Market Value: (6) x 1.2	$	206,872,063
11. Actuarial Value as of June 30, 2023	$	183,436,442
12. Actuarial Rate of Return, Net of Expenses [2]		4.46%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)		106.4%

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

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 Pre-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 Pre-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 the expectation that all actuarial assumptions are met during the intervening year, there will, of course, be many of the assumptions that are not met exactly. In general, this does not materially affect the resulting calculations or conclusions in this report. Should there be a year in which significant events that would affect the results occur, we would make adjustments in the roll-forward methods to compensate.

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 assumptions, we calculate a liability of approximately $15,190,661,000. 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.

TABLE 5

ACTUARIAL ACCRUED LIABILITY
(Base and Supplemental Benefits)

		Supplemental Benefits		
As of June 30, 2023	**Base Benefits**	***Granted***	***Future***	**Total**
1. Actuarial Accrued Liability				
a. Active & Inactive Members	$ 2,166,557,641	$ 0	$ 102,464,132	$ 2,269,021,773
b. In-pay Members	11,052,628,766	97,868,707	283,776,171	11,434,273,644
c. Total	$ 13,219,186,407	$ 97,868,707	$ 386,240,303	$ 13,703,295,417
2. Actuarial Value of Assets	$ 8,533,423,656	$ 97,868,707	$ 85,567,735	$ 8,716,860,098
3. Unfunded Actuarial Accrued Liability: (1c) - (2)	$ 4,685,762,751	$ 0	$ 300,672,568	$ 4,986,435,319
4. Funded Ratio: (2) / (1c)	64.6%	100.0%	22.2%	63.6%

TABLE 6

SOLVENCY TEST
(Base and Supplemental Benefits)

	Actuarial Accrued Liabilities (AAL)					Portion of AAL Covered by Assets			
Actuarial Valuation as of June 30	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	$11,434,274	$2,269,021	$13,703,295	$8,716,860	N/A	76.2%	0.0%	63.6%
2022	0	11,435,773	2,623,349	14,059,122	5,273,369	N/A	46.1	0.0	37.5
2021	0	11,501,456	2,836,732	14,338,188	4,546,007	N/A	39.5	0.0	31.7
2020	0	11,053,143	2,915,560	13,968,703	3,707,851	N/A	33.5	0.0	26.5
2019	0	11,245,919	3,143,245	14,389,164	3,694,211	N/A	32.8	0.0	25.7
2018	0	11,160,975	3,422,214	14,583,189	3,721,323	N/A	33.3	0.0	25.5
2017	1,242,230	11,653,674	3,840,865	16,736,769	4,951,100	100.0	31.8	0.0	29.6
2016	1,161,803	11,461,481	4,216,916	16,840,200	5,008,989	100.0	33.6	0.0	29.7
2015	1,303,468	10,606,053	5,108,225	17,017,746	5,171,639	100.0	36.5	0.0	30.4
2014	1,525,192	9,876,539	4,953,485	16,355,216	5,358,351	100.0	38.8	0.0	32.8

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	$	8,402,880,592	$	8,785,753,113
2. Normal Cost		27,825,900		29,212,061
3. Actuarially Determined Contribution		(1,005,000,000)		(1,005,000,000)
4. Interest		464,106,656		488,122,823
5. Expected Unfunded Actuarial Accrued Liability as of June 30, 2023	$	7,889,813,148	$	8,298,087,997
6. Actuarial Value of Asset Changes				
a. Investment Experience (Gain)/Loss	$	46,635,336	$	49,610,138
b. Contributions (Above)/Below the Actuarially Determined Contribution and Other (Gain)/Loss	$	(3,271,116,304)	$	(3,302,053,804)
7. Actuarial Accrued Liability Changes				
a. Actuarial Accrued Liability Experience (Gain)/Loss	$	20,430,571	$	(59,209,012)
b. Additional Liability Due to Benefit Changes		0		0
c. Additional Liability Due to Assumption Changes		0		0
8. Total Experience (Gain)/Loss	$	(3,204,050,397)	$	(3,311,652,678)
9. Unfunded Actuarial Accrued Liability as of June 30, 2023: (5) + (8)	$	4,685,762,751	$	4,986,435,319

TABLE 8

ACTUARIAL GAIN/(LOSS)
(Base and Supplemental Benefits)

Liabilities		Base		Base and Supplemental
1. Actuarial Accrued Liability as of June 30, 2022	$	13,520,028,769	$	14,059,122,476
2. Normal Cost for Plan Year Ending June 30, 2023		27,825,900		29,212,061
3. Benefit Payments During Plan Year [1]		(1,160,334,618)		(1,170,527,361)
4. Service Purchases (employee and employer)		33,931		33,931
5. Member Reassignment Transfers		698,505		698,505
6. Interest at 6.25%		810,503,349		843,964,817
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	$	13,198,755,836	$	13,762,504,429
10. Actuarial Accrued Liability as of June 30, 2023	$	13,219,186,407	$	13,703,295,417
Assets				
11. Actuarial Value of Assets as of June 30, 2022	$	5,117,148,177	$	5,273,369,363
12. Receipts During Plan Year		4,208,169,111		4,238,169,111
13. Expenditures, Excluding Expenses, During Plan Year		(1,160,325,180)		(1,170,517,923)
14. Interest at 6.25%		415,066,884		425,449,685
15. Expected Actuarial Value of Assets as of June 30, 2023	$	8,580,058,992	$	8,766,470,236
16. Actuarial Value of Assets as of June 30, 2023	$	8,533,423,656	$	8,716,860,098
Experience Gain / (Loss)				
17. Liability Actuarial Experience Gain/(Loss): (9) - (10)	$	(20,430,571)	$	59,209,012
18. Asset Actuarial Experience Gain/(Loss): (16) - (15)		(46,635,336)		(49,610,138)
19. Total Actuarial Experience Gain/(Loss): (17) + (18)	$	(67,065,907)	$	9,598,874

[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	$	(20,627)
Termination		(3,129)
Disability		(120)
Mortality		(9,319)
Salary		(16,234)
New Entrants/Rehires		(2,623)
Miscellaneous/COLA		31,621
Total Liability Experience Gain/(Loss)	$	(20,431)
as a % of AAL		(0.2%)
Asset Experience Gain/(Loss)	$	(46,635)
Net Actuarial Experience Gain/(Loss)	$	(67,066)

*Numbers may not add due to rounding.

