

Wisconsin Retirement System

GASB Statement No. 67 Plan Reporting and
Accounting Schedules
December 31, 2024



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July 21, 2025

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

This report provides certain information requested by the Wisconsin Retirement System ("WRS") in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Accounting and Financial Reporting for Pension Plans."

The actuarial calculations in connection with this report were prepared for the purpose of complying with the requirements of GASB Statement No. 67. These calculations have been made on a basis that is consistent with our understanding of this Statement.

The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 67 may produce significantly different results. This report may be provided to parties other than the WRS only in its entirety and only with the permission of the WRS. GRS is not responsible for unauthorized use of this report.

The report was based upon information, furnished by the Department of Employee Trust Funds (DETF), concerning Retirement System benefits, financial transactions, and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of any data provided by DETF.

This report complements the actuarial valuation report that we provided to the Board and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2024 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

This report is intended to assist in preparation of the financial statements of WRS and its participating employers. Financial statements are the responsibility of the reporting entity and not the actuary. The statements are subject to an auditor's review. Please let us know if the plan's auditor recommends any changes.

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, the information contained in this report is accurate, and fairly represents the actuarial position of WRS. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. 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 Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2024

	<u>2024</u>	<u>2023</u>
Actuarial Valuation Date	December 31, 2024	December 31, 2023
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)	December 31, 2024	December 31, 2023
Membership		
Number of		
- Retirees and Beneficiaries	242,226	238,111
- Inactive, Nonretired Members	190,051	186,977
- Active Members	268,245	263,737
- Total	700,522	688,825
Covered Payroll ⁽¹⁾	\$ 18,602,523,765	\$ 17,435,263,354
Net Pension Liability/(Asset)		
Total Pension Liability	\$ 137,392,816,831	\$ 130,648,559,965
Plan Fiduciary Net Position	134,541,212,975	127,697,808,319
Net Pension Liability/(Asset)	\$ 2,851,603,856	\$ 2,950,751,646
Plan Fiduciary Net Position as a Percentage of Total Pension Liability/(Asset)	97.92%	97.74%
Net Pension Liability/(Asset) as a Percentage of Covered Payroll	15.33%	16.92%
Development of the Single Discount Rate		
Single Discount Rate	6.80%	6.80%
Long-Term Expected Rate of Return	6.80%	6.80%
Long-Term Municipal Bond Rate ⁽²⁾	4.08%	3.77%
Last year ending December 31 in the 2025 to 2124 projection period for which projected benefit payments are fully funded	2124	2123

⁽¹⁾ Covered Payroll is for 2024 and was provided by DETF.

⁽²⁾ Source: "20-Bond GO Index" is the Bond Buyer Index, general obligation, 20 years to maturity, mixed quality. In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA. The rate shown is as of December 26, 2024, the most recent date available on or before the measurement date.

Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, “Financial Reporting for Pension Plans,” replaces the requirements of GASB Statement No. 25, “Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,” and GASB Statement No. 50, “Pension Disclosures.” GASB Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan.

The following discussion provides a summary of the information that is required to be disclosed under this accounting standard. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report, and your internal staff will be responsible for preparing that information to comply with this accounting standard.

Financial Statements

GASB Statement No. 67 requires defined benefit pension plans to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position.

The *statement of fiduciary net position* presents the following items as of the end of the pension plan’s reporting period, such as:

- Assets;
- Deferred inflows and outflows of resources;
- Liabilities; and
- Fiduciary net position (assets, plus deferred outflows, minus liabilities, minus deferred inflows).

The *statement of changes in fiduciary net position* presents the following for the plan’s reporting period:

- Additions, such as contributions and investment income;
- Deductions, such as benefit payments and expenses; and
- Net increase or decrease in the fiduciary net position (the difference between additions and deductions).

Notes to Financial Statements

GASB Statement No. 67 also requires the notes of the plan's financial statements to include additional disclosure information. This disclosure information should include:

- A description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- The number and classes of employees covered by the benefit terms;
- The composition of the pension plan's Board and the authority under which benefit terms may be amended;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- A description of how fair value is determined;
- Concentrations of investments greater than or equal to 5%;
- Annual money-weighted rate of return on pension plan investments;
- The portion of the present value of benefits to be provided through the pension plan to current active and inactive plan members;
- The pension plan's fiduciary net position;
- The net pension liability/(asset);
- The pension plan's fiduciary net position as a percentage of the total pension liability;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability/(asset);
- Information about the components of the net pension liability/(asset) and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability/(asset) as a percent of covered-employee payroll;
- Comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- The annual money-weighted rate of return on pension plan investments for each year.

These tables may be built prospectively.

Measurement of the Net Pension Liability/(Asset)

The net pension liability/(asset) is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

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 6.8% on the actuarial value of assets), it is expected that:

1. The employer normal cost as a percentage of pay will decrease to the level of the future service normal cost as time passes.
2. The unfunded liability is expected to 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.

This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2124. The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the total pension liability and the market 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 amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status 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 actuarial value of assets were used instead of the market value of assets.

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.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total pension liability is required to be rolled forward from the actuarial valuation date to the pension plan's fiscal year end.

The total pension liability shown in this report is based on an actuarial valuation performed as of December 31, 2024 and a measurement date of December 31, 2024.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate that reflects: (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits); and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.80%; the municipal bond rate is 4.08% (based on the weekly rate closest to but not later than the measurement date of the "20-Bond GO Index" from the Bond Buyer Index); and the resulting single discount rate is 6.80%.

Actuarial Assumptions and Methods and Member Census Data

The asset values used in this study are taken from the December 31, 2024 actuarial valuation report of the Wisconsin Retirement System. Therefore, the actuarial assumptions and methods employed for purposes of our Actuarial Study are the same actuarial assumptions and methods shown in the actuarial valuation report.

The member census data employed for purposes of our Actuarial Study was provided by DETF and is the same member census data used for the December 31, 2024 actuarial valuation report of the Retirement System.

The Wisconsin Retirement System uses the Frozen Entry Age cost method for determining funding requirements. GASB Statement No. 67 requires the use of the Entry Age Normal cost method for accounting purposes. Therefore, we developed the Entry Age Normal Accrued Liability to reflect the Total Pension Liability for GASB purposes.

