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Indiana Public Retirement System

Public Employees' Retirement Fund

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 Public Employees' Retirement Fund (PERF) 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 PERF 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. These assumptions are applicable to both the funding and Governmental Accounting Standards Board (GASB) Statement Number 67 valuation calculations, unless otherwise noted.

3802 Raynor Pkwy, Suite 202, Bellevue, NE 68123
Phone (402) 905-4461 • Fax (402) 905-4464
www.CavMacConsulting.com
Offices in Kennesaw, GA • Bellevue, NE

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 PERF 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

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This report presents the results of the June 30, 2023 actuarial valuation of the Public Employees' Retirement Fund (PERF). The primary purposes of performing this actuarial valuation are to:

- Determine the level of contributions for the plan year ending June 30, 2025 (December 31, 2025 for political subdivisions), along with the actuarial surcharge rate for the 2024 calendar year, that will be sufficient to meet the funding policy set out by the Board to comply with Indiana statutes.
- Disclose asset and liability measurements as well as the plan's funded status on the valuation date.
- Compare actual and expected experience of the Fund during the plan year ending June 30, 2023.
- Analyze and report on trends in plan contributions, assets and liabilities over the past several years.

VALUATION RESULTS

The actuarial valuation results provide a "snapshot" view of the plan's financial condition on June 30, 2023. The plan's UAAL decreased from $2.726 billion last year to $2.680 billion this year and the funded ratio increased from 84.9% to 85.4%. The primary factor behind the increase in the funded ratio were contributions that exceeded the actuarially determined contribution, which was partially offset by actuarial losses on assets and liabilities.

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	$ 2,726,390,141	$ 2,679,579,791
Funded Ratio (Actuarial Assets)	84.86%	85.45%
Normal Cost	4.02%	4.01%
UAAL Amortization	3.06%	2.91%
Actuarially Determined Contribution Rate	7.08%	6.92%
Actuarially Determined Surcharge Rate	0.35%	0.00%

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

ASSETS

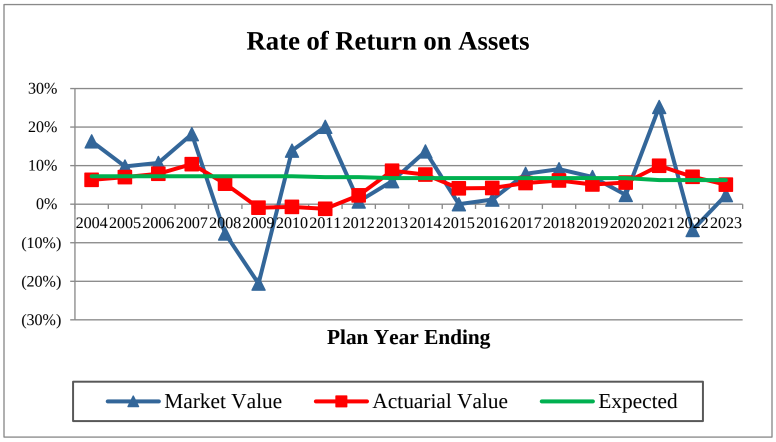
As of June 30, 2023, the plan had net assets of $14.886 billion when measured on a market value basis. This was an increase of $38 million from the prior year.

The market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the actuarially determined contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is applied to determine the value of assets used in the valuation. The resulting amount is called the actuarial value of assets. In this year's valuation, the actuarial value of assets is $15.736 billion, an increase of $460 million from the prior year.

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

		Market Value		Actuarial Value
Net Assets, June 30, 2022	$	14,848,362,129	$	15,275,803,990
- Receipts	+	683,064,529	+	683,064,529
- Expenditures, Net of Administrative Expenses	-	990,634,724	-	990,634,724
- Net Investment Income	+	345,122,432	+	767,434,780
Net Assets, June 30, 2023	$	14,885,914,366	$	15,735,668,575
Estimated Rate of Return, Net of Expenses		2.3%		5.1%

The estimated rate of return on the actuarial value of assets was 5.1%, which was lower than the 6.25% investment return assumption applicable for the year ended June 30, 2023. As a result, there was an experience loss on assets of approximately $178 million. The FY 2023 return on the market value of assets of 2.3% increased the net deferred investment loss from $427 million in last year's valuation to $850 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	$ 18,415,248,366	$ 18,415,248,366
Value of Assets	14,885,914,366	15,735,668,575
Unfunded Actuarial Accrued Liability	$ 3,529,334,000	$ 2,679,579,791
Funded Ratio	80.83%	85.45%

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

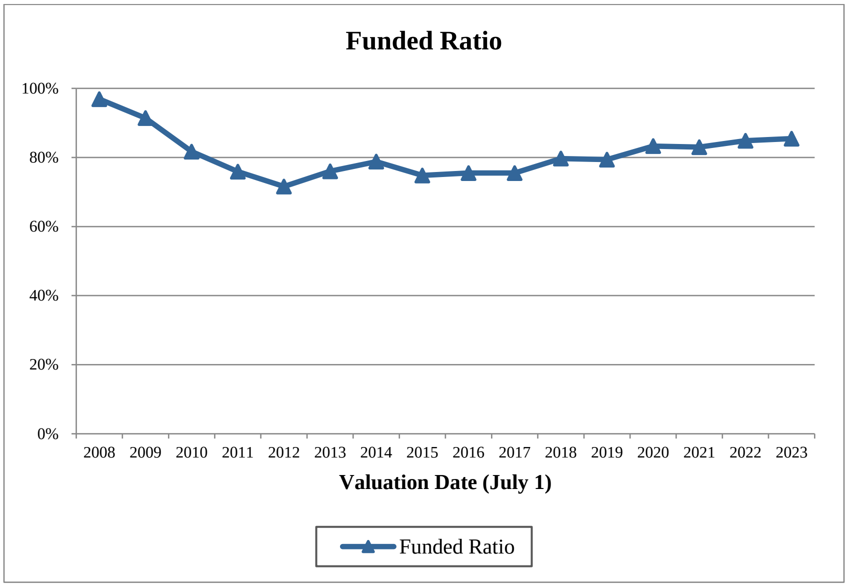
The total plan UAAL (on an actuarial basis) as of June 30, 2023 was $2.680 billion, a $46 million decrease from the $2.726 billion total UAAL last year. The change in UAAL includes approximately $240 million of contributions in excess of those actuarially required, offset by an actuarial loss on assets of $178 million. Additionally, there was an actuarial loss on liabilities of $44 million, primarily driven by a loss from salaries increasing more than expected. While there was an overall actuarial loss on liabilities, the plan saw gains from retiree mortality and withdrawals, along with a gain on supplemental benefits because 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 millions).

	6/30/2019	6/30/2020	6/30/2021	6/30/2022	6/30/2023
Funded Ratio	79.4%	83.3%	83.0%	84.9%	85.4%
UAAL (in millions)	$3,418.3	$2,721.3	$2,985.8	$2,726.4	$2,679.6

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. The Plan's funded status has been gradually trending upward over the past number of years.



Note: Funded ratios exclude DC account balances.

ACTUARIALLY DETERMINED CONTRIBUTION RATE

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

- A "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date.

- An "unfunded actuarial accrued liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

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

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

The long-term assumption is that COLAs of 0.4% will be granted starting in 2026, then 0.5% starting in 2034, and finally 0.6% in 2039 and beyond. Considering the biennial budgeting cycle in Indiana, the near-term goal is to accumulate funds by June 30, 2025 to fund the two COLAs in the following biennium (January 2026 and January 2027). The surcharge rate for calendar year 2023 is 0.35%, and the actuarially determined surcharge rate effective January 1, 2024 is 0.00%. See Table 12 for further details. Note that this surcharge rate, while it will apply to calendar year 2024, is designed to bring the Supplemental Reserve Account to a target level as of June 30, 2025 and may not be reflective of what is needed for long-term funding of the target COLA. In particular, the target level may not be sufficient to fund a historically typical 13th check. To provide flexibility to the legislature for a 13th check, the Board adopted surcharge rate of 0.66% applicable for calendar year 2023 was approved to continue at that rate for calendar year 2024.

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

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

	June 30, 2022	June 30, 2023
Normal Cost	4.02%	4.01%
UAAL Amortization	3.06%	2.91%
Actuarially Determined Contribution Rate	7.08%	6.92%
Actuarially Determined Surcharge Rate	0.35%	0.00%
Approved Employer Funding Rate	11.20%	11.20%

The actuarial required contribution, determined this year based on the snapshot of the plan taken on the valuation date of June 30, 2023, will change each year as the current deferred investment experience is recognized and other experience (both investment and demographic) unfolds to impact the plan. The actuarially determined rates decreased this year, remaining well below the Board-approved employer funding rate.

The June 30, 2023 actuarially determined contribution rate decreased to 6.92% for the base benefits and 0.00% for the supplemental benefits. As noted above, the Board will allocate 0.66% for the surcharge rate for supplemental benefits. Because this is lower than the current employer funding rate of 11.20%, no change in the current employer funding rate is needed.

SUMMARY OF PRINCIPAL RESULTS

	June 30, 2021	June 30, 2022	June 30, 2023
MEMBERSHIP			
Active Members	125,386	120,967	119,398
Inactive Vested Members	33,931	34,413	35,174
Retired Members and Beneficiaries	92,174	94,360	96,922
Disabled Members	2,677	2,723	2,713
Total Members	254,168	252,463	254,207
Projected Annual Salaries of Active Members	$ 5,627,521,771	$ 5,821,019,121	$ 6,312,888,255
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	$ 891,167,922	$ 922,039,763	$ 967,807,406
ASSETS AND LIABILITIES			
Net Assets			
Market Value of Assets (MVA)	$ 16,247,309,759	$ 14,848,362,129	$ 14,885,914,366
Actuarial Value of Assets (AVA)	14,577,352,302	15,275,803,990	15,735,668,575
Actuarial Accrued Liability (AAL)	17,563,157,462	18,002,194,131	18,415,248,366
Unfunded Actuarial Accrued Liability (UAAL):			
AAL - AVA	$ 2,985,805,160	$ 2,726,390,141	$ 2,679,579,791
Funded Ratios			
AVA / AAL	83.00%	84.86%	85.45%
MVA / AAL	92.51%	82.48%	80.83%
CONTRIBUTIONS			
Normal Cost	4.01%	4.02%	4.01%
Amortization of UAAL	3.51%	3.06%	2.91%
Actuarially Determined Contribution Rate	7.52%	7.08%	6.92%
Surcharge Rate (applicable next calendar year)	0.62%	0.35%	0.00%

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

This report presents the actuarial valuation results of the Public Employees' Retirement Fund 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 reserve account. Table 15 (in the GASB section) provides detail regarding the allocation of investments in the trust.