TABLE 10

PROJECTED BENEFIT PAYMENTS
(Base and Supplemental Benefits)

Plan Year Ending June 30	Benefit Amount
2024	$ 1,200,003,461
2025	1,197,921,337
2026	1,194,901,334
2027	1,190,905,934
2028	1,182,232,553
2029	1,170,184,424
2030	1,154,738,209
2031	1,135,482,457
2032	1,112,464,327
2033	1,085,732,780
2034	1,055,818,060
2035	1,023,042,212
2036	987,206,477
2037	948,608,696
2038	907,666,023
2039	865,221,850
2040	821,697,877
2041	777,135,223
2042	731,948,470
2043	686,531,390
2044	641,261,782
2045	596,502,677
2046	552,596,048
2047	509,860,070
2048	468,575,128
2049	428,980,802
2050	391,266,118
2051	355,567,129
2052	321,967,873
2053	290,503,981

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

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 a typical 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 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.

TRF Pre-'96 does not follow a traditional funding model as described above. This is partially because the benefits have been historically provided through a pay-as-you-go strategy with some accumulated assets. As the Fund moves toward pre-funding the remaining benefits, a contribution allocation strategy has been developed. The Fund's actuarially determined contribution is based on the approach set out in IC-5.10.4-2-5 that the Indiana Legislature has followed in actually appropriating funds. The basic contribution is the lesser of 3% above the prior year's basic contribution and the anticipated base benefit payments for the year. However, the contributed funds should not result in the funded ratio exceeding 100%.

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 ten years if all assumptions are met. 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 amount shown in Table 13 under the current assumptions reflects a contribution that could fund both the base benefits and COLAs in a reasonable manner.

Contribution Summary

Unlike other Funds in INPRS, the funding policy for TRF Pre-'96 does not require a directly calculated amortization payment related to the unfunded actuarial accrued liability/(surplus). The portion of the lottery proceeds needed to fund the assumed COLAs is developed in Table 11. Table 12 develops the actuarially determined contribution for the Plan. The contribution amount shown in this report are based on the actuarial assumptions and cost methods described in Appendix C. Additionally, in Table 13 the funded status and normal cost under alternative discount rates are provided to illustrate the sensitivity of these items relative to the selection of the investment return assumption.

TABLE 11

DEVELOPMENT OF SUPPLEMENTAL RESERVE FUNDING
(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	$	40,474,600
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		37,469,394
7. Total COLA Funding Requirement as of July 1, 2025: (3) + (6)	$	77,943,994
Funding Sources for Projected COLAs		
8. Assets as of June 30, 2023 Available for Future COLAs	$	85,567,735
9. Projected Contributions from 7/1/2023 to 12/31/2023		15,000,000
10. Expected Earnings through July 1, 2025		12,714,786
11. Projected Available Assets at July 1, 2025	$	113,282,521
12. Required Additional Funding for Anticipated COLAs: (7) - (11)	$	0
Minimum Lottery Allocation Amount		
13. Remaining Payment for FYE 2024 [1]	$	0
14. Annual Payment for FYE 2025 [1]	$	0

[1] Assumes payment on March 31, 2024 and January 1, 2025

TABLE 12

ACTUARIALLY DETERMINED CONTRIBUTION
(Base and Supplemental Benefits)

	Base Benefits	Supplemental Benefits	Total
1. Projected Payroll for FY 2024	$ 459,902,383		
2. Normal Cost Rate as of June 30, 2022	5.40%	0.24%	5.64%
3. Scheduled Contribution for FYE June 30, 2023 [1]	$ 1,005,000,000		
4. Scheduled Contribution for FYE June 30, 2024			
a. Prior year increased by 3%	$ 1,035,200,000		
b. Expected benefit payments for FYE June 30, 2024	1,200,003,461		
5. Actuarially Determined Contribution Amount: Lesser of (4a) and (4b)	$ 1,035,200,000		
6. Supplemental Benefits Lottery Proceeds		$ 0	
7. Actuarially Determined Contribution Amount for FYE 2024	$ 1,035,200,000	$ 0	
8. Estimated Actuarially Determined Contribution Amount for FYE 2025	$ 1,066,300,000	$ TBD	

[1] Excludes one-time additional contributions of $2.5 billion and $700 million. Total FYE 2023 contributions were $4,205,000,000 for the base plan.

TABLE 13

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	$14,915,587,364	$14,595,186,962	$14,286,716,431	$13,989,600,111	$13,703,295,417
Actuarial Value of Assets	8,716,860,098	8,716,860,098	8,716,860,098	8,716,860,098	8,716,860,098
Unfunded Actuarial Accrued Liability	$6,198,727,266	$5,878,326,864	$5,569,856,333	$5,272,740,013	$4,986,435,319
Funded Ratio	58.4%	59.7%	61.0%	62.3%	63.6%
Actuarially Determined Contribution Amount					
Normal Cost	$35,400,733	$32,739,565	$30,286,387	$28,024,480	$25,938,494
Amortization over 7 years	1,027,067,871	980,451,530	935,137,971	891,068,281	848,186,737
Total	$1,062,468,604	$1,013,191,095	$965,424,359	$919,092,760	$874,125,231

	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	$13,427,290,666	$13,161,103,053	$12,904,276,776	$12,656,381,309	$12,417,009,791
Actuarial Value of Assets	8,716,860,098	8,716,860,098	8,716,860,098	8,716,860,098	8,716,860,098
Unfunded Actuarial Accrued Liability	$4,710,430,568	$4,444,242,955	$4,187,416,678	$3,939,521,211	$3,700,149,693
Funded Ratio	64.9%	66.2%	67.6%	68.9%	70.2%
Actuarially Determined Contribution Amount					
Normal Cost	$24,014,346	$22,239,101	$20,600,884	$19,088,790	$17,692,800
Amortization over 7 years	806,440,616	765,780,001	726,157,614	687,528,650	649,850,632
Total	$830,454,961	$788,019,102	$746,758,498	$706,617,439	$667,543,431

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

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 14

STATEMENT OF FIDUCIARY NET POSITION

			June 30, 2023
1. Assets			
a. Cash		$	10,694
b. Receivables			
i.	Contributions and Miscellaneous Receivables	$	3,089,591
ii.	Investments Receivable		69,656,621
iii.	Foreign Exchange Contracts Receivable		1,476,027,169
iv.	Interest and Dividends		22,162,076
v.	Receivables Due From Other Funds		0
vi.	Total Receivables	$	1,570,935,457
c. Investments			
i.	Short-Term Investments	$	0
ii.	Pooled Repurchase Agreements		3,851,549
iii.	Pooled Short-Term Investments		762,745,090
iv.	Pooled Fixed Income		2,327,238,656
v.	Pooled Equity		1,182,078,328
vi.	Pooled Alternative Investments		4,458,974,896
vii.	Pooled Derivatives		(2,815,194)
viii.	Pooled Investments		0
ix.	Securities Lending Collateral		33,929,683
x.	Total Investments	$	8,766,003,008
d. Net Capital Assets			0
e. Other Assets			0
f. Total Assets: a + b(vi) + c(x) + d + e		$	10,336,949,159
2. Liabilities			
a. Administrative Payable		$	694,545
b. Retirement Benefits Payable			184,295
c. Investments Payable			295,709,162
d. Foreign Exchange Contracts Payable			1,481,164,998
e. Securities Lending Obligations			33,929,683
f. Securities Sold Under Agreement to Repurchase			51,495,724
g. Due To Other Funds			867,613
h. Due to Other Governments			0
i. Total Liabilities: a + b + c + d + e + f + g + h		$	1,864,046,020
3. Fiduciary Net Position Restricted for Pensions: (1)(f) - (2)(i)		**$**	**8,472,903,139**