SECTION B

FINANCIAL STATEMENTS

Statement of Fiduciary Net Position as of December 31, 2024

	<u>2024</u>
Assets	
Cash and Deposits	\$ 7,211,220,978
Receivables	
Accounts Receivable - Sale of Investments	\$ 8,586,134,979
Accrued Interest and Other Dividends	644,032,934
Contributions	232,106,170
Accounts Receivable - Other	8,743,133
Total Receivables	<u>\$ 9,471,017,216</u>
Investments	
Fixed Income	\$ 60,929,197,731
Domestic and International Equities	63,806,025,906
Real Estate	0
Other	47,956,392,983
Total Investments	<u>\$ 172,691,616,620</u>
Total Assets	<u>\$ 189,373,854,814</u>
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 54,079,854,676
Accrued Expenses	4,736,463
Accounts Payable - Other	748,050,700
Total Liabilities	<u>\$ 54,832,641,839</u>
Net Position Restricted for Pensions	<u><u>\$ 134,541,212,975</u></u>

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2024

	<u>2024</u>
Additions	
Contributions	
Employer	\$ 1,461,920,052
Employee	1,307,218,567
Other	<u>0</u>
Total Contributions	<u>\$ 2,769,138,619</u>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 11,512,225,450
Interest and Dividends	2,687,602,590
Less Investment Expense	<u>(2,466,146,935)</u>
Net Investment Income	<u>\$ 11,733,681,105</u>
Other	<u>\$ 0</u>
Total Additions	<u>\$ 14,502,819,724</u>
 Deductions	
Benefit payments, including refunds of employee contributions	\$ 7,628,625,087
Pension Plan Administrative Expense	30,789,981
Other Benefit Expenses	<u>0</u>
Total Deductions	<u>\$ 7,659,415,068</u>
 Net Increase in Net Position	 \$ 6,843,404,656
 Net Position Restricted for Pensions	
Beginning of Year	<u>\$ 127,697,808,319</u>
End of Year	<u><u>\$ 134,541,212,975</u></u>

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedules of Required Supplementary Information

Multiyear Schedule of Changes in Net Pension Liability/(Asset) and Related Ratios

Last 10 Fiscal Years

Fiscal year ending December 31,	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability										
Service Cost	\$ 2,444,808,116	\$ 2,278,256,377	\$ 2,178,921,078	\$ 2,019,309,706	\$ 1,975,773,133	\$ 1,902,507,977	\$ 1,860,937,125	\$ 1,842,879,321	\$ 1,814,134,799	\$ 1,787,870,316
Interest on the Total Pension Liability	8,707,852,301	8,163,627,050	8,961,006,689	8,208,246,306	7,552,358,592	6,846,131,206	7,194,603,494	6,604,529,732	6,363,034,249	6,349,703,745
Benefit Changes	0	0	0	0	0	0	0	0	0	0
Experience ⁽¹⁾	2,995,198,157	4,917,253,564	(15,789,020,591)	8,748,236,745	6,006,411,525	7,137,987,427	(5,980,346,708)	5,142,055,157	318,473,379	(4,488,825,613)
Assumption Changes	225,023,379	0	0	2,162,583,701	0	0	404,242,989	0	0	1,484,977,863
Benefit Payments	(7,559,665,846)	(7,195,376,514)	(6,949,119,380)	(6,352,709,068)	(5,939,365,686)	(5,646,263,647)	(5,516,188,518)	(5,211,266,989)	(5,022,920,827)	(4,823,586,513)
Refunds	(68,959,241)	(54,199,095)	(54,796,982)	(42,041,646)	(38,857,677)	(44,106,052)	(40,234,768)	(38,358,098)	(39,275,602)	(37,642,404)
Net Change in Total Pension Liability	6,744,256,866	8,109,561,382	(11,653,009,186)	14,743,625,744	9,556,319,887	10,196,256,911	(2,076,986,386)	8,339,839,123	3,433,445,998	272,497,394
Total Pension Liability - Beginning	130,648,559,965	122,538,998,583	134,192,007,769	119,448,382,025	109,892,062,138	99,695,805,227	101,772,791,613	93,432,952,490	89,999,506,492	89,727,009,098
Total Pension Liability - Ending (a)⁽²⁾	\$ 137,392,816,831	\$ 130,648,559,965	\$ 122,538,998,583	\$ 134,192,007,769	\$ 119,448,382,025	\$ 109,892,062,138	\$ 99,695,805,227	\$ 101,772,791,613	\$ 93,432,952,490	\$ 89,999,506,492
Plan Fiduciary Net Position										
Employer Contributions ⁽³⁾	\$ 1,461,920,052	\$ 1,327,552,576	\$ 1,175,881,349	\$ 1,164,586,150	\$ 1,133,315,516	\$ 1,046,942,283	\$ 1,030,507,544	\$ 1,017,558,990	\$ 963,121,911	\$ 977,733,921
Employee Contributions	1,307,218,567	1,204,469,156	1,082,039,863	1,086,781,945	1,053,242,596	987,662,027	972,950,131	965,452,633	921,863,806	937,225,184
Pension Plan Net Investment Income	11,733,681,105	14,076,197,695	(18,702,308,045)	21,056,558,127	16,698,556,768	19,049,541,932	(4,049,354,577)	14,875,414,636	7,273,069,087	(673,122,812)
Benefit Payments	(7,559,665,846)	(7,195,376,514)	(6,949,119,380)	(6,352,709,068)	(5,939,365,686)	(5,646,263,647)	(5,516,188,518)	(5,211,266,989)	(5,022,920,827)	(4,823,586,513)
Refunds	(68,959,241)	(54,199,095)	(54,796,982)	(42,041,646)	(38,857,677)	(44,106,052)	(40,234,768)	(38,358,098)	(39,275,602)	(37,642,404)
Pension Plan Administrative Expense	(30,789,981)	(29,061,321)	(31,171,842)	(31,868,580)	(33,256,008)	(34,197,722)	(31,612,198)	(26,132,873)	(20,426,189)	(22,708,614)
Other	0	0	0	0	0	(3,901,654)	(25,448,686)	0	0	0
Net Change in Plan Fiduciary Net Position	6,843,404,656	9,329,582,497	(23,479,475,037)	16,881,306,928	12,873,635,509	15,355,677,167	(7,659,381,072)	11,582,668,299	4,075,432,186	(3,642,101,238)
Plan Fiduciary Net Position - Beginning⁽⁴⁾	127,697,808,319	118,368,225,822	141,847,700,859	124,966,393,931	112,092,758,422	96,737,081,255	104,396,462,327	92,813,794,028	88,504,670,309	92,146,771,547
Plan Fiduciary Net Position - Ending (b)	\$ 134,541,212,975	\$ 127,697,808,319	\$ 118,368,225,822	\$ 141,847,700,859	\$ 124,966,393,931	\$ 112,092,758,422	\$ 96,737,081,255	\$ 104,396,462,327	\$ 92,580,102,495	\$ 88,504,670,309
Net Pension Liability/(Asset) - Ending (a) - (b)	2,851,603,856	2,950,751,646	4,170,772,761	(7,655,693,090)	(5,518,011,906)	(2,200,696,284)	2,958,723,972	(2,623,670,714)	852,849,995	1,494,836,183
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	97.92 %	97.74 %	96.60 %	105.71 %	104.62 %	102.00 %	97.03 %	102.58 %	99.09 %	98.34 %
Covered-Employee Payroll⁽⁵⁾	\$ 18,602,523,765	\$ 17,435,263,354	\$ 16,361,316,730	\$ 15,780,837,258	\$ 15,359,928,023	\$ 14,832,491,878	\$ 14,301,446,269	\$ 13,943,116,649	\$ 13,706,000,000	\$ 13,530,500,000
Net Pension Liability/(Asset) as a Percentage of Covered-Employee Payroll	15.33 %	16.92 %	25.49 %	(48.51)%	(35.92)%	(14.84)%	20.69 %	(18.82)%	6.22 %	11.05 %

Notes to Schedule:

⁽¹⁾ Starting with 2015, this item includes the impact of known Market Recognition Account deferred gains/losses on the liability for dividend payments. See page 23 for a full description.

