Wisconsin Retirement System

Forty-Fourth Annual Actuarial Valuation and
Gain/Loss Analysis
December 31, 2024

GRS

Outline of Contents

May 30, 2025

Employee Trust Funds Board
Wisconsin Department of Employee
    Trust Funds
4822 Madison Yards Way
Madison, Wisconsin 53705

Ladies and Gentlemen:

The results of the December 31, 2024 **annual actuarial valuations of non-retired members covered by the Wisconsin Retirement System** are presented in this report. The valuations establish contribution rates for the 2026 calendar year in conformance with Chapter 40 of the Wisconsin Statutes. This report should not be relied upon for any other purpose. This report may be distributed to parties other than the ETF Board and Staff only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different. The change in the total normal cost rates from last year are shown below:

General, Executive & Elected	Protective with SS	Protective without SS
0.5%	0.0%	-0.2%

The valuations are based upon our understanding of the main plan provisions related to General, Executive and Elected, and Protective Occupation employment with and without Social Security coverage. The plan provisions evaluated are summarized in Section G of this report. Please advise us of any material misstatements in the summary and do not rely on this report until such are resolved.

The individual member statistical data required for the valuations was furnished by the Department of Employee Trust Funds (DETF), together with pertinent data on financial operations. The cooperation of DETF staff in furnishing these materials is acknowledged with appreciation. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by others.

Actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rates of investment return and payroll growth, eligibility for the various classes of benefits, and longevity among retired lives. The Board adopts these assumptions after considering the advice of the actuary and other professionals. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed. The December 31, 2024 valuations were based upon assumptions that were recommended in connection with a study of experience during 2021-2023 and benefit provisions in effect on December 31, 2024. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. The combined effect of the assumptions, excluding prescribed assumptions or methods set by law, is expected to have no significant bias (i.e., not significantly optimistic or pessimistic).

Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.
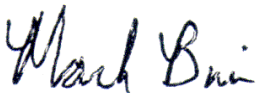
This report includes various risk factors, but does not include an assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. However, an additional assessment of risk including stress testing for the Wisconsin Retirement System was conducted in the fall of 2023 in conjunction with the State of Wisconsin Investment Board. Additional discussion of various risk factors is included on pages B-9 to B-13 of this report.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods. Mark Buis, James D. Anderson, and Richard C. Koch Jr. are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

The valuations were completed by qualified actuaries in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. It is our opinion that the Wisconsin Retirement System is operating in accordance with actuarial principles of level percent-of-payroll financing.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Mark Buis, FSA, EA, FCA, MAAA   James D. Anderson, FSA, EA, FCA, MAAA

Richard C. Koch Jr., FSA, EA, FCA, MAAA

MB/JDA/RCK:sc

SECTION A

EXECUTIVE SUMMARY

Executive Summary

1. Required Employer Contributions to Support Retirement System Benefits

| | General, Executive & Elected Officials | | Protective Occupation | | | | Average |
| | | | With Soc. Sec. | | Without Soc. Sec. | | |
	2026	2025	2026	2025	2026	2025	2026
Employer Normal Cost	7.20%	6.95%	14.70%	14.95%	18.50%	18.95%	8.20%
Participant Normal Cost	7.20%	6.95%	7.20%	6.95%	7.20%	6.95%	7.20%
Total Normal Cost	**14.4%**	**13.9%**	**21.9%**	**21.9%**	**25.7%**	**25.9%**	**15.40%**

All employers are required to contribute the employer normal cost shown above. Certain employers are required to make additional contributions to fund their "Frozen Initial Liability" which are liabilities that they either brought on when they joined the WRS, or when they increased their prior service percentage. Related information is provided on page B-2. For employers with Jailers, the Jailers are responsible for contributing the Protective Occupation with Social Security employer normal cost rate and the employer is responsible for the participant normal cost rate.

Under Section 40.05 of the Wisconsin statutes updated for Acts 10 and 32 of 2011, contribution rates are split evenly between the employer normal cost and the participant normal cost for both General Participants and Executive and Elected Officials. For Protective Occupations, the participant normal cost is set equal to the participant normal cost for General Participants.

Contributions to support the Section 40.65 Duty Disability Program and the Accumulated Sick Leave Conversion Credit Program are in addition to the WRS rates shown above.

Executive Summary

2. Reasons for Change

There are three general reasons why contribution rates change from one valuation to the next. The first is a change in the benefits or eligibility conditions of the plan. The second is a change in the valuation assumptions used to project future occurrences. The third is the difference during the year between the plan's actual experience and what the assumptions predicted.

In Wisconsin, there is a fourth reason. When the contribution rate changes for any of the first three reasons, the effect of the change is split evenly between employers and participants, except for protective occupation participants. When the participant normal cost changes, projected future participant account balances also change. By statute, the value of the participant retirement benefits must be at least equal to twice the account balance at retirement. This then changes the value of the retirement benefit, which then changes the total normal cost, which is then split between employers and participants. This final effect on normal cost is referred to as the "Money Purchase Effect."

In total, changes in the contribution rate are illustrated in the following chart. Additional detail on gains and losses can be found in Section D of this report.

	General, Executive & Elected Officials	Protective with Soc. Sec.	Protective without Soc. Sec.
2025 Normal Cost Rate	13.90%	21.90%	25.90%
Effect of Benefit Change	0.00%	0.00%	0.00%
Effect of Assumption Change	0.20%	(0.10)%	(0.10)%
Effect of Asset Performance	(0.04)%	(0.17)%	(0.25)%
Effect of Salary Experience	0.18%	0.21%	0.10%
Effect of Money Purchase Benefit	0.15%	0.05%	0.01%
Demographic and Other Experience	0.01%	0.01%	0.04%
2026 Normal Cost Rate	14.40%	21.90%	25.70%

Although the investment income is allocated proportionately to each group, the effect on the contribution rate will be different because the ratio of assets to payroll is different for each group.

3. General Comments

Based upon this valuation, the normal cost rate for General, Executive & Elected Officials increased primarily due to revised actuarial assumptions, higher than expected salaries and the money purchase minimum. Protective with Social Security had no change in their normal cost rate due to increases resulting from higher than expected salaries being offset by revised actuarial assumptions and favorable investment performance and demographic experience. Finally, Protective without Social Security had a decrease in their normal cost rate driven by revised actuarial assumptions and favorable asset performance.

In total, during 2024, investment return was above the assumed 2024 level of 6.80% on a market value basis. Under the asset valuation method (using the MRA), gains and losses are phased-in over a five-year period, resulting in a 7.2% return on an Actuarial Value of Assets basis in the Core Fund. The Actuarial Value of Assets exceeds the Market Value of Assets by approximately 2.6% as of the valuation date. The statutory asset valuation method will recognize all of the differences between actuarial value and market value of -$3.4 billion over four future years putting upward pressure on future contribution rates, given that all assumptions are realized.

Conclusion. Based upon the results of the December 31, 2024 regular annual actuarial valuation, it is our opinion that ***the Wisconsin Retirement System continues to operate in accordance with actuarial principles of level percent-of-payroll financing.***

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 6.80% on the actuarial value of assets), it is expected that:

(1) The normal cost as a percentage of pay will decrease to the level of the entry age normal cost as time passes.
(2) The unfunded liability will decrease in dollar amount until it is fully funded.
(3) The funded status of the plan will remain very close to a 100% funded ratio.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded ratio measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
(2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amount of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon actuarial assumptions. A funded ratio measurement in this report of 100% is not synonymous with no required future contributions. If the funded ratio were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

Limitation of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

SECTION B

VALUATION RESULTS

Actuarial Valuation Process
(Illustration for General/Elected Group – not to scale)
$ Millions -- %'s of Payroll

Present Value of Future Benefits
$69,820.9

Entry Age Cost Method

Accrued Liability
$48,620.0

Future Normal Costs
$21,200.9

Assets
$47,261.6

Unfunded
$1,358.4

Future Earnings
$153,445.1

Frozen Initial Liability Method

EAR
$1,356.3

FIL
$2.1

Paid by Er's with FIL Only

20-Year

0.60%

13.82%

Total Pooled Rate (Rounded)

14.40%

7.20%

7.20%

Employer

Employee

GRS
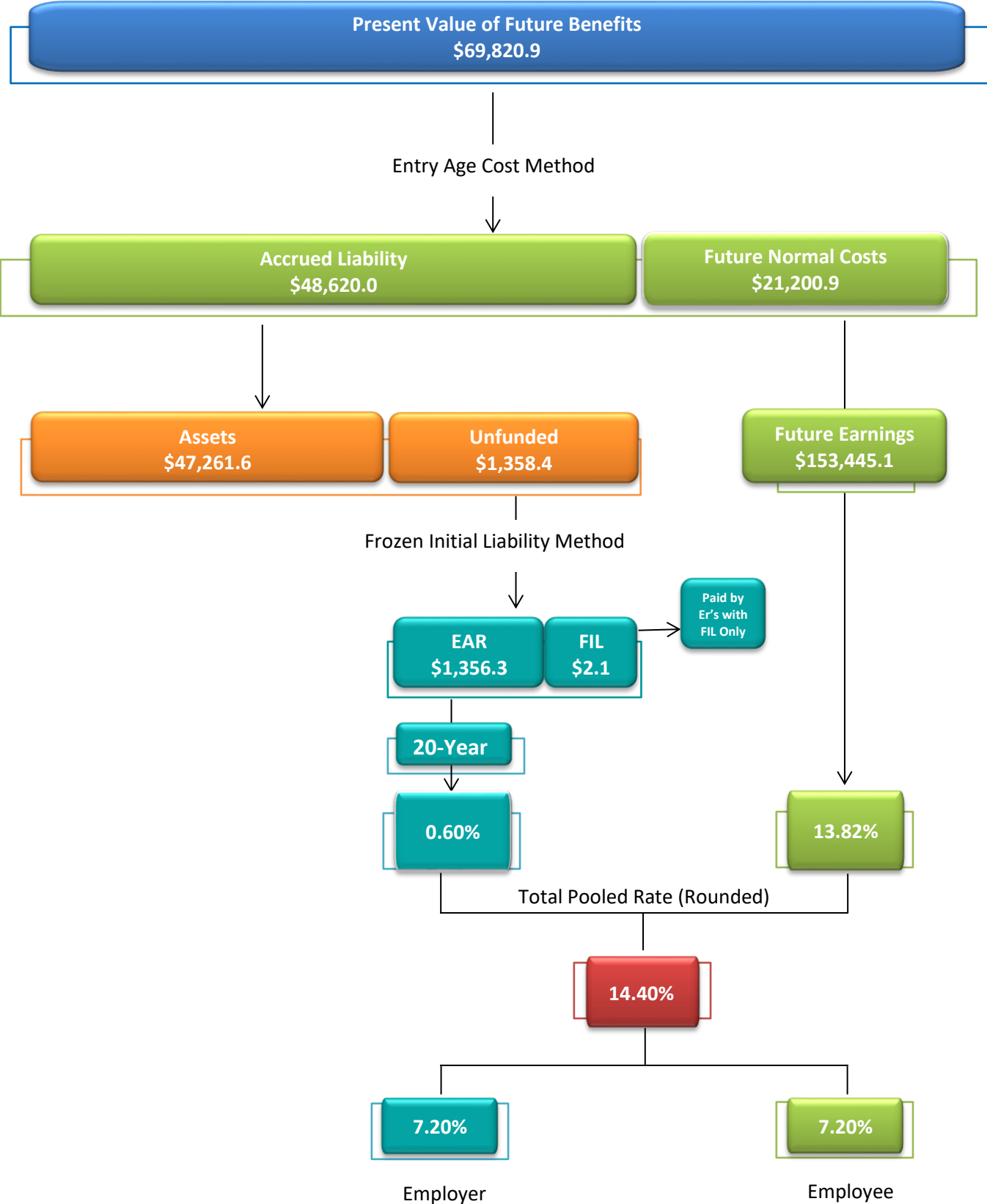
Wisconsin Retirement System
December 31, 2024 Valuation Overview

		$ Millions				
		Non-Retired		**Unallocated**		
		Protective				
	General, Executives & Elected Officials	**With Soc. Sec.**	**Without Soc. Sec.**	**Add 'l Contribs**	**Retired**	**Total/Average**
1 Number of People						
a. Active	244,083	21,130	3,032			268,245
b. Inactive, not retired	181,165	8,560	326			190,051
c. Total	425,248	29,690	3,358		242,226	700,522
2 Current Earnings[1]	$16,157.0	$1,931.5	$281.8			$18,370.3
3 **Present Values of**						
Future Benefits for						
a. Active	$58,520.4	$8,965.9	$1,825.3			$69,311.6
b. Inactive, not retired	$10,026.5	$869.3	$83.8			$10,979.6
c. Variable Adjustment	$1,274.0	$105.1	$22.4			$1,401.5
d. Total	$69,820.9	$9,940.3	$1,931.5	$310.4	$83,664.0	$165,667.1
4 Future Entry Age Normal Costs	$21,200.9	$3,402.3	$689.7			$25,292.9
5 Future Earnings	$153,445.1	$19,305.0	$3,069.3			$175,819.4
6 **Pooled Entry Age Normal Cost (4/5)**	**13.82%**	**17.62%**	**22.47%**			**14.39%**
7 Entry Age Accrued Liability (3d-4)	$48,620.0	$6,538.0	$1,241.8	$310.4	$83,664.0	$140,374.2
8 Assets	$47,261.6	$5,393.4	$1,113.9	$310.4	$83,664.0	$137,743.3
9 **Total Entry Age Unfunded Liability (7-8)**	**$1,358.4**	**$1,144.6**	**$127.9**	**$0.0**	**$0.0**	**$2,630.9**
10 Frozen Initial Liability Portion	$2.1	$0.0	$0.0	$0.0	$0.0	$2.1
11 Pooled Unfunded Liability (EAR) (9-10)	$1,356.3	$1,144.6	$127.9	$0.0	$0.0	$2,628.8
12 20-year amortization factor	14.0212	14.0212	14.0212			14.0212
13 **Pooled Amortization % (11/12/2)**	**0.60%**	**4.23%**	**3.24%**			**1.02%**
14 **Total Pooled Rate Rounded (6+13)**	**14.4%**	**21.9%**	**25.7%**			**15.4%**
15 **2026 F-I-L Normal Cost Rates**						
16 **Participant (0.5x14 (Gen'l))**	**7.20%**	**7.20%**	**7.20%**			**7.20%**
17 **Employer (14-16)**	**7.20%**	**14.70%**	**18.50%**			**8.25%**
18 **Total (16+17)**	**14.4%**	**21.9%**	**25.7%**			**15.45%**
19 Entry Age Funded Ratio (8/7)	97.2%	82.5%	89.7%	100.0%	100.0%	98.1%

	Unfunded Frozen Initial Liability (UFIL)				
		Protective			
	General, Executives & Elected Officials	**With Soc. Sec.**	**Without Soc Sec**		**Total**
Balance January 1, 2024	$4,292,454	$707,267	$0		$4,999,721
New Employers	$0	$0	$0		$0
Payments and Adjustments	$(2,366,375)	$(669,826)	$0		$(3,036,201)
Interest	$130,974	$2,546	$0		$133,520
Balance December 31, 2024	**$2,057,053**	**$39,987**	**$0**		**$2,097,040**
WRS Average UFIL Contribution	**0.01%**	**0.03%**	**0.00%**		**0.02%**

[1] *Current Earnings represents the sum of the annualized pays that ETF reported as of the valuation date*

Each employer contributes the Employer Normal Cost shown in line 17 above. Each participant contributes an identical percentage of pay as indicated in line 16 above (except for Jailers who contribute the Protective with Social Security employer rate shown in line 17). Some employers have an unfunded Frozen Initial Liability and contribute an additional amount to amortize that liability. The retirement system provides the information regarding the remaining unfunded frozen initial liability.

Financing $165.7 Billion[1] of Benefit Promises
for Present Active and Retired Participants
December 31, 2024

Sources of Funds

Employer Normal Cost - $15.3

Partic. Normal Cost - $12.7

UFIL Payments - $0.01

Present Assets - $137.7

Uses of Funds

Future retired based on service already rendered - $56.7

Future retired based on service yet to be rendered - $25.3

Present Retired - $83.7
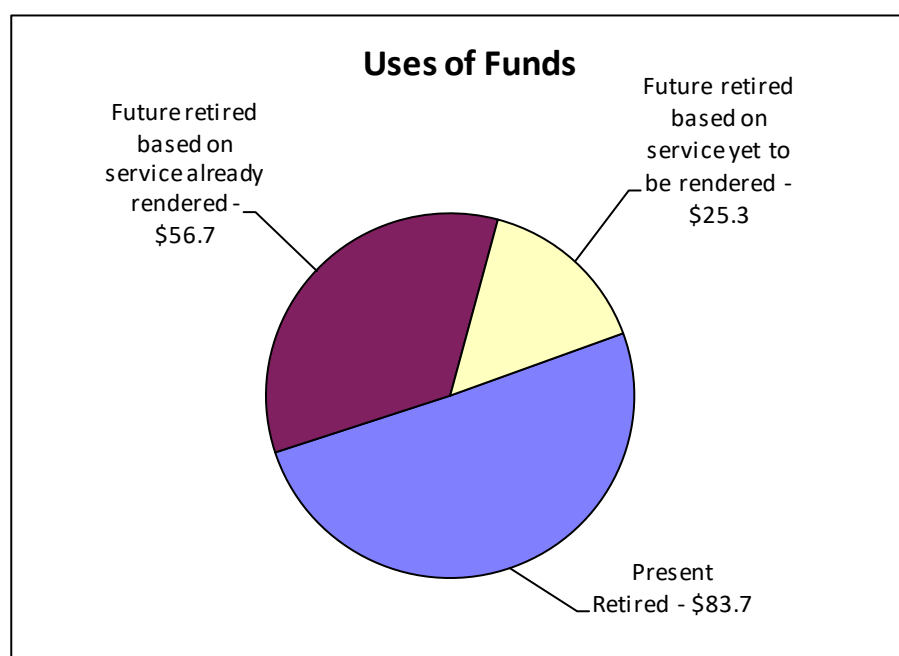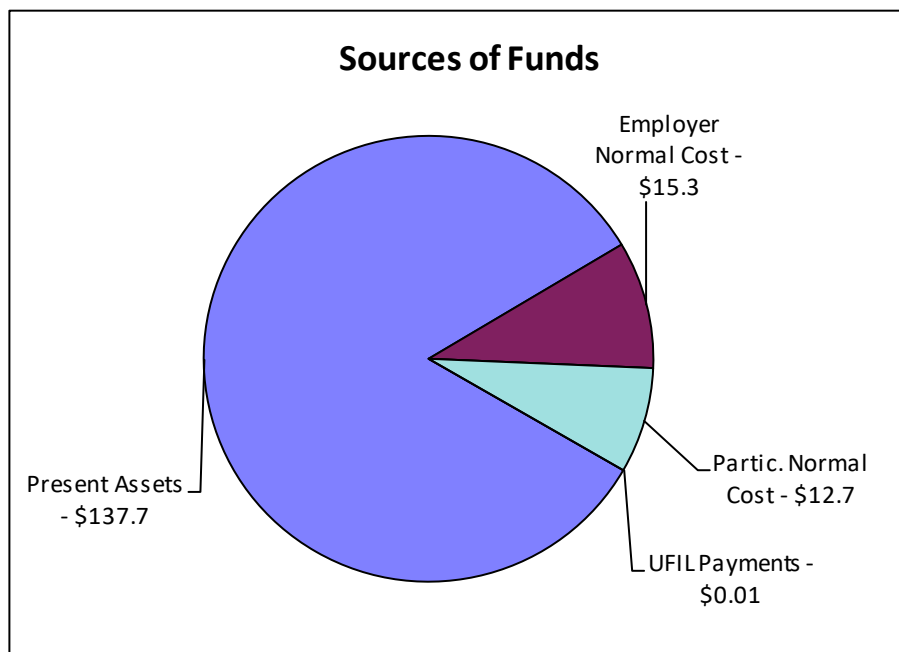
[1] *Present value of future benefits; all divisions combined.*

Expected Development of Present Population
December 31, 2024

Closed Group Active Population Projection
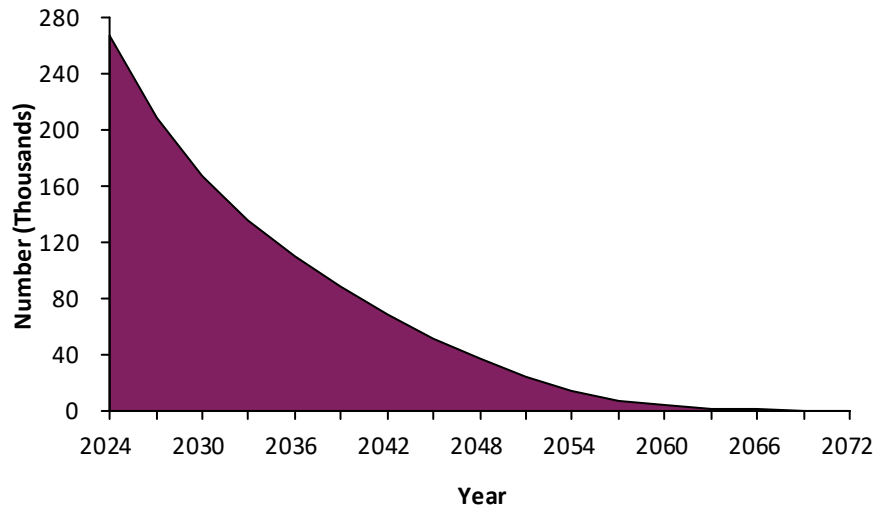
Expected Terminations from Active Employment
for Current Active Members

Retirements - 71%

Vested Separations - 14%

Deaths and Disabilities - 2%

Non-Vested Separations - 13%
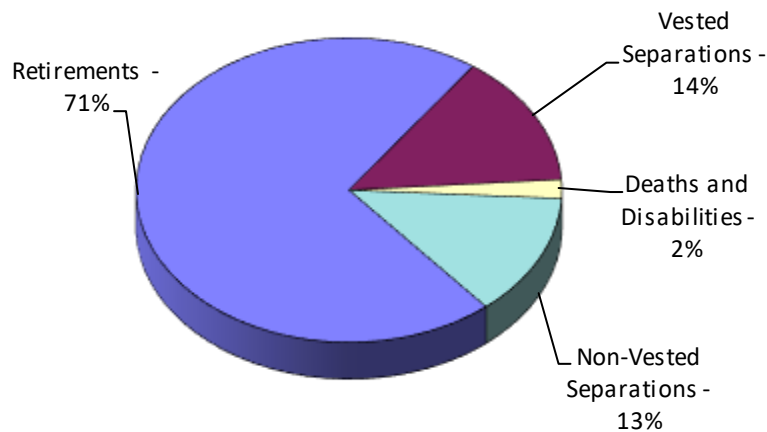
The charts above show the expected future development of the present population in simplified terms. The retirement system presently covers 268,245 active members. Eventually, 13% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for a monthly benefit. About 85% of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. The remaining 2% of the present population is expected to become eligible for death-in-service or disability benefits. Within 10 years, over half of the covered membership is expected to consist of new hires.