Actuarial Value of Assets

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

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

TABLE 1

DEVELOPMENT OF MARKET VALUE OF ASSETS
(Base Benefits)

		June 30, 2022		June 30, 2023
1. Market Value of Assets, Beginning of Year	$	16,153,767,371	$	14,735,366,460
2. Receipts				
a. Member (Includes Purchased Service) [1]	$	307,370	$	208,051
b. Employer (Includes Purchased Service) [2]		597,285,962		642,350,757
c. Miscellaneous		19,467		2,806
d. Total	$	597,612,799	$	642,561,614
3. Expenditures				
a. Benefit Payments	$	945,869,707	$	976,726,098
b. Refund of Contributions		0		0
c. Member Reassignment Transfers		5,714,455		5,876,185
d. Administrative Expense		18,703,663		21,696,048
e. Miscellaneous Expenditures		0		0
f. Total	$	970,287,825	$	1,004,298,331
4. Investment Return				
a. Investment Income	$	(1,046,246,970)	$	362,049,230
b. Securities Lending Income		521,085		1,011,071
c. Total Investment Return	$	(1,045,725,885)	$	363,060,301
5. Market Value of Assets, End of Year: (1) + (2d) - (3f) + (4c)	$	14,735,366,460	$	14,736,690,044
6. Rate of Return on Market Value of Assets, Net of Expenses [3]		(6.66%)		2.34%

[1] Includes $307,370 of member service purchases during fiscal year 2022 and $208,051 of member service purchases during fiscal year 2023.

[2] Includes $1,086,565 of employer service purchases during fiscal year 2022 and $3,802,034 of employer service purchases during fiscal year 2023.

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

TABLE 2

DEVELOPMENT OF MARKET VALUE OF ASSETS
(Supplemental Benefits)

	June 30, 2022	June 30, 2023
1. Market Value of Assets, Beginning of Year	$ 93,542,388	$ 112,995,669
2. Receipts		
a. Employer Surcharge	$ 31,714,449	$ 40,502,915
b. Lottery Allocation	0	0
c. Non-Employer Entity Contributions	0	0
d. Miscellaneous	0	0
e. Total	$ 31,714,449	$ 40,502,915
3. Expenditures		
a. Benefit Payments	$ 4,084,969	$ 8,032,441
b. Administrative Expense	0	0
c. Miscellaneous Expenditures	0	0
d. Total	$ 4,084,969	$ 8,032,441
4. Investment Return		
a. Investment Income	$ (8,179,749)	$ 3,749,123
b. Securities Lending Income	3,550	9,056
c. Total Investment Return	$ (8,176,199)	$ 3,758,179
5. Market Value of Assets, End of Year: (1) + (2e) - (3d) + (4c)	$ 112,995,669	$ 149,224,322
6. Rate of Return on Market Value of Assets, Net of Expenses [1]	(7.62%)	2.91%

[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	$	14,735,366,460
2. Receipts [1]	$	642,561,614
3. Expenditures, Net of Administrative Expenses [2]	$	(982,602,283)
4. Expected Return on Assets [3]	$	910,334,133
5. Expected Market Value as of June 30, 2023: (1) + (2) + (3) + (4)	$	15,305,659,924
6. Actual Market Value as of June 30, 2023	$	14,736,690,044
7. Year end 2023 asset gain/(loss): (6) - (5)	$	(568,969,880)

8. Deferred Investment Gains and Losses

	Year Ended June 30:		Gain/(Loss)	Factor		Deferred Amount
a.	2020	$	(567,502,808)	20%	$	(113,500,562)
b.	2021		2,414,432,006	40%		965,772,802
c.	2022		(2,062,978,404)	60%		(1,237,787,042)
d.	2023		(568,969,880)	80%		(455,175,904)
e.	Total				$	(840,690,706)

9. Initial Actuarial Value as of June 30, 2023: (6) - (8e)	$	15,577,380,750
10. Constraining Values		
a. 80% of Market Value: (6) x 0.8	$	11,789,352,035
b. 120% of Market Value: (6) x 1.2	$	17,684,028,053
11. Actuarial Value as of June 30, 2023	$	15,577,380,750
12. Actuarial Rate of Return, Net of Expenses [4]		5.08%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)		105.7%
14. Actuarial Value of Assets		
a. Base Benefits	$	15,577,380,750
b. Supplemental Benefits	$	158,287,825
c. Total	$	15,735,668,575

[1] Includes Employer Contributions, Service Purchases, and Miscellaneous Receipts.
[2] Includes DB Benefit Payments and Member Reassignment Transfers.
[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	$	112,995,669
2. Receipts	$	40,502,915
3. Expenditures, Net of Administrative Expenses	$	(8,032,441)
4. Expected Return on Assets [1]	$	8,076,932
5. Expected Market Value as of June 30, 2023: (1) + (2) + (3) + (4)	$	153,543,075
6. Actual Market Value as of June 30, 2023	$	149,224,322
7. Year end 2023 asset gain/(loss): (6) - (5)	$	(4,318,753)
8. Deferred Investment Gains and Losses		

	Year Ended June 30:		Gain/(Loss)	Factor		Deferred Amount
a.	2020	$	(1,037,822)	20%	$	(207,564)
b.	2021		8,826,688	40%		3,530,675
c.	2022		(14,886,020)	60%		(8,931,612)
d.	2023		(4,318,753)	80%		(3,455,002)
e.	Total				$	(9,063,503)

9. Initial Actuarial Value as of June 30, 2023: (6) - (8e)	$	158,287,825
10. Constraining Values		
a. 80% of Market Value: (6) x 0.8	$	119,379,458
b. 120% of Market Value: (6) x 1.2	$	179,069,186
11. Actuarial Value as of June 30, 2023	$	158,287,825
12. Actuarial Rate of Return, Net of Expenses [2]		4.27%
13. Actuarial Value of Assets as a Percent of Market Value: (11) / (6)		106.1%

[1] Assumes cash flows occur at mid-year and a return assumption 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 Public Employees' Retirement Fund 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 Public Employees' Retirement Fund valuation are based on census data collected as of June 30, 2022. Standard actuarial techniques are used to adjust these results from June 30, 2022 to June 30, 2023. While these roll-forward techniques are based on all actuarial assumptions being met during the intervening year, there will, of course, be many of the assumptions that will not be met exactly. In general, this does not materially affect the resulting calculations or conclusions in this report. Should there be a year in which events, such as plan changes, occur that would affect the results, adjustments in the roll-forward methods would be made to appropriately reflect the events.

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

Actuarial Accrued Liability

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

(1) that which is attributable to the past and

(2) that which is attributable to the future.

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

Table 5 contains the calculation of actuarial accrued liability for the Plan under the Entry Age Normal actuarial cost. This amount is split between the base benefit and the supplemental 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 $18,988,379,000. 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)

As of June 30, 2023	Base Benefits	Supplemental Benefits *Granted*	Supplemental Benefits *Future*	Total
1. Actuarial Accrued Liability				
a. Active & Inactive Members	$ 8,712,982,178	$ 0	$ 414,541,588	$ 9,127,523,766
b. In-pay Members	8,981,215,355	76,495,177	230,014,068	9,287,724,600
c. Total	$ 17,694,197,533	$ 76,495,177	$ 644,555,656	$ 18,415,248,366
2. Actuarial Value of Assets	$ 15,577,380,750	$ 76,495,177	$ 81,792,648	$ 15,735,668,575
3. Unfunded Actuarial Accrued Liability: (1c) - (2)	$ 2,116,816,783	$ 0	$ 562,763,008	$ 2,679,579,791
4. Funded Ratio: (2) / (1c)	88.0%	100.0%	12.7%	85.4%

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	$9,287,725	$9,127,523	$18,415,248	$15,735,669	N/A	100.0%	70.6%	85.4%
2022	0	8,955,627	9,046,567	18,002,194	15,275,804	N/A	100.0	69.9	84.9
2021	0	8,655,768	8,907,389	17,563,157	14,577,352	N/A	100.0	66.5	83.0
2020	0	8,050,791	8,230,963	16,281,754	13,560,460	N/A	100.0	66.9	83.3
2019	0	8,068,490	8,507,570	16,576,060	13,157,802	N/A	100.0	59.8	79.4
2018	0	7,768,231	8,323,142	16,091,373	12,823,930	N/A	100.0	60.7	79.7
2017	2,770,962	7,834,962	8,500,291	19,106,215	15,098,920	100.0	100.0	52.9	79.0
2016	2,656,892	7,595,088	8,156,966	18,408,946	14,553,059	100.0	100.0	52.7	79.1
2015	2,717,173	6,981,308	8,282,087	17,980,568	14,131,884	100.0	100.0	53.5	78.6
2014	2,851,501	6,250,902	7,629,820	16,732,223	13,791,261	100.0	100.0	61.5	82.4

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	$ 2,108,044,751	$ 2,726,390,141
2. Normal Cost	234,004,969	246,229,109
3. Actuarially Determined Contribution	(412,409,923)	(432,783,490)
4. Interest	120,602,487	158,739,735
5. Expected Unfunded Actuarial Accrued Liability as of June 30, 2023	$ 2,050,242,284	$ 2,698,575,495
6. Actuarial Value of Asset Changes		
a. Investment Experience (Gain)/Loss	$ 174,992,745	$ 177,691,401
b. Contributions (Above)/Below the Actuarially Determined Contribution and Other (Gain)/Loss	$ (220,205,928)	$ (240,327,645)
7. Actuarial Accrued Liability Changes		
a. Actuarial Accrued Liability Experience (Gain)/Loss	$ 111,787,682	$ 43,640,540
b. Additional Liability Due to Benefit Changes	0	0
c. Additional Liability Due to Assumption Changes	0	0
8. Total Experience (Gain)/Loss	$ 66,574,499	$ (18,995,704)
9. Unfunded Actuarial Accrued Liability as of June 30, 2023: (5) + (8)	$ 2,116,816,783	$ 2,679,579,791

TABLE 8

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

Liabilities		Base		Base and Supplemental
1. Actuarial Accrued Liability as of June 30, 2022	$	17,263,847,513	$	18,002,194,131
2. Normal Cost for Plan Year Ending June 30, 2023		234,004,969		246,229,109
3. Benefit Payments During Plan Year [1]		(976,614,784)		(984,647,225)
4. Service Purchases (employee and employer)		4,010,085		4,010,085
5. Member Reassignment Transfers		(5,876,185)		(5,876,185)
6. Interest at 6.25%		1,063,038,253		1,109,697,911
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	$	17,582,409,851	$	18,371,607,826
10. Actuarial Accrued Liability as of June 30, 2023	$	17,694,197,533	$	18,415,248,366
Assets				
11. Actuarial Value of Assets as of June 30, 2022	$	15,155,802,762	$	15,275,803,990
12. Receipts During Plan Year		642,561,614		683,064,529
13. Expenditures, Excluding Expenses, During Plan Year		(982,602,283)		(990,634,724)
14. Interest at 6.25%		936,611,402		945,126,181
15. Expected Actuarial Value of Assets as of June 30, 2023	$	15,752,373,495	$	15,913,359,976
16. Actuarial Value of Assets as of June 30, 2023	$	15,577,380,750	$	15,735,668,575
Experience Gain / (Loss)				
17. Liability Actuarial Experience Gain/(Loss): (9) - (10)	$	(111,787,682)	$	(43,640,540)
18. Asset Actuarial Experience Gain/(Loss): (16) - (15)		(174,992,745)		(177,691,401)
19. Total Actuarial Experience Gain/(Loss): (17) + (18)	$	(286,780,427)	$	(221,331,941)

[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	$	(26,744)
Termination		59,824
Disability		(2,806)
Mortality		58,617
Salary		(189,411)
New Entrants/Rehires		(51,383)
Miscellaneous/COLA		40,115
Total Liability Experience Gain/(Loss)	$	(111,788)
as a % of AAL		(0.6%)
Asset Experience Gain/(Loss)	$	(174,993)
Net Actuarial Experience Gain/(Loss)	$	(286,780)

*Numbers may not add due to rounding.