TABLE 15

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

		For Fiscal Year Ending June 30, 2023	
1. Fiduciary Net Position as of June 30, 2022		**$**	**5,113,121,284**
2. Additions			
a. Contributions			
i.	Member Contributions	$	0
ii.	Employer Contributions		2,436,675
iii.	Service Purchases (Employer and Member) [1]		33,931
iv.	Non-Employer Contributing Entity Contributions		4,235,000,000
v.	Total Contributions	$	4,237,470,606
b. Investment Income/(Loss)			
i.	Net Appreciation/(Depreciation)	$	236,811,685
ii.	Net Interest and Dividend Income		103,130,767
iii.	Securities Lending Income		591,650
iv.	Other Net Investment Income		256,408
v.	Investment Management Expenses		(40,961,598)
vi.	Direct Investment Expenses		(1,875,722)
vii.	Securities Lending Expenses		(61,418)
viii.	Total Investment Income/(Loss)	$	297,891,772
c. Other Additions			
i.	Member Reassignments		2,783,827
ii.	Miscellaneous Receipts		0
iii.	Total Other Additions	$	2,783,827
d. Total Revenue (Additions): a(v) + b(viii) + c(iii)		$	4,538,146,205
3. Deductions			
a. Pension, Survivor and Disability Benefits		$	1,170,517,923
b. Death and Funeral Benefits			0
c. Distributions of Contributions and Interest			0
d. Administrative Expenses			5,761,105
e. Member Reassignments			2,085,322
f. Miscellaneous Expenses			0
g. Total Expenses (Deductions)		$	1,178,364,350
4. Net Increase (Decrease) in Fiduciary Net Position: (2)(d) - (3)(g)		**$**	**3,359,781,855**
5. Fiduciary Net Position as of June 30, 2023: (1) + (4)		**$**	**8,472,903,139**

[1] Service purchases paid by employer of $29,828 and employee of $4,103.

TABLE 16

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	$ 14,059,122,476	$ 5,113,121,284	$ 8,946,001,192
2. Changes for the Year:			
Service Cost (SC) [1]	29,212,061		29,212,061
Interest Cost	843,965,112		843,965,112
Experience (Gains)/Losses	(59,218,745)		(59,218,745)
Assumption Changes	0		0
Plan Amendments	0		0
Benefit Payments	(1,170,517,923)	(1,170,517,923)	0
Service Purchases			
Employer Contributions	29,828	29,828	0
Employee Contributions	4,103	4,103	0
Member Reassignments [2]	698,505	698,505	0
Employer Contributions		2,436,675	(2,436,675)
Non-employer Contributions		4,235,000,000	(4,235,000,000)
Employee Contributions		0	0
Net Investment Income		297,891,772	(297,891,772)
Administrative Expenses		(5,761,105)	5,761,105
Other		0	0
Net Changes	$ (355,827,059)	$ 3,359,781,855	$ (3,715,608,914)
3. Balance at June 30, 2023	$ 13,703,295,417	$ 8,472,903,139	$ 5,230,392,278

[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.

TABLE 17

DEFERRED OUTFLOWS OF RESOURCES

	June 30, 2022	Remaining Period	Recognition	June 30, 2023
1. Liability Experience				
June 30, 2023 Loss	$ 0	1.00	$ 0	$ 0
June 30, 2022 Loss	0	0.00	0	0
June 30, 2021 Loss	0	0.00	0	0
June 30, 2020 Loss	0	0.00	0	0
June 30, 2019 Loss	0	0.00	0	0
June 30, 2018 Loss	0	0.00	0	0
June 30, 2017 Loss	0	0.00	0	0
June 30, 2016 Loss	0	0.00	0	0
June 30, 2015 Loss	0	0.00	0	0
June 30, 2014 Loss	0	0.00	0	0
2. Assumption Changes				
June 30, 2023 Loss	$ 0	1.00	$ 0	$ 0
June 30, 2022 Loss	0	0.00	0	0
June 30, 2021 Loss	0	0.00	0	0
June 30, 2020 Loss	0	0.00	0	0
June 30, 2019 Loss	0	0.00	0	0
June 30, 2018 Loss	0	0.00	0	0
June 30, 2017 Loss	0	0.00	0	0
June 30, 2016 Loss	0	0.00	0	0
June 30, 2015 Loss	0	0.00	0	0
3. Investment Experience				
June 30, 2023 Loss	$ 117,362,373	5.00	$ 23,472,475	$ 93,889,898
June 30, 2022 Loss	540,542,214	4.00	135,135,554	405,406,660
June 30, 2021 Loss	0	3.00	0	0
June 30, 2020 Loss	55,620,442	2.00	27,810,221	27,810,221
June 30, 2019 Loss	0	1.00	0	0
Total Outflows: (1)+(2)+(3)	**$ 713,525,029**		**$ 186,418,250**	**$ 527,106,779**

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 18

DEFERRED INFLOWS OF RESOURCES

	June 30, 2022	Remaining Period	Recognition	June 30, 2023
1. Liability Experience				
June 30, 2023 Gain	$ 59,218,745	1.00	$ 59,218,745	$ 0
June 30, 2022 Gain	0	0.00	0	0
June 30, 2021 Gain	0	0.00	0	0
June 30, 2020 Gain	0	0.00	0	0
June 30, 2019 Gain	0	0.00	0	0
June 30, 2018 Gain	0	0.00	0	0
June 30, 2017 Gain	0	0.00	0	0
June 30, 2016 Gain	0	0.00	0	0
June 30, 2015 Gain	0	0.00	0	0
June 30, 2014 Gain	0	0.00	0	0
2. Assumption Changes				
June 30, 2023 Gain	$ 0	1.00	$ 0	$ 0
June 30, 2022 Gain	0	0.00	0	0
June 30, 2021 Gain	0	0.00	0	0
June 30, 2020 Gain	0	0.00	0	0
June 30, 2019 Gain	0	0.00	0	0
June 30, 2018 Gain	0	0.00	0	0
June 30, 2017 Gain	0	0.00	0	0
June 30, 2016 Gain	0	0.00	0	0
June 30, 2015 Gain	0	0.00	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	441,339,210	3.00	147,113,071	294,226,139
June 30, 2020 Gain	0	2.00	0	0
June 30, 2019 Gain	5,191,920	1.00	5,191,920	0
Total Inflows: (1)+(2)+(3)	**$ 505,749,875**		**$ 211,523,736**	**$ 294,226,139**