⁽²⁾ In 2017, end of year liabilities were adjusted to reflect the Long Term Disability Insurance (LTDI) program.

⁽³⁾ Employer contributions shown in the above table includes Employer Required Contributions in addition to contributions paid by specific employers for unique circumstances such as Prior Service Contributions, Early Retirement Contributions, and Employer Additional Contributions.

⁽⁴⁾ As of calendar year 2017, the LTDI program is reported within the Wisconsin Retirement System (WRS). Accordingly, there is an adjustment to the calendar year 2017 beginning net position of \$233,691,533 to reflect LTDI assets.

⁽⁵⁾ Covered payroll provided by DETF.



Schedules of Required Supplementary Information

Multiyear Schedule of the Net Pension Liability/(Asset)

Last 10 Fiscal Years

FY Ending December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability/(Asset)	Plan Net Position as a % of Total Pension Liability	Covered Payroll⁽¹⁾	Net Pension Liability/(Asset) as a % of Covered Payroll
2015	\$ 89,999,506,492	\$ 88,504,670,309	1,494,836,183	98.34%	\$ 13,530,500,000	11.05 %
2016	93,432,952,490	92,580,102,495	852,849,995	99.09%	13,706,000,000	6.22 %
2017	101,772,791,613	104,396,462,327	(2,623,670,714)	102.58%	13,943,116,649	(18.82)%
2018	99,695,805,227	96,737,081,255	2,958,723,972	97.03%	14,301,446,269	20.69 %
2019	109,892,062,138	112,092,758,422	(2,200,696,284)	102.00%	14,832,491,878	(14.84)%
2020	119,448,382,025	124,966,393,931	(5,518,011,906)	104.62%	15,359,928,023	(35.92)%
2021	134,192,007,769	141,847,700,859	(7,655,693,090)	105.71%	15,780,837,258	(48.51)%
2022	122,538,998,583	118,368,225,822	4,170,772,761	96.60%	16,361,316,730	25.49 %
2023	130,648,559,965	127,697,808,319	2,950,751,646	97.74%	17,435,263,354	16.92 %
2024	137,392,816,831	134,541,212,975	2,851,603,856	97.92%	18,602,523,765	15.33 %

⁽¹⁾ Covered payroll provided by DETF.

Multiyear Schedule of Contributions

Last 10 Fiscal Years

FY Ending December 31,	Actuarially Determined Contribution^{(1),(2)}	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll⁽³⁾	Actual Contribution as a % of Covered Payroll
2015	\$ 967,730,052	\$ 967,730,052	\$ 0	\$ 13,530,500,000	7.15%
2016	954,159,009	954,159,009	0	13,706,000,000	6.96%
2017	1,014,870,679	1,014,870,679	0	13,943,116,649	7.28%
2018	1,028,390,526	1,028,390,526	0	14,301,446,269	7.19%
2019	1,044,964,610	1,044,964,610	0	14,832,491,878	7.05%
2020	1,131,486,002	1,131,486,002	0	15,359,928,023	7.37%
2021	1,162,794,127	1,162,794,127	0	15,780,837,258	7.37%
2022	1,174,661,864	1,174,661,864	0	16,361,316,730	7.18%
2023	1,326,113,389	1,326,113,389	0	17,435,263,354	7.61%
2024	1,459,931,764	1,459,931,764	0	18,602,523,765	7.85%

⁽¹⁾ Since it is the actuary's understanding that the System's practice is to require employers to contribute the percent-of-payroll employer contribution rate shown in the actuarial valuation report, the Actuarially Determined Contributions shown in the Schedule of Contributions are the actual contributions made by the participating employers in the fiscal year.

⁽²⁾ Starting with 2016, Actuarially Determined Contributions includes Employer Required Contributions, paid by each employer based on a percentage of payroll. This amount excludes contributions paid by specific employers for unique circumstances such as Prior Service Contributions, Early Retirement Contributions, and Employer Additional Contributions.

⁽³⁾ Covered payroll provided by DETF.

Notes to Schedule of Contributions

Valuation Date:

December 31, 2022

Methods and Assumptions used to Determine Actuarial Contribution on prior page:

Actuarial Cost Method	Frozen Entry Age
Amortization Method	Level Percentage of Payroll - Closed Amortization Period
Amortization Period	30-Year closed from date of participation in WRS
Asset Valuation Method	5-Year smoothed value
Inflation	No specific price inflation assumption is required to perform this valuation. The price inflation assumption used to evaluate the investment return assumption is 2.5%.
Salary Increases	3.1% to 8.6% including inflation
Net Investment Rate of Return	5.40%
Weighted based on assumed rate for:	
Retired participants	5.00%
Active participants	
Post-retirement participants	5.00%
Pre-retirement participants	6.80%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2021 valuation pursuant to an experience study of the period 2018-2020.
Mortality	Wisconsin 2020 Mortality Table adjusted for future mortality improvements using the MP-2021 fully generational improvement scale.

Other Information:

Notes	The actuarially determined contribution for calendar 2024 was determined from the December 31, 2022 actuarial valuation.
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Multiyear Schedule of Investment Returns

Last 10 Fiscal Years

FY Ending December 31,	Core Annual Return¹	Variable Annual Return¹
2015	(0.63) %	(1.11) %
2016	8.29 %	10.49 %
2017	15.85 %	23.27 %
2018	(3.56) %	(7.61) %
2019	19.49 %	28.80 %
2020	15.06 %	17.05 %
2021	17.03 %	19.98 %
2022	(12.94)%	(18.02)%
2023	11.69 %	22.42 %
2024	8.70 %	18.83 %

¹ Annual money-weighted rate of return, net of investment expenses.