TABLE 10

PROJECTED BENEFIT PAYMENTS
(Base and Supplemental Benefits)

Plan Year Ending June 30	Benefit Amount
2024	$ 1,083,067,770
2025	1,123,206,029
2026	1,163,522,444
2027	1,204,625,588
2028	1,237,665,035
2029	1,269,878,678
2030	1,300,078,295
2031	1,327,163,770
2032	1,352,018,623
2033	1,372,969,496
2034	1,391,007,623
2035	1,407,223,070
2036	1,419,750,705
2037	1,429,009,497
2038	1,434,318,917
2039	1,436,920,458
2040	1,437,130,219
2041	1,434,580,622
2042	1,428,963,352
2043	1,420,904,636
2044	1,410,162,376
2045	1,397,399,944
2046	1,382,478,809
2047	1,365,274,736
2048	1,345,821,367
2049	1,324,488,525
2050	1,301,822,641
2051	1,277,060,186
2052	1,251,035,885
2053	1,223,118,080

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 an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost rate and (2) the unfunded actuarial accrued liability contribution rate.

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

Description of Contribution Rate Components

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

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

The contribution rate based on the June 30, 2023 actuarial valuation will be used to calculate the actuarially determined employer contribution rate to the Public Employees' Retirement Fund for the plan year beginning July 1, 2024 for state employers and for the calendar year beginning January 1, 2025 for the political subdivisions. The supplemental benefit surcharge rate will be used to calculate the actuarially determined employer contribution rate for the 2024 calendar year. In general, contributions are computed in accordance with a stable percent-of-payroll funding objective.

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

Contribution Rate Summary

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

TABLE 11

SCHEDULE OF AMORTIZATION BASES
(Base Benefits)

Amortization Bases [1]	Original Amount [2]	June 30, 2023 Remaining Payments	Date of Last Payment	Outstanding Balance as of June 30, 2023	Annual Contribution
2006 Fresh Start - Political Only	233,415,887	13	7/1/2036	154,954,996	16,715,532
2007 UAAL Base - Political Only	4,630,369	14	7/1/2037	3,200,728	329,130
2008 State Fresh Start and PSD Experience	91,514,739	15	7/1/2038	66,326,764	6,532,873
2009 UAAL Base	618,751,215	16	7/1/2039	465,533,062	44,103,158
2010 UAAL Base	1,223,323,148	17	7/1/2040	952,047,037	87,067,110
2011 UAAL Base	788,425,716	18	7/1/2041	632,703,440	56,033,997
2012 UAAL Base	817,830,775	19	7/1/2042	674,879,620	58,043,078
2013 UAAL Base	(450,263,746)	20	7/1/2043	(381,145,904)	(31,913,039)
2014 UAAL Base	(211,870,908)	21	7/1/2044	(183,574,104)	(14,997,001)
2015 UAAL Base	954,017,677	22	7/1/2045	844,435,927	67,443,306
2016 UAAL Base	67,185,548	13	7/1/2036	52,545,695	5,668,286
2017 UAAL Base	217,123,363	14	7/1/2037	177,854,969	18,288,768
2018 UAAL Base	(1,186,925,679)	15	7/1/2038	(1,013,461,811)	(99,821,201)
2019 UAAL Base	196,792,517	16	7/1/2039	174,433,201	16,525,260
2020 UAAL Base	(624,471,324)	17	7/1/2040	(572,553,150)	(52,361,434)
2021 UAAL Base	235,638,581	18	7/1/2041	222,777,797	19,729,828
2022 UAAL Base	(226,715,387)	19	7/1/2042	(220,715,983)	(18,982,697)
2023 UAAL Base	66,574,499	20	7/1/2043	66,574,499	5,574,229
Total				$ 2,116,816,783	$ 183,979,183

1. Total UAAL Amortization Payments	$ 183,979,183
2. Projected Payroll for FY 2024	$ 6,312,888,255
3. UAAL Amortization Payment Rate	2.91%

[1] Amortization bases prior to 2018 are the State and Political Subdivision bases combined.
[2] The original amounts from 2017 to 2013 were provided by the prior actuary. Amounts prior to that were estimated by INPRS.

TABLE 12

DEVELOPMENT OF SURCHARGE RATE
(Supplemental Benefits)

Projected COLAs in Next Biennium Beginning July 1, 2025

First Anticipated COLA		
1. Date of COLA commencement		January 1, 2026
2. Rate of COLA		0.4%
3. Value as of July 1, 2025 of COLA	$	36,925,628
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		35,719,978
7. Total COLA Funding Requirement as of July 1, 2025: (3) + (6)	$	72,645,606

Funding Sources for Projected COLAs

8. Assets as of June 30, 2023 Available for Future COLAs	$	81,792,648
9. Projected Contributions from 7/1/2023 to 12/31/2023		19,926,981
10. Expected Earnings through July 1, 2025		12,781,477
11. Projected Available Assets at July 1, 2025	$	114,501,106
12. Required Additional Funding for Anticipated COLAs: (7) - (11)		0

Surcharge Rate

13. Projected Payroll from 1/1/2024 to 6/30/2024		3,019,239,539
14. Projected Payroll from 7/1/2024 to 6/30/2025		6,198,498,774
15. Value of (13) and (14) as of July 1, 2025	$	9,650,267,964
16. Surcharge Rate: (12) /(15)		0.00%

TABLE 13

ACTUARIALLY DETERMINED CONTRIBUTION RATE
(Base and Supplemental Benefits)

	Base Benefits	Supplemental Benefits	Total
1. Projected Payroll for FY 2024	$ 6,312,888,255		
2. Normal Cost Rate as of June 30, 2022 Census	4.01%	0.21%	4.22%
3. Amortization of UAAL as of June 30, 2023			
a. Dollar Amount	$ 183,979,183		
b. Percent of Projected Pay	2.91%		
4. Preliminary Actuarially Determined Contribution Rate: (2) + (3b)	6.92%		
5. Supplemental Benefit Surcharge Rate (May not exceed 1%)		0.00%	
6. Actuarially Determined Contribution Rate	6.92%	0.00%	
7. Board Policy Surcharge Rate (for 2024 calendar year)		**0.66%**	
8. Board Policy Contribution Rate			**11.20%**

TABLE 14

INVESTMENT RETURN SENSITIVITY
(Base and Supplemental Benefits)

	1.00% Decrease: (5.25%)	0.75% Decrease: (5.50%)	0.50% Decrease: (5.75%)	0.25% Decrease: (6.00%)	Current Assumption: (6.25%)
Funded Status					
Actuarial Accrued Liability	$20,637,607,592	$20,042,564,593	$19,474,834,822	$18,932,877,060	$18,415,248,366
Actuarial Value of Assets	15,735,668,575	15,735,668,575	15,735,668,575	15,735,668,575	15,735,668,575
Unfunded Actuarial Accrued Liability	$4,901,939,017	$4,306,896,018	$3,739,166,247	$3,197,208,485	$2,679,579,791
Funded Ratio	76.2%	78.5%	80.8%	83.1%	85.4%
Actuarially Determined Contribution Amount					
Normal Cost	$349,531,477	$326,300,776	$304,792,375	$284,868,743	$266,403,884
UAAL Amortization	388,628,059	348,502,635	308,888,244	269,761,160	231,098,876
Actuarially Determined Contribution Amount	$738,159,536	$674,803,411	$613,680,619	$554,629,903	$497,502,760
Actuarially Determined Contribution Rate	11.69%	10.69%	9.72%	8.79%	7.88%

	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	$17,920,597,277	$17,447,657,521	$16,995,242,176	$16,562,238,273	$16,147,601,771
Actuarial Value of Assets	15,735,668,575	15,735,668,575	15,735,668,575	15,735,668,575	15,735,668,575
Unfunded Actuarial Accrued Liability	$2,184,928,702	$1,711,988,946	$1,259,573,601	$826,569,698	$411,933,196
Funded Ratio	87.8%	90.2%	92.6%	95.0%	97.4%
Actuarially Determined Contribution Amount					
Normal Cost	$249,282,349	$233,398,318	$218,654,770	$204,962,730	$192,240,572
UAAL Amortization	192,880,060	155,084,479	117,692,971	80,687,381	44,050,527
Actuarially Determined Contribution Amount	$442,162,409	$388,482,797	$336,347,741	$285,650,111	$236,291,099
Actuarially Determined Contribution Rate	7.00%	6.15%	5.33%	4.52%	3.74%

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

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 all the required calculations, presented in the order set out in GASB 68 for note disclosure and Required Supplementary Information (RSI). Some of this information was provided by the INPRS for use in this report.

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

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

TABLE 15

STATEMENT OF FIDUCIARY NET POSITION

			June 30, 2023
1. Assets			
a. Cash		$	2,693,416
b. Receivables			
i.	Contributions and Miscellaneous Receivables	$	9,049,033
ii.	Investments Receivable		122,318,306
iii.	Foreign Exchange Contracts Receivable		2,591,930,784
iv.	Interest and Dividends		38,917,013
v.	Receivables Due From Other Funds		3,194,800
vi.	Total Receivables	$	2,765,409,936
c. Investments			
i.	Short-Term Investments	$	0
ii.	Pooled Repurchase Agreements		6,763,390
iii.	Pooled Short-Term Investments		1,339,394,372
iv.	Pooled Fixed Income		4,086,673,772
v.	Pooled Equity		2,075,751,228
vi.	Pooled Alternative Investments		7,830,041,716
vii.	Pooled Derivatives		(4,943,531)
viii.	Pooled Investments		0
ix.	Securities Lending Collateral		59,581,145
x.	Total Investments	$	15,393,262,092
d. Net Capital Assets			3,942,556
e. Other Assets			324,096
f. Total Assets: a + b(vi) + c(x) + d + e		$	18,165,632,096
2. Liabilities			
a. Administrative Payable		$	8,770,362
b. Retirement Benefits Payable			715,166
c. Investments Payable			519,270,714
d. Foreign Exchange Contracts Payable			2,600,952,907
e. Securities Lending Obligations			59,581,145
f. Securities Sold Under Agreement to Repurchase			90,427,436
g. Due To Other Funds			0
h. Due to Other Governments			0
i. Total Liabilities: a + b + c + d + e + f + g + h		$	3,279,717,730
3. Fiduciary Net Position Restricted for Pensions: (1)(f) - (2)(i)		**$**	**14,885,914,366**

TABLE 16

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

			For Fiscal Year Ending June 30, 2023
1. Fiduciary Net Position as of June 30, 2022		**$**	**14,848,362,129**
2. Additions			
a. Contributions			
i.	Member Contributions	$	0
ii.	Employer Contributions		679,051,638
iii.	Service Purchases (Employer and Member) [1]		4,010,085
iv.	Non-Employer Contributing Entity Contributions		0
v.	Total Contributions	$	683,061,723
b. Investment Income/(Loss)			
i.	Net Appreciation/(Depreciation)	$	258,247,278
ii.	Net Interest and Dividend Income		194,588,488
iii.	Securities Lending Income		1,135,715
iv.	Other Net Investment Income		452,801
v.	Investment Management Expenses		(81,386,529)
vi.	Direct Investment Expenses		(6,103,685)
vii.	Securities Lending Expenses		(115,588)
viii.	Total Investment Income/(Loss)	$	366,818,480
c. Other Additions			
i.	Member Reassignments		7,732,407
ii.	Miscellaneous Receipts		2,806
iii.	Total Other Additions	$	7,735,213
d. Total Revenue (Additions): a(v) + b(viii) + c(iii)		$	1,057,615,416
3. Deductions			
a. Pension, Survivor and Disability Benefits		$	984,758,539
b. Death and Funeral Benefits			0
c. Distributions of Contributions and Interest			0
d. Administrative Expenses [2]			21,696,048
e. Member Reassignments			13,608,592
f. Miscellaneous Expenses			0
g. Total Expenses (Deductions)		$	1,020,063,179
4. Net Increase (Decrease) in Fiduciary Net Position: (2)(d) - (3)(g)		**$**	**37,552,237**
5. Fiduciary Net Position as of June 30, 2023: (1) + (4)		**$**	**14,885,914,366**

[1] Service purchases paid by employer of $3,802,034 and employee of $208,051.