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 / OUTFLOWS TO BE RECOGNIZED IN PENSION EXPENSE

Fiscal Year Ending June 30	Deferred Outflows	Deferred Inflows	Net Deferred Outflows/(Inflows)
Current Year:			
2023	$ 186,418,250	$ 211,523,736	$ (25,105,486)
Future Years:			
2024	$ 186,418,250	$ 147,113,071	$ 39,305,179
2025	158,608,029	147,113,068	11,494,961
2026	158,608,027	0	158,608,027
2027	23,472,473	0	23,472,473
2028	0	0	0
Thereafter	0	0	0

TABLE 20

PENSION EXPENSE UNDER GASB NO. 68

		For Fiscal Year Ending June 30, 2023
1. Service Cost, beginning of year		$ 29,212,061
2. Interest Cost, including interest on service cost		843,965,112
3. Member Contributions [1]		0
4. Administrative Expenses		5,761,105
5. Expected Return on Assets [2]		(415,254,145)
6. Plan Amendments		0
7. Recognition of Deferred Inflows / Outflows of Resources Related to:		
a. Liability Experience (Gains) / Losses	(59,218,745)	
b. Assumption Change (Gains) / Losses	0	
c. Investment Experience (Gains) / Losses	34,113,259	
d. Total: (7a)+(7b)+(7c)		(25,105,486)
8. Miscellaneous (Income) / Expense		0
9. Total Collective Pension Expense: (1)+(2)+(3)+(4)+(5)+(6)+(7d)+(8)		438,578,647
10. Employer Service Purchases [3]		29,828
Pension Expense / (Income): (9) + (10)		**$ 438,608,475**

[1] Excludes member paid service purchases of $4,103.
[2] Cash flows assumed to occur mid-year.
[3] 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 Pre-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, 2023, 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 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. *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.
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 plan is funded on a pay-as-you-go basis where the INPRS Board of Trustees has established a funding policy of requesting appropriations from the State in an amount equal to the actuarially determined contribution, which is based on the assumptions and methods selected by the Board for the annual actuarial valuations and projected covered member payroll. The June 30, 2023 actuarial valuation assumes a long-term rate of return on assets of 6.25% and a 5-year smoothing method for recognizing investment gains and losses in the actuarial value of assets. In the past several years, the Board has followed its current funding policy and the State has complied in its contributions to the plan. While the expected benefit payments are currently greater than the contributions set by the funding policy, the State is anticipated to increase their contributions at a steady level of 3% per year until they are fully funding the benefit payments, ensuring the plan maintains it path towards full funding based on the Board's funding policy. 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.

Discount Rate Sensitivity

	1% Decrease 5.25%	Current Rate 6.25%	1% Increase 7.25%
Net Pension Liability	$6,442,684,225	$5,230,392,278	$4,183,478,170

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	53,282
2. Inactive Members Entitled To But Not Yet Receiving Benefits	1,502
3. Inactive Non-vested Members Entitled to a Refund of Member Contributions	0
4. Active Members	6,287
Total Covered Plan Members: (1)+(2)+(3)+(4)	61,071

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 4.0%.

Components of Net Pension Liability

As of June 30, 2023	
Total Pension Liability	$ 13,703,295,417
Fiduciary Net Position	8,472,903,139
Net Pension Liability	$ 5,230,392,278
Ratio of Fiduciary Net Position to Total Pension Liability	61.83%

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	$14,583,189,033	$14,389,164,104	$13,968,702,829	$14,338,188,132	$14,059,122,476
DC Account Balances - beginning [1]	0	0	0	0	0
DB Pension Liability - beginning	$14,583,189,033	$14,389,164,104	$13,968,702,829	$14,338,188,132	$14,059,122,476
Service Cost (SC), beginning-of-year	37,234,272	33,749,389	31,512,568	32,789,246	29,212,061
Interest Cost, including interest on SC	947,606,953	933,927,084	905,231,673	861,851,735	843,965,112
Experience (Gains)/Losses	(15,072,685)	(43,561,639)	6,414,475	(11,007,398)	(59,218,745)
Assumption Changes	0	(170,662,718)	582,473,624	0	0
Plan Amendments	(189,903)	0	22,604,566	0	0
DC Annuitizations	0	0	0	0	0
Actual Benefit Payments	(1,165,133,828)	(1,174,418,789)	(1,178,739,780)	(1,164,307,089)	(1,170,517,923)
Member Reassignments	1,493,825	484,347	(34,719)	1,544,256	698,505
Service Purchases	36,437	21,051	22,897	63,594	33,931
Net Change in Total Pension Liability	(194,024,929)	(420,461,275)	369,485,304	(279,065,656)	(355,827,059)
DB Pension Liability - ending	$14,389,164,104	$13,968,702,829	$14,338,188,133	$14,059,122,476	$13,703,295,417
DC Account Balances - ending [1]	0	0	0	0	0
(a) Total Pension Liability - ending	$14,389,164,104	$13,968,702,829	$14,338,188,132	$14,059,122,476	$13,703,295,417
Plan Fiduciary Net Position					
Plan Fiduciary Net Position – beginning	$3,711,346,539	$3,759,145,182	$3,661,150,972	$5,074,750,956	$5,113,121,284
DC Account Balances - beginning [1]	0	0	0	0	0
DB Plan Fiduciary Net Position – beginning	$3,711,346,539	$3,759,145,182	$3,661,150,972	$5,074,750,956	$5,113,121,284
Contributions – employer	3,504,801	2,355,930	2,254,282	2,205,029	2,466,503
Contributions – non-employer	943,900,000	971,132,000	1,598,375,000	1,550,410,326	4,235,000,000
Contributions – member	36,437	21,051	22,897	63,594	4,103
Net investment income	269,009,621	107,747,415	996,761,346	(346,479,283)	297,891,772
Actual benefit payments	(1,165,133,828)	(1,174,418,789)	(1,178,739,780)	(1,164,307,089)	(1,170,517,923)
Net member reassignments	1,493,825	484,347	(34,719)	1,544,256	698,505
DC Annuitizations	0	0	0	0	0
Administrative expense	(5,329,271)	(5,341,285)	(5,039,517)	(5,067,084)	(5,761,105)
Other	317,058	25,121	475	579	0
Net change in Plan Fiduciary Net Position	47,798,643	(97,994,210)	1,413,599,984	38,370,328	3,359,781,855
DB Plan Fiduciary Net Position – ending	$3,759,145,182	$3,661,150,972	$5,074,750,956	$5,113,121,284	$8,472,903,139
DC Account Balances - ending [1]	0	0	0	0	0
(b) Plan Fiduciary Net Position - ending	$3,759,145,182	$3,661,150,972	$5,074,750,956	$5,113,121,284	$8,472,903,139
Net Pension Liability - ending, (a) - (b)	$10,630,018,922	$10,307,551,857	$9,263,437,176	$8,946,001,192	$5,230,392,278

[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.