The money weighted rate of return expresses investment performance net of pension plan investment expense, adjusted for the changing amounts actually invested.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rate of return is reviewed every three years in conjunction with the WRS experience study. For each major asset class that is included in the pension plan's target asset allocation as of December 31, 2024, these best estimates of geometric real rates of return were provided by DETF and are summarized in the following tables:

Core Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Public Equity	38.00%	4.30%
Public Fixed Income	27.00%	3.40%
Inflation Sens. Assets	19.00%	2.10%
Real Estate	8.00%	3.80%
Private Equity/Debt	20.00%	6.70%
Cash	-12.00%	1.10%
Total	100.00%	

Variable Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. Equity	70.00%	3.80%
International Equity	30.00%	4.70%
Total	100.00%	

Single Discount Rate

A single discount rate of 6.80% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 6.80% and a long-term bond rate of 4.08%. Because of the unique structure of WRS, the 6.80% expected rate of return implies that a dividend of approximately 1.7% will always be paid. For purposes of the single discount rate, it was assumed that the dividend would always be paid. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments (including expected dividends) of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability/(asset) to changes in the single discount rate, the following presents the plan's net pension liability/(asset), calculated using a single discount rate of 6.80%, as well as what the plan's net pension liability/(asset) would be if it were calculated using a single discount rate that is 100 basis points lower or 100 basis points higher:

Sensitivity of Net Pension Liability/(Asset) to the Single Discount Rate Assumption

	Current Single Discount		
	1% Decrease	Rate Assumption	1% Increase
Discount Rate	5.80%	6.80%	7.80%
Ultimate Dividend Rate	1.70%	1.70%	1.70%
Total Pension Liability	\$ 151,459,712,730	\$ 137,392,816,831	\$ 127,249,407,325
Plan Fiduciary Net Position	134,541,212,975	134,541,212,975	134,541,212,975
Net Pension Liability/(Asset)	\$ 16,918,499,755	\$ 2,851,603,856	\$ (7,291,805,650)

This schedule is presented because it is required by GASB standards. Users of this report should not conclude that the authors view the upper end of the range as reasonable.

For the WRS, the determination of liabilities also depends on the assumed dividend, which is linked to the interest rate used in the liability calculation. Therefore, we have also shown an alternative set of Sensitivity Analysis, which varies the assumed dividend in conjunction with the change in the discount rate. For the liabilities shown below, the assumed dividend was 0.80% for the 5.8% discount rate, 1.70% for the 6.8% discount rate, and 2.70% for the 7.8% discount rate.

	Current Single Discount		
	1% Decrease	Rate Assumption	1% Increase
Discount Rate	5.80%	6.80%	7.80%
Ultimate Dividend Rate	0.80%	1.70%	2.70%
Total Pension Liability	\$ 143,186,614,762	\$ 137,392,816,831	\$ 132,894,711,687
Plan Fiduciary Net Position	134,541,212,975	134,541,212,975	134,541,212,975
Net Pension Liability/(Asset)	\$ 8,645,401,787	\$ 2,851,603,856	\$ (1,646,501,288)



Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	242,226
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	190,051
Active Plan Members	<u>268,245</u>
Total Plan Members	700,522

SECTION E

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The *Single Discount Rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects: (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits); and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Bond Buyer Index) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.80%; the municipal bond rate is 4.08%; and the resulting single discount rate is 6.80%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities). The contribution rate for the first year was developed from the 2023 actuarial valuation (14.85%) and the second year contribution was developed from the 2024 actuarial valuation (15.40%). Expected contribution rates gradually increase as the unrecognized asset losses from the Market Recognition Account are phased-in over the next 5 years. The expected contribution rate then decreases over time as the Experience Amortization Reserve (EAR) component is paid down and is assumed to migrate to the ultimate contribution rate of 14.39% once the Experience Amortization Reserve (EAR) component is paid down.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

The WRS funding policy as it affects the closed group cannot be modeled with 100% accuracy. In reality, assets that appear to be left over after all benefit obligations are satisfied would be assigned to the funding benefits of people who enter the plan after the measurement date.

Single Discount Rate Development

Projection of Contributions Ending December 31, 2124

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
0	\$ 18,370,344,224				
1	18,299,029,656	\$ 1,271,745,963	\$ 1,445,659,941	\$ -	\$ 2,717,405,904
2	17,657,763,104	1,272,630,302	1,446,665,216	-	2,719,295,518
3	17,115,899,716	1,250,011,832	1,420,953,620	-	2,670,965,452
4	16,616,179,507	1,263,810,305	1,436,639,064	-	2,700,449,369
5	16,139,470,797	1,205,121,505	1,369,924,446	-	2,575,045,951
6	15,679,367,606	1,161,989,983	1,320,894,597	-	2,482,884,580
7	15,231,433,242	1,125,085,318	1,278,943,140	-	2,404,028,458
8	14,789,847,042	1,088,994,866	1,237,917,241	-	2,326,912,107
9	14,352,079,565	1,053,512,486	1,197,582,570	-	2,251,095,056
10	13,915,974,746	1,018,462,594	1,157,739,529	-	2,176,202,123
11	13,472,185,497	983,147,497	1,117,595,019	-	2,100,742,516
12	13,014,565,632	947,110,752	1,076,630,172	-	2,023,740,924
13	12,542,178,254	910,279,079	1,034,761,688	-	1,945,040,767
14	12,055,019,149	872,647,434	991,983,836	-	1,864,631,270
15	11,554,875,377	834,340,105	948,437,898	-	1,782,778,003
16	11,043,996,796	795,513,456	904,301,621	-	1,699,815,077
17	10,522,025,836	756,135,025	859,538,106	-	1,615,673,131
18	9,985,942,590	715,981,858	813,893,907	-	1,529,875,765
19	9,432,875,699	674,843,673	767,129,987	-	1,441,973,660
20	8,862,919,527	632,723,698	719,250,015	-	1,351,973,713
21	8,280,615,911	589,941,917	670,617,735	-	1,260,559,652
22	7,690,832,263	546,838,872	621,620,257	-	1,168,459,129
23	7,098,249,212	503,739,321	572,626,750	-	1,076,366,071
24	6,507,657,938	460,973,657	524,012,789	-	984,986,446
25	5,922,336,994	418,763,278	476,030,051	-	894,793,329
26	5,345,882,464	377,350,897	428,954,438	-	806,305,335
27	4,779,585,129	336,815,642	382,875,900	-	719,691,542
28	4,221,423,296	297,003,630	337,619,511	-	634,623,141
29	3,672,421,494	257,976,476	293,255,311	-	551,231,787
30	3,139,586,727	220,215,530	250,330,475	-	470,546,005
31	2,637,795,963	184,751,050	210,016,150	-	394,767,200
32	2,178,864,775	152,394,009	173,234,216	-	325,628,225
33	1,767,445,400	123,451,524	140,333,783	-	263,785,307
34	1,409,599,756	98,328,482	111,775,111	-	210,103,593
35	1,109,101,283	77,269,367	87,836,119	-	165,105,486
36	863,219,404	60,066,024	68,280,182	-	128,346,206
37	664,597,071	46,190,849	52,507,546	-	98,698,395
38	504,946,148	35,055,009	39,848,856	-	74,903,865
39	378,207,580	26,227,676	29,814,367	-	56,042,043
40	279,843,510	19,385,897	22,036,960	-	41,422,857
41	204,586,051	14,158,058	16,094,203	-	30,252,261
42	147,648,342	10,207,718	11,603,646	-	21,811,364
43	105,380,233	7,278,578	8,273,940	-	15,552,518
44	74,620,274	5,149,273	5,853,448	-	11,002,721
45	52,619,125	3,627,841	4,123,957	-	7,751,798
46	36,929,492	2,543,941	2,891,830	-	5,435,771
47	25,548,683	1,758,507	1,998,987	-	3,757,494
48	17,330,877	1,191,930	1,354,929	-	2,546,859
49	11,419,816	784,794	892,117	-	1,676,911
50	7,126,009	489,352	556,272	-	1,045,624