Comparative Statement of Computed Contribution Rates

Valuation 12/31	Rate Effective 1/1	General				Executive and Elected			
		Participant	Benefit Adj. Contr.	Employer[1]	Total	Participant	Benefit Adj. Contr.	Employer[1]	Total
2000	2002	5.00 %	0.20 %	5.10 %	10.30 %	3.10 %	0.00 %	9.60 %	12.70 %
2001 [2]	2003	5.00 %	0.40 %	5.23 %	10.63 %	2.60 %	0.00 %	9.06 %	11.66 %
2002	2004	5.00 %	0.60 %	5.22 %	10.82 %	2.60 %	0.00 %	8.91 %	11.51 %
2003	2005	5.00 %	0.80 %	4.70 %	10.50 %	2.80 %	0.00 %	8.40 %	11.20 %
2004	2006	5.00 %	0.90 %	4.73 %	10.63 %	2.90 %	0.00 %	8.47 %	11.37 %
2005	2007	5.00 %	1.00 %	4.81 %	10.81 %	3.00 %	0.00 %	8.56 %	11.56 %
2006	2008	5.00 %	1.00 %	4.79 %	10.79 %	3.00 %	0.00 %	8.56 %	11.56 %
2007	2009	5.00 %	0.90 %	4.68 %	10.58 %	3.00 %	0.00 %	8.55 %	11.55 %
2008	2010	5.00 %	1.20 %	4.95 %	11.15 %	3.20 %	0.00 %	8.75 %	11.95 %
2009	2011	5.00 %	1.50 %	5.22 %	11.72 %	3.90 %	0.00 %	9.45 %	13.35 %
2010	2012	5.00 %	1.60 %	5.30 %	11.90 %	4.30 %	0.00 %	9.80 %	14.10 %
2011 [3]	2013	6.65 %	N/A	6.75 %	13.40 %	7.00 %	N/A	7.00 %	14.00 %
2012	2014	7.00 %	N/A	7.00 %	14.00 %	7.75 %	N/A	7.75 %	15.50 %
2013	2015	6.80 %	N/A	6.80 %	13.60 %	7.70 %	N/A	7.70 %	15.40 %
2014	2016	6.60 %	N/A	6.60 %	13.20 %	7.80 %	N/A	7.80 %	15.60 %
2015 [4]	2017	6.80 %	N/A	6.87 %	13.67 %	6.80 %	N/A	6.87 %	13.67 %
2016	2018	6.70 %	N/A	6.73 %	13.43 %	6.70 %	N/A	6.73 %	13.43 %
2017	2019	6.55 %	N/A	6.57 %	13.12 %	6.55 %	N/A	6.57 %	13.12 %
2018	2020	6.75 %	N/A	6.79 %	13.54 %	6.75 %	N/A	6.79 %	13.54 %
2019	2021	6.75 %	N/A	6.78 %	13.53 %	6.75 %	N/A	6.78 %	13.53 %
2020	2022	6.50 %	N/A	6.50 %	13.00 %	6.50 %	N/A	6.50 %	13.00 %
2021	2023	6.80 %	N/A	6.80 %	13.60 %	6.80 %	N/A	6.80 %	13.60 %
2022	2024	6.90 %	N/A	6.91 %	13.81 %	6.90 %	N/A	6.91 %	13.81 %
2023	2025	6.95 %	N/A	6.95 %	13.90 %	6.95 %	N/A	6.95 %	13.90 %
2024	2026	7.20 %	N/A	7.21 %	14.41 %	7.20 %	N/A	7.21 %	14.41 %

[1] *Employer normal cost plus weighted-average of unfunded Frozen Initial liability contribution rates.*

[2] *Act 11 of 1999 was implemented in 2001.*

[3] *Act 10 and Act 32 were implemented in 2011.*

[4] *Contribution rates for General and Executive and Elected Officials groups were combined beginning with the 2015 valuation.*
Actual 2016 Participant and Employer contribution rates for the Executive and Elected Officials group were each 6.6%, respectively.

Comparative Statement of Computed Contribution Rates

Valuation 12/31	Rate Effective 1/1	Protective with Social Security				Protective without Social Security			
		Participant	Benefit Adj. Contr.	Employer[1]	Total	Participant	Benefit Adj. Contr.	Employer[1]	Total
2000	2002	4.00 %	0.00 %	7.80 %	11.80 %	3.00 %		11.90 %	14.90 %
2001 [2]	2003	4.00 %	0.00 %	7.68 %	11.68 %	2.40 %		11.28 %	13.68 %
2002	2004	4.50 %	0.00 %	8.02 %	12.52 %	3.20 %		11.81 %	15.01 %
2003	2005	4.90 %	0.00 %	8.10 %	13.00 %	3.30 %		11.30 %	14.60 %
2004	2006	5.00 %	0.00 %	8.19 %	13.19 %	3.30 %		11.11 %	14.41 %
2005	2007	5.10 %	0.00 %	8.28 %	13.38 %	3.40 %		11.16 %	14.56 %
2006	2008	5.10 %	0.00 %	8.27 %	13.37 %	3.40 %		11.17 %	14.57 %
2007	2009	5.00 %	0.00 %	8.15 %	13.15 %	3.20 %		10.89 %	14.09 %
2008	2010	5.50 %	0.00 %	8.64 %	14.14 %	3.90 %		11.56 %	15.46 %
2009	2011	5.80 %	0.00 %	8.94 %	14.74 %	4.80 %		12.46 %	17.26 %
2010	2012	5.90 %	0.00 %	9.00 %	14.90 %	4.90 %		12.60 %	17.50 %
2011 [3]	2013	6.65 %	N/A	9.75 %	16.40 %	6.65 %		12.65 %	19.30 %
2012	2014	7.00 %	N/A	10.10 %	17.10 %	7.00 %		14.00 %	21.00 %
2013	2015	6.80 %	N/A	9.50 %	16.30 %	6.80 %		13.40 %	20.20 %
2014	2016	6.60 %	N/A	9.40 %	16.00 %	6.60 %		13.40 %	20.00 %
2015	2017	6.80 %	N/A	10.70 %	17.50 %	6.80 %		15.00 %	21.80 %
2016	2018	6.70 %	N/A	10.73 %	17.43 %	6.70 %		14.95 %	21.65 %
2017	2019	6.55 %	N/A	10.55 %	17.10 %	6.55 %		15.04 %	21.59 %
2018	2020	6.75 %	N/A	11.66 %	18.41 %	6.75 %		16.27 %	23.02 %
2019	2021	6.75 %	N/A	11.76 %	18.51 %	6.75 %		16.36 %	23.11 %
2020	2022	6.50 %	N/A	12.02 %	18.52 %	6.50 %		17.36 %	23.86 %
2021	2023	6.80 %	N/A	13.23 %	20.03 %	6.80 %		18.10 %	24.90 %
2022	2024	6.90 %	N/A	14.30 %	21.20 %	6.90 %		19.10 %	26.00 %
2023	2025	6.95 %	N/A	14.95 %	21.90 %	6.95 %		18.95 %	25.90 %
2024	2026	7.20 %	N/A	14.73 %	21.93 %	7.20 %		18.50 %	25.70 %

[1] Employer normal cost plus weighted-average of unfunded Frozen Initial liability contribution rates.
[2] Act 11 of 1999 was implemented in 2001.
[3] Act 10 and Act 32 were implemented in 2011.

Schedule of Funding Progress & Accrued Liabilities
($ Millions)

Frozen Initial Liability Method

Valuation Date Dec. 31	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Frozen Entry Age (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll[1] (c)	UAAL as a Percent of Covered Payroll [(b) - (a)] / (c)
2015	$ 91,502.4	$ 91,526.5	$ 24.1	100.0 %	$ 13,530.5	0.2 %
2016	95,396.2	95,414.0	17.8	100.0 %	13,706.0	0.1 %
2017	100,802.5	100,819.3	16.8	100.0 %	13,943.1	0.1 %
2018	101,410.5	101,422.3	11.8	100.0 %	14,301.4	0.1 %
2019	106,524.4	106,532.4	8.0	100.0 %	14,832.5	0.1 %
2020	114,259.2	114,265.0	5.8	100.0 %	15,359.9	0.0 %
2021	124,665.4	124,671.2	5.8	100.0 %	15,780.8	0.0 %
2022	125,111.5	125,116.6	5.1	100.0 %	16,361.3	0.0 %
2023	132,132.8	132,137.8	5.0	100.0 %	17,435.3	0.0 %
2024	137,743.3	137,745.4	2.1	100.0 %	18,602.5	0.0 %

Entry Age Method

Valuation Date Dec. 31	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll[1] (c)	UAAL as a Percent of Covered Payroll [(b) - (a)] / (c)
2015	$ 91,502.4	$ 92,736.3	$ 1,233.9	98.7 %	$ 13,530.5	9.1 %
2016	95,396.2	96,351.2	955.0	99.0 %	13,706.0	7.0 %
2017	100,802.5	101,321.9	519.4	99.5 %	13,943.1	3.7 %
2018	101,410.5	102,823.3	1,412.8	98.6 %	14,301.4	9.9 %
2019	106,524.4	108,053.7	1,529.3	98.6 %	14,832.5	10.3 %
2020	114,259.2	115,250.3	991.1	99.1 %	15,359.9	6.5 %
2021	124,665.4	125,488.0	822.6	99.3 %	15,780.8	5.2 %
2022	125,111.5	126,582.0	1,470.5	98.8 %	16,361.3	9.0 %
2023	132,132.8	133,994.4	1,861.6	98.6 %	17,435.3	10.7 %
2024	137,743.3	140,374.2	2,630.9	98.1 %	18,602.5	14.1 %

[1] As reported by ETF staff. This figure is intended to represent the total pay upon which contributions were based during the year ended on the valuation date and does not necessarily match other figures in this report.

Funding Metrics ($ Millions)

Frozen Initial Liability Method

Valuation Date Dec. 31	Actuarial Value of Assets	F-I-L Accrued Liability for				Percent Funded for			
		Annuitants and Beneficiaries	Member Contribs.	Active & Inactive Members	Total	Annuitants and Beneficiaries	Participant Contributions	Active & Inactive Members	Total
2015	$91,502.4	$52,851.8	$16,707.2	$21,967.5	$91,526.5	100.0%	100.0%	99.9%	100.0%
2016	95,396.2	55,764.0	17,361.7	22,288.3	95,414.0	100.0%	100.0%	99.9%	100.0%
2017	100,802.5	59,224.9	18,434.4	23,160.0	100,819.3	100.0%	100.0%	99.9%	100.0%
2018	101,410.5	60,242.9	18,455.6	22,723.9	101,422.3	100.0%	100.0%	99.9%	100.0%
2019	106,524.4	63,657.8	19,487.0	23,387.6	106,532.4	100.0%	100.0%	100.0%	100.0%
2020	114,259.2	68,759.8	20,884.4	24,620.8	114,265.0	100.0%	100.0%	100.0%	100.0%
2021	124,665.4	75,528.7	22,737.5	26,405.0	124,671.2	100.0%	100.0%	100.0%	100.0%
2022	125,111.5	76,511.4	22,575.3	26,029.8	125,116.6	100.0%	100.0%	100.0%	100.0%
2023	132,132.8	80,672.8	24,055.5	27,409.5	132,137.8	100.0%	100.0%	100.0%	100.0%
2024	137,743.3	83,664.0	25,404.1	28,677.3	137,745.4	100.0%	100.0%	100.0%	100.0%

Entry Age Method

Valuation Date Dec. 31	Actuarial Value of Assets	Entry Age Accrued Liability for				Percent Funded for			
		Annuitants and Beneficiaries	Member Contribs.	Active & Inactive Members	Total	Annuitants and Beneficiaries	Participant Contributions	Active & Inactive Members	Total
2015	$91,502.4	$52,851.8	$16,707.2	$23,177.3	$92,736.3	100.0%	100.0%	94.7%	98.7%
2016	95,396.2	55,764.0	17,361.7	23,225.5	96,351.2	100.0%	100.0%	95.9%	99.0%
2017	100,802.5	59,224.9	18,434.4	23,662.6	101,321.9	100.0%	100.0%	97.8%	99.5%
2018	101,410.5	60,242.9	18,455.6	24,124.8	102,823.3	100.0%	100.0%	94.1%	98.6%
2019	106,524.4	63,657.8	19,487.0	24,908.9	108,053.7	100.0%	100.0%	93.9%	98.6%
2020	114,259.2	68,759.8	20,884.4	25,606.1	115,250.3	100.0%	100.0%	96.1%	99.1%
2021	124,665.4	75,528.7	22,737.5	27,221.8	125,488.0	100.0%	100.0%	97.0%	99.3%
2022	125,111.5	76,511.4	22,575.3	27,495.3	126,582.0	100.0%	100.0%	94.7%	98.8%
2023	132,132.8	80,672.8	24,055.5	29,266.1	133,994.4	100.0%	100.0%	93.6%	98.6%
2024	137,743.3	83,664.0	25,404.1	31,306.1	140,374.2	100.0%	100.0%	91.6%	98.1%

Discussion of Risk/Maturity Measures

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. GRS investigates gains or losses due to economic and demographic experience explicitly as they arise each year in this Annual Actuarial Valuation and Gain/Loss Analysis Report. The results of each valuation report then serves as the underlying basis for the three-year experience study, which investigates and adjusts assumptions so that future gains and losses are minimized. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:
1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements; because of the way most public retirement systems invest, this tends to be synonymous with investment risk;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The contribution rates shown on pages A-1 and A-2 may be considered as minimum contribution rates that comply with the Board's funding policy and statutes. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Discussion of Risk/Maturity Measures

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following: ratio of the market value of assets to total payroll, ratio of actuarial accrued liability to payroll, ratio of actives to retirees and beneficiaries, and the ratio of net cash flow to market value of assets.

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll. In the WRS, this volatility is mitigated by the extensive risk sharing features that are present in the plan.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. In the WRS, this volatility is mitigated by the extensive risk sharing features that are present in the plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time. The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. Additional assessment of risk including stress testing for the Wisconsin Retirement System was conducted in the fall of 2023 in conjunction with the State of Wisconsin Investment Board and a separate study commissioned in the fall of 2020 by the Department of Employee Trust Funds.

Risk/Maturity Measures

	(1) Entry Age Accrued Liabilities (AAL)	(2) Market Value of Assets	(3) (Overfunded)/ Unfunded AAL (1) - (2)	(4) Valuation Payroll	(5) Change in Valuation Payroll	(6) Funded Ratio (2)/(1)	(7) Annuitant Liabilities (AnnLiab)	(8) AnnLiab/ AAL (7)/(1)	(9) AAL/ Valuation Payroll (1)/(4)
Valuation Date									
2017	$101,321.9	$104,159.6	$(2,837.7)	$13,720.5	1.7%	102.8%	$59,224.9	58.5%	738.5%
2018	102,823.3	96,734.3	6,089.0	14,041.3	2.3%	94.1%	60,242.9	58.6%	732.3%
2019	108,053.7	112,098.6	(4,044.9)	14,583.7	3.9%	103.7%	63,657.8	58.9%	740.9%
2020	115,250.3	124,966.8	(9,716.5)	15,065.6	3.3%	108.4%	68,759.8	59.7%	765.0%
2021	125,488.0	141,847.8	(16,359.8)	15,410.0	2.3%	113.0%	75,528.7	60.2%	814.3%
2022	126,582.0	118,366.4	8,215.6	16,025.9	4.0%	93.5%	76,511.4	60.4%	789.9%
2023	133,994.4	127,697.1	6,297.3	17,136.2	6.9%	95.3%	80,672.8	60.2%	781.9%
2024	140,374.2	134,539.3	5,834.9	18,370.3	7.2%	95.8%	83,664.0	59.6%	764.1%

(Table heading: $ Millions)

These Risk Measures were based on assumptions in place on the valuation date. For the current valuation, this includes 6.8% future investment return, Entry Age Normal accrued liabilities and Market Value of Assets.

The Risk/Maturity measures shown on this page and on the following page have been developed in response to Actuarial Standard of Practice ("ASOP") No. 51 entitled "Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions." In a maturing plan, the ratio of retiree liabilities to total liabilities increases, and the ratios of both assets and liabilities to payroll increases, and contribution rates tend to become increasingly volatile. The risk/maturity measures and associated commentary are intended to help keep stakeholders informed of some of the risks that the plan faces, and the potential contribution rate volatility. In the WRS, however, contribution volatility is mitigated by the extensive risk sharing features of the plan, including the dividend process, the Money Purchase Effect, the sharing of contribution rate changes, etc. Thus, these measures, while interesting, have somewhat less meaning for the WRS than they do for most systems.

Notes:

The measures shown above provide information in accordance with Actuarial Standard of Practice No. 51.

Columns (1) to (4). These columns provide various items for comparison in Columns 5 through 16.

Column (5). When payroll grows at or faster than the assumed rate of 3.0%, funding of unfunded accrued liabilities is likely to proceed at least at the scheduled rate. Payroll growing slower than the assumed rate can lead to underfunding of the plan because expected contributions for unfunded liability may not be received.

Column (6). The Funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

Columns (7) and (8). The ratio of Annuitant liabilities to total accrued liabilities gives an indication of the maturity of the system. As the ratio increases, cash flow needs increase, and the investment policy may need to change. A ratio on the order of 50% indicates a maturing system. Ratios near or above 50% are common today.

Column (9). The ratio of liabilities to payroll gives an indication of both maturity and volatility. Many systems have ratios between 500% and 700%. Ratios significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll. In the WRS, this potential difficulty is mitigated by the many risk sharing features inherent in the plan design since liabilities are impacted by the dividend process and the impact on money purchase benefits.

Risk/Maturity Measures (Concluded)

	(10) Assets/ Payroll (2)/(4)	(11) Core Trust Fund Portfolio StdDev	(12) Std Dev % of Pay (10)x(11)	(13) Unfunded/ Payroll (3)/(4)	(14) Net External Cash Flow (NECF)	(15) NECF/ Assets (14)/(2)	(16) Core Trust Fund NOF Return	(17) Ratio of Actives to Retirees
Valuation Date								
2017	759.2%	12.0%	91.1%	0.0%	$(3,055.1)	-2.9%	15.8%	1.26
2018	688.9%	11.8%	81.3%	43.4%	(3,282.2)	-3.4%	-3.6%	1.18
2019	768.7%	11.8%	90.7%	-	(3,481.2)	-3.1%	16.8%	1.19
2020	829.5%	11.8%	97.9%	-	(3,484.9)	-2.8%	15.0%	1.16
2021	920.5%	11.8%	108.6%	-	(3,854.1)	-2.7%	16.9%	1.13
2022	738.6%	11.8%	87.2%	51.3%	(4,483.2)	-3.8%	-13.0%	1.11
2023	745.2%	11.8%	87.9%	36.7%	(4,645.8)	-3.6%	11.4%	1.11
2024	732.4%	11.8%	86.4%	31.8%	(4,586.1)	-3.4%	8.6%	1.11

$ Millions

Notes:

Column (10). The ratio of assets to payroll gives an indication of both maturity and volatility. Many systems have ratios between 500% and 700%. Ratios significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll. In the WRS, this potential difficulty is mitigated by the many risk sharing features inherent in the plan design.

Columns (11) and(12). The portfolio standard deviation measures the volatility of investment return. When multiplied by the ratio of assets to payroll it gives the effect of a one standard deviation asset move as a percent of payroll. This figure helps users understand the difficulty of dealing with investment volatility and the challenges volatility brings to sustainability. In the WRS, the potential threat to sustainability is mitigated by the many risk sharing features inherent in the plan design. The portfolio standard deviation represents the standard deviation of the Core Trust Fund.

Column (13). The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A ratio above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.

Columns (14) and (15). The ratio of Net External Cash Flow to assets is an important measure of sustainability. Negative ratios are common and expected for a maturing system. In the longer term, this ratio should be on the order of approximately -4%. A ratio that is significantly more negative than that for an extended period could be a leading indicator of potential exhaustion of assets.

Column (16). Investment return is probably the largest single risk that most systems face. The year by year return gives an indicator of the performance of the portfolio versus the system's assumed return.

Column (17). In the 1970's and 1980's it was common for the ratio of actives to retirees to be 3 or 4 to 1. As plans mature, this ratio can drop significantly. Ratios below 2 are common today. A ratio significantly below 1 usually indicates a closed plan, a shrinking workforce or other special situation.

Low-Default-Risk Obligation Measure

Actuarial Standards of Practice No. 4 (ASOP No. 4) was revised and reissued in December 2021 by the Actuarial Standards Board (ASB). It includes a new calculation called a Low-Default-Risk Obligation Measure (LDROM) to be prepared and issued annually for defined benefit pension plans. The transmittal memorandum for ASOP No. 4 includes the following explanation:

> *"The ASB believes that the calculation and disclosure of this measure provides appropriate, useful information for the intended user regarding the funded status of a pension plan. The calculation and disclosure of this additional measure is not intended to suggest that this is the "right" liability measure for a pension plan. However, the ASB does believe that this additional disclosure provides a more complete assessment of a plan's funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date."*

The LDROM estimates the amount of money the plan would need to invest in low risk securities to provide the benefits with greater certainty. The current model expects lower costs but with higher risk, which creates less certainty and a possibility of higher costs. The LDROM model creates higher expected costs but more predictability when compared to the current model. Thus, the difference between the two measures (Valuation and LDROM) is one illustration of the possible costs the sponsor could incur if there was a reduction in the investment risk in comparison to the current diversified portfolio.

The following information has been prepared in compliance with this new requirement. The Entry Age Normal Cost method is used in the liability comparison below. Unless otherwise noted, the measurement date and assumptions used are consistent with this actuarial valuation report.

Entry Age Normal Accrued Liabilities	LDROM
(in $ Millions)	
$ 140,374.2	$ 150,600.4

ASOP No. 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of participant benefits. Specifically, if plan assets were changed to be invested exclusively in low-default-risk securities, the funded status would be lower and the contributions would have to immediately be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce the standard deviation of investment volatility, the higher necessary contributions would produce a larger ratio of assets to payroll, and thus it is not self-evident that the volatility of the employer contributions would be any lower. In addition, the portfolio would be expected to generate less investment earnings over time, increasing the likelihood of higher employer contributions and/or lower benefits (and, potentially, depletion of dividends).