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	$16,463,598,481	$16,355,216,031	$17,017,746,329	$16,840,200,410	$16,736,769,005
DC Account Balances - beginning [1]	1,814,049,671	1,715,340,174	1,421,455,452	1,265,128,371	1,242,229,627
DB Pension Liability - beginning	$14,649,548,810	$14,639,875,857	$15,596,290,877	$15,575,072,039	$15,494,539,378
Service Cost (SC), beginning-of-year	68,860,011	57,750,841	46,787,226	43,204,075	44,602,627
Interest Cost, including interest on SC	961,628,534	959,894,924	1,019,403,246	1,016,915,164	1,010,564,919
Experience (Gains)/Losses	(70,517,351)	(140,465,814)	(5,793,718)	22,415,814	(162,413,866)
Assumption Changes	0	1,033,157,373	0	(61,548,006)	(668,484,272)
Plan Amendments	(25,523,806)	0	0	4,212,840	0
DC Annuitizations	93,981,713	143,225,034	35,185,531	30,502,555	16,301,373
Actual Benefit Payments	(1,034,563,166)	(1,100,434,461)	(1,118,121,746)	(1,135,661,960)	(1,153,373,784)
Member Reassignments	(3,801,799)	3,265,736	1,320,623	(573,143)	1,428,141
Service Purchases	262,911	21,387	0	0	24,517
Net Change in Total Pension Liability	(9,672,953)	956,415,020	(21,218,838)	(80,532,661)	(911,350,345)
DB Pension Liability - ending	$14,639,875,857	$15,596,290,877	$15,575,072,039	$15,494,539,378	$14,583,189,033
DC Account Balances - ending [1]	1,715,340,174	1,421,455,452	1,265,128,371	1,242,229,627	0
(a) Total Pension Liability - ending	$16,355,216,031	$17,017,746,329	$16,840,200,410	$16,736,769,005	$14,583,189,033
Plan Fiduciary Net Position					
Plan Fiduciary Net Position – beginning	$5,215,201,405	$5,501,866,875	$5,099,909,470	$4,787,528,950	$4,817,629,523
DC Account Balances - beginning [1]	1,814,049,671	1,715,340,174	1,421,455,452	1,265,128,371	1,242,229,627
DB Plan Fiduciary Net Position – beginning	$3,401,151,734	$3,786,526,701	$3,678,454,018	$3,522,400,579	$3,575,399,896
Contributions – employer	6,325,502	5,810,942	5,048,222	4,524,443	4,168,409
Contributions – non-employer	825,616,000	845,615,950	887,500,000	871,000,000	917,900,000
Contributions – member	5,486	0	131,562	9,951	155,926
Net investment income	504,802,035	953,124	40,767,462	288,850,452	354,638,876
Actual benefit payments	(1,034,563,166)	(1,100,434,460)	(1,118,121,745)	(1,135,661,960)	(1,153,373,784)
Net member reassignments	(3,801,516)	3,265,890	0	0	1,428,141
DC Annuitizations	93,982,450	143,225,000	35,185,500	30,502,450	16,301,373
Administrative expense	(7,010,722)	(6,530,516)	(6,564,440)	(6,226,019)	(5,385,350)
Other	18,898	21,387	0	0	113,052
Net change in Plan Fiduciary Net Position	385,374,967	(108,072,683)	(156,053,439)	52,999,317	135,946,643
DB Plan Fiduciary Net Position – ending	$3,786,526,701	$3,678,454,018	$3,522,400,579	$3,575,399,896	$3,711,346,539
DC Account Balances - ending [1]	1,715,340,174	1,421,455,452	1,265,128,371	1,242,229,627	0
(b) Plan Fiduciary Net Position - ending	$5,501,866,875	$5,099,909,470	$4,787,528,950	$4,817,629,523	$3,711,346,539
Net Pension Liability - ending, (a) - (b)	$10,853,349,156	$11,917,836,859	$12,052,671,460	$11,919,139,482	$10,871,842,494

[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.

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	$14,389,164,104	$13,968,702,829	$14,338,188,132	$14,059,122,476	$13,703,295,417
Plan Fiduciary Net Position	3,759,145,182	3,661,150,972	5,074,750,956	5,113,121,284	8,472,903,139
Net Pension Liability	$10,630,018,922	$10,307,551,857	$9,263,437,176	$8,946,001,192	$5,230,392,278
Ratio of Plan Fiduciary Net Position to Total Pension Liability	26.12%	26.21%	35.39%	36.37%	61.83%
Covered-employee payroll [1]	$753,354,999	$693,965,233	$625,812,197	$575,522,920	$521,285,701
Net Pension Liability as a percentage of covered-employee payroll	1,411.02%	1,485.31%	1,480.23%	1,554.41%	1,003.36%

Fiscal Year Ending June 30	2014	2015	2016	2017	2018
Total Pension Liability	$16,355,216,031	$17,017,746,329	$16,840,200,410	$16,736,769,005	$14,583,189,033
Plan Fiduciary Net Position	5,501,866,875	5,099,909,470	4,787,528,950	4,817,629,523	3,711,346,539
Net Pension Liability	$10,853,349,156	$11,917,836,859	$12,052,671,460	$11,919,139,482	$10,871,842,494
Ratio of Plan Fiduciary Net Position to Total Pension Liability	33.64%	29.97%	28.43%	28.78%	25.45%
Covered-employee payroll [1]	$1,262,828,000	$1,074,826,991	$989,093,421	$912,684,850	$824,769,947
Net Pension Liability as a percentage of covered-employee payroll	859.45%	1,108.81%	1,218.56%	1,305.94%	1,318.17%

[1] 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 EMPLOYER CONTRIBUTIONS

Fiscal Year Ending June 30	2019	2020	2021	2022	2023
Actuarially Determined Contribution [1]	$947,404,801	$973,487,930	$1,600,629,282	$1,552,615,355	$4,237,436,675
Actual employer contributions [2]	$947,404,801	$973,487,930	$1,600,629,282	$1,552,615,355	$4,237,436,675
Annual contribution (deficiency) / excess	$0	$0	$0	$0	$0
Covered-employee payroll [3]	$753,354,999	$693,965,233	$625,812,197	$575,522,920	$521,285,701
Actual contributions as a percentage of covered-employee payroll	125.76%	140.28%	255.77%	269.77%	812.88%

Fiscal Year Ending June 30	2014	2015	2016	2017	2018
Actuarially Determined Contribution [1]	$831,941,502	$851,426,892	$892,548,222	$875,524,443	$922,068,409
Actual employer contributions [2]	$831,941,502	$851,426,892	$892,548,222	$875,524,443	$922,068,409
Annual contribution (deficiency) / excess	$0	$0	$0	$0	$0
Covered-employee payroll [3]	$1,262,828,000	$1,074,826,991	$989,093,421	$912,684,850	$824,769,947
Actual contributions as a percentage of covered-employee payroll	65.88%	79.22%	90.24%	95.93%	111.80%

[1] The plan is funded on a pay-as-you-go basis, therefore the actuarially determined contribution was set equal to the state appropriation to fund the plan.