Single Discount Rate Development

Projection of Contributions Ending December 31, 2124

(Concluded)

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions
51	\$ 4,102,372	\$ 281,514	\$ 320,011	\$ -	\$ 601,525
52	2,116,165	145,116	164,960	-	310,076
53	986,049	67,573	76,814	-	144,387
54	466,143	31,924	36,289	-	68,213
55	221,680	15,173	17,247	-	32,420
56	82,772	5,662	6,436	-	12,098
57	16,688	1,141	1,297	-	2,438
58	813	56	63	-	119
59	-	-	-	-	-
60	-	-	-	-	-
61	-	-	-	-	-
62	-	-	-	-	-
63	-	-	-	-	-
64	-	-	-	-	-
65	-	-	-	-	-
66	-	-	-	-	-
67	-	-	-	-	-
68	-	-	-	-	-
69	-	-	-	-	-
70	-	-	-	-	-
71	-	-	-	-	-
72	-	-	-	-	-
73	-	-	-	-	-
74	-	-	-	-	-
75	-	-	-	-	-
76	-	-	-	-	-
77	-	-	-	-	-
78	-	-	-	-	-
79	-	-	-	-	-
80	-	-	-	-	-
81	-	-	-	-	-
82	-	-	-	-	-
83	-	-	-	-	-
84	-	-	-	-	-
85	-	-	-	-	-
86	-	-	-	-	-
87	-	-	-	-	-
88	-	-	-	-	-
89	-	-	-	-	-
90	-	-	-	-	-
91	-	-	-	-	-
92	-	-	-	-	-
93	-	-	-	-	-
94	-	-	-	-	-
95	-	-	-	-	-
96	-	-	-	-	-
97	-	-	-	-	-
98	-	-	-	-	-
99	-	-	-	-	-
100	-	-	-	-	-

Single Discount Rate Development

Projection of Plan Fiduciary Net Position Ending December 31, 2124

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments Including Dividends	Projected Investment Earnings at 6.80%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
1	\$ 134,541,212,975	\$ 2,717,405,904	\$ 7,988,908,476	\$ 8,972,518,931	\$ 138,242,229,334
2	138,242,229,334	2,719,295,518	8,214,312,655	9,216,713,525	141,963,925,722
3	141,963,925,722	2,670,965,452	8,283,311,251	9,465,865,309	145,817,445,233
4	145,817,445,233	2,700,449,369	8,506,963,863	9,721,411,469	149,732,342,207
5	149,732,342,207	2,575,045,951	8,787,653,626	9,974,044,360	153,493,778,892
6	153,493,778,892	2,482,884,580	9,055,327,906	10,217,788,843	157,139,124,409
7	157,139,124,409	2,404,028,458	9,317,947,851	10,454,253,087	160,679,458,103
8	160,679,458,103	2,326,912,107	9,584,366,317	10,683,507,680	164,105,511,573
9	164,105,511,573	2,251,095,056	9,851,094,355	10,905,024,315	167,410,536,589
10	167,410,536,589	2,176,202,123	10,119,212,039	11,118,295,448	170,585,822,122
11	170,585,822,122	2,100,742,516	10,401,254,312	11,322,259,696	173,607,570,022
12	173,607,570,022	2,023,740,924	10,688,657,264	11,515,552,554	176,458,206,235
13	176,458,206,235	1,945,040,767	10,965,423,175	11,697,508,727	179,135,332,554
14	179,135,332,554	1,864,631,270	11,230,522,284	11,867,999,214	181,637,440,754
15	181,637,440,754	1,782,778,003	11,491,001,642	12,026,694,676	183,955,911,791
16	183,955,911,791	1,699,815,077	11,756,303,858	12,172,704,422	186,072,127,433
17	186,072,127,433	1,615,673,131	12,018,581,965	12,305,022,503	187,974,241,102
18	187,974,241,102	1,529,875,765	12,281,029,369	12,422,720,630	189,645,808,129
19	189,645,808,129	1,441,973,660	12,543,951,150	12,524,655,338	191,068,485,976
20	191,068,485,976	1,351,973,713	12,807,033,423	12,609,590,060	192,223,016,326
21	192,223,016,326	1,260,559,652	13,071,766,282	12,676,188,266	193,087,997,963
22	193,087,997,963	1,168,459,129	13,338,000,396	12,723,024,001	193,641,480,697
23	193,641,480,697	1,076,366,071	13,601,857,262	12,748,757,557	193,864,747,063
24	193,864,747,063	984,986,446	13,859,270,064	12,752,275,753	193,742,739,198
25	193,742,739,198	894,793,329	14,109,115,842	12,732,608,027	193,261,024,712
26	193,261,024,712	806,305,335	14,355,030,093	12,688,668,746	192,400,968,700
27	192,400,968,700	719,691,542	14,591,886,318	12,619,367,823	191,148,141,747
28	191,148,141,747	634,623,141	14,821,733,424	12,523,644,546	189,484,676,010
29	189,484,676,010	551,231,787	15,044,942,056	12,400,275,911	187,391,241,651
30	187,391,241,651	470,546,005	15,252,575,245	12,248,280,741	184,857,493,153
31	184,857,493,153	394,767,200	15,436,164,661	12,067,312,349	181,883,408,040
32	181,883,408,040	325,628,225	15,586,915,007	11,857,721,274	178,479,842,533
33	178,479,842,533	263,785,307	15,695,461,539	11,620,580,851	174,668,747,151
34	174,668,747,151	210,103,593	15,757,398,116	11,357,559,990	170,479,012,618
35	170,479,012,618	165,105,486	15,769,588,454	11,070,745,612	165,945,275,262
36	165,945,275,262	128,346,206	15,731,184,994	10,762,506,454	161,104,942,929
37	161,104,942,929	98,698,395	15,647,158,791	10,435,182,315	155,991,664,848
38	155,991,664,848	74,903,865	15,522,238,289	10,090,861,145	150,635,191,568
39	150,635,191,568	56,042,043	15,359,420,976	9,731,434,957	145,063,247,592
40	145,063,247,592	41,422,857	15,159,480,158	9,358,740,080	139,303,930,371
41	139,303,930,371	30,252,261	14,922,772,274	8,974,648,669	133,386,059,026
42	133,386,059,026	21,811,364	14,645,666,678	8,581,217,794	127,343,421,507
43	127,343,421,507	15,552,518	14,322,991,204	8,180,899,685	121,216,882,506
44	121,216,882,506	11,002,721	13,957,747,602	7,776,356,942	115,046,494,567
45	115,046,494,567	7,751,798	13,560,642,067	7,369,941,397	108,863,545,695
46	108,863,545,695	5,435,771	13,139,876,054	6,963,494,199	102,692,599,612
47	102,692,599,612	3,757,494	12,697,122,141	6,558,619,812	96,557,854,776
48	96,557,854,776	2,546,859	12,234,404,354	6,156,890,357	90,482,887,638
49	90,482,887,638	1,676,911	11,755,299,833	5,759,785,164	84,489,049,880
50	84,489,049,880	1,045,624	11,262,331,594	5,368,668,365	78,596,432,275