Disclosures: Discount rates used to calculate LDROM were based upon the December 2024 Treasury Yield Curve Spot Rates (end of month). The 1-, 5-, 10- and 30-year rates follow: 4.29%, 4.29%, 4.37% and 4.64%. This measure is not appropriate for assessing the need for or amount of future contributions as the current portfolio is expected to generate significantly more investment earnings than the low-default-risk portfolio. This measure is also not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation as this measure includes projections of salary increases and the ability for current members to continue to accrue eligibility and vesting service.

Employer Contributions Required and Contributions Made

Year Ended December 31	Annual Required Contribution ($ millions)	Percent Contributed[1]
2015	$ 966.5	100.0%
2016	954.2	100.0%
2017	1,014.9	100.0%
2018	1,028.4	100.0%
2019	1,045.0	100.0%
2020	1,131.5	100.0%
2021	1,162.8	100.0%
2022	1,174.7	100.0%
2023	1,327.6	100.0%
2024	1,461.9	100.0%

[1] *Includes additional UAAL payments when amount is greater than 100%.*

SECTION C

FUND ASSETS

Total Valuation Assets
(Reserves)

| | Valuation Assets at December 31 | |
	2024	**2023**
Non Retired		
Participant Statutory		
Core	$ 22,468,733,533	$ 21,436,637,176
Variable	2,625,007,874	2,324,858,670
Total Statutory	25,093,741,407	23,761,495,846
Additional[1]	310,430,235	293,952,760
Total Participant	25,404,171,642	24,055,448,606
Employer		
Core	26,050,303,472	25,079,661,027
Variable	2,624,830,527	2,324,858,670
Total Employer	28,675,133,999	27,404,519,697
Total Non Retired	**54,079,305,641**	**51,459,968,303**
Retired Assets		
Core	77,893,459,064	75,583,575,468
Variable	5,770,476,184	5,089,210,569
Total Retired Assets	**83,663,935,248**	**80,672,786,037**
Total Assets used in Valuation	**137,743,240,889**	**132,132,754,340**

| | Valuation Assets at December 31 | |
	2024	**2023**
Core Assets	$ 126,701,268,416	$ 122,375,166,002
Variable Assets	11,041,972,473	9,757,588,338
Total Assets	137,743,240,889	132,132,754,340

[1] *Includes employer, employee, and tax deferred additional contributions.*

Reserves for Non-Retired Participants
Balances by Valuation Group

	Reserve for Year Ended			
	December 31, 2024			December 31, 2023
	Participant (Statutory)	Employer	Total[1]	Total
General, Executives & Elected	$23,506,081,124	$23,755,504,735	$47,261,585,859	$45,049,399,640
Protective with Soc. Sec.	1,444,009,286	3,949,363,360	5,393,372,646	5,029,617,433
Protective w/o Soc. Sec.	143,650,997	970,265,904	1,113,916,901	1,086,998,470
Total	$25,093,741,407	$28,675,133,999	$53,768,875,406	$51,166,015,543

[1] *Totals differ slightly from page C-1 due to rounding and additional contributions.*

The above schedule shows the distribution of Participant and Employer reserves among the valuation groups according to WRS accounting records. This separation of assets is needed because the valuation groups are separately experience rated. The assets are pooled for investment purposes.

Development of Participant and Employer Reserves during the Year

	Participant Accumulation			Employer Accumulation			
	Core	Variable	Total	Core	Variable	Total	Grand Total
Ending Balance December 31, 2023	$21,436,637,176	$2,324,858,670	$23,761,495,846	$25,079,661,027	$2,324,858,670	$27,404,519,697	$51,166,015,543
Closing Adjustments	(31,144)	0	(31,144)	3,001,636	0	3,001,636	2,970,492
Beginning Balance January 1, 2024	21,436,606,032	2,324,858,670	23,761,464,702	25,082,662,663	2,324,858,670	27,407,521,333	51,168,986,035
Revenues:							
Employer Contributions	0	0	0	1,368,701,804	95,345,456	1,464,047,260	1,464,047,260
Participant Contributions	1,195,545,092	95,631,938	1,291,177,030	0	0	0	1,291,177,030
Total Revenues	1,195,545,092	95,631,938	1,291,177,030	1,368,701,804	95,345,456	1,464,047,260	2,755,224,290
Expenditures							
Separations	66,184,834	2,689,519	68,874,353	0	0	0	68,874,353
Retirement Single Sums	40,739,773	1,557,826	42,297,599	39,493,477	1,528,638	41,022,115	83,319,714
Death Benefits	24,028,774	2,030,049	26,058,823	13,961,887	1,187,745	15,149,632	41,208,455
Disability Benefits	0	0	0	0	0	0	0
Total Expenditures	130,953,381	6,277,394	137,230,775	53,455,364	2,716,383	56,171,747	193,402,522
Transfers:							
Earnings Allocation	1,514,910,662	424,892,466	1,939,803,128	1,827,932,521	413,107,677	2,241,040,198	4,180,843,326
Annuities Awarded	(1,627,371,456)	(133,795,193)	(1,761,166,649)	(2,221,079,880)	(156,319,490)	(2,377,399,370)	(4,138,566,019)
Intra-Fund Transfers	(307,499)	1,470	(306,029)	(3,911,756)	8,081	(3,903,675)	(4,209,704)
Inter-Fund Transfers	80,304,083	(80,304,083)	0	80,304,080	(80,304,080)	0	0
Variable Equalization Transfer	0	0	0	(30,850,596)	30,850,596	0	0
Net Transfers	(32,464,210)	210,794,660	178,330,450	(347,605,631)	207,342,784	(140,262,847)	38,067,603
Ending December 31, 2024	**$22,468,733,533**	**$2,625,007,874**	**$25,093,741,407**	**$26,050,303,472**	**$2,624,830,527**	**$28,675,133,999**	**$53,768,875,406**
Internal Rate of Return	7.1%	18.8%	8.3%	7.4%	18.2%	8.3%	8.3%

This page does not include additional contributions.

Development of Retiree Reserves during the Year

	Core	Variable	Total
Balance December 31, 2023	$ 75,583,575,469	$ 5,089,210,568	$ 80,672,786,037
Closing Adjustments	1,397,314	(3,480,891)	(2,083,577)
Variable Terminations	63,736,993	(63,736,993)	0
Beginning Balance	75,648,709,776	5,021,992,684	80,670,702,460
Additions			
Reserve transfers	$ 3,868,573,600	$ 291,286,517	$ 4,159,860,117
Earnings	5,300,824,604	0	5,300,824,604
Other	0	961,746,031	961,746,031
Total Additions	9,169,398,204	1,253,032,548	10,422,430,752
Subtractions			
Annuities and Lump Sums	$ 6,924,648,916	$ 504,549,048	$ 7,429,197,964
Credit reestablishments	0	0	0
Other	0	0	0
Total Subtractions	6,924,648,916	504,549,048	7,429,197,964
Ending Balance December 31, 2024	$ 77,893,459,064	$ 5,770,476,184	$ 83,663,935,248

Statement of Net Plan Assets ($ Thousands)
(Market Value)

	2024	2023
Assets		
Cash and Cash Equivalents	$ 3,496,835	$ 4,564,488
Securities Lending Collateral	3,683,652	2,279,822
Prepaid Expenses	30,734	28,367
Total Short Term Assets	7,211,221	6,872,677
Receivables		
Contributions	229,990	236,624
Prior Service Contributions	2,117	5,039
Benefits Overpayment	3,292	3,369
Due from Other Trust Funds	1,066	4,396
Miscellaneous	70	47
Securities Lending	4,315	3,335
Interest and Dividends	644,033	555,572
Investment Sales	8,586,135	6,297,495
Total Receivables	9,471,018	7,105,877
Investments at Fair Value		
Fixed Income	60,929,198	49,962,333
Financial Futures Contracts	58,760	202,229
Preferred Securities	439,914	338,482
Convertible Securities	1,275	12,855
Stocks	63,806,024	63,919,632
Options	1,551	1,398
Limited Partnerships	0	0
Real Estate	36,387,238	34,301,859
Foreign Currency Contracts	(6,233)	53,231
Multi Asset Investments	9,836,015	8,077,847
Swaps	(56,023)	56,928
To Be Announced Securities	1,219,426	1,163,849
Total Investments	172,617,145	158,090,643
Capital Assets	74,470	76,273
Total Assets	**189,373,854**	**172,145,470**
Liabilities		
Core Investment Due Other Programs	4,387,731	4,221,799
Variable Investment Due Other Programs	20,437	20,174
Obligation Under Reverse Repo Agreement	19,794,050	18,524,619
Short Sell Obligations	7,848,151	5,806,320
Securities Lending Collateral Liability	12,247,652	7,640,822
Collateral Due to Counterparty	21,622	183,709
Benefits Payable	545,770	516,294
Leases and SBITAS	45,771	52,876
Unearned Revenue	7	7
Due to Other Trust Funds	4,568	7,240
Miscellaneous Payables	158,512	147,192
Investment Payables	9,760,243	7,327,321
Total Liabilities	**54,834,514**	**44,448,373**
Net Assets in Trust for Pension Benefits	**$134,539,340**	**$127,697,097**

Statement of Changes in Assets ($ Thousands)
(Market Value)

	Activity During Year	
	2024	**2023**
Additions:		
Contributions:		
Employer Contributions	$ 1,461,920	$ 1,327,553
Employee Contributions	1,307,219	1,204,469
Total Contributions	2,769,139	2,532,022
Investment Income:		
Net Appreciation (Depreciation)		
in Fair Value of Investments	11,275,057	13,755,032
Interest and Dividends	2,687,603	2,420,390
Securities Lending Income	595,063	365,092
Other	0	0
Less		
Current Income Distributed	(358,500)	(460,433)
SWIB Investment Expense	(1,916,197)	(1,696,455)
Investment Income Distributed to		
Securities Lending Rebates and Fees	(549,950)	(308,759)
Net Investment Income	11,733,076	14,074,867
Interest on Prior Service Receivable	134	318
Miscellaneous Income	440	300
Total Additions	14,502,789	16,607,507
Deductions:		
Benefits and Refunds:		
Retirement, Disability,		
and Beneficiary	7,559,629	7,195,370
Separation Benefits	68,997	54,205
Total Benefits and Refunds	7,628,626	7,249,575
ETF Administrative Expenses	0	0
Other Expenses	32,631	29,061
Total Deductions	7,661,257	7,278,636
Net Increase (Decrease)	6,841,532	9,328,871
Net Assets Held in Trust:		
Beginning of Year[1]	$127,697,808	$118,368,226
End of Year	$134,539,340	$127,697,097

[1] *Report uses preliminary financial statements due to timing of valuation. Any change between the prior year ending balance and the current year beginning balance reflects differences between preliminary and final financial statements.*

The figures on this page do not always reconcile exactly to the amounts used in the valuation.

Core Investment Trust: Market Recognition Account

	For the Year Ended December 31						
	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Beginning of year							
a. Funding value	$118,333,790,483	$121,173,270,675	$126,948,280,231	$131,333,206,536	$130,054,313,502	$126,280,516,130	$127,575,135,388
b. Market value	135,992,928,312	114,135,127,323	122,217,365,112	127,941,962,623	127,941,962,623	127,941,962,623	127,941,962,623
End of year							
c. Market value	114,135,127,323	122,217,365,112	127,941,962,623				
d. Non-investment cash flow							
(contributions minus benefits)	(4,412,394,190)	(4,638,785,997)	(4,586,094,515)				
e. Investment income							
e1. Total investment income	(17,445,406,799)	12,721,023,786	10,310,692,025				
e2. Assumed rate	6.8%	6.8%	6.8%				
e3. Amount for immediate recognition	7,896,676,350	8,082,063,682	8,476,555,842	-	-	-	-
e4. Amount for phased-in recognition: e1-e3	(25,342,083,149)	4,638,960,104	1,834,136,183	-	-	-	-
f. Phased-in recognition of investment income							
f1. Current year: 0.2 x e4	(5,068,416,630)	927,792,021	366,827,237	-	-	-	-
f2. First prior year	2,494,904,338	(5,068,416,630)	927,792,021	366,827,237	-	-	-
f3. Second prior year	1,773,358,012	2,494,904,338	(5,068,416,630)	927,792,021	366,827,237	-	-
f4. Third prior year	2,204,094,130	1,773,358,012	2,494,904,338	(5,068,416,630)	927,792,021	366,827,237	-
f5. Fourth prior year	(2,048,741,818)	2,204,094,130	1,773,358,012	2,494,904,338	(5,068,416,630)	927,792,021	366,827,237
f6. Total MRA recognition	(644,801,968)	2,331,731,871	494,464,978	(1,278,893,034)	(3,773,797,372)	1,294,619,258	366,827,237
f7. Amount for MRA recognition	-	-	-	-	-	-	-
f8. Total recognized gain (loss)	(644,801,968)	2,331,731,871	494,464,978	(1,278,893,034)	(3,773,797,372)	1,294,619,258	366,827,237
g. Total recognized investment income: e3 + f8	7,251,874,382	10,413,795,553	8,971,020,820	(1,278,893,034)	(3,773,797,372)	1,294,619,258	366,827,237
h. Funding value end of year: a + d + e3 + f8	121,173,270,675	126,948,280,231	131,333,206,536	130,054,313,502	126,280,516,130	127,575,135,388	127,941,962,625
i. Difference between market and funding values	(7,038,143,352)	(4,730,915,119)	(3,391,243,913)	(2,112,350,877)	1,661,446,495	366,827,237	-
j. Recognized rate of return: g / (a + 0.5 * d)	6.2%	8.8%	7.2%				
k. Market rate of return (net of fee): e1 / (b + 0.5 * d)	-13.0%	11.4%	8.6%				

The Core Investment Trust includes all WRS core assets, as well as the assets of certain other programs. The Market Recognition Account is a statutory method applicable to all assets invested in the Core Trust. Considerable additional information would be required to reconcile these figures to other asset figures in this report. Note that the market rate of return is calculated by GRS and may differ from rates of return calculated by SWIB and ETF.

SECTION D

GAIN/LOSS

Active Member Gain/Loss Analysis

Purpose of Gain/Loss Analysis. Regular actuarial valuations provide information about the composite change in computed contribution rates and total liabilities -- whether or not the rates and related liabilities are increasing or decreasing, and by how much. However, valuations do not show the portion of the change attributable to each risk area within the Wisconsin Retirement System financial mechanism: the rate of recognized investment income on plan assets; the rates of withdrawal of active participants who leave covered employment; the rates of mortality; the rates of disability; the rates of salary increases; and the assumed ages at actual retirement. In an actuarial valuation, assumptions are made as to what these rates will be for the next year and for decades in the future.

Assumptions should be carefully chosen and continually monitored. A poor initial choice of assumptions or continued use of outdated assumptions can lead to understated costs resulting in either an inability to pay benefits when due, or sharp increases in required contributions at some point in the future or overstated costs resulting in either benefit levels that are kept below the level that could be supported by the computed rate or an unnecessarily large burden on the current generation of participants, employers and taxpayers. The actuarial assumptions for the Wisconsin Retirement System are reviewed and updated as necessary every three years in an experience study. This triennial review is intended to manage the potential for future gains and losses.

The objective of a gain/loss analysis is to determine the portion of the change that is attributable to each risk area.

The fact that actual experience differs from assumed experience should be expected. The future cannot be predicted with complete precision. Further, year-to-year statistical fluctuations occur, even in very large groups. This year's report reflects just a single year's experience. Changes in the valuation assumed experience for a risk area should be made only when the differences between assumed and actual experience have been observed to be sizable and persistent. One year's gain/loss analysis may or may not be indicative of ***long-term trends, which are the basis of actuarial assumptions.*** However, a persistent series of gains and losses can indicate a need for an assumption change or a method change, even if on a demographic basis, the assumptions appear to model reality well. In the Wisconsin Retirement System, longer term trends are reviewed in connection with the regular three-year investigation of experience (the most recent three-year investigation covered the period January 1, 2020 to December 31, 2023). It is the results of the three-year investigation that lead to recommendations for changes in the actuarial assumptions.

Overall Experience

Overall experience resulted in a net actuarial loss of $618 million for the 2024 calendar year. The development of this figure is shown on the following page, reflecting losses from economic (investment return, salary increases) and demographic (retirement, death, withdrawal, etc.) experience.

Development of Total Actuarial Gain (Loss)
Calendar Year December 31, 2024
($ Millions)

| | | Executive | Protective | | |
	General	& Elected	With S.S.	Without S.S.	Total
			Year Ended		
			December 31, 2024		
(1) Entry Age UAAL at start of year	$ 572.2	$ 158.8	$ 1,011.3	$ 119.3	$ 1,861.6
(2) Entry Age Normal cost from last valuation	2,136.5	16.4	307.0	62.9	2,522.8
(3) Actual contributions	2,247.7	18.4	415.5	73.6	2,755.2
(4) Interest	35.1	10.7	65.1	7.7	118.6
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	496.1	167.5	967.9	116.3	1,747.8
(6) Change in actuarial assumptions	246.0	3.2	7.8	8.2	265.2
(7) Other changes	0.0	0.0	0.0	0.0	0.0
(8) Expected UAAL after changes: (5) + (6) + (7)	742.1	170.7	975.7	124.5	2,013.0
(9) Actual Entry Age UAAL at end of year	1,175.8	182.6	1,144.6	127.9	2,630.9
(10) Gain (loss): (8) - (9)	$ (433.7)	$ (11.9)	$ (168.9)	$ (3.4)	$ (617.9)

The gain/loss analysis is intended to explain the financial effect of differences between actual and assumed experience in basic risk areas: investment income, pay increases, retirement rates, turnover rates, etc. In order for the gain/loss analysis to proceed, the change in the Entry Age Unfunded Actuarial Accrued Liabilities from one year to the next is analyzed to remove the effect of expected changes. The table above develops this year's gain or loss (line 10) which is subtracted from the Experience Amortization Reserve (EAR). When the EAR decreases "unexpectedly," this is favorable experience and downward pressure is exerted on contribution rates. Similarly, an unexpected increase in the EAR is unfavorable experience and upward pressure is exerted on contribution rates.

By measuring gains and losses each year and, to the extent possible, determining the "responsible" assumptions, insight is gained into how well the actuarial assumptions estimate WRS liabilities. Such information aids in understanding financial effects of emerging trends and is particularly useful during preparation of the WRS experience study.

Population Development during Calendar Year 2024

	General	Executive & Elected	Protective With S.S.	Protective Without S.S.	Total	Expected
Beginning Census	240,319	1,208	19,338	2,872	263,737	
(-) Normal Retirement	3,393	48	394	77	3,912	4,814
(-) Reduced Retirement	3,082	5	91	15	3,193	3,965
(-) Death	74	1	8	0	83	274
(-) Disability Retirement						
-Total disabilities approved	174	0	16	5	195	173
-Less pending at beginning of year	61	0	2	1	64	
-Net new from active status	113	0	14	4	131	
(-) Other Separations	15,449	37	858	51	16,395	14,902
(-) Transfers Out	3,326	16	278	27	3,647	
(+) Transfers In	2,365	40	1,181	61	3,647	
(+) New Entrants	25,656	39	2,254	273	28,222	
Ending Census	242,903	1,180	21,130	3,032	268,245	

This schedule reconciles the active member populations reported in connection with the December 31, 2024 and the prior year valuations. Assumptions related to population development are a primary focus of the gain/loss analysis. They generally tend to be more stable than economic assumptions and, therefore, measurements have more meaning. Please note also that the table above represents changes in actual and expected counts of members. Beginning with the 2009 valuations, some of the actuarial assumptions (retirement, turnover, etc.) are based on liability weighted rates. Therefore, comparing actual to expected number counts alone may not form the basis for our conclusions.

Transfers for the General group include transfer between subgroups (teachers, university, general employees, etc.). Please note that the number of new retirees shown in the table above may include a small cohort of retirees (primarily members retiring during the end of December) that were not included in the Retired Lives Valuation. This is due to the lag in reporting dates and they will be included in the following year's Retired Lives Valuation.

Gain (Loss) Overview

Population Results

Normal Retirements varied by group and gender. Overall normal retirements were less than expected. In general, fewer normal retirements than assumed often creates a gain. However, looking at counts alone is not always an accurate predictor of whether a gain or loss occurs. If there are fewer retirements in shorter service, lower paid groups and more retirements than expected in longer service, higher paid groups, there will be a net loss to the System even if the actual total counts might be equal to or less than expected. In order to account for this, retirement rates are now developed partially on a liability weighted methodology. The net result for this past year was a small loss.

Reduced Retirements were less than expected, overall producing a small loss.

Disabilities were slightly more than expected and overall produced a small gain.

Deaths among active participants were less than expected. The net result for the past year was a small loss.

Other Separations varied by group, gender, and service but were overall higher than expected. The net result for the past year was a small loss.

In total, the population risk areas (retirement, death, disability, and other separations) varied by decrement, producing a net loss during 2024.

Economic Results

On a market recognition account basis net of fee **investment return** was 7.2% and investment activity produced a gain for all groups except Executive and Elected due to the combined effect of this year's gain and the continued recognition of prior gains and losses. The total recognized investment gain of $755 million was partially offset by a $601 million increase in the combined value of variable excess benefits and money purchase benefits (as shown on page D-7), resulting in a net recognized investment gain of about $154 million.

Pay Increases were overall higher than expected, producing a loss.

Gain (Loss) Detail
($ Millions)

Type of Activity	General	Executive & Elected	Protective With S.S.	Protective Without S.S.	Total	Prior Year
Decrement Risk Areas						
Normal Retirement	$ (2.5)	$ (0.3)	$ 0.4	$ (4.8)	$ (7.2)	$ (14.7)
Reduced Retirement	(12.7)	0.0	0.9	(0.7)	(12.5)	(10.8)
Disability Retirement	8.0	0.0	(0.4)	(0.2)	7.4	4.6
Death with Benefit	(2.1)	(0.1)	(0.4)	(0.2)	(2.8)	(1.7)
Other Separations	(19.1)	0.2	(5.0)	0.9	(23.0)	(20.9)
Economic Risk Areas						
Salary Increases	(424.3)	(5.5)	(144.7)	(4.3)	(578.8)	(904.0)
Investment Return	109.5	(5.3)	39.7	10.4	154.3	583.6
Other Activity	(90.5)	(0.9)	(59.4)	(4.5)	(155.3)	(95.3)
Total Gain (Loss)	**$ (433.7)**	**$ (11.9)**	**$ (168.9)**	**$ (3.4)**	**$(617.9)**	**$(459.2)**
-% of Accrued Liability	**(0.9)%**	**(8.5)%**	**(3.1)%**	**(0.3)%**	**(1.1)%**	**(0.9)%**

Page D-8 presents a partial explanation of the other activity shown in this schedule.