[2] Includes $1,666,362 of hybrid plan contributions and $288,022 of My Choice plan contributions made by INPRS.

TABLE 17

SCHEDULE OF CHANGES IN NET PENSION LIABILITY

	For Fiscal Year Ending June 30, 2023		
	Total Pension Liability (a)	**Plan Fiduciary Net Position (b)**	**Net Pension Liability (a) – (b)**
1. Balance at June 30, 2022	$ 18,002,194,131	$ 14,848,362,129	$ 3,153,832,002
2. Changes for the Year:			
Service Cost (SC) [1]	246,229,109		246,229,109
Interest Cost	1,109,694,433		1,109,694,433
Experience (Gains)/Losses	43,755,332		43,755,332
Assumption Changes	0		0
Plan Amendments	0		0
Benefit Payments	(984,758,539)	(984,758,539)	0
Service Purchases			
Employer Contributions	3,802,034	3,802,034	0
Employee Contributions	208,051	208,051	0
Member Reassignments [2]	(5,876,185)	(5,876,185)	0
Employer Contributions		679,051,638	(679,051,638)
Non-employer Contributions		0	0
Employee Contributions		0	0
Net Investment Income		366,818,480	(366,818,480)
Administrative Expenses [3]		(21,696,048)	21,696,048
Other		2,806	(2,806)
Net Changes	$ 413,054,235	$ 37,552,237	$ 375,501,998
3. Balance at June 30, 2023	$ 18,415,248,366	$ 14,885,914,366	$ 3,529,334,000

[1] Service cost provided as of beginning of year. Interest to end of year is included in the interest cost.
[2] Includes net interfund transfers of employer contributed amounts.
[3] Includes contributions made by INPRS for its employees of $1,666,362 in the hybrid plan and $288,022 in the My Choice plan.

TABLE 18

DEFERRED OUTFLOWS OF RESOURCES

	June 30, 2022	Remaining Period	Recognition	June 30, 2023
1. Liability Experience				
June 30, 2023 Loss	$ 43,755,332	3.65	$ 11,987,763	$ 31,767,569
June 30, 2022 Loss	53,510,646	2.73	19,600,970	33,909,676
June 30, 2021 Loss	14,497,366	1.82	7,965,586	6,531,780
June 30, 2020 Loss	0	0.84	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	3.65	$ 0	$ 0
June 30, 2022 Loss	0	2.73	0	0
June 30, 2021 Loss	427,170,790	1.82	234,709,226	192,461,564
June 30, 2020 Loss	0	0.84	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	$ 550,914,583	5.00	$ 110,182,917	$ 440,731,666
June 30, 2022 Loss	1,646,861,016	4.00	411,715,255	1,235,145,761
June 30, 2021 Loss	0	3.00	0	0
June 30, 2020 Loss	219,606,841	2.00	109,803,421	109,803,420
June 30, 2019 Loss	0	1.00	0	0
Total Outflows: (1)+(2)+(3)	**$ 2,956,316,574**		**$ 905,965,138**	**$ 2,050,351,436**

Results prior to 2018 were produced by the prior actuary.

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

TABLE 19

DEFERRED INFLOWS OF RESOURCES

	June 30, 2022	Remaining Period	Recognition	June 30, 2023
1. Liability Experience				
June 30, 2023 Gain	$ 0	3.65	$ 0	$ 0
June 30, 2022 Gain	0	2.73	0	0
June 30, 2021 Gain	0	1.82	0	0
June 30, 2020 Gain	11,994,455	0.84	11,994,455	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	3.65	$ 0	$ 0
June 30, 2022 Gain	0	2.73	0	0
June 30, 2021 Gain	0	1.82	0	0
June 30, 2020 Gain	134,931,515	0.84	134,931,515	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	1,465,121,804	3.00	488,373,936	976,747,868
June 30, 2020 Gain	0	2.00	0	0
June 30, 2019 Gain	12,129,778	1.00	12,129,778	0
Total Inflows: (1)+(2)+(3)	**$ 1,624,177,552**		**$ 647,429,684**	**$ 976,747,868**

Results prior to 2018 were produced by the prior actuary.

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

TABLE 20

DEFERRED INFLOWS / OUTFLOWS TO BE RECOGNIZED IN PENSION EXPENSE

Fiscal Year Ending June 30	Deferred Outflows	Deferred Inflows	Net Deferred Outflows/(Inflows)
Current Year:			
2023	$ 905,965,138	$ 647,429,684	$ 258,535,454
Future Years:			
2024	$ 862,283,669	$ 488,373,936	$ 373,909,733
2025	548,194,641	488,373,932	59,820,709
2026	529,690,211	0	529,690,211
2027	110,182,915	0	110,182,915
2028	0	0	0
Thereafter	0	0	0

TABLE 21

PENSION EXPENSE UNDER GASB NO. 68

		For Fiscal Year Ending June 30, 2023
1. Service Cost, beginning of year		$ 246,229,109
2. Interest Cost, including interest on service cost		1,109,694,433
3. Member Contributions [1]		0
4. Administrative Expenses [2]		19,741,664
5. Expected Return on Assets [3]		(917,733,063)
6. Plan Amendments		0
7. Recognition of Deferred Inflows / Outflows of Resources Related to:		
a. Liability Experience (Gains) / Losses	27,559,864	
b. Assumption Change (Gains) / Losses	99,777,711	
c. Investment Experience (Gains) / Losses	131,197,879	
d. Total: (7a)+(7b)+(7c)		258,535,454
8. Miscellaneous (Income) / Expense		(2,806)
9. Total Collective Pension Expense: (1)+(2)+(3)+(4)+(5)+(6)+(7d)+(8)		716,464,791
10. Employer Service Purchases [4]		3,802,034
Pension Expense / (Income): (9) + (10)		**$ 720,266,825**

[1] Excludes member paid service purchases of $208,051.
[2] Excludes contributions made by INPRS for its employees of $1,666,362 in the hybrid plan and $288,022 in the My Choice plan.
[3] Cash flows assumed to occur mid-year.
[4] To be expensed by the employers who purchased the service.

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

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

Actuarial Assumptions and Inputs

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

Type of Plan	The Public Employees' Retirement Fund 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% - 8.65% 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* – General Employee table with a 3 year set forward for males and a 1 year set forward for females. *Retirees* – General Retiree table with a 3 year set forward for males and a 1 year set forward for females. *Beneficiaries* – Contingent Survivor table with no set forward for males and a 2 year set forward for females. *Disableds* – General Disabled table with a 140% load.
Experience Study	The most recent comprehensive experience study, based on member experience between June 30, 2014 and June 30, 2019, was completed in February 2020. The demographic assumptions were approved by the Board in June 2020 and were used beginning with the June 30, 2020 actuarial valuation. Economic assumptions were updated and approved by the Board in May 2021 following the completion of an Asset-Liability study and first used in the June 30, 2021 actuarial valuation.
Discount Rate	6.25%, net of investment expenses The discount rate is equal to the expected long-term rate of return on plan investments, net of investment expense and including price inflation. There was no change in the discount rate from the prior measurement date. The INPRS Board of Trustees has established a funding policy of setting the employer contribution rate equal to the greater of 11.2% (the current contribution rate) or a rate equal to the actuarially determined contribution rate, which is based on the assumptions and methods selected by the Board for the annual actuarial valuations and projected covered member payroll. The June 30, 2023 actuarial valuation assumes a long-term rate of return on assets of 6.25%, a 20-year level dollar closed method for amortizing the future layers of unfunded actuarial accrued liability (30 years for amortization layers established prior to June 30, 2016), 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. Therefore, if past practice is continued, the appropriations will be sufficient to fully fund the plan within 10 to 20 years. Deterministic projections indicate the actuarially determined contribution rate will decline over the coming years. 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	$5,751,693,226	$3,529,334,000	$1,676,323,907

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	99,635
2. Inactive Members Entitled To But Not Yet Receiving Benefits	35,174
3. Inactive Non-vested Members Entitled to a Refund of Member Contributions	0
4. Active Members	119,398
Total Covered Plan Members: (1)+(2)+(3)+(4)	254,207

Money-Weighted Rate of Return

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

Components of Net Pension Liability

As of June 30, 2023	
Total Pension Liability	$ 18,415,248,366
Fiduciary Net Position	14,885,914,366
Net Pension Liability	$ 3,529,334,000
Ratio of Fiduciary Net Position to Total Pension Liability	80.83%

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	$16,091,372,940	$16,576,060,167	$16,281,754,235	$17,563,157,462	$18,002,194,131
DC Account Balances - beginning [1]	0	0	0	0	0
DB Pension Liability - beginning	$16,091,372,940	$16,576,060,167	$16,281,754,235	$17,563,157,462	$18,002,194,131
Service Cost (SC), beginning-of-year	195,382,841	201,143,591	206,224,841	237,481,419	246,229,109
Interest Cost, including interest on SC	1,069,184,188	1,101,241,510	1,080,919,775	1,082,718,830	1,109,694,433
Experience (Gains)/Losses	101,180,620	(54,831,797)	30,428,538	73,111,616	43,755,332
Assumption Changes	0	(616,829,795)	896,589,242	0	0
Plan Amendments	12,919,637	0	15,946,383	0	0
DC Annuitizations	0	0	0	0	0
Actual Benefit Payments	(888,510,777)	(922,190,241)	(946,107,172)	(949,954,676)	(984,758,539)
Member Reassignments	(5,787,037)	(3,163,150)	(3,056,997)	(5,714,455)	(5,876,185)
Service Purchases	317,755	323,950	458,617	1,393,935	4,010,085
Net Change in Total Pension Liability	484,687,227	(294,305,932)	1,281,403,227	439,036,669	413,054,235
DB Pension Liability - ending	$16,576,060,167	$16,281,754,235	$17,563,157,462	$18,002,194,131	$18,415,248,366
DC Account Balances - ending [1]	0	0	0	0	0
(a) Total Pension Liability - ending	$16,576,060,167	$16,281,754,235	$17,563,157,462	$18,002,194,131	$18,415,248,366
Plan Fiduciary Net Position					
Plan Fiduciary Net Position – beginning	$12,694,327,690	$13,270,996,471	$13,261,359,961	$16,247,309,759	$14,848,362,129
DC Account Balances - beginning [1]	0	0	0	0	0
DB Plan Fiduciary Net Position – beginning	$12,694,327,690	$13,270,996,471	$13,261,359,961	$16,247,309,759	$14,848,362,129
Contributions – employer	581,873,684	599,100,479	627,316,041	629,000,411	682,853,672
Contributions – non-employer	0	0	0	0	0
Contributions – member	294,752	126,815	129,035	307,370	208,051
Net investment income	906,388,001	335,138,985	3,325,549,967	(1,053,902,084)	366,818,480
Actual benefit payments	(888,510,777)	(922,190,241)	(946,107,172)	(949,954,676)	(984,758,539)
Net member reassignments	(5,787,037)	(3,163,150)	(3,056,997)	(5,714,455)	(5,876,185)
DC Annuitizations	0	0	0	0	0
Administrative expense	(18,471,916)	(18,886,120)	(18,003,369)	(18,703,663)	(21,696,048)
Other	882,074	236,722	122,293	19,467	2,806
Net change in Plan Fiduciary Net Position	576,668,781	(9,636,510)	2,985,949,798	(1,398,947,630)	37,552,237
DB Plan Fiduciary Net Position – ending	$13,270,996,471	$13,261,359,961	$16,247,309,759	$14,848,362,129	$14,885,914,366
DC Account Balances - ending [1]	0	0	0	0	0
(b) Plan Fiduciary Net Position - ending	$13,270,996,471	$13,261,359,961	$16,247,309,759	$14,848,362,129	$14,885,914,366
Net Pension Liability - ending, (a) - (b)	$3,305,063,696	$3,020,394,274	$1,315,847,703	$3,153,832,002	$3,529,334,000