Single Discount Rate Development

Projection of Plan Fiduciary Net Position Ending December 31, 2124 (Concluded)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments Including Dividends	Projected Investment Earnings at 6.80%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
51	\$ 78,596,432,275	\$ 601,525	\$ 10,756,920,744	\$ 4,984,856,887	\$ 72,824,969,943
52	72,824,969,943	310,076	10,240,560,186	4,609,655,241	67,194,375,075
53	67,194,375,075	144,387	9,714,942,041	4,244,346,369	61,723,923,789
54	61,723,923,789	68,213	9,182,122,797	3,890,171,065	56,432,040,270
55	56,432,040,270	32,420	8,644,523,249	3,548,299,577	51,335,849,018
56	51,335,849,018	12,098	8,104,469,546	3,219,817,750	46,451,209,320
57	46,451,209,320	2,438	7,564,200,273	2,905,728,994	41,792,740,478
58	41,792,740,478	119	7,026,073,073	2,606,948,468	37,373,615,992
59	37,373,615,992	-	6,492,579,770	2,324,288,471	33,205,324,693
60	33,205,324,693	-	5,966,275,381	2,058,444,731	29,297,494,044
61	29,297,494,044	-	5,449,772,528	1,809,984,544	25,657,706,060
62	25,657,706,060	-	4,945,721,611	1,579,334,855	22,291,319,304
63	22,291,319,304	-	4,456,780,185	1,366,771,174	19,201,310,294
64	19,201,310,294	-	3,985,575,344	1,172,408,054	16,388,143,004
65	16,388,143,004	-	3,534,654,794	996,191,847	13,849,680,058
66	13,849,680,058	-	3,106,448,217	837,895,961	11,581,127,801
67	11,581,127,801	-	2,703,230,701	697,118,346	9,575,015,446
68	9,575,015,446	-	2,327,078,152	573,281,568	7,821,218,862
69	7,821,218,862	-	1,979,810,554	465,636,326	6,307,044,634
70	6,307,044,634	-	1,662,924,667	373,269,413	5,017,389,380
71	5,017,389,380	-	1,377,513,997	295,117,233	3,934,992,616
72	3,934,992,616	-	1,124,165,032	229,986,458	3,040,814,043
73	3,040,814,043	-	902,848,117	176,583,342	2,314,549,268
74	2,314,549,268	-	712,835,861	133,551,510	1,735,264,917
75	1,735,264,917	-	552,691,172	99,515,549	1,282,089,293
76	1,282,089,293	-	420,343,145	73,125,438	934,871,587
77	934,871,587	-	313,222,263	53,096,848	674,746,171
78	674,746,171	-	228,413,759	38,244,388	484,576,801
79	484,576,801	-	162,815,296	27,506,540	349,268,044
80	349,268,044	-	113,302,745	19,961,286	255,926,585
81	255,926,585	-	76,881,873	14,832,012	193,876,724
82	193,876,724	-	50,806,225	11,484,614	154,555,113
83	154,555,113	-	32,658,637	9,417,615	131,314,091
84	131,314,091	-	20,396,552	8,247,280	119,164,820
85	119,164,820	-	12,362,272	7,689,803	114,492,351
86	114,492,351	-	7,263,657	7,542,577	114,771,271
87	114,771,271	-	4,133,506	7,666,218	118,303,983
88	118,303,983	-	2,276,558	7,968,541	123,995,966
89	123,995,966	-	1,213,005	8,391,162	131,174,123
90	131,174,123	-	625,279	8,898,931	139,447,775
91	139,447,775	-	311,978	9,472,016	148,607,813
92	148,607,813	-	150,797	10,100,288	158,557,304
93	158,557,304	-	70,699	10,779,532	169,266,138
94	169,266,138	-	32,201	11,509,021	180,742,957
95	180,742,957	-	14,255	12,290,044	193,018,747
96	193,018,747	-	6,111	13,125,070	206,137,706
97	206,137,706	-	2,514	14,017,280	220,152,473
98	220,152,473	-	986	14,970,335	235,121,822
99	235,121,822	-	369	15,988,272	251,109,724
100	251,109,724	-	168	17,075,456	268,185,012