Gain/Loss Analysis
2024 Experience
Divisions Combined

		Amount of Gain (Loss) as $ Millions
Salary Increases	$ (579)	
Investment Return	$ 154	
Retirement	$ (20)	
Disability Retirement	$ 7	
Death-in-Service	$ (3)	
Other Separations	$ (23)	
Other Activity	$ (155)	
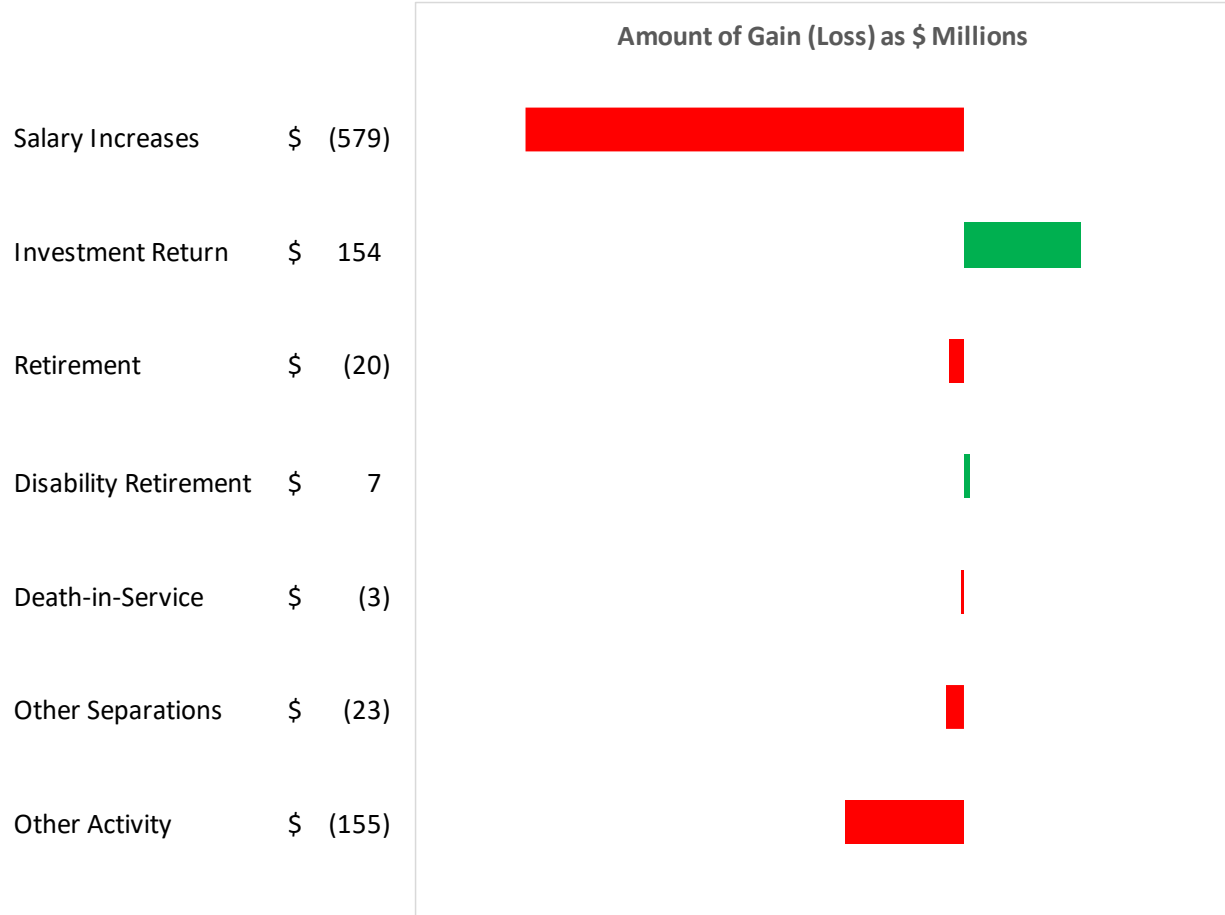
Gain (Loss) from Investment Income during Calendar Year 2024
($ Millions)

		General	Executive & Elected	Protective With SS	Protective Without SS	Total
(1)	Beginning of Year Active Participant Assets					
	(a) Participant Accumulation Reserve	$22,220.1	$ (4.6)	$1,381.1	$164.9	$23,761.5
	(b) PAR Closing Adjustment	0.0	0.0	0.0	0.0	0.0
	(c) Employer Accumulation Reserve	22,684.3	149.6	3,648.5	922.1	27,404.5
	(d) EAR Closing Adjustment	2.5	0.0	0.4	0.1	3.0
	(e) Total	44,906.9	145.0	5,030.0	1,087.1	51,169.0
(2)	End of Year Active Participant Assets					
	(a) Participant Accumulation Reserve	23,516.1	(10.0)	1,444.0	143.7	25,093.8
	(b) Employer Accumulation Reserve	23,605.0	150.5	3,949.4	970.3	28,675.2
	(c) Total	47,121.1	140.5	5,393.4	1,114.0	53,769.0
(3)	Investment Earnings Credited					
	(a) Participant Accumulation Reserve	1,801.4	(1.5)	123.4	16.5	1,939.8
	(b) Employer Accumulation Reserve	1,864.4	9.8	293.6	73.2	2,241.0
	(c) Total	3,665.8	8.3	417.0	89.7	4,180.8
(4)	Average Balance: .5 x {(1e)+(2c)-(3c)}	44,181.1	138.6	5,003.2	1,055.7	50,378.6
(5)	Expected Earnings: .068 x (4)	3,004.3	9.4	340.2	71.8	3,425.7
(6)	Gain (Loss) for Year from Investment Experience: (3c)-(5)	661.5	(1.1)	76.8	17.9	755.1
(7)	Portion applied to Change in Variable Excess Reserve and Money Purchase Minimum Benefit	552.0	4.2	37.1	7.5	600.8
(8)	**Remaining Gain (Loss): (6)-(7)**	**$ 109.5**	**$ (5.3)**	**$ 39.7**	**$ 10.4**	**$ 154.3**

Analysis of "Other" Activity
($ Millions)

"Other" activity refers to gain or loss activity that is not directly related to the main actuarial assumptions. Other activity this year resulted in a loss of $155.3 million as shown on page D-5. The schedule below analyzes this activity. The **Reserve Difference** produced a loss of about $32 million. There are two identifiable sources for this loss. The first relates to cases where the service credit or final average salary at retirement differed from what was expected based upon the prior valuation. The second relates to final computations of annuities that were originally based on estimates. The **Re-established Liability** represents the liability for new or rehired active members who were not active in the prior year. Typically, it is expected that a new hire will have very little liability. However, often new members appear with more than one year of service or with liability greater than contributions made on their behalf. Although this amount is difficult to determine accurately due to the timing of contribution amounts, we estimate the Re-established Liability loss at about $69 million.

	General	Executive & Elected	Protective With S.S.	Protective Without S.S.	Total
Expected Reserve Transfers					
Normal Retirement	$1,845	$24	$ 330	$104	$2,303
Reduced Retirement	1,140	3	67	19	1,229
Death	12	0	3	0	15
Disability Retirement	44	0	8	4	56
Deferred Retirement	476	3	39	7	525
Expected Total Reserve Transfers	3,517	30	447	134	4,128
Actual Reserve Transfer (From Retiree Report)	3,542	31	453	134	4,160
Reserve Difference	(25)	(1)	(6)	0	(32)
Expected Refunds	79	0	6	0	85
Actual Refunds	65	0	4	0	69
Refund Difference	14	0	2	0	16
Re-established Liability	(53)	0	(14)	(2)	(69)
Total Explained Difference	(64)	(1)	(18)	(2)	(85)
Unknown Difference	(27)	0	(41)	(3)	(70)
Total Other Activity	(91)	(1)	(59)	(5)	(155)
Other Activity as % of Liabilities	(0.19)%	(0.71)%	(1.09)%	(0.45)%	(0.29)%

Comparative Schedule of Experience
5-Year History of Gains and Losses
($ Millions)

Year	Retmt.	Disability Retmt.	Other Separations*	Salary Increases	Investment Return	Other	Total
GENERAL							
2020	$ (35.1)	$ (6.5)	$ (34.4)	$ (264.0)	$ 1,012.9	$ (113.3)	$ 559.6
2021	(25.0)	3.7	10.9	89.1	899.8	(73.5)	905.0
2022	(36.2)	3.6	35.0	(116.3)	(83.1)	(67.6)	(264.6)
2023	(1.3)	4.4	(20.2)	(562.4)	460.3	(81.5)	(200.7)
2024	**(15.2)**	**8.0**	**(21.2)**	**(424.3)**	**109.5**	**(90.5)**	**(433.7)**
EXECUTIVE & ELECTED							
2020	$ (0.8)	$ 0.1	$ (0.4)	$ (3.3)	$ 4.1	$ (5.5)	$ (5.8)
2021	(0.2)	-	(0.4)	2.9	1.4	(15.3)	(11.6)
2022	(0.1)	-	(0.4)	(0.8)	8.9	(4.6)	3.0
2023	(0.4)	-	0.3	(4.8)	(3.6)	(6.4)	(14.9)
2024	**(0.3)**	**-**	**0.1**	**(5.5)**	**(5.3)**	**(0.9)**	**(11.9)**
PROTECTIVE WITH SOCIAL SECURITY							
2020	$ (17.5)	$ (3.4)	$ (6.6)	$ (150.5)	$ 145.7	$ (23.6)	$ (55.9)
2021	(19.4)	0.1	6.2	65.8	187.9	1.3	241.9
2022	(18.5)	(1.7)	0.7	(221.3)	(45.9)	(2.3)	(289.0)
2023	(15.2)	(0.1)	(3.6)	(326.0)	101.1	(2.1)	(245.9)
2024	**1.3**	**(0.4)**	**(5.4)**	**(144.7)**	**39.7**	**(59.4)**	**(168.9)**
PROTECTIVE WITHOUT SOCIAL SECURITY							
2020	$ (2.8)	$ (0.7)	$ (0.7)	$ (21.3)	$ 36.0	$ (6.6)	$ 3.9
2021	(3.7)	0.4	0.4	1.5	40.2	(2.7)	36.1
2022	(5.8)	0.1	0.2	(18.6)	(11.7)	(1.3)	(37.1)
2023	(8.6)	0.3	0.9	(10.8)	25.8	(5.3)	2.3
2024	**(5.5)**	**(0.2)**	**0.7**	**(4.3)**	**10.4**	**(4.5)**	**(3.4)**

* Includes separation due to death.

SECTION E

CENSUS DATA

Total Participants Included in Valuations
December 31, 2024

Valuation Group	Number	Average Annual Earnings/Benefits[1]
Actives	268,245	$68,483
Inactives	190,051	$22,901
Retirees & Beneficiaries	242,226	$30,993
Total Participants	**700,522**	

[1] *For inactives, average money purchase balance.*

Active Participants Included in Valuations
December 31, 2024

Active participants included in the valuations totaled 268,245 with an annual payroll totaling $18,370.3 million as follows:

Valuation Group	Number	Annual Earnings ($ Millions)	Group Averages			
			Earnings	Age	Years of Service	Contribs.
General	242,903	$16,030.0	$65,993	44.6	10.5	$72,355
Executive Group & Elected Officials	1,180	127.0	107,664	54.3	14.9	150,111
Protective Occupation with Social Security	21,130	1,931.5	91,413	39.1	11.1	84,623
Protective Occupation without Social Security	3,032	281.8	92,938	38.8	11.9	96,702
Total Active Participants	**268,245**	**$18,370.3**	**$68,483**	**44.1**	**10.6**	**$73,938**
Prior Year	263,737	$17,136.2	$64,974	44.2	10.7	$72,050

Group averages are not used in the valuation, but are shown here for their general interest.

Inactive Participants Included in Valuations
December 31, 2024

Inactive participants included in the valuations totaled 190,051 as follows:

Valuation Group	Number	Group Averages		
		Age	Service	Money Purchase Balance
General	180,603	46.9	3.4	$22,602
Executive Group & Elected Officials	562	55.3	5.0	50,250
Protective Occupation with Social Security	8,560	41.5	3.8	26,640
Protective Occupation without Social Security	326	41.4	5.4	42,913
Total Inactive Participants	**190,051**	**46.7**	**3.4**	**$22,901**
Prior Year	186,977	45.7	3.5	$22,026

The valuations also included 3,370 Qualified Domestic Relations Order cases whose average age was 53.3 years. These accounts for divorced spouses of WRS participants have been established in accordance with Wisconsin Domestic Relations Law.

General Participants as of December 31, 2024
by Attained Age and Years of Service

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals | |
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	332							332	$ 10,967,327
20-24	8,436	15						8,451	359,399,345
25-29	19,313	2,477	6					21,796	1,137,425,342
30-34	13,267	10,838	1,474	2				25,581	1,504,495,697
35-39	11,918	8,848	8,860	1,027	5			30,658	1,962,210,608
40-44	10,685	7,603	6,894	7,256	1,259	9		33,706	2,297,694,137
45-49	8,223	6,289	5,128	5,273	7,203	1,248	5	33,369	2,406,493,412
50-54	6,382	5,203	4,408	3,986	5,030	6,442	894	32,345	2,408,342,500
55	1,140	1,022	859	770	952	1,258	815	6,816	510,144,103
56	1,123	909	794	708	870	925	856	6,185	451,941,382
57	1,080	907	740	702	727	828	833	5,817	423,070,426
58	971	837	702	628	725	673	725	5,261	373,595,377
59	987	795	678	687	694	614	647	5,102	356,915,125
60	935	734	675	596	605	512	587	4,644	322,510,373
61	883	680	673	570	578	445	487	4,316	292,277,145
62	758	637	554	492	518	391	491	3,841	258,850,386
63	649	569	481	456	426	322	422	3,325	219,339,043
64	563	488	430	376	394	273	335	2,859	188,624,337
65	412	360	319	270	295	224	262	2,142	140,715,485
66	317	280	230	188	169	149	202	1,535	103,899,110
67	289	212	147	105	114	99	161	1,127	76,487,719
68	204	153	132	83	84	71	123	850	55,609,933
69	159	121	87	77	77	40	81	642	42,224,034
70	134	80	59	45	44	40	73	475	31,130,203
71	125	77	45	30	29	22	44	372	20,173,801
72	100	61	20	28	24	13	46	292	16,931,229
73	91	41	20	20	20	16	43	251	14,754,372
74	68	41	22	14	15	14	34	208	13,366,112
75 & Up	194	131	63	50	42	26	99	605	30,375,794
Totals	89,738	50,408	34,500	24,439	20,899	14,654	8,265	242,903	$16,029,963,857

Executive Group and Elected Officials
as of December 31, 2024
by Attained Age and Years of Service

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	1							1	$ 22,480
25-29	4	5						9	534,137
30-34	17	13	2					32	2,478,742
35-39	19	26	13	2				60	5,576,173
40-44	35	28	40	21	3			127	14,763,051
45-49	33	33	29	37	20	5		157	16,970,808
50-54	24	28	32	28	30	24	7	173	19,962,992
55	11	6	4	3	8	8	4	44	5,108,653
56	7	7	11	8	11	8	6	58	6,432,115
57	2	5	7	3	7	6	9	39	4,749,256
58	7	6	10	6	8	5	8	50	6,235,955
59	4	7	7	6	6	6	7	43	4,796,720
60	3	7	6	2	4	7	6	35	3,388,404
61	6	5	8	11	6	5	8	49	5,508,364
62	6	11	5	5	3	2	8	40	3,989,738
63	4	6	11	2	2	5	9	39	3,908,769
64	4	6	2	5	4	3	11	35	3,905,544
65	5	9	3	1	6	3	4	31	3,420,222
66	5	3	5	7	1	1	9	31	3,629,007
67	6	3	4	3	2	2	2	22	2,145,723
68	2	2	2	2	3		1	12	1,164,195
69	2	1	1		1	2	3	10	1,091,918
70	3	2	6			1	2	14	989,008
71	3	2		1	1	2	3	12	1,030,148
72	1	3		2		3	3	12	1,468,567
73	1		3	1	2		4	11	989,719
74		1	1				2	4	355,865
75 & Up	10	4	4	4	3	2	3	30	2,426,718
Totals	225	229	216	160	131	100	119	1,180	$127,042,991

Protective Occupation Participants with Social Security
as of December 31, 2024
by Attained Age and Years of Service

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	33							33	$ 1,945,121
20-24	1,401	8						1,409	93,210,455
25-29	2,191	796	2					2,989	235,496,992
30-34	1,191	1,906	456	1				3,554	308,438,383
35-39	721	913	1,201	410	5			3,250	296,126,600
40-44	482	483	609	1,135	405	8		3,122	299,633,555
45-49	292	245	296	506	1,051	460		2,850	289,278,021
50	45	37	39	82	166	207	5	581	60,851,204
51	52	32	26	62	118	194	10	494	51,068,434
52	42	29	29	51	114	202	28	495	52,297,685
53	43	31	27	42	97	186	46	472	51,524,415
54	48	30	33	51	98	124	58	442	46,769,115
55	39	42	26	35	61	67	29	299	30,258,065
56	33	27	24	28	47	41	30	230	23,423,887
57	27	22	15	32	22	31	36	185	18,610,879
58	18	17	18	21	22	24	19	139	14,460,937
59	21	13	12	24	21	13	18	122	12,196,268
60	19	15	9	9	22	8	15	97	9,851,375
61	13	9	8	15	11	7	10	73	8,072,788
62	12	12	10	12	17	11	13	87	8,577,304
63	8	8	11	14	13	7	10	71	6,865,338
64	5	8	5	10	5	4	4	41	4,133,313
65	7	7	3	4	7	4	4	36	3,435,254
66	4	1	2	4	3	2	1	17	1,485,286
67	7	1	1	2	3	2	1	17	1,530,538
68		4			2	1		7	824,829
69	2			2	1		2	7	808,080
70 & Up	3	6			1		1	11	375,833
Totals	6,759	4,702	2,862	2,552	2,312	1,603	340	21,130	$1,931,549,954

Protective Occupation Participants without Social Security
as of December 31, 2024
by Attained Age and Years of Service

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	3							3	$ 134,269
20-24	208	1						209	12,803,708
25-29	312	84						396	28,751,315
30-34	173	247	61	2				483	41,014,089
35-39	99	134	205	82				520	48,180,481
40-44	57	60	144	179	59			499	49,177,607
45-49	13	29	49	109	163	59		422	44,328,314
50	4	3	3	8	31	33		82	8,962,308
51	5	1	8	10	25	44	2	95	10,828,482
52	2		4	10	17	39	6	78	9,025,570
53	1	1	4	11	17	30	7	71	8,496,365
54	1	1	1	7	14	21	2	47	5,541,752
55	1		1	3	17	15	4	41	4,858,716
56	2	2		1	5	7	3	20	2,106,025
57		1	2	4	3	4	2	16	1,843,372
58	2	2	2	1	4	9	1	21	2,335,193
59			1	2		5	1	9	1,053,540
60		1			2	1	2	6	724,573
61	1	1			1	2	1	6	714,757
62		1	1	1				3	355,772
64				1				1	112,363
65		1				1		2	271,040
66							1	1	166,609
69	1							1	1,202
Totals	885	570	486	431	358	270	32	3,032	$281,787,422

Active Participants
as of December 31, 2024
by Years of Service and Gender

Completed Years of Service	Males	Females	Totals	Valuation Payroll Total	Average
0	8,246	17,342	25,588	$ 1,060,861,366	$41,459
1	8,187	15,035	23,222	1,200,508,366	51,697
2	7,084	12,974	20,058	1,132,632,685	56,468
3	5,589	10,361	15,950	926,864,641	58,111
4	4,487	8,302	12,789	780,094,588	60,997
5	4,915	8,293	13,208	842,514,589	63,788
6	4,326	7,513	11,839	774,864,608	65,450
7	4,053	6,892	10,945	743,375,967	67,919
8	4,025	6,361	10,386	727,394,453	70,036
9	3,672	5,859	9,531	675,737,221	70,899
10	3,553	5,654	9,207	667,191,568	72,466
11	3,278	5,348	8,626	637,120,585	73,860
12	3,096	4,623	7,719	584,951,509	75,781
13	2,627	4,206	6,833	522,442,092	76,459
14	2,200	3,479	5,679	444,440,418	78,260
15 & Up	30,876	45,789	76,665	6,649,349,568	86,733
Totals	**100,214**	**168,031**	**268,245**	**$18,370,344,224**	**$68,483**

Average
Age	44.2	44.0	44.1
Service	11.2	10.2	10.6

Comparative Statement of Active Participants in Valuations

| Valuation 12/31 | General | | | | Executive and Elected | | | |
	No.	Earnings $ Millions	Earnings Average	% Incr.	No.	Earnings $ Millions	Earnings Average	% Incr.
2000	234,076	$ 8,335	$ 35,610	3.4%	1,486	$ 83	$ 55,582	4.4 %
2001	238,944	8,746	36,605	2.8%	1,486	85	57,060	2.7 %
2002	240,990	9,007	37,377	2.1%	1,476	87	58,865	3.2 %
2003	239,696	9,273	38,686	3.5%	1,468	86	58,336	(0.9)%
2004	238,943	9,501	39,764	2.8%	1,469	89	60,379	3.5 %
2005	237,501	9,661	40,678	2.3%	1,452	90	61,788	2.3 %
2006	236,877	9,933	41,935	3.1%	1,436	93	64,480	4.4 %
2007	237,124	10,278	43,344	3.4%	1,427	95	66,320	2.9 %
2008[1]	238,994	10,806	45,216	4.3%	1,430	101	70,316	6.0 %
2009	240,401	11,098	46,165	2.1%	1,427	101	70,786	0.7 %
2010	239,959	11,195	46,655	1.1%	1,418	101	71,394	0.9 %
2011	232,518	10,947	47,080	0.9%	1,393	99	70,802	(0.8)%
2012	231,765	11,041	47,639	1.2%	1,408	104	73,968	4.5 %
2013	231,973	11,270	48,584	2.0%	1,397	106	76,125	2.9 %
2014	232,433	11,574	49,794	2.5%	1,401	109	77,998	2.5 %
2015	231,631	11,786	50,881	2.2%	1,380	108	78,230	0.3 %
2016	232,684	11,964	51,417	1.1%	1,347	106	78,667	0.6 %
2017	232,874	12,167	52,249	1.6%	1,335	107	80,366	2.2 %
2018	233,462	12,445	53,307	2.0%	1,302	108	82,986	3.3 %
2019	235,645	12,926	54,855	2.9%	1,302	112	86,269	4.0 %
2020[1]	234,628	13,295	56,663	3.3%	1,280	116	90,894	5.4 %
2021	234,494	13,643	58,179	2.7%	1,252	117	93,428	2.8 %
2022	236,592	14,149	59,802	2.8%	1,234	120	97,250	4.1 %
2023	240,319	15,075	62,730	4.9%	1,208	125	103,550	6.5 %
2024	242,903	16,030	65,993	5.2%	1,180	127	107,664	4.0 %

[1] *Some groups had a 27-period payroll during 2008 and 2020.*

Comparative Statement of Active Participants in Valuations

| Valuation 12/31 | Protective with Social Security | | | | Protective without Social Security | | | |
| | No. | Earnings | | | No. | Earnings | | |
		$ Millions	Average	% Incr.		$ Millions	Average	% Incr.
2000	16,970	$ 717	$ 42,263	6.0%	2,685	$135	$50,423	3.0 %
2001[1]	17,981	772	42,914	1.5%	2,715	142	52,339	3.8 %
2002	18,325	804	43,871	2.2%	2,709	148	54,603	4.3 %
2003	18,660	856	45,891	4.6%	2,714	154	56,673	3.8 %
2004	18,964	896	47,266	3.0%	2,709	159	58,546	3.3 %
2005	19,036	920	48,330	2.3%	2,689	162	60,241	2.9 %
2006	19,297	977	50,622	4.7%	2,692	167	62,153	3.2 %
2007	19,757	1,036	52,419	3.5%	2,695	174	64,449	3.7 %
2008[2]	20,038	1,099	54,859	4.7%	2,724	181	66,502	3.2 %
2009	20,205	1,124	55,636	1.4%	2,733	189	69,149	4.0 %
2010	20,019	1,125	56,184	1.0%	2,754	189	68,559	(0.9)%
2011	19,610	1,119	57,065	1.6%	2,711	189	69,898	2.0 %
2012	19,353	1,105	57,104	0.1%	2,727	193	70,949	1.5 %
2013	19,290	1,121	58,127	1.8%	2,736	197	71,960	1.4 %
2014	19,533	1,151	58,916	1.4%	2,733	204	74,487	3.5 %
2015	19,273	1,171	60,755	3.1%	2,730	209	76,376	2.5 %
2016	19,431	1,203	61,924	1.9%	2,746	213	77,553	1.5 %
2017	19,431	1,227	63,145	2.0%	2,743	219	79,753	2.8 %
2018	19,399	1,263	65,113	3.1%	2,770	225	81,206	1.8 %
2019	19,528	1,314	67,310	3.4%	2,759	231	83,619	3.0 %
2020[2]	19,676	1,415	71,893	6.8%	2,754	240	87,136	4.2 %
2021	19,175	1,405	73,249	1.9%	2,762	246	89,016	2.2 %
2022	18,961	1,501	79,189	8.1%	2,805	256	91,155	2.4 %
2023	19,338	1,670	86,358	9.1%	2,872	266	92,586	1.6 %
2024	21,130	1,932	91,413	5.9%	3,032	282	92,938	0.4 %

[1] After change in method of calculating average pay.
[2] Some groups had a 27-period payroll during 2008 and 2020.