[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	$16,145,680,789	$16,732,222,649	$17,980,568,263	$18,408,946,980	$19,106,214,994
DC Account Balances - beginning [1]	2,796,102,616	2,851,500,608	2,717,173,311	2,656,892,220	2,770,961,812
DB Pension Liability - beginning	$13,349,578,173	$13,880,722,041	$15,263,394,952	$15,752,054,760	$16,335,253,182
Service Cost (SC), beginning-of-year	258,069,653	273,909,865	191,055,506	194,101,310	202,323,634
Interest Cost, including interest on SC	895,453,921	936,403,574	1,018,992,903	1,051,217,483	1,088,503,109
Experience (Gains)/Losses	(15,161,517)	247,977,703	(4,869,991)	82,963,628	20,103,378
Assumption Changes	0	488,354,517	0	22,809,173	(731,600,714)
Plan Amendments	(42,984,699)	0	0	(22,765,723)	0
DC Annuitizations	119,094,145	196,788,238	75,035,755	78,792,615	43,873,966
Actual Benefit Payments	(680,203,104)	(752,895,719)	(786,606,562)	(820,721,414)	(860,613,831)
Member Reassignments	(3,124,531)	(8,155,200)	(5,441,493)	(3,617,572)	(7,030,159)
Service Purchases	0	289,933	493,690	418,922	560,375
Net Change in Total Pension Liability	531,143,868	1,382,672,911	488,659,808	583,198,422	(243,880,242)
DB Pension Liability - ending	$13,880,722,041	$15,263,394,952	$15,752,054,760	$16,335,253,182	$16,091,372,940
DC Account Balances - ending [1]	2,851,500,608	2,717,173,311	2,656,892,220	2,770,961,812	0
(a) Total Pension Liability - ending	$16,732,222,649	$17,980,568,263	$18,408,946,980	$19,106,214,994	$16,091,372,940
Plan Fiduciary Net Position					
Plan Fiduciary Net Position – beginning	$12,720,601,718	$14,104,287,554	$13,907,666,213	$13,870,502,444	$14,644,671,525
DC Account Balances - beginning [1]	2,796,102,616	2,851,500,608	2,717,173,311	2,656,892,220	2,770,961,812
DB Plan Fiduciary Net Position – beginning	$9,924,499,102	$11,252,786,946	$11,190,492,902	$11,213,610,224	$11,873,709,713
Contributions – employer	526,089,688	538,059,283	615,773,383	558,892,767	571,373,825
Contributions – non-employer	0	0	0	0	0
Contributions – member	0	0	442,809	589,663	708,034
Net investment income	1,393,813,042	(10,667,128)	147,106,621	870,591,483	1,093,094,099
Actual benefit payments	(680,203,104)	(752,895,719)	(786,606,562)	(820,721,414)	(860,613,831)
Net member reassignments	(3,124,531)	(8,155,200)	(5,441,493)	(3,617,572)	(7,030,159)
DC Annuitizations	119,094,145	196,788,238	75,035,755	78,792,615	43,873,966
Administrative expense	(27,433,396)	(25,506,518)	(24,098,191)	(24,483,053)	(20,844,003)
Other	52,000	83,000	905,000	55,000	56,046
Net change in Plan Fiduciary Net Position	1,328,287,844	(62,294,044)	23,117,322	660,099,489	820,617,977
DB Plan Fiduciary Net Position – ending	$11,252,786,946	$11,190,492,902	$11,213,610,224	$11,873,709,713	$12,694,327,690
DC Account Balances - ending [1]	2,851,500,608	2,717,173,311	2,656,892,220	2,770,961,812	0
(b) Plan Fiduciary Net Position - ending	$14,104,287,554	$13,907,666,213	$13,870,502,444	$14,644,671,525	$12,694,327,690
Net Pension Liability - ending, (a) - (b)	$2,627,935,095	$4,072,902,050	$4,538,444,536	$4,461,543,469	$3,397,045,250

[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	$16,576,060,167	$16,281,754,235	$17,563,157,462	$18,002,194,131	$18,415,248,366
Plan Fiduciary Net Position	13,270,996,471	13,261,359,961	16,247,309,759	14,848,362,129	14,885,914,366
Net Pension Liability	$3,305,063,696	$3,020,394,274	$1,315,847,703	$3,153,832,002	$3,529,334,000
Ratio of Plan Fiduciary Net Position to Total Pension Liability	80.06%	81.45%	92.51%	82.48%	80.83%
Covered-employee payroll [1]	$5,205,242,704	$5,380,842,933	$5,482,242,349	$5,670,744,395	$6,149,915,494
Net Pension Liability as a percentage of covered-employee payroll	63.49%	56.13%	24.00%	55.62%	57.39%

Fiscal Year Ending June 30	2014	2015	2016	2017	2018
Total Pension Liability	$16,732,222,649	$17,980,568,263	$18,408,946,980	$19,106,214,994	$16,091,372,940
Plan Fiduciary Net Position	14,104,287,554	13,907,666,213	13,870,502,444	14,644,671,525	12,694,327,690
Net Pension Liability	$2,627,935,095	$4,072,902,050	$4,538,444,536	$4,461,543,469	$3,397,045,250
Ratio of Plan Fiduciary Net Position to Total Pension Liability	84.29%	77.35%	75.35%	76.65%	78.89%
Covered-employee payroll [1]	$4,896,635,240	$4,804,145,033	$4,868,709,366	$4,997,555,495	$5,083,130,815
Net Pension Liability as a percentage of covered-employee payroll	53.67%	84.78%	93.22%	89.27%	66.83%

[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]	$527,836,147	$482,316,183	$452,332,617	$433,048,227	$467,206,774
Actual employer contributions [2]	$581,850,681	$598,903,344	$626,986,459	$627,913,846	$679,051,638
Annual contribution (deficiency) / excess	$54,014,534	$116,587,161	$174,653,842	$194,865,619	$211,844,864
Covered-employee payroll [3]	$5,205,242,704	$5,380,842,933	$5,482,242,349	$5,670,744,395	$6,149,915,494
Actual contributions as a percentage of covered-employee payroll	11.18%	11.13%	11.44%	11.07%	11.04%

Fiscal Year Ending June 30	2014	2015	2016	2017	2018
Actuarially Determined Contribution [1]	$528,562,365	$517,716,612	$491,999,602	$496,867,070	$502,205,573
Actual employer contributions [2]	$519,575,670	$536,202,332	$547,684,477	$558,660,887	$571,098,939
Annual contribution (deficiency) / excess	($8,986,695)	$18,485,720	$55,684,875	$61,793,817	$68,893,366
Covered-employee payroll [3]	$4,896,635,240	$4,804,145,033	$4,868,709,366	$4,997,555,495	$5,083,130,815
Actual contributions as a percentage of covered-employee payroll	10.61%	11.16%	11.25%	11.18%	11.24%

[1] The State and Political Subdivision employer rates were applied to the actual covered employee payroll for the fiscal year to determine the contribution amount.
The surcharge rate used for both State and Political Subdivision uses the valuation completed two years ago for July-December and one year ago for January-June.
State - The actuarially determined amortization and normal cost rates were developed in the actuarial report completed one year prior to the fiscal year.
Political Subdivisions - The rate is determined as the average of these two rates:
a. Actuarially determined amortization and normal cost rates for January-June were developed in the actuarial report completed one year prior to the fiscal year.
b. Actuarially determined amortization and normal cost rates for July-December were developed in the actuarial report completed two years prior to the fiscal year.

[2] Excludes service purchases paid for by the employer of $3,802,034.

[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	2.5%
2022	(6.6%)
2021	25.5%
2020	2.6%
2019	7.3%
2018	9.3%
2017	7.6%
2016	1.1%
2015	0.3%
2014	12.3%

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	**120,967**	**34,264**	**149**	**2,723**	**83,516**	**10,844**	**252,463**
2. Data Adjustments							
New Participants	17,745	0	0	0	0	0	17,745
Rehires	501	(501)	0	0	0	0	0
Terminations:							
Not Vested	(12,672)	0	0	0	0	0	(12,672)
Deferred Vested	(3,096)	3,096	0	0	0	0	0
Disability	(90)	0	0	90	0	0	0
Retirements	(3,734)	(1,972)	(8)	0	5,706	8	0
Refund / Benefits Ended	0	(130)	(6)	0	(1)	(117)	(254)
Transfer	(21)	(172)	0	0	0	0	(193)
Deaths:							
With Beneficiary	(78)	(51)	0	(43)	(839)	1,011	0
Without Beneficiary	(138)	(71)	0	(99)	(2,641)	(648)	(3,597)
Entitled to Future Benefit	(20)	(22)	42	0	0	0	0
Data Corrections [1]	34	563	(7)	42	45	38	715
Net Change	(1,569)	740	21	(10)	2,270	292	1,744
3. As of June 30, 2022 [2]	**119,398**	**35,004**	**170**	**2,713**	**85,786**	**11,136**	**254,207**

[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.