Single Discount Rate Development

Present Values of Projected Benefits Ending December 31, 2124

Year	Projected Benefit			Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
	Projected Beginning Plan Net Position	Payments Including Dividends	Funded Portion of Benefit Payments		(f)=(d)*v^((a)-.5)	(g)=(e)*vf^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
1	\$ 134,541,212,975	\$ 7,988,908,476	\$ 7,988,908,476	\$ -	\$ 7,730,397,381	\$ -	\$ 7,730,397,381
2	138,242,229,334	8,214,312,655	8,214,312,655	-	7,442,422,999	-	7,442,422,999
3	141,963,925,722	8,283,311,251	8,283,311,251	-	7,027,095,388	-	7,027,095,388
4	145,817,445,233	8,506,963,863	8,506,963,863	-	6,757,331,166	-	6,757,331,166
5	149,732,342,207	8,787,653,626	8,787,653,626	-	6,535,853,264	-	6,535,853,264
6	153,493,778,892	9,055,327,906	9,055,327,906	-	6,306,120,883	-	6,306,120,883
7	157,139,124,409	9,317,947,851	9,317,947,851	-	6,075,851,253	-	6,075,851,253
8	160,679,458,103	9,584,366,317	9,584,366,317	-	5,851,658,985	-	5,851,658,985
9	164,105,511,573	9,851,094,355	9,851,094,355	-	5,631,561,496	-	5,631,561,496
10	167,410,536,589	10,119,212,039	10,119,212,039	-	5,416,513,073	-	5,416,513,073
11	170,585,822,122	10,401,254,312	10,401,254,312	-	5,212,998,042	-	5,212,998,042
12	173,607,570,022	10,688,657,264	10,688,657,264	-	5,015,956,316	-	5,015,956,316
13	176,458,206,235	10,965,423,175	10,965,423,175	-	4,818,199,052	-	4,818,199,052
14	179,135,332,554	11,230,522,284	11,230,522,284	-	4,620,490,084	-	4,620,490,084
15	181,637,440,754	11,491,001,642	11,491,001,642	-	4,426,645,286	-	4,426,645,286
16	183,955,911,791	11,756,303,858	11,756,303,858	-	4,240,493,343	-	4,240,493,343
17	186,072,127,433	12,018,581,965	12,018,581,965	-	4,059,079,527	-	4,059,079,527
18	187,974,241,102	12,281,029,369	12,281,029,369	-	3,883,630,005	-	3,883,630,005
19	189,645,808,129	12,543,951,150	12,543,951,150	-	3,714,207,642	-	3,714,207,642
20	191,068,485,976	12,807,033,423	12,807,033,423	-	3,550,660,227	-	3,550,660,227
21	192,223,016,326	13,071,766,282	13,071,766,282	-	3,393,310,446	-	3,393,310,446
22	193,087,997,963	13,338,000,396	13,338,000,396	-	3,241,968,517	-	3,241,968,517
23	193,641,480,697	13,601,857,262	13,601,857,262	-	3,095,601,351	-	3,095,601,351
24	193,864,747,063	13,859,270,064	13,859,270,064	-	2,953,356,809	-	2,953,356,809
25	193,742,739,198	14,109,115,842	14,109,115,842	-	2,815,166,645	-	2,815,166,645
26	193,261,024,712	14,355,030,093	14,355,030,093	-	2,681,866,551	-	2,681,866,551
27	192,400,968,700	14,591,886,318	14,591,886,318	-	2,552,544,024	-	2,552,544,024
28	191,148,141,747	14,821,733,424	14,821,733,424	-	2,427,669,427	-	2,427,669,427
29	189,484,676,010	15,044,942,056	15,044,942,056	-	2,307,330,557	-	2,307,330,557
30	187,391,241,651	15,252,575,245	15,252,575,245	-	2,190,237,557	-	2,190,237,557
31	184,857,493,153	15,436,164,661	15,436,164,661	-	2,075,468,735	-	2,075,468,735
32	181,883,408,040	15,586,915,007	15,586,915,007	-	1,962,301,372	-	1,962,301,372
33	178,479,842,533	15,695,461,539	15,695,461,539	-	1,850,156,128	-	1,850,156,128
34	174,668,747,151	15,757,398,116	15,757,398,116	-	1,739,192,054	-	1,739,192,054
35	170,479,012,618	15,769,588,454	15,769,588,454	-	1,629,716,797	-	1,629,716,797
36	165,945,275,262	15,731,184,994	15,731,184,994	-	1,522,235,927	-	1,522,235,927
37	161,104,942,929	15,647,158,791	15,647,158,791	-	1,417,701,395	-	1,417,701,395
38	155,991,664,848	15,522,238,289	15,522,238,289	-	1,316,838,060	-	1,316,838,060
39	150,635,191,568	15,359,420,976	15,359,420,976	-	1,220,061,198	-	1,220,061,198
40	145,063,247,592	15,159,480,158	15,159,480,158	-	1,127,508,508	-	1,127,508,508
41	139,303,930,371	14,922,772,274	14,922,772,274	-	1,039,235,031	-	1,039,235,031
42	133,386,059,026	14,645,666,678	14,645,666,678	-	954,997,334	-	954,997,334
43	127,343,421,507	14,322,991,204	14,322,991,204	-	874,491,285	-	874,491,285
44	121,216,882,506	13,957,747,602	13,957,747,602	-	797,931,938	-	797,931,938
45	115,046,494,567	13,560,642,067	13,560,642,067	-	725,871,104	-	725,871,104
46	108,863,545,695	13,139,876,054	13,139,876,054	-	658,565,948	-	658,565,948
47	102,692,599,612	12,697,122,141	12,697,122,141	-	595,857,002	-	595,857,002
48	96,557,854,776	12,234,404,354	12,234,404,354	-	537,586,467	-	537,586,467
49	90,482,887,638	11,755,299,833	11,755,299,833	-	483,646,395	-	483,646,395
50	84,489,049,880	11,262,331,594	11,262,331,594	-	433,861,688	-	433,861,688

Single Discount Rate Development

Present Values of Projected Benefits Ending December 31, 2124(Concluded)