Core Annuities Being Paid
Tabulated by Attained Ages

Attained Ages	Regular No.	Regular Annual Amount	Disability No.	Disability Annual Amount	Death-in-Service No.	Death-in-Service Annual Amount	Totals No.	Totals Annual Amount
Under 20	0	$ 0	0	$ 0	8	$ 42,498	8	$ 42,498
20-24	0	0	4	60,588	8	77,697	12	138,285
25-29	0	0	6	61,860	15	151,325	21	213,185
30-34	0	0	14	294,502	26	229,146	40	523,648
35-39	1	5,469	45	1,207,988	36	273,341	82	1,486,798
40-44	6	78,926	120	3,400,543	44	429,322	170	3,908,791
45-49	43	685,640	251	7,085,764	49	678,464	343	8,449,868
50-54	1,602	60,254,789	510	14,760,975	76	1,171,798	2,188	76,187,562
55-59	12,826	435,333,443	856	24,703,710	124	2,337,648	13,806	462,374,801
60-64	27,743	800,220,180	1,403	37,544,806	198	3,394,373	29,344	841,159,359
65-69	44,668	1,209,231,539	1,025	29,330,899	243	4,982,529	45,936	1,243,544,967
70-74	51,244	1,515,346,500	1,098	30,431,202	239	5,761,220	52,581	1,551,538,922
75-79	44,348	1,323,466,370	890	23,835,965	183	4,506,208	45,421	1,351,808,543
80-84	26,543	747,676,407	578	13,770,219	108	2,302,301	27,229	763,748,927
85-89	14,621	399,156,153	367	8,284,668	66	1,322,703	15,054	408,763,524
90-94	6,519	185,725,968	137	2,743,449	23	315,317	6,679	188,784,734
95 & Up	1,978	51,716,155	31	564,748	18	290,338	2,027	52,571,241
Certain Only*	1,254	30,303,112	0	0	31	546,389	1,285	30,849,501
Totals	**233,396**	**$6,759,200,651**	**7,335**	**$198,081,886**	**1,495**	**$28,812,617**	**242,226**	**$6,986,095,154**

Averages in Years

Age at retirement	60.0	50.7	52.2	59.7
Attained age	72.1	65.8	67.2	72.0

Certain Only category consists of continuations of 5-, 10- and 15-year certain and life annuities to beneficiaries of deceased annuitants.

Variable Annuities Being Paid
Tabulated by Attained Ages

Attained Ages	Regular		Disability		Death-in-Service		Totals	
	No.	Annual Amount	No.	Annual Amount	No.	Annual Amount	No.	Annual Amount
Under 20	0	$ 0	0	$ 0	3	$ 3,279	3	$ 3,279
20-24	0	0	3	8,182	1	853	4	9,035
25-29	0	0	3	5,937	5	9,082	8	15,019
30-34	0	0	4	12,221	3	4,216	7	16,437
35-39	0	0	9	24,620	8	7,897	17	32,517
40-44	0	0	16	72,634	7	9,196	23	81,830
45-49	15	129,460	26	153,628	12	74,564	53	357,652
50-54	320	3,692,165	73	478,912	22	111,408	415	4,282,485
55-59	2,612	33,003,773	134	900,342	28	258,143	2,774	34,162,258
60-64	4,785	44,494,637	182	1,027,972	54	331,449	5,021	45,854,058
65-69	7,024	51,142,720	205	920,664	44	233,939	7,273	52,297,323
70-74	8,704	70,838,344	223	1,056,869	61	369,128	8,988	72,264,341
75-79	8,566	109,253,104	157	1,494,453	42	427,748	8,765	111,175,305
80-84	4,978	91,832,100	94	1,230,493	28	341,950	5,100	93,404,543
85-89	2,703	61,751,377	78	1,015,684	17	306,527	2,798	63,073,588
90-94	1,395	31,408,378	30	268,168	5	103,007	1,430	31,779,553
95 & Up	501	10,484,041	7	73,866	8	74,433	516	10,632,340
Certain Only*	649	1,617,999	0	0	9	53,136	658	1,671,135
Totals	**42,252**	**$509,648,098**	**1,244**	**$8,744,645**	**357**	**$2,719,955**	**43,853**	**$521,112,698**

Averages in Years

Age at retirement	59.2	52.7	51.7	59.0
Attained age	72.0	67.1	67.2	71.9

* Certain Only category consists of continuations of 5-, 10- and 15-year certain and life annuities to beneficiaries of deceased annuitants.

SECTION F

METHODS AND ASSUMPTIONS

Summary of Actuarial Assumptions and Methods

Valuation Date	December 31, 2024
Actuarial Cost Method	Frozen Entry Age
Amortization Method	Level Percent -- Closed Period
Amortization Period	30-Year closed from date of participation in WRS
Asset Valuation Method	5-Year Smoothed Market (Closed)

Actuarial Assumptions

Assumed Rates of Investment Return for:

Retired participants	5.0%
Post-retirement active participants	5.0%
Pre-retirement active participants	6.8%
Weighted Average Investment Rate of Return	5.4%
Projected Salary Increases[1]	3.2% to 8.7%
Payroll Growth Rate	3.0%
Population Growth Rate	0.0%

[1] Includes merit and seniority increases that vary by service plus wage inflation of 3.0%/year.

Financial Principles and Operational Techniques
of the Wisconsin Retirement System

Benefit Promises Made Which Must Be Paid For. A retirement program is an orderly means of handing out, keeping track of, and financing contingent retirement promises. As each participant of the Retirement System acquires a unit of service credit he is, in effect, handed an "IOU" which reads: "The Wisconsin Retirement System promises to pay you one unit of annuity benefits, payments in cash commencing when you retire."

The principal related financial question is: ***When shall the money required to cover the "IOU" be contributed?*** This year, when the benefit of the participant's unit of service is received? Or, some future year, when the "IOU" becomes a cash demand?

The law governing the Wisconsin Retirement System financing intends that the money to cover an "IOU" is contributed in the year the "IOU" is handed out. In this way contribution rates expressed as percents of participant payroll can be determined so as to remain approximately level from year to year and decade to decade as long as the basic experience and make-up of the group of participants does not change significantly. This means that for equivalent benefits each generation of Wisconsin taxpayers will contribute at approximately the same payroll rates.

Translated into actuarial terminology, the level percent-of-payroll contribution objective means that the contribution rate must total at least:

> **Normal Cost** (the current discounted value of benefits likely to be paid on account of participants' service rendered in the current year)
>
> … plus …
>
> **Amortization of any Unfunded Frozen Initial Liabilities (UFIL)**

If contributions to the system are less than the preceding amount, the difference, **plus investment earnings not realized thereon**, will have to be contributed at some later time, or benefits will have to be reduced, to satisfy the fundamental equation under which all retirement programs must operate; that is:

$$B = C + I - E$$

Benefit payments to any group of participants and their beneficiaries cannot exceed

> **C**ontributions received on behalf of the group
> … plus …
> **I**nvestment earnings on those contributions
> … minus …
> **E**xpenses incurred in operating the program.

There are retirement programs (Social Security is an example) designed to defer the bulk of contributions far into the future. The present contribution rate for such systems is artificially low, but is destined to increase relentlessly to a level which may be greatly in excess of the level percent-of-payroll rate.

A by-product of a level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. Investment income becomes the third and largest contributor to the retirement system and the amount is directly related to the amount of contributions and investment performance.

Computing Contribution Rates to Finance Benefits. From a given schedule of benefits and from the data furnished, the actuary calculates the contribution rates **by means of an actuarial valuation** – the technique of assigning monetary values to the risks assumed in operating a retirement program.

Actuarial Method and Assumptions Used in Valuations

The principal actuarial assumptions relate to:

- Long-term *rates of investment income* likely to be generated by system assets;

- *Rates of mortality* among participants, retirants and beneficiaries;

- *Rates of withdrawal* of active participants;

- *Rates of disability* among participants;

- *Patterns of salary increases* to be experienced by participants; and

- The age and service *distribution of actual retirements.*

In an actuarial valuation, the actuary projects the monetary effect of each assumption for each distinct experience group, for the next year and for each year over the next half-century or longer.

Once actual risk experience has occurred and been observed, it will not coincide exactly with assumed risk experience, regardless of the skill of the actuary, the completeness of the data, and the precision of the calculations. Each valuation provides a complete recalculation of assumed future risk experience and takes into account all past differences between assumed and actual risk experience. The result is a continual series of small adjustments to the computed contribution rate. From time to time it becomes necessary to adjust the package of risk measurements to reflect basic experience trends – but not random year-to-year fluctuations.
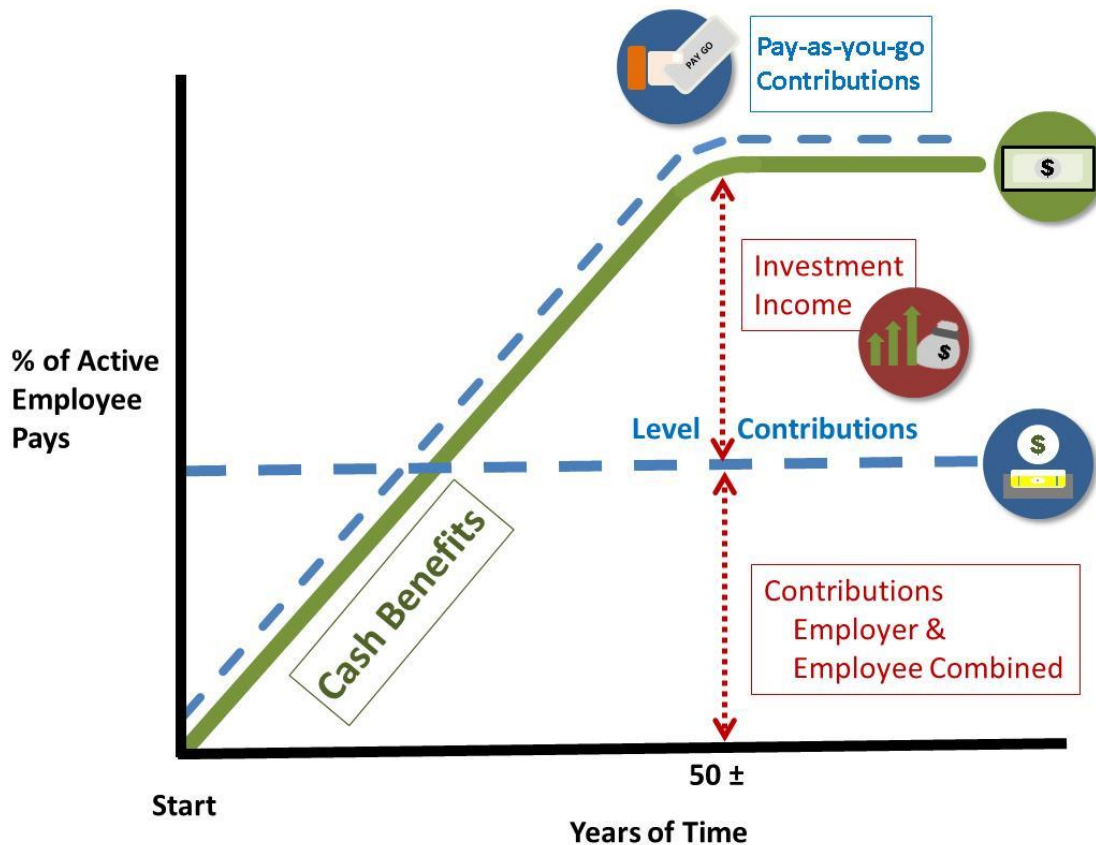
CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

- **Economic Areas**
    Rates of investment return
    Rates of pay increase
    Changes in active member group size
- **Non-Economic Areas**
    Ages at actual retirement
    Rates of mortality
    Rates of withdrawal of active members (turnover)
    Rates of disability

Actuarial Valuation Method

The actuarial funding method prescribed in the statute for WRS is the Frozen Entry Age Method which is also referred to as the Frozen Initial Liability (FIL) method in this report. Under this method, the amount of remaining unfunded actuarial accrued liabilities at any valuation date is affected only by the monthly amortization payments, compound interest, the added liability created by new employer units, and any added liabilities caused by changes in benefit provisions.

Actuarial gains or losses arising from the difference between actual and assumed experience are reflected in the determination of the normal cost. In this manner, experience gains or losses in any year are amortized (spread) over the average future working lifetime of the active participant group – a period of approximately 12 years. Hence, the computed normal cost is made up of two parts:

- The pure entry-age normal cost (EANC) determined without regard to past gains or losses; and
- An experience amortization component.

Section 40.04(1) of the Wisconsin Statutes provides authority to maintain accounts and reserves determined to be "useful in achieving the funds' purposes - - -". A fundamental WRS objective is stable contribution rates. Accordingly, based on the authority granted under Section 40.04, the experience portion of the normal cost is separately calculated each year and the amortization period is varied upward or downward in order to minimize short-term rate fluctuations. The policy regarding the EAR amortization period is described below:

- The standard period is set to 20 years.
- The standard period is reconsidered as part of each triennial experience study (no changes were made with the most recent experience study).
- Temporary interim changes in the period are made only when there are large, but mostly offsetting market gains and losses known to be flowing through the MRA that would otherwise result in contribution rate volatility. Large changes would be defined as those which, over a 2-year period, were expected to result in contribution rate changes of at least 0.4% of payroll.
- The minimum and maximum EAR amortization periods are 10 years and 30 years respectively.
- The amortization policy will be applied in the same manner to market gains and losses flowing through the MRA.
- For 2024, a 20-year period was used.

The EAR typically runs between -2% and +2% of liabilities due to the effect of gains and losses and the risk sharing design of the WRS. This year the EAR is 1.9% of the total entry age normal accrued liability. Due to the use of an open, 20-year amortization period for the Experience Amortization Reserve, the unfunded actuarial accrued liability is expected to decrease over time and trend to zero but would not ever be fully paid off.

The computed contribution rates meet the definition of a reasonable actuarially determined contribution, as defined in ASOP 4 §3.21.

Asset Valuation Method

An essential step in the valuation process is comparing valuation assets with computed liabilities. Computed liabilities result from actuarial calculations involving the covered population, the benefits, and actuarial assumptions. Valuation assets are those assets that are recognized and available to fund the System's liabilities. WRS assets are invested in the Core Investment Trust, and in the Variable Investment Trust, both of which are managed by the State of Wisconsin Investment Board (SWIB). Assets in the Variable Investment Trust are marked to market each year. Assets in the Core Investment Trust (most of the assets) are valued (or recognized) using an "asset valuation method."

Asset valuation methods are distinguished by the timing of the recognition of investment return. Total investment return is the sum of ordinary income and capital value changes. Under a book value approach, ordinary income is recognized immediately and capital gains (or losses) are recognized only when securities are sold. Book value investment return is directly affected by the timing of sales activity and underlying experience may be distorted. Under a pure market value approach, ordinary investment income and all capital value changes are recognized immediately. Because of market volatility, use of pure market values in retirement funding can result in volatile contribution rates and unstable financial ratios, contrary to WRS objectives.

The asset valuation method used for WRS valuations is statutory, and is referred to as the "Market Recognition Account" or MRA. Act 11 of 1999 closed the former Transaction Amortization Account (TAA) and created the Market Recognition Account (MRA). The MRA recognizes assumed returns fully each year. Differences between actual and assumed returns are phased-in over a closed five-year period. The objective is to give recognition to long-term changes in asset values while minimizing the effect of short-term fluctuations in the capital markets. In accordance with its smoothing objective, the MRA will tend to exceed the market value when the markets are doing poorly, and will fall short of the market value when markets are doing well. Some retirement systems set limits on the amount by which the recognized value of assets can differ from the market value.

Annual Actuarial Valuations
Assumptions Adopted by ETF Board after
Consulting with Actuary

ECONOMIC ASSUMPTIONS

The rationale for these assumptions is based upon an experience study covering the period 2021-2023.

For determining plan liabilities, the discount rate is 5.0% for retired participants, 5.0% for active and inactive participants following retirement, and 6.8% for active and inactive participants prior to their retirement. A valuation performed assuming a 5.4% discount rate for all participants at all stages of life, reproduces the results of an actuarial valuation using the 5.0% post-retirement and 6.8% pre-retirement assumptions. Thus, it can be said that **the net discount rate assumed in the valuations was 5.4% per year, compounded annually (net after administrative expenses).**

The **Wage Inflation Rate** assumed in this valuation was 3.0% per year. The wage inflation rate is defined to be the portion of total pay increases for an individual that are due to macroeconomic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes rated to individual merit and seniority effects.

No specific **Price Inflation** assumption is required to perform this valuation. The price inflation assumption used to evaluate the investment return assumption is 2.4%.

The assumed **Real Rate of Return** over wage inflation is defined to be the portion of total investment return that is more than the assumed total wage growth rate. Considering other economic assumptions, the 6.8% pre-retirement investment return rate translates to an assumed real rate of return over wage inflation of 3.8%. The assumed real rate of return over price inflation is 4.4% considering an inflation assumption of 2.4%.

Merit and Longevity pay increase assumptions for individual active members are shown for sample services below. An additional 3.0% recognizes wage inflation, including price inflation, productivity increases, and other macroeconomic forces.

	% Merit Increases in Salaries Next Year								
Service	General Non-State (Not Including Schools)	General State (Not Including Schools)	Executive & Elected Non-State	Executive & Elected State	University Teachers State	Public School Teachers Non-State	Protective With SS Non-State	Protective With SS State	Protective Without SS Non-State
1	3.6%	3.6%	2.6%	2.6%	3.1%	5.7%	4.9%	4.9%	5.5%
2	3.6%	3.6%	2.6%	2.6%	3.1%	5.7%	4.9%	4.9%	5.5%
3	3.2%	3.2%	2.1%	2.1%	3.0%	5.3%	4.2%	4.2%	4.7%
4	2.9%	2.9%	1.7%	1.7%	2.9%	4.8%	3.6%	3.6%	3.8%
5	2.6%	2.6%	1.2%	1.2%	2.8%	4.4%	2.9%	2.9%	3.0%
10	1.6%	1.6%	0.3%	0.3%	2.3%	2.7%	1.2%	1.2%	0.9%
15	1.2%	1.2%	0.3%	0.3%	1.8%	1.5%	0.9%	0.9%	0.5%
20	1.0%	1.0%	0.3%	0.3%	1.3%	0.7%	0.8%	0.8%	0.4%
25	0.7%	0.7%	0.3%	0.3%	1.0%	0.4%	0.7%	0.7%	0.3%
30	0.5%	0.5%	0.3%	0.3%	0.8%	0.3%	0.6%	0.6%	0.2%

Decrement Probabilities

The Active Member Population is assumed to remain constant. For purposes of financing the unfunded liabilities and amortizing the EAR, total payroll is assumed to grow at the wage inflation rate – 3.00% per year.

The mortality table used was the 2020 WRS Experience Tables adopted by the Board in connection with the 2018-2020 Experience Study and not adjusted in connection with the 2021-2023 Experience Study. The rates in this table were based on actual WRS experience adjusted for future mortality improvements using the MP-2021 fully generational improvement scale from a base year of 2010. Sample retirement values from this table are shown below. This assumption is used to measure the probabilities of participants dying before retirement and the probabilities of each benefit payment being made after retirement.