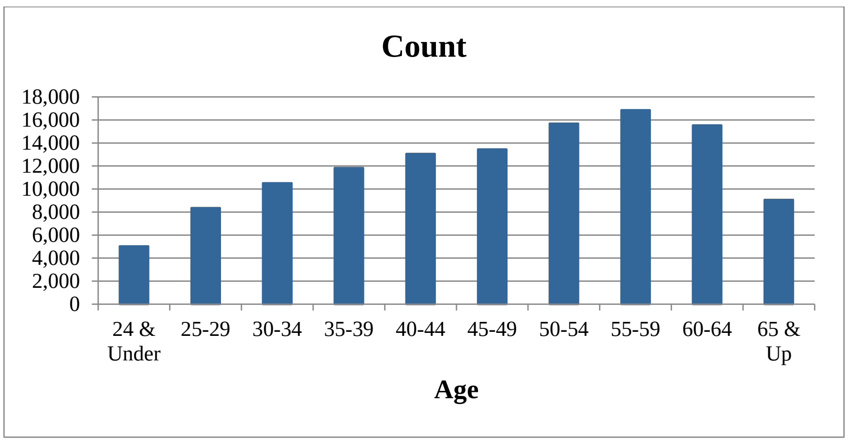
SUMMARY OF MEMBERSHIP DATA

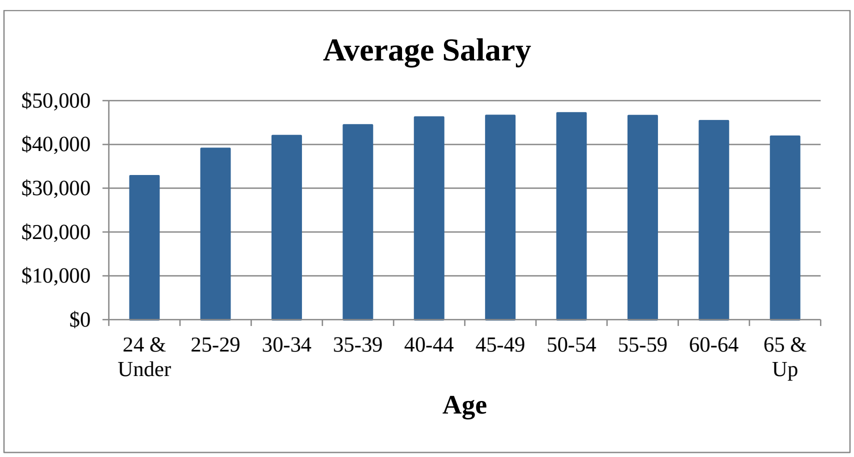
Valuation Date	June 30, 2022	June 30, 2023	% Change
Date of Membership Data [1]	July 1, 2021	July 1, 2022	
ACTIVE MEMBERS			
Number of Active Members [2]	120,967	119,398	(1.3%)
Annual Membership Data Salary [3]	$ 5,130,690,030	$ 5,294,828,949	3.2%
Anticipated Payroll for Next Fiscal Year	$ 5,821,019,121	$ 6,312,888,255	8.4%
Active Member Averages			
Age	47.6	47.4	(0.4%)
Service	11.2	10.9	(2.7%)
Annual Membership Data Salary	$ 42,414	$ 44,346	4.6%
INACTIVE MEMBERS			
Number of Inactive Members	34,413	35,174	2.2%
Inactive Member Averages			
Age	53.9	53.9	0.0%
Service	11.6	11.4	(1.7%)
RETIREES, DISABLEDS, AND BENEFICIARIES			
Number of Members			
Retired	83,516	85,786	2.7%
Disabled	2,723	2,713	(0.4%)
Beneficiaries	10,844	11,136	2.7%
Total	97,083	99,635	2.6%
Annual Benefits			
Retired	831,819,886	872,828,577	4.9%
Disabled	14,554,014	15,054,270	3.4%
Beneficiaries	75,665,863	79,924,559	5.6%
Total	$ 922,039,763	$ 967,807,406	5.0%
Annual Benefits			
Pension	799,398,735	849,179,327	6.2%
DC Plan Annuities	122,641,028	118,628,079	(3.3%)
Total	$ 922,039,763	$ 967,807,406	5.0%

[1] The valuation results were calculated using the prior year's census data and were adjusted for certain activity during fiscal year, such as new units, enlargements, or withdrawals.
[2] Salary provided without data adjustments for activity that occurred during the year.
[3] Annualized for actives with less than a year of service. Actives with no salary provided are defaulted to the average salary.

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

	Count of Members			FY 2022 Annual Membership Data Salary		
Age	Male	Female	Total	Male	Female	Total
24 & Under	2,478	2,551	5,029	$ 90,529,782	$ 74,288,829	$ 164,818,611
25-29	3,713	4,644	8,357	160,814,269	165,330,935	326,145,204
30-34	4,398	6,112	10,510	210,015,676	230,836,970	440,852,646
35-39	4,692	7,149	11,841	244,792,583	281,170,764	525,963,347
40-44	4,958	8,102	13,060	272,534,632	330,807,243	603,341,875
45-49	5,025	8,423	13,448	279,260,386	346,942,485	626,202,871
50-54	6,035	9,653	15,688	333,940,707	405,562,937	739,503,644
55-59	6,359	10,503	16,862	347,661,368	436,658,783	784,320,151
60-64	6,068	9,467	15,535	320,877,036	383,760,766	704,637,802
65 & Up	4,038	5,030	9,068	190,256,088	188,786,710	379,042,798
Total	47,764	71,634	119,398	$ 2,450,682,527	$ 2,844,146,422	$ 5,294,828,949





[1] Includes 550 actives where the missing salary was defaulted to the average salary of $44,346.

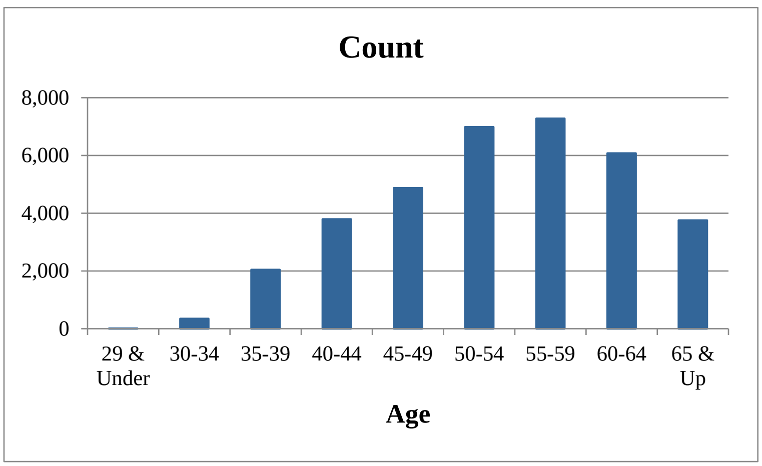
AGE AND SERVICE DISTRIBUTION [1]
As of June 30, 2022 for the June 30, 2023 Valuation

Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
24 &	Number	5,002	27	0	0	0	0	0	0	5,029
Under	Total Salary	$ 163,615,386	$ 1,203,225	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 164,818,611
	Average Sal.	$ 32,710	$ 44,564	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 32,774
25-29	Number	7,145	1,208	4	0	0	0	0	0	8,357
	Total Salary	$ 269,279,565	$ 56,721,603	$ 144,036	$ 0	$ 0	$ 0	$ 0	$ 0	$ 326,145,204
	Average Sal.	$ 37,688	$ 46,955	$ 36,009	$ 0	$ 0	$ 0	$ 0	$ 0	$ 39,027
30-34	Number	6,302	3,615	580	13	0	0	0	0	10,510
	Total Salary	$ 232,419,367	$ 177,059,621	$ 30,725,089	$ 648,569	$ 0	$ 0	$ 0	$ 0	$ 440,852,646
	Average Sal.	$ 36,880	$ 48,979	$ 52,974	$ 49,890	$ 0	$ 0	$ 0	$ 0	$ 41,946
35-39	Number	5,581	3,488	2,102	659	11	0	0	0	11,841
	Total Salary	$ 197,454,405	$ 169,156,939	$ 121,097,464	$ 37,722,692	$ 531,847	$ 0	$ 0	$ 0	$ 525,963,347
	Average Sal.	$ 35,380	$ 48,497	$ 57,611	$ 57,242	$ 48,350	$ 0	$ 0	$ 0	$ 44,419
40-44	Number	4,915	3,388	2,132	1,979	634	12	0	0	13,060
	Total Salary	$ 174,514,174	$ 153,435,376	$ 117,416,040	$ 119,924,867	$ 37,386,552	$ 664,866	$ 0	$ 0	$ 603,341,875
	Average Sal.	$ 35,506	$ 45,288	$ 55,073	$ 60,599	$ 58,969	$ 55,406	$ 0	$ 0	$ 46,198
45-49	Number	4,136	3,176	2,016	1,910	1,668	531	11	0	13,448
	Total Salary	$ 147,352,568	$ 134,949,361	$ 99,351,034	$ 108,585,795	$ 103,288,704	$ 32,030,277	$ 645,132	$ 0	$ 626,202,871
	Average Sal.	$ 35,627	$ 42,490	$ 49,281	$ 56,851	$ 61,924	$ 60,321	$ 58,648	$ 0	$ 46,565
50-54	Number	3,765	3,234	2,440	2,169	1,861	1,605	591	23	15,688
	Total Salary	$ 138,038,694	$ 134,931,301	$ 111,615,420	$ 112,503,484	$ 104,941,007	$ 100,014,849	$ 35,984,486	$ 1,474,403	$ 739,503,644
	Average Sal.	$ 36,664	$ 41,723	$ 45,744	$ 51,869	$ 56,390	$ 62,315	$ 60,887	$ 64,104	$ 47,138
55-59	Number	3,232	2,913	2,452	2,464	2,213	1,583	1,351	654	16,862
	Total Salary	$ 116,942,511	$ 120,665,910	$ 108,740,142	$ 116,680,445	$ 108,638,557	$ 89,319,968	$ 84,097,847	$ 39,234,771	$ 784,320,151
	Average Sal.	$ 36,183	$ 41,423	$ 44,348	$ 47,354	$ 49,091	$ 56,424	$ 62,249	$ 59,992	$ 46,514
60-64	Number	2,270	2,447	2,130	2,332	2,159	1,590	1,126	1,481	15,535
	Total Salary	$ 75,353,974	$ 98,755,329	$ 91,777,051	$ 105,481,021	$ 100,220,829	$ 78,643,084	$ 63,438,677	$ 90,967,837	$ 704,637,802
	Average Sal.	$ 33,196	$ 40,358	$ 43,088	$ 45,232	$ 46,420	$ 49,461	$ 56,340	$ 61,423	$ 45,358
65 &	Number	1,457	1,698	1,462	1,307	943	726	572	903	9,068
Up	Total Salary	$ 41,286,671	$ 60,272,546	$ 59,645,218	$ 56,900,082	$ 43,174,915	$ 34,017,857	$ 28,720,825	$ 55,024,684	$ 379,042,798
	Average Sal.	$ 28,337	$ 35,496	$ 40,797	$ 43,535	$ 45,785	$ 46,857	$ 50,211	$ 60,935	$ 41,800
Total	Number	43,805	25,194	15,318	12,833	9,489	6,047	3,651	3,061	119,398
	Total Salary	$ 1,556,257,315	$ 1,107,151,211	$ 740,511,494	$ 658,446,955	$ 498,182,411	$ 334,690,901	$ 212,886,967	$ 186,701,695	$ 5,294,828,949
	Average Sal.	$ 35,527	$ 43,945	$ 48,343	$ 51,309	$ 52,501	$ 55,348	$ 58,309	$ 60,994	$ 44,346

[1] Includes 550 actives who were missing a salary. Their salaries are defaulted to the average salary of $44,346.