Year	Projected Beginning Plan Net Position	Projected Benefit		Unfunded Portion of Benefit Payments	Present Value of	Present Value of	Present Value of
		Payments Including Dividends	Funded Portion of Benefit Payments		Funded Benefit Payments using Expected Return Rate (v)	Unfunded Benefit Payments using Municipal Bond Rate (vf)	Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
51	\$ 78,596,432,275	\$ 10,756,920,744	\$ 10,756,920,744	\$ -	\$ 388,007,131	\$ -	\$ 388,007,131
52	72,824,969,943	10,240,560,186	10,240,560,186	-	345,863,077	-	345,863,077
53	67,194,375,075	9,714,942,041	9,714,942,041	-	307,219,974	-	307,219,974
54	61,723,923,789	9,182,122,797	9,182,122,797	-	271,882,389	-	271,882,389
55	56,432,040,270	8,644,523,249	8,644,523,249	-	239,666,744	-	239,666,744
56	51,335,849,018	8,104,469,546	8,104,469,546	-	210,387,566	-	210,387,566
57	46,451,209,320	7,564,200,273	7,564,200,273	-	183,859,994	-	183,859,994
58	41,792,740,478	7,026,073,073	7,026,073,073	-	159,906,321	-	159,906,321
59	37,373,615,992	6,492,579,770	6,492,579,770	-	138,356,323	-	138,356,323
60	33,205,324,693	5,966,275,381	5,966,275,381	-	119,045,713	-	119,045,713
61	29,297,494,044	5,449,772,528	5,449,772,528	-	101,816,365	-	101,816,365
62	25,657,706,060	4,945,721,611	4,945,721,611	-	86,516,238	-	86,516,238
63	22,291,319,304	4,456,780,185	4,456,780,185	-	72,999,170	-	72,999,170
64	19,201,310,294	3,985,575,344	3,985,575,344	-	61,124,663	-	61,124,663
65	16,388,143,004	3,534,654,794	3,534,654,794	-	50,757,615	-	50,757,615
66	13,849,680,058	3,106,448,217	3,106,448,217	-	41,768,326	-	41,768,326
67	11,581,127,801	2,703,230,701	2,703,230,701	-	34,032,575	-	34,032,575
68	9,575,015,446	2,327,078,152	2,327,078,152	-	27,431,617	-	27,431,617
69	7,821,218,862	1,979,810,554	1,979,810,554	-	21,852,082	-	21,852,082
70	6,307,044,634	1,662,924,667	1,662,924,667	-	17,185,830	-	17,185,830
71	5,017,389,380	1,377,513,997	1,377,513,997	-	13,329,772	-	13,329,772
72	3,934,992,616	1,124,165,032	1,124,165,032	-	10,185,574	-	10,185,574
73	3,040,814,043	902,848,117	902,848,117	-	7,659,473	-	7,659,473
74	2,314,549,268	712,835,861	712,835,861	-	5,662,425	-	5,662,425
75	1,735,264,917	552,691,172	552,691,172	-	4,110,780	-	4,110,780
76	1,282,089,293	420,343,145	420,343,145	-	2,927,348	-	2,927,348
77	934,871,587	313,222,263	313,222,263	-	2,042,452	-	2,042,452
78	674,746,171	228,413,759	228,413,759	-	1,394,602	-	1,394,602
79	484,576,801	162,815,296	162,815,296	-	930,790	-	930,790
80	349,268,044	113,302,745	113,302,745	-	606,493	-	606,493
81	255,926,585	76,881,873	76,881,873	-	385,335	-	385,335
82	193,876,724	50,806,225	50,806,225	-	238,429	-	238,429
83	154,555,113	32,658,637	32,658,637	-	143,506	-	143,506
84	131,314,091	20,396,552	20,396,552	-	83,918	-	83,918
85	119,164,820	12,362,272	12,362,272	-	47,624	-	47,624
86	114,492,351	7,263,657	7,263,657	-	26,201	-	26,201
87	114,771,271	4,133,506	4,133,506	-	13,961	-	13,961
88	118,303,983	2,276,558	2,276,558	-	7,199	-	7,199
89	123,995,966	1,213,005	1,213,005	-	3,592	-	3,592
90	131,174,123	625,279	625,279	-	1,734	-	1,734
91	139,447,775	311,978	311,978	-	810	-	810
92	148,607,813	150,797	150,797	-	367	-	367
93	158,557,304	70,699	70,699	-	161	-	161
94	169,266,138	32,201	32,201	-	69	-	69
95	180,742,957	14,255	14,255	-	28	-	28
96	193,018,747	6,111	6,111	-	11	-	11
97	206,137,706	2,514	2,514	-	4	-	4
98	220,152,473	986	986	-	2	-	2
99	235,121,822	369	369	-	1	-	1
100	251,109,724	168	168	-	0	-	0
Totals					\$ 161,868,924,032	\$ -	\$ 161,868,924,032



SECTION F

SUMMARY OF ASSUMPTIONS

Summary of Assumptions Used to Develop Total Pension Liability Assumptions Adopted by ETF Board after Consulting with Actuary

The actuarial assumptions were developed based on an Experience Study covering January 1, 2021 through December 31, 2023. Separate demographic assumptions were first developed for State and Non-State employees in conjunction with the 2018-2020 Experience Study. While sample rates are illustrated in this section, please refer to the Wisconsin Experience Study report dated November 19, 2024, which supplies a full listing of actuarial assumptions at every age and a rationale for the selection of assumptions.

Economic Assumptions

In determining plan liabilities for accounting purposes, a discount rate of 6.80% is used for both actives and retirees. However, a long-term assumed dividend of 1.7% is also assumed. For retirees, this produces the same result as assuming a 5% discount rate. Dividends are not guaranteed, and this valuation develops dividends that reflect known entries (phased-in gains and losses) in the Market Recognition Account (MRA), based on the 6.80% return assumption. The dividend rates used in developing the Total Pension Liability for accounting purposes is as follows:

2025: 2.3% Core, 15.0% Variable
2026: 0.9% Core, 1.7% Variable
2027: -1.0% Core, 1.7% Variable
2028: 2.5% Core, 1.7% Variable
2029: 2.1% Core, 1.7% Variable
2030 and later: 1.7% Core, 1.7% Variable

The **Wage Inflation Rate** assumed in this valuation was 3.00% per year. The wage inflation rate is defined to be the portion of total pay increases for an individual that are due to macro-economic 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 would be 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 macro-economic forces.

Service	% Merit Increases in Salaries Next Year								
	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 **mortality table** used was the 2020 WRS Experience Mortality Table adopted by the Board in connection with the 2018-2020 Experience Study and not adjusted for 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 Mortality 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	% of Active Participants Retiring												
	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 ¹	With SS State ¹	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	% of Active Participants Retiring									
	General Non-State		General State		Executive & Elected Non-State	Executive & Elected State	University State		Public Schools Non-State	
	Male	Female	Male	Female			Male	Female	Male	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%

SECTION G

PLAN PROVISIONS

Summary of Benefit Provisions

Normal Retirement Eligibility

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

General, Public School, and 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 5 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			Group
Before 2000	Between 2000 and 2011	After 2011	
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 3 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; and
- 54 for other protective occupation employees.

The **service requirement** is that during the 7 years preceding application the individual must have earned:

- At least 6 months of service credit in 5 of those years; or
- A total of 5 years of service credit.

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 any 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:

Date of Participation	Rate Credited for the Purpose of	
	Money Purchase 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 5 years of service.

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<i>Actuarial Accrued Liability (AAL)</i>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<i>Actuarial Assumptions</i>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<i>Actuarial Equivalent</i>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<i>Actuarial Gain (Loss)</i>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<i>Actuarial Present Value (APV)</i>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<i>Actuarial Valuation</i>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically, the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Glossary of Terms

<i>Amortization Method</i>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Discount Rate</i>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period and; 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

<i>Entry Age Actuarial Cost Method (EAN)</i>	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<i>Fiduciary Net Position</i>	The fiduciary net position is the value of the assets of the trust.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Long-Term Expected Rate of Return</i>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<i>Money-Weighted Rate of Return</i>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contribution Entities</i>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement, plan members are not considered non-employer contribution entities.
<i>Normal Cost</i>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

Glossary of Terms

<i>Other Postemployment Benefits (OPEB)</i>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment health care benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.