Single Life Retirement Values
2020 WRS Experience Table with 5% Interest

Sample Attained Ages in 2024	Present Value of $1 Monthly for Life		Future Life Expectancy (years)		Mortality Rates[1]	
	Males	Females	Males	Females	Males	Females
40	$216.85	$219.92	47.3	49.3	0.000660	0.000438
45	208.94	212.66	42.0	44.1	0.000840	0.000548
50	198.90	203.38	36.8	38.9	0.001227	0.000856
55	186.50	191.99	31.7	33.7	0.002403	0.002197
60	171.72	178.62	26.8	28.8	0.004128	0.003440
65	154.31	162.51	22.1	24.0	0.006744	0.004936
70	134.15	143.12	17.6	19.4	0.011204	0.007811
75	111.64	120.73	13.5	15.0	0.020311	0.014779
80	88.06	96.73	9.8	11.1	0.038681	0.029648
85	65.40	73.25	6.8	7.8	0.074777	0.058680

[1] *With a fully generational mortality table, the mortality rate depends on the year of birth. Later years of birth will typically correspond to a lower mortality rate at a given age.*

The values shown above are for non-disabled participants in 2024. For disabled participants, the following table was used:

Sample Attained Ages in 2024	Present Value of $1 Monthly for Life		Future Life Expectancy (years)		Mortality Rates[1]	
	Males	Females	Males	Females	Males	Females
40	$176.01	$182.83	32.4	35.2	0.010144	0.008869
45	165.47	173.26	28.5	31.2	0.012622	0.011239
50	154.10	163.05	24.8	27.4	0.017272	0.015683
55	142.54	152.93	21.4	24.0	0.022782	0.019834
60	130.85	142.58	18.4	20.8	0.028942	0.023444
65	118.71	130.43	15.6	17.7	0.034678	0.024970
70	105.20	114.88	12.9	14.5	0.040845	0.029030
75	89.57	96.62	10.3	11.3	0.051925	0.040495
80	72.67	77.69	7.8	8.5	0.073903	0.063200
85	56.45	60.56	5.8	6.3	0.111762	0.101660

[1] *With a fully generational mortality table, the mortality rate depends on the year of birth. Later years of birth will typically correspond to a lower mortality rate at a given age.*

Active Participant Mortality Rates

Sample Attained Ages in 2024	Mortality Rates[1]	
	Males	Females
20	0.000400	0.000166
25	0.000215	0.000130
30	0.000355	0.000228
35	0.000526	0.000332
40	0.000660	0.000438
45	0.000840	0.000548
50	0.001195	0.000772
55	0.001854	0.001218
60	0.003053	0.001929
65	0.004956	0.002988
70	0.007424	0.004920
75	0.010771	0.009317
80	0.021423	0.019211

[1] *With a fully generational mortality table, the mortality rate depends on the year of birth. Later years of birth will typically correspond to a lower mortality rate at a given age.*

This assumption is used to measure the probability of participants dying while in service.

Rates of Retirement for Those Eligible to Retire

Normal Retirement

Age	General Non-State Male	General Non-State Female	General State Male	General State Female	Executive & Elected Non-State	Executive & Elected State	University State Male	University State Female	Public Schools Non-State Male	Public Schools Non-State Female	Protective With SS Non-State[1]	Protective With SS State[1]	Protective Without SS Non-State[1]
50											6.0%	7.5%	3.0%
51											8.0%	9.0%	4.0%
52											11.0%	11.0%	5.0%
53											34.0%	25.0%	20.0%
54											32.0%	20.0%	28.0%
55											26.0%	20.0%	30.0%
56											23.0%	20.0%	32.0%
57	20.0%	17.0%	19.0%	19.0%	10.0%	12.0%	12.0%	10.0%	32.0%	27.5%	27.0%	20.0%	26.0%
58	20.0%	18.0%	19.0%	19.0%	10.0%	12.0%	16.0%	20.0%	30.0%	27.5%	21.0%	20.0%	30.0%
59	20.0%	15.0%	19.0%	19.0%	10.0%	12.0%	9.0%	12.0%	29.0%	26.0%	23.0%	20.0%	40.0%
60	20.0%	20.0%	19.0%	21.0%	10.0%	12.0%	15.0%	14.0%	29.0%	29.0%	22.0%	20.0%	30.0%
61	20.0%	18.0%	19.0%	25.0%	10.0%	12.0%	9.0%	13.0%	28.0%	27.0%	30.0%	20.0%	33.0%
62	30.0%	24.0%	28.0%	29.0%	10.0%	18.0%	10.0%	15.0%	38.0%	36.0%	35.0%	25.0%	33.0%
63	30.0%	29.0%	30.0%	28.0%	10.0%	18.0%	11.0%	19.0%	34.0%	31.0%	27.0%	25.0%	33.0%
64	30.0%	24.0%	25.0%	31.0%	15.0%	18.0%	15.5%	17.0%	30.0%	30.0%	30.0%	36.0%	40.0%
65	30.0%	36.0%	27.0%	31.0%	15.0%	18.0%	15.5%	21.0%	34.0%	38.5%	34.0%	38.0%	40.0%
66	40.0%	39.0%	35.0%	36.0%	15.0%	18.0%	21.0%	25.0%	36.0%	44.0%	35.0%	38.0%	100.0%
67	32.0%	35.0%	32.0%	33.0%	15.0%	18.0%	18.0%	25.0%	30.0%	31.0%	35.0%	38.0%	100.0%
68	32.0%	30.0%	21.0%	25.0%	10.0%	18.0%	19.0%	18.0%	29.0%	30.0%	35.0%	38.0%	100.0%
69	28.0%	23.0%	21.0%	27.0%	10.0%	18.0%	14.0%	16.5%	22.0%	30.0%	35.0%	38.0%	100.0%
70	28.0%	24.0%	21.0%	29.0%	10.0%	18.0%	21.0%	22.0%	29.0%	32.0%	100.0%	100.0%	100.0%
71	28.0%	29.0%	21.0%	34.0%	10.0%	15.0%	24.0%	16.5%	23.0%	25.0%	100.0%	100.0%	100.0%
72	28.0%	28.0%	21.0%	33.0%	10.0%	15.0%	24.0%	17.0%	23.0%	25.0%	100.0%	100.0%	100.0%
73	18.0%	28.0%	30.0%	24.0%	20.0%	15.0%	24.0%	21.0%	24.0%	25.0%	100.0%	100.0%	100.0%
74	18.0%	16.0%	30.0%	18.0%	20.0%	15.0%	24.0%	14.0%	25.0%	25.0%	100.0%	100.0%	100.0%
75	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

[1] Includes reduced retirements for Protective with 20+ years of service.

Reduced Retirement

Age	General Non-State Male	General Non-State Female	General State Male	General State Female	Executive & Elected Non-State	Executive & Elected State	University State Male	University State Female	Public Schools Non-State Male	Public Schools Non-State Female
55	7.3%	7.0%	5.0%	6.0%	2.5%	6.0%	3.3%	5.0%	12.0%	11.0%
56	6.0%	7.0%	7.0%	8.0%	2.5%	6.0%	3.3%	5.0%	13.0%	13.0%
57	5.2%	5.5%	6.0%	6.0%	2.5%	6.0%	4.0%	5.0%	13.0%	12.0%
58	5.6%	6.5%	6.0%	9.0%	2.5%	6.0%	4.0%	5.5%	12.0%	13.0%
59	5.9%	7.0%	7.0%	8.0%	2.5%	6.0%	4.4%	6.0%	14.3%	13.5%
60	9.3%	9.5%	9.0%	10.0%	5.0%	6.0%	4.8%	7.5%	16.0%	17.0%
61	8.0%	9.5%	12.5%	11.0%	5.0%	6.0%	4.8%	9.0%	16.0%	17.0%
62	19.0%	16.0%	15.0%	18.0%	1.0%	6.0%	7.0%	11.0%	23.0%	24.0%
63	20.0%	18.0%	17.0%	20.0%	1.0%	3.0%	8.3%	12.0%	21.0%	24.0%
64	18.0%	18.0%	20.0%	19.0%	1.0%	3.0%	11.5%	14.5%	21.0%	24.0%

The assumed rates of separation from employment prior to service retirement due to disability and other causes are shown below for sample ages. For other terminations it was assumed that a percentage, depending on age of participants terminating after age 35 with 5 or more years of service, will leave their contributions on deposit and be paid a benefit at normal retirement age and that the remaining participants would take a separation benefit. The percentage taking a separation benefit is 25% at age 35, grading downward to 0% at retirement eligibility. All participants terminating prior to normal retirement age with less than five years of service were assumed to take a separation benefit.

Assumed Termination Rates
by Attained Age and Years of Service

Age	Service	% of Active Participants Withdrawing												
		General Non-State		General State		Executive & Elected Non-State	Executive & Elected State	University State		Public Schools Non-State		Protective		
		Male	Female	Male	Female			Male	Female	Male	Female	With SS Non-State	With SS State	Without SS Non-State
Under 30	0-1	17.7%	20.0%	17.2%	19.5%	29.0%	19.0%	14.0%	14.1%	12.6%	12.0%	15.6%	21.0%	5.5%
	1-2	12.5%	15.0%	12.9%	15.5%	25.0%	16.0%	13.8%	14.0%	11.6%	10.0%	9.4%	17.0%	4.2%
	2-3	9.0%	11.5%	9.5%	12.5%	22.0%	13.0%	12.6%	12.7%	8.5%	8.5%	5.3%	11.0%	2.4%
	3-4	7.1%	9.6%	7.4%	10.0%	19.0%	12.5%	11.0%	10.0%	6.0%	6.2%	4.4%	7.0%	2.2%
	4-5	6.6%	9.0%	7.3%	8.7%	15.0%	12.0%	8.6%	9.3%	5.6%	5.8%	4.2%	6.0%	1.6%
	5-6	5.3%	7.4%	6.1%	7.8%	7.0%	6.0%	8.5%	8.1%	4.5%	4.8%	3.3%	5.5%	1.4%
	6-7	4.8%	6.3%	5.2%	6.9%	4.0%	6.0%	7.0%	7.0%	3.7%	4.1%	3.2%	4.9%	1.3%
	7-8	4.6%	6.0%	5.1%	6.0%	4.0%	6.0%	5.6%	5.6%	2.9%	3.5%	3.0%	4.1%	1.2%
	8-9	4.1%	5.7%	4.5%	5.6%	4.0%	6.0%	4.6%	4.9%	2.6%	3.4%	2.7%	3.5%	1.1%
	9-10	4.0%	5.0%	3.6%	5.5%	4.0%	6.0%	4.3%	4.3%	2.5%	3.0%	2.3%	3.4%	1.0%
	10 & Up	3.2%	4.9%	3.4%	4.8%	3.8%	4.5%	3.9%	4.0%	2.0%	2.2%	2.1%	2.9%	0.7%
35		2.8%	4.1%	3.3%	3.9%	3.5%	4.5%	3.5%	4.0%	1.6%	1.9%	1.8%	2.4%	0.6%
40		2.4%	3.2%	3.0%	3.0%	3.1%	4.5%	3.1%	3.7%	1.4%	1.6%	1.5%	1.8%	0.6%
45		2.0%	2.9%	2.5%	2.7%	2.9%	4.2%	2.6%	3.2%	1.4%	1.4%	1.4%	1.4%	0.5%
50		1.7%	2.5%	2.0%	2.1%	2.7%	3.7%	2.2%	2.7%	1.3%	1.2%	1.3%	1.2%	0.5%
54		1.6%	2.2%	1.9%	1.8%	2.7%	3.5%	2.0%	2.5%	1.3%	1.2%	1.3%	1.2%	0.5%

Disability Rates

Age	% of Active Participants Becoming Disabled												
	General Non-State		General State		Executive & Elected Non-State	Executive & Elected State	University State		Public Schools Non-State		Protective		
	Male	Female	Male	Female			Male	Female	Male	Female	With SS Non-State	With SS State	Without SS Non-State
20	0.01%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.02%	0.02%	0.04%
25	0.01%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.02%	0.02%	0.04%
30	0.01%	0.02%	0.01%	0.04%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.02%	0.02%	0.04%
35	0.01%	0.02%	0.01%	0.05%	0.01%	0.01%	0.00%	0.03%	0.01%	0.01%	0.03%	0.03%	0.04%
40	0.03%	0.03%	0.03%	0.07%	0.01%	0.01%	0.01%	0.04%	0.01%	0.02%	0.05%	0.05%	0.06%
45	0.06%	0.05%	0.06%	0.11%	0.01%	0.01%	0.02%	0.04%	0.03%	0.06%	0.07%	0.07%	0.11%
50	0.13%	0.07%	0.13%	0.17%	0.02%	0.02%	0.03%	0.07%	0.08%	0.10%	0.11%	0.11%	0.64%
55	0.24%	0.13%	0.25%	0.30%	0.09%	0.09%	0.08%	0.11%	0.14%	0.15%	1.73%	1.73%	0.48%
60	0.43%	0.18%	0.45%	0.43%	0.11%	0.11%	0.11%	0.17%	0.24%	0.22%	2.92%	2.92%	0.14%

Miscellaneous and Technical Assumptions

Amortization Payoff Reserve: Additional reserves in the amount of $1,606,032 (discounted from the year 2029 to the current valuation date) were added to general group liabilities to account for the possibility that some non-state employers may never be able to pay off their unfunded actuarial accrued liability.

Assumed Retirement for Deferred Members: Members with a deferred vested benefit were assumed to retire at age 65 for General members, age 54 for Protective members and age 62 for Executive and Elected members.

Benefit Service: Exact fractional service on the decrement date is used to determine the amount of benefit payable.

Decrement Operation: Disability operates during the retirement pattern.

Decrement Relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

Decrement Timing: Decrements of all types are assumed to occur mid-year.

Eligibility Testing: Eligibility for benefits is determined based upon the age nearest birthday and total service (in all benefit groups) nearest whole year on the date the decrement is assumed to occur.

Expenses: Assumed investment return is net of administrative and investment expenses.

Final Average Salary: For present value of future benefit purposes, final average salary was calculated in accordance with pay increase assumptions, but was not permitted to fall below the final average salary reported in the data.

Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

Liability Adjustments: Final Average Salaries were increased 5.0% for Executive and Elected, 4.0% for Protectives and 4.0% for all others to account for additional contingencies in actual benefit amount calculated at the time of retirement.

Marriage Assumption: 75% of males and 55% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.

Miscellaneous and Technical Assumptions
(Concluded)

Non-Benefit Service: Liabilities for service in divisions other than the division in which the individual is currently active are calculated as indexed deferred vested benefits. Benefits are indexed in accordance with the salary adjustment factors for the division where the member is currently employed. People are assumed to retire at the earliest age that full benefits will become available. The liabilities are assigned to the division in which the service was rendered.

Normal Form of Benefit: The assumed normal form of benefit is a straight life benefit, except where otherwise noted.

Pay Annualization: Reported pay for members with less than 12 contributing months was annualized by the ratio of 12 to the number of contributing months in the year.

Pay Increase Timing: Beginning of (calendar) year for most people. Middle of calendar year for teachers.

Service Credit Accruals: It is assumed that members accrue one year of service credit per year.

Variable Excess Benefits: These benefits are valued by increasing the otherwise calculated liabilities by an amount equal to twice the value of the variable excess. The variable excess is the difference between the variable account and the variable at core account, summed over all participants.

SECTION G

PLAN PROVISIONS

Summary of Benefit Provisions Evaluated
December 31, 2024 Actuarial Valuation

Normal Retirement Eligibility

The age a participant becomes eligible for an unreduced age and service annuity is:

General, Public School, & University		Protective		Executive & Elected#	
Age	**Service**	**Age**	**Service**	**Age**	**Service**
65	Any*	54	Any*	62	Any*
57	30	53	25	57	30

* Participants first employed after 1989 and terminated before April 24, 1998 must have creditable service in five calendar years.
# These conditions apply to those people hired on or before December 31, 2016. For others, the General eligibility conditions apply.

Normal Retirement Annuity

The age and service annuity payable at Normal Retirement Age is based on Final Average Earnings (FAE) and Creditable Service (CS) as follows:

Multiplier for Service Rendered			
Before 2000	**Between 2000 & 2011**	**After 2011**	**Group**
2.165%	2.0%	1.6%	Executive group and elected officials
2.165%	2.0%	2.0%	Protective occupation participants covered by Social Security
2.665%	2.5%	2.5%	Protective occupation participants not covered by Social Security
1.765%	1.6%	1.6%	All other participants

FAE is generally the average of the three highest years of earnings (July 1 - June 30 for teachers, educational support staff, and judges; calendar year for others) preceding retirement. These years do not have to be consecutive. For legislators and state constitutional officers who are ineligible to receive pay increases during their term, FAE is the statutory rate of earnings at termination.

Maximum formula annuity is 85% of FAE for protective occupation participants not covered by Social Security, 65% of FAE for protectives covered by Social Security, and 70% for all other participants. If greater than the formula amount, an annuity equal to the actuarial equivalent of two times the required accumulated contributions is paid in lieu of the formula amount (i.e., the Money Purchase Minimum).

Reduced Retirement. Any participant who has attained age 55 and any Protective occupation participant who has attained age 50 may apply for a reduced retirement annuity. The benefit is reduced 0.4% for each month that the annuity effective date precedes the Normal Retirement Age. For Non-Protective participants terminating after 6/30/90, the 0.4% is reduced for months after the attainment of age 57 and before the annuity effective date by .001111% for each month of creditable service.

Voluntary Termination Before Immediate Benefit Eligibility. Participant may either (i) receive a refund of accumulated contributions, or (ii) leave contributions on deposit and apply for a retirement annuity on or after the minimum retirement age based upon age and accrued service at time of termination.

Post-Retirement Adjustments. Annuities are increased annually if the investment income credited to retired life funds is in excess of the assumed benefit rate (presently 5%), other plan experiences are within projected ranges, and the resulting adjustment would be at least 0.5% (2.0% for the variable fund).

Disability Benefits. Generally, disability means the inability to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment which can be expected to result in death or to be of long-continued and indefinite duration. Disability applicants must be participating employees who are under normal retirement age, have not already taken a WRS benefit and who meet a service requirement.

For this purpose, **normal retirement age** is:
- 65 for general employees and executives and elected officials hired after December 31, 2016
- 62 for executives and elected officials hired on or before December 31, 2016
- 53 for protective occupation employees with 25 or more years of creditable service
- 54 for other protective occupation employees

The **service requirement** is that during the seven years preceding application the individual must have earned:
- At least 6 months of service credit in five of those years or
- A total of five years of service credit.

The service credit requirement may be waived if the disability is work related.

Protective occupation employees who become disabled between the ages of 50 and 55, who have at least 15 years of service, and who can no longer perform the duties of their position may apply for a special disability benefit until age 55.

Disability Amount: The disability benefit is the WRS formula benefit based upon service projected to normal retirement age as described above, without regard to the reduced retirement reduction.

Death-in-Service.
(a) Prior to age 50 for Protective participants, age 55 for others, the benefit is the equivalent of twice the accumulated employee contributions required and all additional contributions and employer amounts contributed prior to 1974 for teachers, or 1966 for others.

(b) After age 50 for Protective participants, age 55 for others, the benefit is the amount that would have been paid if participant had retired and elected 100% survivor option. Benefit is payable to an eligible beneficiary who must be a natural living person. If there is no eligible beneficiary, a refund of contributions is paid to the estate.

Interest Credits. For years after 1999, and for people with some active service after 1999, participant core accounts (including the variable at core accounts) are credited with interest at the full (core) effective rate. For others, accounts are credited with interest as follows:

| | Rate Credited for Purpose of | |
| | Money Purchase | |
Date of Participation	Minimum	Refunds
Prior to 1982	Actual	Actual
January 1, 1982 & Later	5%	3%

Participant variable accounts are credited with interest based on the earnings in the variable portfolio.

Contribution Rates. The financial objective of WRS is to establish and receive contributions that will remain level from year to year and decade to decade.

Statutory required participant contributions prior to July 1, 2011 were as follows:

General, Public School, and University	5.0%
Executives & Elected Officials	5.5
Protectives	
- With Social Security	6.0
- Without Social Security	8.0

Statutory required participant contributions after July 1, 2011 are set equal to one-half of the actuarially determined rate for General participants and Executive and Elected Officials. Participant contributions for Protective participants are set equal to the participant contribution for General members.

Normal Form of Benefit. The normal form of benefit is a straight life annuity with no death benefits. Optional forms of benefit which are actuarially reduced are listed below:

- A life annuity with 60 or 180 monthly payments guaranteed.

- A joint survivorship annuity with 75% continued to beneficiary.

- A joint survivorship annuity with 100% continued to beneficiary.

- A joint survivorship annuity reduced 25% upon either your death or your beneficiary's death.

- A joint survivorship annuity with 100% continued to beneficiary combined with 180 monthly payments guaranteed.

For formula benefit calculations, optional forms are calculated at the lower of the current age or age 62 (Normal Retirement Age for Protective occupations). If a retiree (and beneficiary if in receipt of a joint survivorship annuity) dies prior to receiving benefits which, in total, are at least equal to the members contributions, a "residual refund" for the difference is paid.

Vesting. Participants hired prior to July 1, 2011 vest immediately. After July 1, 2011, participants vest after five years of service.