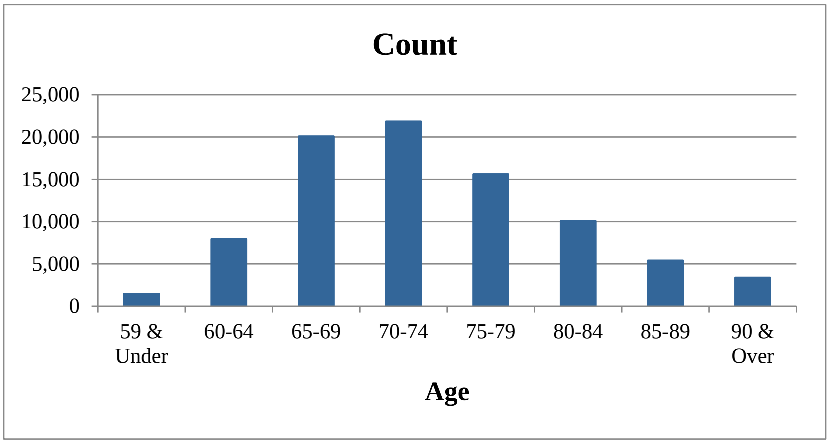
INACTIVE VESTED MEMBERS
As of June 30, 2022 for the June 30, 2023 Valuation

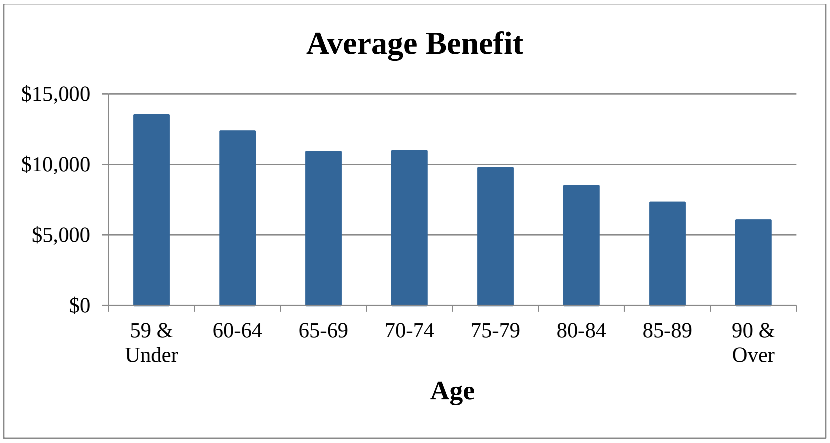
	Count of Members		
Age	Male	Female	Total
29 & Under	4	8	12
30-34	102	247	349
35-39	679	1,365	2,044
40-44	1,401	2,395	3,796
45-49	1,562	3,313	4,875
50-54	2,191	4,795	6,986
55-59	2,166	5,112	7,278
60-64	1,790	4,288	6,078
65 & Up	1,267	2,489	3,756
Total	11,162	24,012	35,174



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

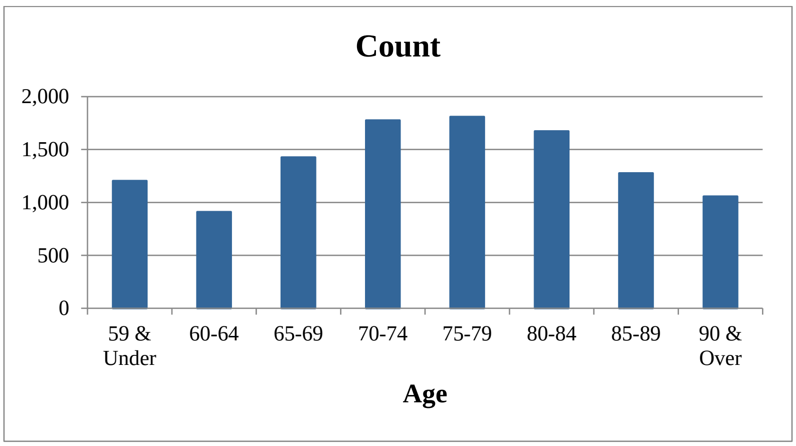
	Count of Members			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
59 & Under	671	801	1,472	$ 10,541,076	$ 9,322,851	$ 19,863,927
60-64	3,051	4,893	7,944	46,533,039	51,572,081	98,105,120
65-69	7,134	12,945	20,079	96,118,242	122,579,334	218,697,576
70-74	7,775	14,061	21,836	104,631,870	134,398,069	239,029,939
75-79	5,112	10,486	15,598	60,362,743	91,606,920	151,969,663
80-84	2,998	7,080	10,078	30,613,424	54,742,462	85,355,886
85-89	1,477	3,921	5,398	13,567,989	25,836,963	39,404,952
90 & Over	691	2,690	3,381	5,350,219	15,051,295	20,401,514
Total	28,909	56,877	85,786	$ 367,718,602	$ 505,109,975	$ 872,828,577

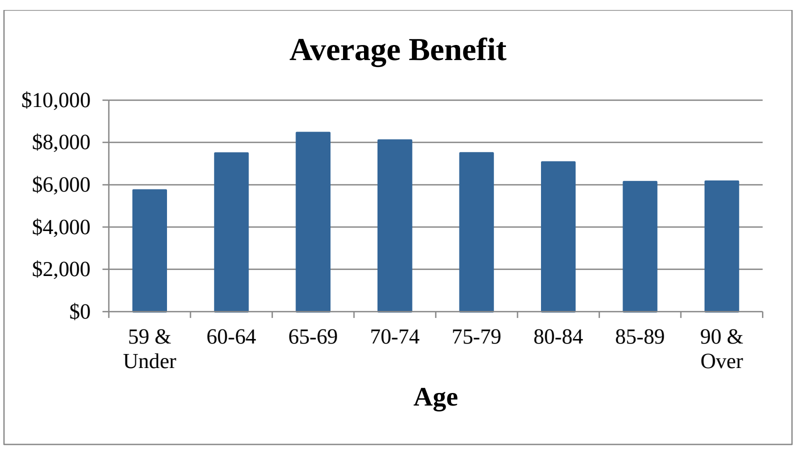




BENEFICIARIES RECEIVING BENEFITS
As of June 30, 2022 for the June 30, 2023 Valuation

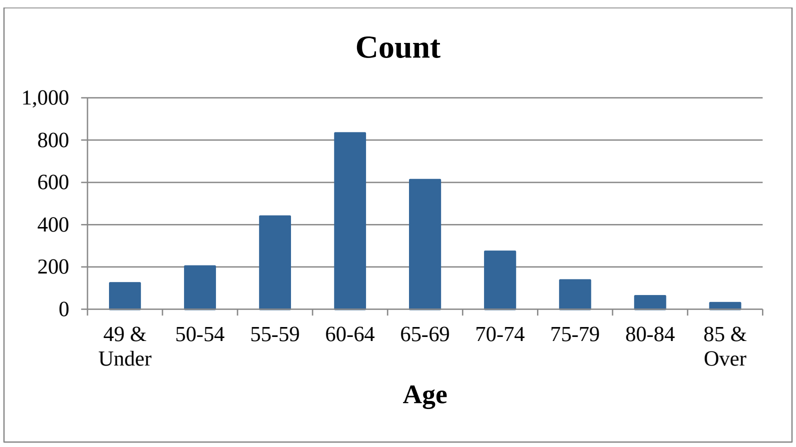
	Count of Members			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
59 & Under	354	850	1,204	$ 1,727,519	$ 5,181,736	$ 6,909,255
60-64	214	697	911	1,233,878	5,588,926	6,822,804
65-69	333	1,093	1,426	2,319,444	9,741,421	12,060,865
70-74	409	1,367	1,776	2,689,787	11,705,005	14,394,792
75-79	408	1,402	1,810	2,423,147	11,141,502	13,564,649
80-84	360	1,314	1,674	1,999,279	9,822,349	11,821,628
85-89	245	1,032	1,277	1,229,699	6,606,279	7,835,978
90 & Over	145	913	1,058	717,874	5,796,714	6,514,588
Total	2,468	8,668	11,136	$ 14,340,627	$ 65,583,932	$ 79,924,559

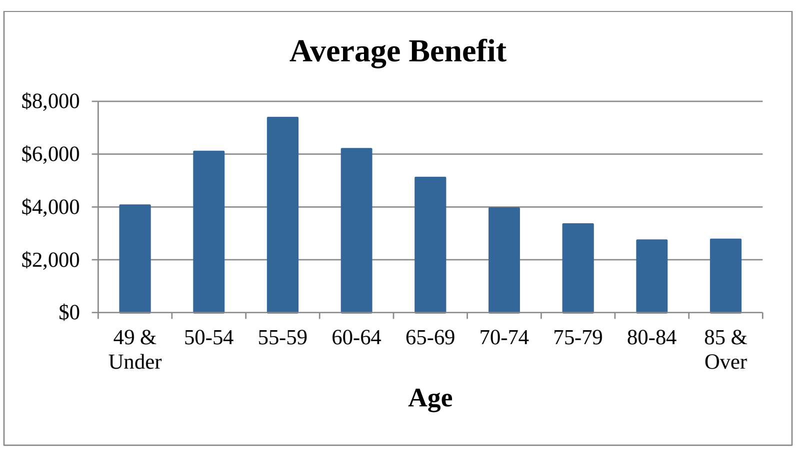




DISABLED MEMBERS
As of June 30, 2022 for the June 30, 2023 Valuation

	Count of Members			Annual Benefits		
Age	Male	Female	Total	Male	Female	Total
49 & Under	46	78	124	$ 213,619	$ 289,372	$ 502,991
50-54	88	115	203	635,459	600,884	1,236,343
55-59	195	244	439	1,717,825	1,521,661	3,239,486
60-64	336	497	833	2,440,095	2,720,638	5,160,733
65-69	228	384	612	1,287,250	1,838,505	3,125,755
70-74	111	162	273	471,459	607,185	1,078,644
75-79	60	77	137	229,695	228,128	457,823
80-84	16	46	62	49,213	120,341	169,554
85 & Over	10	20	30	23,079	59,862	82,941
Total	1,090	1,623	2,713	$ 7,067,694	$ 7,986,576	$ 15,054,270





ADDITIONAL IN PAY INFORMATION
As of June 30, 2022 for the June 30, 2023 Valuation

Schedule of Average Benefit Payments [1]

	Years of Credited Service						
For the Year Ended June 30, 2023	< 10 [2]	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total
Average Monthly Defined Benefit	$161	$317	$445	$622	$868	$1,396	$710
Average Monthly DC Annuity [3]	$49	$113	$156	$213	$286	$493	$249
Average Final Average Salary [4]	$26,567	$28,460	$30,457	$32,965	$36,683	$44,720	$34,419
Number of Benefit Recipients	3,158	17,840	23,543	19,277	14,939	20,878	99,635

[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: (1) a member receiving a disability benefit from INPRS; (2) a member who has at least eight years of creditable service as a county clerk, county auditor, county recorder, county treasurer, county sheriff or county coroner eligible for a normal retirement after reaching age 65 (applies to only members retiring after June 30, 2002); (3) a member who has at least eight years of creditable service as a state auditor, state treasurer, or secretary of state (whose term commences after the November 5, 2002 election).
[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 2,052 in-pay members who are missing a final average salary in the data.

ADDITIONAL IN PAY INFORMATION
As of June 30, 2022 for the June 30, 2023 Valuation

Schedule of Benefit Recipients by Type of Benefit Option [1]

	Number of Recipients by Benefit Option [2]							
Amount of Monthly Benefit (in dollars)	5-Year Certain & Life [3]	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	10,698	10,313	8,158	970	2,092	6,242	1,862	40,335
501-1,000	7,582	10,697	5,932	1,214	2,508	3,162	594	31,689
1,001-1,500	2,917	5,050	3,486	783	1,378	1,106	185	14,905
1,501-2,000	1,228	2,420	1,585	518	656	366	57	6,830
2,001-2,500	528	1,153	804	215	388	159	12	3,259
2,501-3,000	228	490	324	103	173	65	1	1,384
Over 3,000	156	492	267	132	148	36	2	1,233
Total	23,337	30,615	20,556	3,935	7,343	11,136	2,713	99,635

[1] Calculated using the prior year census data, adjusted for certain activity during the fiscal year.
[2] Beginning October 2014, social security integration can apply to any optional form.
[3] Includes members who elected a modified cash refund plus 5-year certain & life.