[2] Excludes service purchases paid for by the employer of $29,828.

[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

For Fiscal Year Ending June 30	Money-Weighted Return
2023	4.0%
2022	(5.9%)
2021	25.7%
2020	2.8%
2019	7.6%
2018	9.5%
2017	8.1%
2016	1.0%
2015	0.6%
2014	12.7%

Returns provided by INPRS.

Appendix **Page**

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	**7,291**	**1,816**	**59**	**105**	**47,460**	**5,592**	**62,323**
2. Data Adjustments							
New Participants	39	0	0	0	0	0	39
Rehires	36	(36)	0	0	0	0	0
Terminations:							
Not Vested	(32)	0	0	0	0	0	(32)
Deferred Vested	(139)	139	0	0	0	0	0
Disability	0	0	0	0	0	0	0
Retirements	(895)	(450)	(2)	0	1,345	2	0
Refund / Benefits Ended	0	(2)	0	0	0	(17)	(19)
Transfer	(2)	(9)	0	0	0	0	(11)
Deaths:							
With Beneficiary	(8)	(2)	0	(1)	(594)	605	0
Without Beneficiary	(3)	(8)	0	(3)	(840)	(390)	(1,244)
Entitled to Future Pension Benefit	0	0	0	0	0	0	0
Data Corrections [1]	0	(3)	0	0	14	4	15
Net Change	(1,004)	(371)	(2)	(4)	(75)	204	(1,252)
3. As of June 30, 2022 [2]	**6,287**	**1,445**	**57**	**101**	**47,385**	**5,796**	**61,071**

[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.

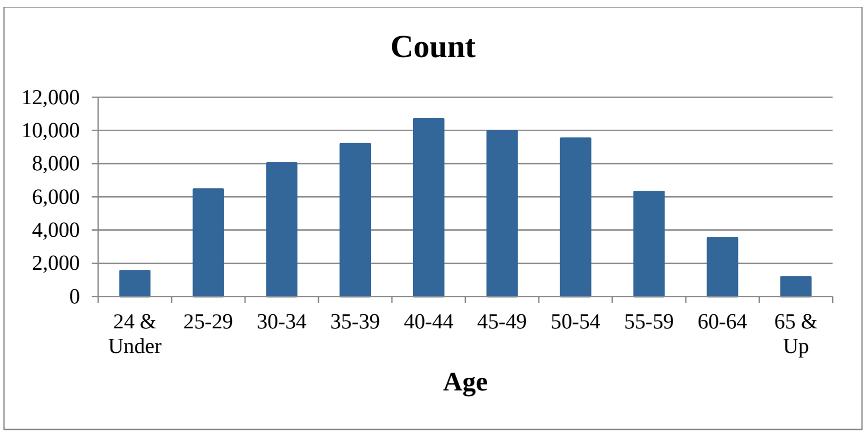
SUMMARY OF MEMBERSHIP DATA

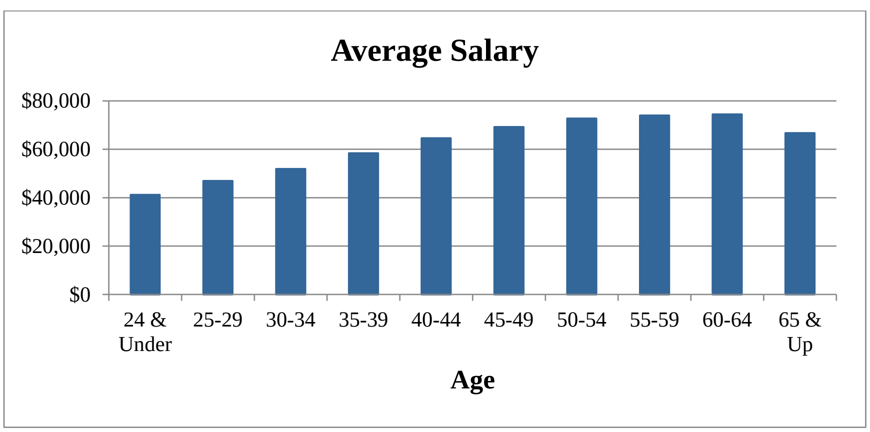
	Combined TRF Plans		Pre-1996 Account
Valuation Date	**June 30, 2022**	**June 30, 2023**	**June 30, 2023**
Date of Membership Data [1]	June 30, 2021	June 30, 2022	June 30, 2022
ACTIVE MEMBERS			
Number of Active Members	66,858	66,344	6,287
Annual Membership Data Salary [2]	$ 4,080,815,174	$ 4,195,444,737	$ 501,774,871
Anticipated Payroll for Next Fiscal Year	$ 4,470,149,103	$ 4,846,166,464	$ 459,902,383
Active Member Averages			
Age	43.2	43.3	57.2
Service	13.8	13.8	29.8
Annual Membership Data Salary	$ 61,037	$ 63,238	$ 79,811
INACTIVE MEMBERS			
Number of Inactive Members	9,371	9,531	1,502
Inactive Member Averages			
Age	51.5	50.8	59.6
Service	14.5	13.9	16.6
RETIREES, DISABLEDS, AND BENEFICIARIES			
Number of Members			
Retired	55,915	56,824	47,385
Disabled	271	280	101
Beneficiaries	6,006	6,305	5,796
Total	62,192	63,409	53,282
Annual Benefits			
Retired	$ 1,216,521,525	$ 1,257,281,235	$ 1,085,644,663
Disabled	2,808,613	3,012,860	1,331,777
Beneficiaries	92,554,214	99,391,654	93,045,296
Total	$ 1,311,884,352	$ 1,359,685,749	$ 1,180,021,736
Annual Benefits			
Pension	$ 1,184,299,456	$ 1,235,114,007	$ 1,066,815,212
DC Plan Annuities	127,584,896	124,571,742	113,206,524
Total	$ 1,311,884,352	$ 1,359,685,749	$ 1,180,021,736

[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.

ACTIVE MEMBERS[1]
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

	Count of Members			FY 2022 Annual Membership Data Salary		
Age	Male	Female	Total	Male	Female	Total
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	354	810	1,164	24,453,439	53,155,858	77,609,297
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.