SECTION H

GAIN/LOSS STATISTICAL SUMMARY

General Males Non-State
Withdrawal Experience
during Calendar Year 2024

Male Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	412	1,929	0.2136	0.1770	341
2	517	3,474	0.1488	0.1250	434
3	302	2,822	0.1070	0.0900	254
4	171	1,960	0.0872	0.0710	139
5	110	1,836	0.0599	0.0660	121
6	123	1,851	0.0665	0.0530	98
7	93	1,535	0.0606	0.0480	74
8	73	1,526	0.0478	0.0460	70
9	74	1,339	0.0553	0.0410	55
10	43	1,268	0.0339	0.0400	51
Totals	1,918	19,540	0.0982	0.0838	1,637

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	1	3	0.3333	0.0350	-
30-34	8	199	0.0402	0.0300	6
35-39	30	896	0.0335	0.0260	23
40-44	44	1,564	0.0281	0.0220	34
45-49	60	1,948	0.0308	0.0180	35
50-54	55	2,406	0.0229	0.0160	38
Over 54	90	5,840	0.0154		90
Totals	288	12,856	0.0224	0.0176	226

General Males State
Withdrawal Experience
during Calendar Year 2024

Male Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	172	840	0.2048	0.1720	144
2	261	1,681	0.1553	0.1290	217
3	137	1,217	0.1126	0.0950	116
4	66	840	0.0786	0.0740	62
5	53	866	0.0612	0.0730	63
6	64	837	0.0765	0.0610	51
7	51	743	0.0686	0.0520	39
8	41	757	0.0542	0.0510	39
9	26	685	0.0380	0.0450	31
10	20	660	0.0303	0.0360	24
Totals	891	9,126	0.0976	0.0861	786

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0350	-
30-34	3	100	0.0300	0.0335	3
35-39	20	578	0.0346	0.0320	18
40-44	27	895	0.0302	0.0280	25
45-49	25	983	0.0254	0.0230	23
50-54	24	1,204	0.0199	0.0185	22
Over 54	15	2,908	0.0052		15
Totals	114	6,668	0.0171	0.0159	106

General Females Non-State
Withdrawal Experience
during Calendar Year 2024

Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	1,240	5,153	0.2406	0.2000	1,031
2	1,446	8,587	0.1684	0.1500	1,288
3	697	6,056	0.1151	0.1150	696
4	452	4,486	0.1008	0.0960	431
5	306	3,780	0.0810	0.0900	340
6	315	3,494	0.0902	0.0740	259
7	215	2,884	0.0745	0.0630	182
8	185	2,584	0.0716	0.0600	155
9	149	2,234	0.0667	0.0570	127
10	126	2,065	0.0610	0.0500	103
Totals	5,131	41,323	0.1242	0.1116	4,612

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	3	0.0000	0.0500	-
30-34	6	181	0.0331	0.0480	9
35-39	43	1,116	0.0385	0.0360	40
40-44	66	1,929	0.0342	0.0300	58
45-49	95	2,671	0.0356	0.0290	77
50-54	122	3,459	0.0353	0.0220	76
Over 54	207	10,253	0.0202		207
Totals	539	19,612	0.0275	0.0238	467

General Females State
Withdrawal Experience
during Calendar Year 2024

Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	342	1,711	0.1999	0.1950	334
2	455	2,937	0.1549	0.1550	455
3	236	2,226	0.1060	0.1250	278
4	152	1,597	0.0952	0.1000	160
5	94	1,571	0.0598	0.0870	137
6	99	1,418	0.0698	0.0780	111
7	82	1,334	0.0615	0.0690	92
8	57	1,366	0.0417	0.0600	82
9	49	1,099	0.0446	0.0560	62
10	34	1,055	0.0322	0.0550	58
Totals	1,600	16,314	0.0981	0.1084	1,769

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0500	-
30-34	7	143	0.0490	0.0470	7
35-39	27	930	0.0290	0.0340	32
40-44	37	1,403	0.0264	0.0280	39
45-49	52	1,658	0.0314	0.0260	43
50-54	33	1,827	0.0181	0.0180	33
Over 54	27	4,218	0.0064		27
Totals	183	10,179	0.0180	0.0178	181

Public Schools Males Non-State
Withdrawal Experience
during Calendar Year 2024

Male Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	74	581	0.1274	0.1260	73
2	124	1,105	0.1122	0.1160	128
3	84	1,071	0.0784	0.0850	91
4	61	809	0.0754	0.0600	49
5	45	850	0.0529	0.0560	48
6	41	742	0.0553	0.0450	33
7	36	726	0.0496	0.0370	27
8	35	683	0.0512	0.0290	20
9	23	731	0.0315	0.0260	19
10	28	725	0.0386	0.0250	18
Totals	551	8,023	0.0687	0.0631	506

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0250	-
30-34	-	186	0.0000	0.0170	3
35-39	26	1,355	0.0192	0.0150	20
40-44	26	2,147	0.0121	0.0140	30
45-49	41	2,679	0.0153	0.0135	36
50-54	56	2,879	0.0195	0.0130	37
Over 54	32	3,037	0.0105		32
Totals	181	12,283	0.0147	0.0129	158

Public Schools Females Non-State
Withdrawal Experience
during Calendar Year 2024

Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	175	1,582	0.1106	0.1200	190
2	342	3,296	0.1038	0.1000	330
3	302	3,251	0.0929	0.0850	276
4	239	2,740	0.0872	0.0620	170
5	201	2,600	0.0773	0.0580	151
6	176	2,431	0.0724	0.0480	117
7	136	2,362	0.0576	0.0410	97
8	122	2,265	0.0539	0.0350	79
9	78	2,142	0.0364	0.0340	73
10	106	2,316	0.0458	0.0300	69
Totals	1,877	24,985	0.0751	0.0621	1,552

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0250	-
30-34	24	699	0.0343	0.0200	14
35-39	134	4,199	0.0319	0.0180	76
40-44	112	6,127	0.0183	0.0145	89
45-49	132	6,823	0.0193	0.0130	89
50-54	115	7,226	0.0159	0.0115	83
Over 54	98	8,322	0.0118		98
Totals	615	33,396	0.0184	0.0134	449

University Males State
Withdrawal Experience
during Calendar Year 2024

Male Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	65	399	0.1629	0.1400	56
2	132	890	0.1483	0.1380	123
3	100	843	0.1186	0.1260	106
4	59	588	0.1003	0.1100	65
5	49	571	0.0858	0.0860	49
6	42	592	0.0709	0.0850	50
7	31	518	0.0598	0.0700	36
8	33	476	0.0693	0.0560	27
9	23	428	0.0537	0.0460	20
10	11	382	0.0288	0.0430	16
Totals	545	5,687	0.0958	0.0964	548

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0430	-
30-34	3	35	0.0857	0.0360	1
35-39	11	256	0.0430	0.0340	9
40-44	16	574	0.0279	0.0290	17
45-49	21	929	0.0226	0.0240	22
50-54	18	1,021	0.0176	0.0200	20
Over 54	19	2,409	0.0079		19
Totals	88	5,224	0.0168	0.0168	88

University Females State
Withdrawal Experience
during Calendar Year 2024

Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	86	541	0.1590	0.1410	76
2	158	1,219	0.1296	0.1400	171
3	158	1,280	0.1234	0.1270	163
4	95	883	0.1076	0.1000	88
5	68	792	0.0859	0.0930	74
6	75	848	0.0884	0.0810	69
7	60	810	0.0741	0.0700	57
8	44	701	0.0628	0.0560	39
9	31	641	0.0484	0.0490	31
10	24	613	0.0392	0.0430	26
Totals	799	8,328	0.0959	0.0953	794

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0400	-
30-34	1	62	0.0161	0.0400	2
35-39	14	464	0.0302	0.0400	19
40-44	27	881	0.0306	0.0350	31
45-49	37	1,180	0.0314	0.0300	35
50-54	28	1,175	0.0238	0.0250	29
Over 54	21	2,358	0.0089		21
Totals	128	6,120	0.0209	0.0224	137

Protective with Social Security Non-State
Withdrawal Experience
during Calendar Year 2024

Male and Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	46	346	0.1329	0.1560	54
2	92	851	0.1081	0.0940	80
3	55	747	0.0736	0.0530	40
4	34	663	0.0513	0.0440	29
5	32	613	0.0522	0.0420	26
6	29	628	0.0462	0.0330	21
7	17	558	0.0305	0.0320	18
8	13	534	0.0243	0.0300	16
9	10	486	0.0206	0.0270	13
10	9	426	0.0211	0.0230	10
Totals	337	5,852	0.0576	0.0525	307

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male and Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0220	-
30-34	5	278	0.0180	0.0200	6
35-39	21	1,096	0.0192	0.0160	18
40-44	28	1,365	0.0205	0.0150	20
45-49	22	1,355	0.0162	0.0140	19
50-54	5	1,310	0.0038	0.0130	17
Totals	81	5,404	0.0150	0.0148	80

Protective with Social Security State
Withdrawal Experience
during Calendar Year 2024

Male and Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	107	415	0.2578	0.2100	87
2	107	592	0.1807	0.1700	101
3	40	347	0.1153	0.1100	38
4	19	381	0.0499	0.0700	27
5	35	440	0.0795	0.0600	26
6	26	369	0.0705	0.0550	20
7	18	354	0.0508	0.0490	17
8	20	385	0.0519	0.0410	16
9	12	362	0.0331	0.0350	13
10	8	272	0.0294	0.0340	9
Totals	392	3,917	0.1001	0.0904	354

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male and Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	1	0.0000	0.0300	-
30-34	5	149	0.0336	0.0280	4
35-39	7	461	0.0152	0.0220	10
40-44	9	719	0.0125	0.0160	12
45-49	20	902	0.0222	0.0130	12
50-54	4	869	0.0046	0.0120	10
Totals	45	3,101	0.0145	0.0155	48

Protective without Social Security Non-State Withdrawal Experience during Calendar Year 2024

Male and Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	3	61	0.0492	0.0550	3
2	7	187	0.0374	0.0420	8
3	7	161	0.0435	0.0240	4
4	3	149	0.0201	0.0220	3
5	4	114	0.0351	0.0160	2
6	3	118	0.0254	0.0140	2
7	3	124	0.0242	0.0130	2
8	-	110	0.0000	0.0120	1
9	2	107	0.0187	0.0110	1
10	2	104	0.0192	0.0100	1
Totals	34	1,235	0.0275	0.0219	27

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male and Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0070	-
30-34	1	68	0.0147	0.0065	-
35-39	2	287	0.0070	0.0060	2
40-44	4	376	0.0106	0.0055	2
45-49	5	386	0.0130	0.0050	2
50-54	3	391	0.0077	0.0045	2
Totals	15	1,508	0.0099	0.0053	8

Executive and Elected Non-State Withdrawal Experience during Calendar Year 2024

Male and Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	1	12	0.0833	0.2900	3
2	3	20	0.1500	0.2500	5
3	1	9	0.1111	0.2200	2
4	-	26	0.0000	0.1900	5
5	1	19	0.0526	0.1500	3
6	4	17	0.2353	0.0700	1
7	3	18	0.1667	0.0400	1
8	2	28	0.0714	0.0400	1
9	-	8	0.0000	0.0400	-
10	-	17	0.0000	0.0400	1
Totals	15	174	0.0862	0.1264	22

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male and Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0400	-
30-34	-	1	0.0000	0.0370	-
35-39	-	8	0.0000	0.0330	-
40-44	1	21	0.0476	0.0300	1
45-49	-	29	0.0000	0.0280	1
50-54	2	53	0.0377	0.0270	1
Over 54	3	170	0.0176		3
Totals	6	282	0.0213	0.0213	6

Executive and Elected State
Withdrawal Experience
during Calendar Year 2024

Male and Female Service-Based Withdrawals
All Ages

Service Index	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
1	-	10	0.0000	0.1900	2
2	1	41	0.0244	0.1600	7
3	1	14	0.0714	0.1300	2
4	1	32	0.0313	0.1250	4
5	1	22	0.0455	0.1200	3
6	1	40	0.0250	0.0600	2
7	-	19	0.0000	0.0600	1
8	2	33	0.0606	0.0600	2
9	-	24	0.0000	0.0600	1
10	1	43	0.0233	0.0600	3
Totals	8	278	0.0288	0.0000	27

Service index 1 corresponds to service between 0 and 1 years, service index 2 corresponds to service between 1 and 2 years of service, etc. As such, service index 10 corresponds to service between 9 and 10 years of service.

Male and Female Age-Based Withdrawals
10+ Years of Service

Age	Withdrawals	Exposure	Crude Rates	Current Rates	Expected Withdrawals
25-29	-	-	N/A	0.0450	-
30-34	-	1	0.0000	0.0450	-
35-39	-	9	0.0000	0.0450	-
40-44	1	44	0.0227	0.0450	2
45-49	3	54	0.0556	0.0400	2
50-54	4	73	0.0548	0.0350	3
Over 54	-	251	0.0000		-
Totals	8	432	0.0185	0.0162	7

General Non-State
Disability Experience
during Calendar Year 2024

Male Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	20	0.0000	0.0001	-
25-29	-	492	0.0000	0.0001	-
30-34	-	1,538	0.0000	0.0001	-
35-39	-	2,323	0.0000	0.0002	-
40-44	-	2,875	0.0000	0.0005	1
45-49	-	3,028	0.0000	0.0006	2
50-54	3	3,357	0.0009	0.0017	6
55-59	8	3,111	0.0026	0.0030	9
60-64	6	2,530	0.0024	0.0059	15
65-69	-	-	N/A	0.0023	-
70-74	-	-	N/A	0.0020	-
75 and over	-	-	N/A	0.0020	-
Totals	17	19,274	0.0009	0.0017	33

Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0000	-
20-24	-	9	0.0000	0.0000	-
25-29	-	553	0.0000	0.0000	-
30-34	2	2,020	0.0010	0.0002	-
35-39	-	3,233	0.0000	0.0002	1
40-44	-	4,038	0.0000	0.0004	1
45-49	2	4,859	0.0004	0.0005	2
50-54	-	5,652	0.0000	0.0009	5
55-59	8	6,164	0.0013	0.0016	10
60-64	8	5,021	0.0016	0.0020	10
65-69	-	-	N/A	0.0016	-
70-74	-	-	N/A	0.0014	-
75 and over	-	-	N/A	0.0014	-
Totals	20	31,549	0.0006	0.0009	29

The people shown on this page are cases involving §40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year.

General State
Disability Experience
during Calendar Year 2024

Male Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	5	0.0000	0.0001	-
25-29	-	213	0.0000	0.0001	-
30-34	-	849	0.0000	0.0001	-
35-39	-	1,356	0.0000	0.0002	-
40-44	1	1,525	0.0007	0.0005	1
45-49	3	1,470	0.0020	0.0006	1
50-54	1	1,615	0.0006	0.0017	3
55-59	5	1,535	0.0033	0.0031	5
60-64	2	1,078	0.0019	0.0062	7
65-69	-	-	N/A	0.0024	-
70-74	-	-	N/A	0.0021	-
75 and over	-	-	N/A	0.0021	-
Totals	12	9,646	0.0012	0.0018	17

Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	8	0.0000	0.0001	-
25-29	-	429	0.0000	0.0001	-
30-34	-	1,733	0.0000	0.0004	1
35-39	-	2,277	0.0000	0.0005	1
40-44	-	2,440	0.0000	0.0008	2
45-49	4	2,395	0.0017	0.0012	3
50-54	4	2,514	0.0016	0.0020	5
55-59	7	2,301	0.0030	0.0038	9
60-64	6	1,726	0.0035	0.0047	8
65-69	2	-	N/A	0.0038	-
70-74	-	-	N/A	0.0032	-
75 and over	-	-	N/A	0.0032	-
Totals	23	15,823	0.0015	0.0018	29

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Public Schools Non-State
Disability Experience
during Calendar Year 2024

Male Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	335	0.0000	0.0001	-
30-34	-	1,548	0.0000	0.0001	-
35-39	-	2,121	0.0000	0.0001	-
40-44	-	2,686	0.0000	0.0002	-
45-49	-	3,061	0.0000	0.0003	1
50-54	3	3,169	0.0009	0.0012	4
55-59	4	1,925	0.0021	0.0016	3
60-64	1	597	0.0017	0.0028	2
65-69	-	-	N/A	0.0040	-
70-74	-	-	N/A	0.0041	-
75 and over	-	-	N/A	0.0041	-
Totals	8	15,442	0.0005	0.0006	10

Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	1,430	0.0000	0.0001	-
30-34	-	5,110	0.0000	0.0001	-
35-39	-	6,434	0.0000	0.0001	1
40-44	3	7,704	0.0004	0.0002	2
45-49	5	8,083	0.0006	0.0009	7
50-54	7	8,136	0.0009	0.0012	10
55-59	5	5,229	0.0010	0.0018	10
60-64	3	1,809	0.0017	0.0026	5
65-69	-	-	N/A	0.0014	-
70-74	-	-	N/A	0.0012	-
75 and over	-	-	N/A	0.0012	-
Totals	23	43,935	0.0005	0.0008	35

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University State
Disability Experience
during Calendar Year 2024

Male Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0000	-
20-24	-	-	N/A	0.0000	-
25-29	-	87	0.0000	0.0000	-
30-34	-	385	0.0000	0.0000	-
35-39	-	841	0.0000	0.0000	-
40-44	2	1,225	0.0016	0.0001	-
45-49	-	1,301	0.0000	0.0002	-
50-54	-	1,246	0.0000	0.0004	-
55-59	1	1,101	0.0009	0.0012	1
60-64	1	765	0.0013	0.0011	1
65-69	-	-	N/A	0.0014	-
70-74	-	-	N/A	0.0012	-
75 and over	-	-	N/A	0.0012	-
Totals	4	6,951	0.0006	0.0003	2

Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	152	0.0000	0.0001	-
30-34	-	851	0.0000	0.0001	-
35-39	-	1,368	0.0000	0.0004	1
40-44	1	1,671	0.0006	0.0005	1
45-49	-	1,684	0.0000	0.0004	1
50-54	2	1,506	0.0013	0.0009	1
55-59	1	1,286	0.0008	0.0013	2
60-64	2	857	0.0023	0.0020	2
65-69	-	-	N/A	0.0013	-
70-74	-	-	N/A	0.0011	-
75 and over	-	-	N/A	0.0011	-
Totals	6	9,375	0.0006	0.0009	8

The people shown on this page are cases involving §40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year.

Protective without Social Security Non-State
Disability Experience
during Calendar Year 2024

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0004	-
20-24	-	3	0.0000	0.0004	-
25-29	-	101	0.0000	0.0004	-
30-34	-	334	0.0000	0.0004	-
35-39	1	429	0.0023	0.0004	-
40-44	-	445	0.0000	0.0007	-
45-49	1	420	0.0024	0.0014	1
50-54	2	284	0.0070	0.0098	3
55-59	-	-	N/A	0.0014	-
60-64	-	-	N/A	0.0014	-
65-69	-	-	N/A	0.0014	-
70-74	-	-	N/A	0.0014	-
75 and over	-	-	N/A	0.0014	-
Totals	4	2,016	0.0020	0.0020	4

The people shown on this page are cases involving §40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year.

Protective with Social Security Non-State
Disability Experience
during Calendar Year 2024

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0002	-
20-24	-	5	0.0000	0.0002	-
25-29	-	681	0.0000	0.0002	-
30-34	-	1,583	0.0000	0.0002	-
35-39	2	1,672	0.0012	0.0004	1
40-44	2	1,601	0.0012	0.0005	1
45-49	2	1,440	0.0014	0.0008	1
50-54	6	964	0.0062	0.0013	1
55-59	-	-	N/A	0.0280	-
60-64	-	-	N/A	0.0300	-
65-69	-	-	N/A	0.0020	-
70-74	-	-	N/A	0.0020	-
75 and over	-	-	N/A	0.0020	-
Totals	12	7,946	0.0015	0.0005	4

The people shown on this page are cases involving §40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year.

Protective with Social Security State
Disability Experience
during Calendar Year 2024

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0002	-
20-24	-	10	0.0000	0.0002	-
25-29	-	304	0.0000	0.0002	-
30-34	-	804	0.0000	0.0002	-
35-39	1	846	0.0012	0.0004	-
40-44	-	969	0.0000	0.0005	-
45-49	-	1,074	0.0000	0.0008	1
50-54	1	697	0.0014	0.0013	1
55-59	-	-	N/A	0.0280	-
60-64	-	-	N/A	0.0300	-
65-69	-	-	N/A	0.0020	-
70-74	-	-	N/A	0.0020	-
75 and over	-	-	N/A	0.0020	-
Totals	2	4,704	0.0004	0.0004	2

The people shown on this page are cases involving §40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year.

Executive and Elected Non-State Disability Experience during Calendar Year 2024

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0000	-
20-24	-	-	N/A	0.0000	-
25-29	-	-	N/A	0.0000	-
30-34	-	7	0.0000	0.0000	-
35-39	-	14	0.0000	0.0001	-
40-44	-	30	0.0000	0.0001	-
45-49	-	39	0.0000	0.0002	-
50-54	-	69	0.0000	0.0003	-
55-59	-	69	0.0000	0.0012	-
60-64	-	32	0.0000	0.0011	-
65-69	-	-	N/A	0.0009	-
70-74	-	-	N/A	0.0009	-
75 and over	-	-	N/A	0.0009	-
Totals	-	260	N/A	N/A	-

The people shown on this page are cases involving §40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year.

Executive and Elected State
Disability Experience
during Calendar Year 2024

Male and Female Disability Experience

Age	Disabilities	Exposure	Crude Rates	Current Rates	Expected Disabilities
Under 20	-	-	N/A	0.0000	-
20-24	-	-	N/A	0.0000	-
25-29	-	4	0.0000	0.0000	-
30-34	-	10	0.0000	0.0000	-
35-39	-	29	0.0000	0.0001	-
40-44	-	66	0.0000	0.0001	-
45-49	-	78	0.0000	0.0002	-
50-54	-	92	0.0000	0.0003	-
55-59	-	106	0.0000	0.0012	-
60-64	-	32	0.0000	0.0011	-
65-69	-	-	N/A	0.0009	-
70-74	-	-	N/A	0.0009	-
75 and over	-	-	N/A	0.0009	-
Totals	-	417	N/A	N/A	-

The people shown on this page are cases involving §40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year.