ADDITIONAL IN PAY INFORMATION
As of June 30, 2022 for the June 30, 2023 Valuation

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]	6,075	$66,246	3,523	$26,018	99,635	$967,807	5.0%	$9,714	2.3%
2022 [3]	5,658	56,959	3,426	24,240	97,083	922,040	3.5	9,497	1.1
2021 [3]	5,502	55,399	3,087	21,538	94,851	891,168	3.7	9,395	1.0
2020 [3]	5,194	50,481	2,690	18,520	92,436	859,427	3.7	9,298	0.9
2019 [3]	5,077	50,319	3,135	21,565	89,932	829,035	3.4	9,218	1.2
2018 [3]	5,249	55,236	2,389	15,609	87,990	801,551	5.8	9,110	2.3
2017 [3]	4,855	49,980	2,913	18,808	85,130	757,851	3.9	8,902	1.5
2016 [3]	6,478	78,487	2,488	15,597	83,188	729,366	9.9	8,768	4.6
2015 [3]	5,489	60,538	2,241	14,107	79,198	663,767	7.4	8,381	3.0
2014 [3]	0	0	0	0	75,950	617,977	0.0	8,137	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	All full-time employees of the State of Indiana and all full-time employees of Political Subdivisions which have adopted the plan become members of PERF upon date of hire.
Average monthly earnings	The monthly average of earnings during 20 quarters (in groups of 4 consecutive contribution quarters) preceding retirement that produce the highest such average. Earnings include basic salary, the member's 3% mandatory contribution paid by the employer, the member's salary reduction agreement under Section 125, 430(b), or 457 of the Internal Revenue Code, and up to $2,000 of additional compensation received from the employer in anticipation of the member's termination or retirement.
Member contributions	Each member is required to contribute to a Defined Contribution Account at the rate of 3% of pay (unless the employer has opted to make the contribution for the employee). These contributions are kept on deposit and credited with interest based on the investment elections of each member until such time as they are withdrawn or annuitized by the member. The Defined Contribution Account benefit is in addition to the annuity benefits provided by employer contributions. During FYE 2018, the Defined Contribution Accounts were completely separated from the defined benefit plan, and so are no longer relevant to the valuation process.
Minimum pension benefit	The minimum pension benefit paid to a member with 10 or more years of creditable service receiving any pension benefit is $180 per month.

Eligibility for Benefits

Deferred vested	10 or more years of vesting service and no longer active.
Disability retirement	5 or more years of vesting service and qualified for Social Security disability benefits or federal Civil Service disability benefits.
Early retirement	Age 50 with 15 or more years of vesting service.

Normal retirement	Earliest of: - Age 65 with 10 or more years of vesting service - Age 60 with 15 or more years of vesting service - Age 55 with sum of age and vesting service equal to 85 or more. 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 or more years of vesting service.

Monthly Benefits Payable

Normal retirement	The normal retirement benefit is a pension payable for life with 60 months guaranteed and is equal to 1.1% of average monthly earnings multiplied by years of creditable service earned. The minimum monthly benefit is $180 if the member has at least 10 years of creditable service.
Early retirement	The early retirement benefit is the accrued retirement benefit determined as of the early retirement date and payable commencing at the normal retirement date. A member may elect to have the benefit commence prior to normal retirement provided the benefit is reduced by 1/10% for each of the first 60 months and by 5/12% for each of the next 120 months that the benefit commencement date precedes the normal retirement date. The minimum monthly benefit is $180 if the member has at least 10 years of creditable service.
Deferred retirement	The termination benefit is the accrued retirement benefit determined as of the termination date and payable commencing at age 65. If the member has 15 or more years of creditable service, then the member may elect to receive a reduced early retirement benefit prior to age 65. The minimum monthly benefit is $180 if the member has at least 10 years of creditable service.
Disability	The disability retirement benefit is the accrued retirement benefit determined as of the disability date and payable commencing the month following disability date without reduction for early commencement. The minimum monthly benefit is $180.
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. The minimum monthly benefit is $180 if the member has at least 10 years of creditable service.
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. The INPRS Board has the authority to have employers contribute up to 1% of member pay into the fund. Increases or payments are made upon passed legislation subject to the availability of funds to provide the benefit. Legislation passed in 2021 provided for a 1% increase effective January 1, 2022 and no increase through the remainder of the biennium.
Forms of payment	
a. 5-Year Guaranteed Beneficiary Benefit (Option 10)	Member will receive a monthly benefit for the rest of their life. If the member dies before receiving benefits for 5 years, the beneficiary will receive that monthly benefit for the remainder of those 5 years or a lump sum distribution equal to the present value of those payments. After 5 years, there are no payments available to the beneficiary.
b. Benefit with No Guarantee (Option 20)	Member will receive a monthly benefit for life, but there are no monthly payments to anyone after death. However, the balance of the Defined Contribution Account will be distributed to the beneficiary or estate if it is larger than the payments previously made to the member.
c. Joint with Full Survivor Benefits (Option 30)	Member will be paid a monthly benefit for life. After death, the same monthly benefit will be paid to the beneficiary for their lifetime.

d. Joint with Two-Thirds Survivor Benefits (Option 40)	Member will be paid a monthly benefit for life. After death, two-thirds (2/3) of the benefit will be paid to the beneficiary for their lifetime.
e. Joint with One-Half Survivor Benefits (Option 50)	Member will be paid a monthly benefit for life. After death, one-half (1/2) of the benefit will be paid to the beneficiary for their lifetime.
f. Integration with Social Security (Option 61)	A member who retires between ages 50 and 62 may integrate the PERF monthly pension benefit with the member's estimated Social Security benefits. This does not affect the amount of the benefit received from the Social Security Administration.
	Before age 62, the member's benefits will equal the sum of the member's Social Security estimate, multiplied by actuarial factors, and the member's early retirement benefit. This will result in the member receiving a larger monthly benefit payment before age 62. After age 62, the member's benefit will equal the difference between the member's Social Security estimate, multiplied by actuarial factors, and the member's pre-62 monthly pension benefit. Depending upon the member's estimated Social Security disbursement, benefit payments may be greatly reduced or terminated at age 62.
g. 5-Year Guaranteed Beneficiary Benefit with Cash Refund (Option 71)	In order to select this option, the member must choose to combine at least a portion of their Defined Contribution Account with their lifetime monthly pension benefit. If selected, the member will receive a monthly benefit for the rest of their life. If the member dies before receiving payments for 5 years, the beneficiary will receive the pension portion of their monthly benefit for the remainder of those 5 years or a lump sum equal to the present value of those remaining payments. Also, upon death (whether death occurs before or after receiving 5 years of benefits), the beneficiary may receive any remaining balance of the Defined Contribution Account.

Changes in Plan Provisions since the Prior Year

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

ACTUARIAL METHODS

1. **Actuarial Cost Method**

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

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

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. Effective June 30, 2018, the bases are calculated without regards to the COLA provisions. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

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

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

2. **COLA Surcharge**

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

3. **Asset Valuation Method**

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

4. **Anticipated Payroll**

   The Anticipated Payroll for the fiscal year beginning July 1, 2023 is equal to the actual payroll during the year ending June 30, 2023, increased with one year of salary scale.

5. **Employer Contribution Rates**

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

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	2.65%	6.00%	8.65%
1	2.65%	5.00%	7.65%
2	2.65%	4.00%	6.65%
3	2.65%	3.00%	5.65%
4	2.65%	2.50%	5.15%
5	2.65%	2.00%	4.65%
6	2.65%	1.75%	4.40%
7	2.65%	1.50%	4.15%
8	2.65%	1.25%	3.90%
9	2.65%	1.00%	3.65%
10	2.65%	0.75%	3.40%
11	2.65%	0.50%	3.15%
12	2.65%	0.25%	2.90%
13+	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 – General Employee table with a 3 year set forward for males and a 1 year set forward for females.

Retirees – General Retiree table with a 3 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

	Sample Rates	
Age	**Male**	**Female**
20	0.004%	0.003%
25	0.008%	0.006%
30	0.014%	0.010%
35	0.024%	0.018%
40	0.042%	0.032%
45	0.080%	0.061%
50	0.160%	0.124%
55+	0.300%	0.200%

3. Retirement

Age	Eligible for **Reduced** Benefit	Eligible for **Unreduced** Benefit
50-54	4%	N/A
55	5%	14%
56-59	5%	10%
60	N/A	12%
61	N/A	16%
62	N/A	22%
63	N/A	19%
64	N/A	24%
65-74	N/A	30%
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	State Unisex	PSD, Salary >$20K Unisex
0	24.00%	18.00%
1	20.00%	16.00%
2	18.00%	14.00%
3	16.00%	12.00%
4	14.00%	10.00%
5	12.00%	8.00%
6	11.00%	7.50%
7	10.00%	7.00%
8	9.00%	6.50%
9	8.00%	6.50%
10	7.00%	6.50%
11	6.50%	6.25%
12	6.00%	6.00%
13	5.75%	5.75%
14	5.50%	5.50%
15	5.25%	5.25%
16	5.00%	5.00%
17	4.75%	4.75%
18	4.50%	4.50%
19	4.25%	4.25%
20	4.00%	4.00%
21	4.00%	3.75%
22	4.00%	3.50%
23	4.00%	3.25%
24	4.00%	3.00%
25	4.00%	3.00%
26	4.00%	3.00%
27+	1.00%	3.00%

	PSD, Salary <$20k	
Age	Male	Female
15-22	34.00%	40.00%
23	34.00%	38.00%
24	34.00%	36.00%
25	34.00%	34.00%
26	34.00%	32.00%
27	34.00%	30.00%
28	34.00%	29.00%
29	34.00%	28.00%
30	29.00%	27.00%
31	29.00%	26.00%
32	29.00%	25.00%
33	29.00%	24.00%
34	29.00%	23.00%
35	25.00%	22.00%
36	25.00%	21.00%
37	25.00%	20.00%
38	25.00%	19.00%
39	25.00%	18.00%
40	24.00%	17.00%
41	24.00%	16.00%
42	24.00%	15.00%
43	24.00%	14.00%
44	24.00%	13.00%
45-49	21.00%	12.00%
50-60	17.00%	12.00%
61+	14.00%	12.00%

Other Assumptions

1. Form of payment	100% of members are assumed to elect the normal form of benefit payment, a single life annuity with a five-year certain period.
2. Marital status	
a. Percent married	80% of male members and 65% 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 liability computed as of June 30, 2022 to the June 30, 2023 measurement date. The normal cost rate is assumed to remain unchanged between June 30, 2022 and June 30, 2023.

The member payroll and asset information for this valuation were furnished as of June 30, 2023. Projected FYE 2024 payroll is assumed to increase by the salary growth assumption over the total payroll observed for FYE 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.

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 plan 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 plan 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 plan 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 plan 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 plans have unfunded actuarial liability. They arise anytime new benefits are added and anytime an actuarial loss is realized.