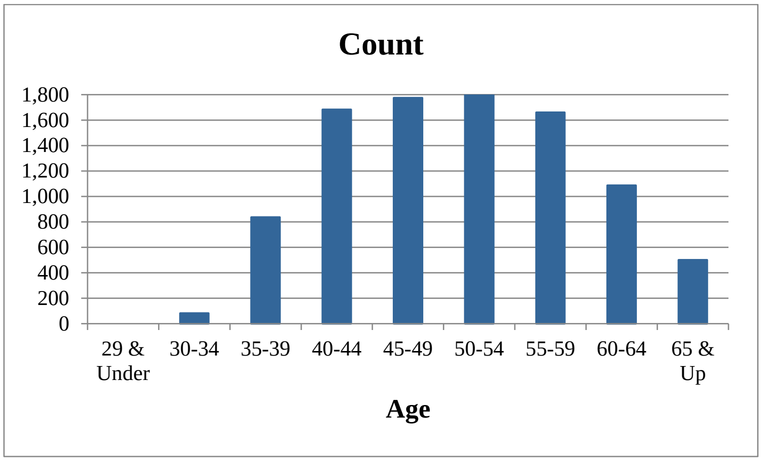
AGE AND SERVICE DISTRIBUTION[1]
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

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.

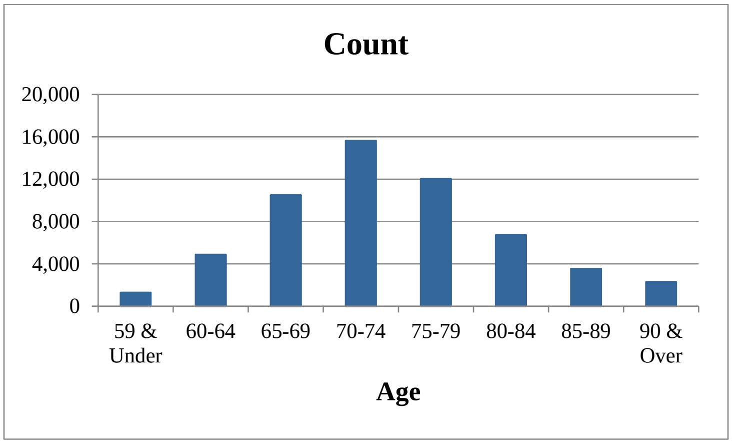
INACTIVE VESTED MEMBERS
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

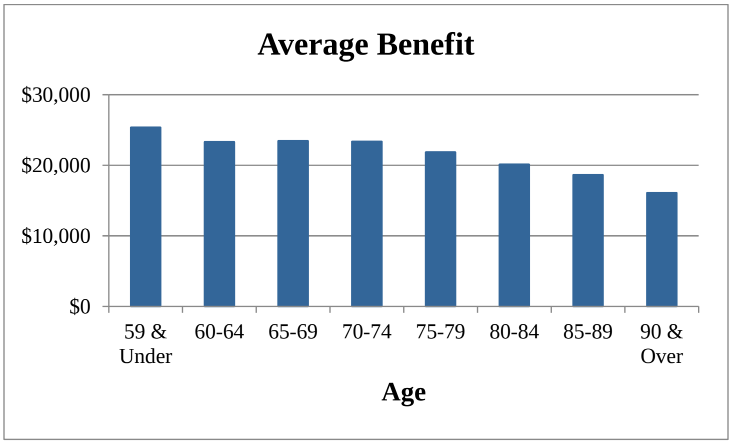
	Count of Members		
Age	Male	Female	Total
29 & Under	0	0	0
30-34	19	63	82
35-39	223	613	836
40-44	442	1,240	1,682
45-49	521	1,253	1,774
50-54	593	1,317	1,910
55-59	400	1,260	1,660
60-64	239	848	1,087
65 & Up	90	410	500
Total	2,527	7,004	9,531



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

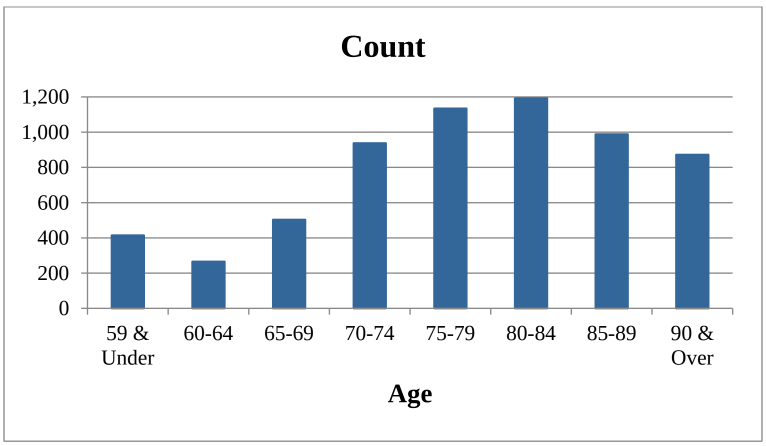
	Count of Members			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
59 & Under	327	944	1,271	$ 8,898,845	$ 23,350,232	$ 32,249,077
60-64	1,198	3,673	4,871	30,061,587	83,434,552	113,496,139
65-69	2,688	7,796	10,484	69,948,708	175,750,189	245,698,897
70-74	4,178	11,452	15,630	109,486,596	255,891,124	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	715	1,572	2,287	14,517,618	22,246,724	36,764,342
Total	16,887	39,937	56,824	$ 417,255,723	$ 840,025,512	$ 1,257,281,235