General Non-State
Pay Increase Assumption
during Calendar Year 2024

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	33,508	11.47 %	6.55 %
6-10	18,807	7.12 %	5.00 %
11-15	10,387	6.36 %	4.35 %
16-20	7,186	5.80 %	4.10 %
21-25	5,604	5.60 %	3.85 %
26-30	3,475	5.41 %	3.60 %
31-35	1,582	5.23 %	3.40 %
36-40	538	5.24 %	3.30 %
Over 40	161	4.86 %	3.20 %
Total	81,248		

General State
Pay Increase Assumption
during Calendar Year 2024

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	**Number**	**Actual**	**Expected**
1-5	13,169	17.92 %	6.55 %
6-10	9,118	7.37 %	5.00 %
11-15	5,603	7.14 %	4.35 %
16-20	3,644	6.43 %	4.10 %
21-25	2,883	5.98 %	3.85 %
26-30	1,842	6.20 %	3.60 %
31-35	963	5.70 %	3.40 %
36-40	321	5.21 %	3.30 %
Over 40	96	4.98 %	3.20 %
Total	37,639		

Public Schools Non-State
Pay Increase Assumption
during Calendar Year 2024

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	16,112	12.94 %	8.70 %
6-10	14,182	6.81 %	6.50 %
11-15	12,136	6.43 %	5.20 %
16-20	10,387	5.48 %	4.10 %
21-25	10,022	4.96 %	3.45 %
26-30	7,178	4.32 %	3.30 %
31-35	2,535	4.31 %	3.25 %
36-40	349	3.73 %	3.20 %
Over 40	44	3.10 %	3.15 %
Total	72,945		

University State
Pay Increase Assumption
during Calendar Year 2024

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	6,956	20.56 %	6.10 %
6-10	5,504	6.81 %	5.60 %
11-15	3,910	6.40 %	5.10 %
16-20	2,750	5.30 %	4.60 %
21-25	2,100	4.90 %	4.05 %
26-30	1,097	4.40 %	3.90 %
31-35	463	4.46 %	3.70 %
36-40	201	3.62 %	3.30 %
Over 40	69	4.38 %	3.20 %
Total	23,050		

Protective with Social Security Non-State
Pay Increase Assumption
during Calendar Year 2024

Male and Female Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	2,892	20.06 %	7.85 %
6-10	2,520	6.82 %	4.60 %
11-15	1,651	5.85 %	4.00 %
16-20	1,527	5.61 %	3.90 %
21-25	1,295	6.15 %	3.80 %
26-30	743	5.85 %	3.70 %
31-35	135	6.19 %	3.60 %
36-40	16	4.35 %	3.50 %
Over 40	7	10.32 %	3.30 %
Total	10,786		

Protective with Social Security State
Pay Increase Assumption
during Calendar Year 2024

Male and Female Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	1,821	26.61 %	7.85 %
6-10	1,609	9.28 %	4.60 %
11-15	875	8.27 %	4.00 %
16-20	909	7.79 %	3.90 %
21-25	945	6.59 %	3.80 %
26-30	652	7.80 %	3.70 %
31-35	94	7.85 %	3.60 %
36-40	2	7.99 %	3.50 %
Over 40	2	8.59 %	3.30 %
Total	6,909		

Protective without Social Security Non-State
Pay Increase Assumption
during Calendar Year 2024

Male and Female Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	637	19.08 %	8.50 %
6-10	546	4.68 %	4.30 %
11-15	478	3.71 %	3.60 %
16-20	412	3.52 %	3.50 %
21-25	364	3.86 %	3.40 %
26-30	239	3.36 %	3.30 %
31-35	21	3.72 %	3.20 %
36-40	-	N/A	3.10 %
Over 40	1	6.52 %	3.05 %
Total	2,698		

Executive and Elected Non-State
Pay Increase Assumption
during Calendar Year 2024

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	86	1.54 %	5.60 %
6-10	81	2.77 %	3.30 %
11-15	71	3.43 %	3.30 %
16-20	56	4.15 %	3.30 %
21-25	58	3.14 %	3.30 %
26-30	39	2.63 %	3.30 %
31-35	30	2.59 %	3.30 %
36-40	5	2.93 %	3.30 %
Over 40	7	2.08 %	3.30 %
Total	433		

Executive and Elected State Pay Increase Assumption during Calendar Year 2024

Service-Based Pay Increase Experience

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	118	18.02 %	5.60 %
6-10	149	5.58 %	3.30 %
11-15	124	6.21 %	3.30 %
16-20	90	4.23 %	3.30 %
21-25	64	6.10 %	3.30 %
26-30	61	3.91 %	3.30 %
31-35	35	5.54 %	3.30 %
36-40	21	4.69 %	3.30 %
Over 40	6	4.38 %	3.30 %
Total	668		

General Males Non-State
Normal Retirement Experience
during Calendar Year 2024

Male Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	28	106	0.2642	0.2000	21
58	24	124	0.1935	0.2000	25
59	24	107	0.2243	0.2000	21
60	23	114	0.2018	0.2000	23
61	15	107	0.1402	0.2000	21
62	33	118	0.2797	0.3000	35
63	26	130	0.2000	0.3000	39
64	22	86	0.2558	0.3000	26
65	109	455	0.2396	0.3000	137
66	70	322	0.2174	0.4000	129
67	53	239	0.2218	0.3200	76
68	30	170	0.1765	0.3200	54
69	15	118	0.1271	0.2800	33
70	12	106	0.1132	0.2800	30
71	9	82	0.1098	0.2800	23
72	6	58	0.1034	0.2800	16
73	6	65	0.0923	0.1800	12
74	4	48	0.0833	0.1800	9
Totals	509	2,555	0.1992	0.2857	730
75 & Over	14	146			146
Totals	523	2,701			876

General Males State
Normal Retirement Experience
during Calendar Year 2024

Male Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	20	68	0.2941	0.1900	13
58	10	54	0.1852	0.1900	10
59	8	61	0.1311	0.1900	12
60	12	55	0.2182	0.1900	10
61	10	63	0.1587	0.1900	12
62	8	48	0.1667	0.2800	13
63	5	47	0.1064	0.3000	14
64	11	50	0.2200	0.2500	13
65	40	199	0.2010	0.2700	54
66	33	181	0.1823	0.3500	63
67	37	142	0.2606	0.3200	45
68	15	95	0.1579	0.2100	20
69	8	63	0.1270	0.2100	13
70	17	66	0.2576	0.2100	14
71	6	38	0.1579	0.2100	8
72	6	39	0.1538	0.2100	8
73	5	26	0.1923	0.3000	8
74	4	21	0.1905	0.3000	6
Totals	255	1,316	0.1938	0.2553	336
75 & Over	5	54			54
Totals	260	1,370			390

General Males Non-State
Reduced Retirement Experience
during Calendar Year 2024

Male Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	28	687	0.0408	0.0730	50
56	33	705	0.0468	0.0600	42
57	20	572	0.0350	0.0520	30
58	29	597	0.0486	0.0560	33
59	22	550	0.0400	0.0590	32
60	45	588	0.0765	0.0930	55
61	39	530	0.0736	0.0800	42
62	81	555	0.1459	0.1900	105
63	61	461	0.1323	0.2000	92
64	64	396	0.1616	0.1800	71
Totals	422	5,641	0.0748	0.0979	552

General Males State
Reduced Retirement Experience
during Calendar Year 2024

Male Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	10	379	0.0264	0.0500	19
56	19	337	0.0564	0.0700	24
57	6	255	0.0235	0.0600	15
58	12	280	0.0429	0.0600	17
59	10	284	0.0352	0.0700	20
60	9	244	0.0369	0.0900	22
61	12	229	0.0524	0.1250	29
62	29	232	0.1250	0.1500	35
63	20	199	0.1005	0.1700	34
64	16	174	0.0920	0.2000	35
Totals	143	2,613	0.0547	0.0957	250

General Females Non-State
Normal Retirement Experience
during Calendar Year 2024

Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	34	110	0.3091	0.1700	19
58	21	143	0.1469	0.1800	26
59	22	134	0.1642	0.1500	20
60	32	145	0.2207	0.2000	29
61	25	142	0.1761	0.1800	26
62	24	134	0.1791	0.2400	32
63	34	134	0.2537	0.2900	39
64	33	93	0.3548	0.2400	22
65	241	868	0.2776	0.3600	312
66	134	538	0.2491	0.3900	210
67	103	455	0.2264	0.3500	159
68	47	258	0.1822	0.3000	77
69	31	205	0.1512	0.2300	47
70	28	152	0.1842	0.2400	36
71	14	121	0.1157	0.2900	35
72	9	105	0.0857	0.2800	29
73	8	85	0.0941	0.2800	24
74	8	53	0.1509	0.1600	8
Totals	848	3,875	0.2188	0.2968	1,150
75 & Over	19	213			213
Totals	867	4,088			1,363

General Females State
Normal Retirement Experience
during Calendar Year 2024

Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	24	87	0.2759	0.1900	17
58	21	93	0.2258	0.1900	18
59	14	90	0.1556	0.1900	17
60	19	84	0.2262	0.2100	18
61	26	86	0.3023	0.2500	22
62	20	73	0.2740	0.2900	21
63	17	59	0.2881	0.2800	17
64	12	55	0.2182	0.3100	17
65	67	286	0.2343	0.3100	89
66	54	214	0.2523	0.3600	77
67	36	146	0.2466	0.3300	48
68	24	105	0.2286	0.2500	26
69	11	70	0.1571	0.2700	19
70	16	73	0.2192	0.2900	21
71	2	37	0.0541	0.3400	13
72	3	25	0.1200	0.3300	8
73	5	20	0.2500	0.2400	5
74	1	11	0.0909	0.1800	2
Totals	372	1,614	0.2305	0.2819	455
75 & Over	4	36			36
Totals	376	1,650			491

General Females Non-State
Reduced Retirement Experience
during Calendar Year 2024

Female Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	40	1,334	0.0300	0.0700	93
56	52	1,314	0.0396	0.0700	92
57	44	1,141	0.0386	0.0550	63
58	55	1,169	0.0470	0.0650	76
59	58	1,206	0.0481	0.0700	84
60	97	1,157	0.0838	0.0950	110
61	84	1,127	0.0745	0.0950	107
62	136	1,044	0.1303	0.1600	167
63	143	936	0.1528	0.1800	168
64	111	757	0.1466	0.1800	136
Totals	820	11,185	0.0733	0.0980	1,096

General Females State
Reduced Retirement Experience
during Calendar Year 2024

Female Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	22	545	0.0404	0.0600	33
56	30	544	0.0551	0.0800	44
57	13	407	0.0319	0.0600	24
58	22	417	0.0528	0.0900	38
59	23	388	0.0593	0.0800	31
60	26	390	0.0667	0.1000	39
61	30	343	0.0875	0.1100	38
62	50	372	0.1344	0.1800	67
63	54	327	0.1651	0.2000	65
64	44	294	0.1497	0.1900	56
Totals	314	4,027	0.0780	0.1080	435

Public School Males Non-State
Normal Retirement Experience
during Calendar Year 2024

Male Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	47	151	0.3113	0.3200	48
58	40	136	0.2941	0.3000	41
59	31	106	0.2925	0.2900	31
60	24	73	0.3288	0.2900	21
61	20	58	0.3448	0.2800	16
62	13	36	0.3611	0.3800	14
63	12	36	0.3333	0.3400	12
64	5	18	0.2778	0.3000	5
65	18	84	0.2143	0.3400	29
66	18	71	0.2535	0.3600	26
67	9	44	0.2045	0.3000	13
68	8	28	0.2857	0.2900	8
69	4	31	0.1290	0.2200	7
70	1	23	0.0435	0.2900	7
71	3	21	0.1429	0.2300	5
72	1	18	0.0556	0.2300	4
73	3	16	0.1875	0.2400	4
74	1	10	0.1000	0.2500	3
Totals	258	960	0.2688	0.3063	294
75 & Over	5	37			37
Totals	263	997			331

Public School Males Non-State
Reduced Retirement Experience
during Calendar Year 2024

Male Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	62	640	0.0969	0.1200	77
56	54	521	0.1036	0.1300	68
57	30	294	0.1020	0.1300	38
58	27	264	0.1023	0.1200	32
59	16	206	0.0777	0.1430	29
60	17	172	0.0988	0.1600	28
61	16	131	0.1221	0.1600	21
62	26	111	0.2342	0.2300	26
63	16	98	0.1633	0.2100	21
64	13	85	0.1529	0.2100	18
Totals	277	2,522	0.1098	0.1420	358

Public School Females Non-State
Normal Retirement Experience
during Calendar Year 2024

Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	136	462	0.2944	0.2750	127
58	116	374	0.3102	0.2750	103
59	61	228	0.2675	0.2600	59
60	65	201	0.3234	0.2900	58
61	39	133	0.2932	0.2700	36
62	43	115	0.3739	0.3600	41
63	45	91	0.4945	0.3100	28
64	18	55	0.3273	0.3000	17
65	88	256	0.3438	0.3850	99
66	33	179	0.1844	0.4400	79
67	32	112	0.2857	0.3100	35
68	16	76	0.2105	0.3000	23
69	14	59	0.2373	0.3000	18
70	7	37	0.1892	0.3200	12
71	3	28	0.1071	0.2500	7
72	-	25	0.0000	0.2500	6
73	2	26	0.0769	0.2500	7
74	1	9	0.1111	0.2500	2
Totals	719	2,466	0.2916	0.3070	757
75 & Over	5	57			57
Totals	724	2,523			814

Public School Females Non-State
Reduced Retirement Experience
during Calendar Year 2024

Female Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	153	1,595	0.0959	0.1100	175
56	175	1,518	0.1153	0.1300	197
57	95	819	0.1160	0.1200	98
58	73	732	0.0997	0.1300	95
59	75	565	0.1327	0.1350	76
60	64	491	0.1303	0.1700	83
61	69	419	0.1647	0.1700	71
62	58	372	0.1559	0.2400	89
63	51	274	0.1861	0.2400	66
64	45	253	0.1779	0.2400	61
Totals	858	7,038	0.1219	0.1436	1,011

University Males State
Normal Retirement Experience
during Calendar Year 2024

Male Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	7	16	0.4375	0.1200	2
58	1	20	0.0500	0.1600	3
59	2	14	0.1429	0.0900	1
60	3	28	0.1071	0.1500	4
61	5	29	0.1724	0.0900	3
62	8	36	0.2222	0.1000	4
63	7	29	0.2414	0.1100	3
64	7	27	0.2593	0.1550	4
65	27	161	0.1677	0.1550	25
66	30	147	0.2041	0.2100	31
67	22	137	0.1606	0.1800	25
68	20	93	0.2151	0.1900	18
69	16	79	0.2025	0.1400	11
70	16	59	0.2712	0.2100	12
71	9	35	0.2571	0.2400	8
72	3	31	0.0968	0.2400	7
73	6	32	0.1875	0.2400	8
74	2	23	0.0870	0.2400	6
Totals	191	996	0.1918	0.1757	175
75 & Over	13	73			73
Totals	204	1,069			248

University Males State
Reduced Retirement Experience
during Calendar Year 2024

Male Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	9	273	0.0330	0.0330	9
56	11	253	0.0435	0.0330	8
57	3	193	0.0155	0.0400	8
58	8	188	0.0426	0.0400	8
59	9	194	0.0464	0.0440	9
60	9	207	0.0435	0.0480	10
61	5	170	0.0294	0.0480	8
62	7	145	0.0483	0.0700	10
63	14	115	0.1217	0.0830	10
64	10	128	0.0781	0.1150	15
Totals	85	1,866	0.0456	0.0509	95

University Females State
Normal Retirement Experience
during Calendar Year 2024

Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	1	21	0.0476	0.1000	2
58	2	28	0.0714	0.2000	6
59	5	31	0.1613	0.1200	4
60	7	32	0.2188	0.1400	4
61	3	21	0.1429	0.1300	3
62	8	40	0.2000	0.1500	6
63	11	29	0.3793	0.1900	6
64	6	20	0.3000	0.1700	3
65	26	146	0.1781	0.2100	31
66	20	99	0.2020	0.2500	25
67	26	82	0.3171	0.2500	21
68	19	74	0.2568	0.1800	13
69	9	50	0.1800	0.1650	8
70	11	41	0.2683	0.2200	9
71	4	25	0.1600	0.1650	4
72	3	20	0.1500	0.1700	3
73	5	17	0.2941	0.2100	4
74	1	14	0.0714	0.1400	2
Totals	167	790	0.2114	0.1949	154
75 & Over	9	38			38
Totals	176	828			192

University Females State
Reduced Retirement Experience
during Calendar Year 2024

Female Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	13	301	0.0432	0.0500	15
56	11	284	0.0387	0.0500	14
57	11	230	0.0478	0.0500	12
58	11	230	0.0478	0.0550	13
59	11	241	0.0456	0.0600	14
60	13	221	0.0588	0.0750	17
61	30	190	0.1579	0.0900	17
62	18	168	0.1071	0.1100	18
63	23	156	0.1474	0.1200	19
64	22	122	0.1803	0.1450	18
Totals	163	2,143	0.0761	0.0733	157

Protective with Social Security Non-State
Normal Retirement Experience
during Calendar Year 2024

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
50	21	240	0.0875	0.0600	14
51	27	221	0.1222	0.0800	18
52	24	218	0.1101	0.1100	24
53	63	220	0.2864	0.3400	75
54	71	235	0.3021	0.3200	75
55	32	112	0.2857	0.2600	29
56	17	88	0.1932	0.2300	20
57	8	65	0.1231	0.2700	18
58	6	40	0.1500	0.2100	8
59	17	47	0.3617	0.2300	11
60	3	26	0.1154	0.2200	6
61	7	27	0.2593	0.3000	8
62	4	28	0.1429	0.3500	10
63	2	18	0.1111	0.2700	5
64	2	8	0.2500	0.3000	2
65	1	6	0.1667	0.3400	2
66	3	5	0.6000	0.3500	2
67	2	3	0.6667	0.3500	1
68	2	4	0.5000	0.3500	1
69	1	2	0.5000	0.3500	1
70	3	3	1.0000	1.0000	3
71	-	1	0.0000	1.0000	1
72	-	1	0.0000	1.0000	1
73	-	-	N/A	1.0000	-
74	-	1	0.0000	1.0000	1
Totals	316	1,619	0.1952	0.2075	336
75 & Over	-	4			4
Totals	316	1,623			340

Protective with Social Security State
Normal Retirement Experience
during Calendar Year 2024

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
50	5	145	0.0345	0.0750	11
51	6	135	0.0444	0.0900	12
52	14	134	0.1045	0.1100	15
53	28	158	0.1772	0.2500	40
54	26	188	0.1383	0.2000	38
55	16	145	0.1103	0.2000	29
56	11	109	0.1009	0.2000	22
57	10	84	0.1190	0.2000	17
58	7	83	0.0843	0.2000	17
59	1	52	0.0192	0.2000	10
60	3	53	0.0566	0.2000	11
61	4	43	0.0930	0.2000	9
62	10	64	0.1563	0.2500	16
63	6	30	0.2000	0.2500	8
64	3	28	0.1071	0.3600	10
65	3	20	0.1500	0.3800	8
66	7	17	0.4118	0.3800	6
67	2	10	0.2000	0.3800	4
68	-	1	0.0000	0.3800	-
69	1	4	0.2500	0.3800	2
70	2	5	0.4000	1.0000	5
71	2	3	0.6667	1.0000	3
72	-	-	N/A	1.0000	-
73	1	1	1.0000	1.0000	1
74	-	-	N/A	1.0000	-
Totals	168	1,512	0.1111	0.1944	294
75 & Over	-	-			-
Totals	168	1,512			294

Protective without Social Security Non-State
Normal Retirement Experience
during Calendar Year 2024

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
50	2	68	0.0294	0.0300	2
51	1	65	0.0154	0.0400	3
52	9	71	0.1268	0.0500	4
53	25	69	0.3623	0.2000	14
54	20	62	0.3226	0.2800	17
55	14	48	0.2917	0.3000	14
56	3	15	0.2000	0.3200	5
57	4	20	0.2000	0.2600	5
58	4	18	0.2222	0.3000	5
59	2	13	0.1538	0.4000	5
60	2	7	0.2857	0.3000	2
61	-	6	0.0000	0.3300	2
62	2	2	1.0000	0.3300	1
63	2	3	0.6667	0.3300	1
64	-	1	0.0000	0.4000	-
65	2	3	0.6667	0.4000	1
66	-	1	0.0000	1.0000	1
67	-	-	N/A	1.0000	-
68	-	-	N/A	1.0000	-
69	-	-	N/A	1.0000	-
70	-	-	N/A	1.0000	-
71	-	-	N/A	1.0000	-
72	-	-	N/A	1.0000	-
73	-	-	N/A	1.0000	-
74	-	-	N/A	1.0000	-
Totals	92	472	0.1949	0.1737	82
75 & Over	-	-	N/A		-
Totals	92	472			82

Executive and Elected Non-State
Normal Retirement Experience
during Calendar Year 2024

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	-	4	0.0000	0.1000	-
58	-	3	0.0000	0.1000	-
59	-	4	0.0000	0.1000	-
60	-	2	0.0000	0.1000	-
61	1	5	0.2000	0.1000	1
62	2	25	0.0800	0.1000	3
63	2	17	0.1176	0.1000	2
64	2	12	0.1667	0.1500	2
65	1	12	0.0833	0.1500	2
66	-	6	0.0000	0.1500	1
67	1	6	0.1667	0.1500	1
68	-	6	0.0000	0.1000	1
69	-	4	0.0000	0.1000	-
70	1	5	0.2000	0.1000	1
71	-	3	0.0000	0.1000	-
72	1	3	0.3333	0.1000	-
73	-	4	0.0000	0.2000	1
74	-	4	0.0000	0.2000	1
Totals	11	125	0.0880	0.1280	16
75 & Over	5	18			18
Totals	16	143			34

Executive and Elected State
Normal Retirement Experience
during Calendar Year 2024

Male and Female Age-Based Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
57	-	5	0.0000	0.1200	1
58	-	4	0.0000	0.1200	-
59	1	7	0.1429	0.1200	1
60	-	1	0.0000	0.1200	-
61	-	5	0.0000	0.1200	1
62	3	18	0.1667	0.1800	3
63	1	20	0.0500	0.1800	4
64	2	19	0.1053	0.1800	3
65	2	18	0.1111	0.1800	3
66	4	19	0.2105	0.1800	3
67	4	14	0.2857	0.1800	3
68	5	11	0.4545	0.1800	2
69	3	9	0.3333	0.1800	2
70	2	6	0.3333	0.1800	1
71	-	7	0.0000	0.1500	1
72	1	11	0.0909	0.1500	2
73	1	3	0.3333	0.1500	-
74	-	4	0.0000	0.1500	1
Totals	29	181	0.1602	0.1713	31
75 & Over	2	12			12
Totals	31	193			43

Executive and Elected Non-State
Reduced Retirement Experience
during Calendar Year 2024

Male and Female Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	-	9	0.0000	0.0250	-
56	1	23	0.0435	0.0250	1
57	1	10	0.1000	0.0250	-
58	-	17	0.0000	0.0250	-
59	-	10	0.0000	0.0250	-
60	-	19	0.0000	0.0500	1
61	-	13	0.0000	0.0500	1
62	-	3	0.0000	0.0100	-
63	-	1	0.0000	0.0100	-
64	-	4	0.0000	0.0100	-
Over 64	-	16	0.0000		
Totals	2	125			3

Executive and Elected State
Reduced Retirement Experience
during Calendar Year 2024

Male and Female Age-Based Reduced Retirement Experience

Age	Retirements	Exposure	Crude Rates	Current Rates	Expected Retirements
55	1	22	0.0455	0.0600	1
56	-	30	0.0000	0.0600	2
57	1	17	0.0588	0.0600	1
58	-	21	0.0000	0.0600	1
59	-	16	0.0000	0.0600	1
60	-	16	0.0000	0.0600	1
61	1	16	0.0625	0.0600	1
62	-	2	0.0000	0.0600	-
63	-	2	0.0000	0.0300	-
64	-	2	0.0000	0.0300	-
Over 64	-	13	0.0000		
Totals	3	157			8

Death-in-Service
during Calendar Year 2024

Male

Age	Deaths	Exposure	Crude Rates	Current Rates	Expected Deaths
Under 20	-	63	0.0000	0.0004	-
20-24	-	2,847	0.0000	0.0003	1
25-29	-	8,208	0.0000	0.0002	2
30-34	2	11,012	0.0002	0.0003	3
35-39	3	12,712	0.0002	0.0004	5
40-44	4	13,730	0.0003	0.0006	8
45-49	4	13,344	0.0003	0.0009	13
50-54	12	13,459	0.0009	0.0015	20
55-59	6	10,943	0.0005	0.0022	25
60-64	9	7,676	0.0012	0.0036	28
65-69	3	3,004	0.0010	0.0060	18
70-74	-	859	0.0000	0.0094	8
75 and over	2	1	2.0000	0.0156	-
Totals	45	97,858	0.0005	0.0013	131

Female

Age	Deaths	Exposure	Crude Rates	Current Rates	Expected Deaths
Under 20	-	120	0.0000	0.0001	-
20-24	-	4,982	0.0000	0.0001	1
25-29	2	15,082	0.0001	0.0001	2
30-34	1	17,856	0.0001	0.0002	3
35-39	2	20,585	0.0001	0.0003	6
40-44	4	22,885	0.0002	0.0004	10
45-49	3	22,568	0.0001	0.0007	15
50-54	6	22,153	0.0003	0.0010	22
55-59	5	20,160	0.0002	0.0014	29
60-64	7	13,493	0.0005	0.0023	31
65-69	2	4,342	0.0005	0.0039	17
70-74	5	936	0.0053	0.0071	7
75 and over	1	-	N/A	0.0136	-
Totals	38	165,162	0.0002	0.0009	143

APPENDIX

GLOSSARY

Glossary

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement 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 future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assumed, under the actuarial funding method, for current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no future accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going-concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Glossary
(Concluded)

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.