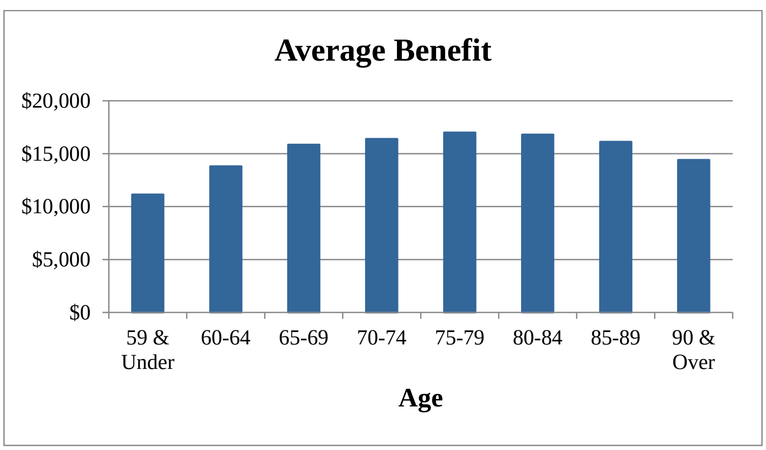




BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

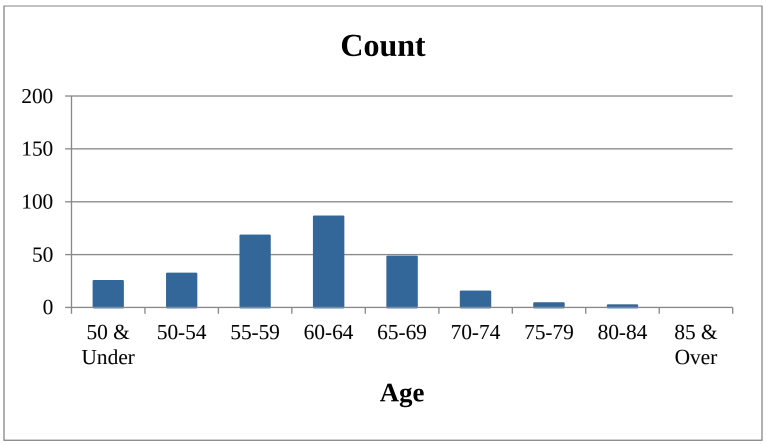
	Count of Members			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
59 & Under	179	235	414	$ 1,862,002	$ 2,749,168	$ 4,611,170
60-64	103	162	265	1,287,940	2,370,583	3,658,523
65-69	208	295	503	2,846,900	5,123,121	7,970,021
70-74	344	593	937	4,813,970	10,549,740	15,363,710
75-79	361	773	1,134	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	149	723	872	1,581,730	10,979,171	12,560,901
Total	1,816	4,489	6,305	$ 24,027,852	$ 75,363,802	$ 99,391,654

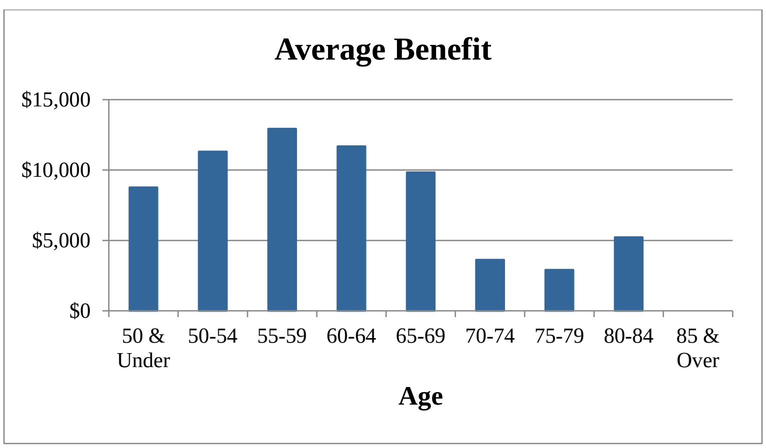




DISABLED MEMBERS
As of June 30, 2022 for the June 30, 2023 Valuation
Combined TRF Plans

	Count of Members			Annual Benefits		
Age	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	0	0	0	0	0	0
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
Pre-1996 Account

Schedule of Average Benefit Payments [1,2]

	Years of Credited Service						
For the Year Ended June 30, 2023	< 10	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total
Average Monthly Defined Benefit	$93	$333	$586	$968	$1,384	$1,998	$1,669
Average Monthly DC Annuity [3]	$21	$228	$227	$309	$411	$662	$524
Average Final Average Salary [4]	$31,318	$27,402	$41,973	$52,194	$58,490	$63,646	$59,408
Number of Benefit Recipients	141	1,394	3,168	5,157	8,436	34,986	53,282

[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 384 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
Pre-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							
	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	Total Benefit Recipients
1 - 500	886	531	515	61	111	721	25	2,850
501 - 1,000	1,313	911	994	215	324	1,407	18	5,182
1,001 - 1,500	2,436	1,716	2,283	624	932	1,507	29	9,527
1,501 - 2,000	3,252	2,978	3,651	1,305	1,552	1,154	23	13,915
2,001 - 2,500	2,572	3,007	3,216	1,082	1,523	620	5	12,025
2,501 - 3,000	1,224	1,708	1,279	503	704	234	1	5,653
Over 3,000	838	1,273	935	433	498	153	0	4,130
Total	12,521	12,124	12,873	4,223	5,644	5,796	101	53,282

[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
Pre-1996 Account

Schedule of Retirees and Beneficiaries [1]

	Added to Rolls		Removed from Rolls		Rolls - End of Year				
	Number	Annual Benefits[2]	Number	Annual Benefits[2]	Number	Total Annual Benefits[2]	Percent Change In Total Annual Benefits	Average Annual Benefit	Percent Change In Average Annual Benefit
2023 [3]	1,375	$37,851	1,250	$21,179	53,282	$1,180,022	2.2%	$22,147	1.9%
2022 [3]	1,173	30,221	1,553	25,669	53,157	1,154,855	0.2	21,725	0.9
2021 [3]	1,315	32,981	1,193	19,207	53,537	1,152,667	1.0	21,530	0.8
2020 [3]	1,195	29,710	1,278	20,560	53,415	1,140,771	0.6	21,357	0.8
2019 [3]	1,514	37,102	1,243	19,005	53,498	1,133,528	1.4	21,188	0.9
2018 [3]	1,483	33,330	1,496	20,240	53,227	1,117,463	0.9	20,994	1.0
2017 [3]	1,953	47,305	1,288	18,257	53,240	1,106,961	2.3	20,792	1.0
2016 [3]	3,466	95,994	1,105	14,677	52,575	1,082,306	7.8	20,586	3.0
2015 [3]	1,886	50,261	1,017	14,293	50,214	1,003,910	3.1	19,993	1.3
2014 [3]	0	93,605	0	14,524	49,345	973,635	0.0	19,731	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.

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 on or before 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.

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.

	Legislation passed in the 2018 legislative session creates a funding mechanism to provide for future benefit increases or 13th checks. Under the law, the INPRS Board may designate a portion of the proceeds from lottery revenues into TRF Pre-'96.
	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.

The Fund's actuarially determined contribution is based on the approach set out in IC-5.10.4-2-5 that the Indiana Legislature has followed in actually appropriating funds. The basic contribution is the lesser of 3% above the prior year's basic contribution and the anticipated base benefit payments for the year. However, the contributed funds should not result in the funded ratio exceeding 100%.

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 Funding Amount

The COLA Funding Amount 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 a present value factor to determine the needed annual amount needed.

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 projected payroll based on expected salary increases and decrements between the census date and the valuation date on June 30, 2023.

5. **State Appropriations**

   Based on the assumptions and methods previously described, an actuarially determined contribution amount is computed. The Board considers this information when requesting funds from the State.

Changes in Methods since the Prior Year

None.

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.

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.

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.

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, 2023. 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.

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	The difference between actuarial liability and the actuarial value of assets. Sometimes referred to as "unfunded accrued liability" or "unfunded liability". Most retirement systems have unfunded actuarial liability. They arise anytime new benefits are added and anytime an actuarial loss is realized.