

Wyoming Judicial Retirement System

GASB Statement Nos. 67 and 68 Accounting and Financial
Reporting for Pensions

For Measurement Date as of December 31, 2023





March 27, 2024

Board of Trustees
Wyoming Judicial Retirement System

Dear Board Members:

This report provides information required by the Wyoming Judicial Retirement System (WRS) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 and 68 for the Wyoming Retirement System (“WRS”). These calculations have been made on a basis that is consistent with our understanding of these Statements.

GASB Statement No. 67 is the accounting standard that applies to the stand-alone financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement No. 67 and GASB Statement No. 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer’s benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan’s liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the Wyoming Judicial Retirement System (“WRS”) only in its entirety and only with the permission of WRS. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by WRS, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. 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 WRS.

This report complements the actuarial valuation report that was provided to WRS and should be considered in conjunction with that report. Please see the actuarial valuation report as of January 1, 2023 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. Furthermore, this report includes the assumptions adopted by the Board at the November 17, 2021 and the February 17, 2022 meetings. For a detailed description of the experience related to these assumptions, as well as the rationale for any changes, please see our latest Wyoming Retirement System Actuarial Experience Study Report that covered the five-year investigation period ending December 31, 2020.

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.


This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Wyoming Judicial Retirement System as of the valuation date.

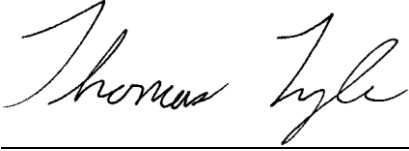
All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.


Paul T. Wood, Thomas A. Lyle, Dana Woolfrey, and Karli Fehrman are members of the American Academy of Actuaries (MAAA) and are experienced in performing valuations for public retirement systems. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Gabriel, Roeder, Smith & Company

By 
Paul T. Wood, ASA, FCA, MAAA

By 
Thomas A. Lyle, FSA, EA, FCA, MAAA

By 
Dana Woolfrey, FSA, EA, FCA, MAAA


By 
Karli Fehrman, ASA, MAAA



Table of Contents

	<u>Page</u>
Section A Executive Summary	
Executive Summary	1
Discussion	2-5
Section B Financial Statements	
Statement of Pension Expense under GASB Statement No. 68	7
Statement of Outflows and Inflows Arising from Current Reporting Period	8
History of Deferred Outflows and Inflows of Resources by Source	9-10
Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods.....	11
Statement of Fiduciary Net Position	12
Statement of Changes in Fiduciary Net Position	13
Section C Required Supplementary Information	
Schedule of Changes in Net Pension Liability and Related Ratios Current Reporting Period.	15
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear	16
Schedule of Net Pension Liability Multiyear	17
Schedule of Contributions Multiyear	18
Notes to Schedule of Contributions	19
Schedule of Investment Returns Multiyear.....	20
Section D Notes to Financial Statements	
Sensitivity of Net Pension Liability to the Single Discount Rate Assumption	22
Summary of Population Statistics	23
Section E Summary of Benefits	25-26
Section F Actuarial Cost Method and Actuarial Assumptions	
Actuarial Assumptions and Cost Method	28-32
Experience Analysis	33
Section G Calculation of the Single Discount Rate	
Calculation of the Single Discount Rate	35
Projection of Contributions	36-37
Projection of Plan Net Position	38-39
Present Values of Projected Benefits	40-41
Section H Glossary of Terms	43-46

SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2023

	2023
Actuarial Valuation Date	January 1, 2023
Measurement Date of the Net Pension Liability	December 31, 2023
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2023

Membership

Number of		
- Retirees and Beneficiaries		35
- Inactive, Nonretired Members		5
- Active Members		55
- Total		95
Covered Payroll	\$	8,433,335

Net Pension Liability

Total Pension Liability		\$ 44,541,123
Plan Fiduciary Net Position		45,200,577
Net Pension Liability	\$	(659,454)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		101.48 %
Net Pension Liability as a Percentage of Covered Payroll		(7.82)%

Development of the Single Discount Rate

Single Discount Rate		6.80 %
Long-Term Expected Rate of Investment Return		6.80 %
Long-Term Municipal Bond Rate*		3.77 %
Last year ending December 31 in the 2023 to 2122 projection period for which projected benefit payments are fully funded		2122

Total Pension Expense \$ 1,083,228

Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 532,852	\$ 936,639
Changes in assumptions	2,165,629	1,689,795
Net difference between projected and actual earnings on pension plan investments	3,560,366	3,917,643
Total	\$ 6,258,847	\$ 6,544,077

**Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of December 31, 2023. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax exempt securities.*



Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. 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 the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to 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).

Paragraph 34 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to WRS subsequent to the measurement date of December 31, 2023.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position and the net pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- 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.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's Board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets;
- annual money-weighted rate of return.

Required Supplementary Information

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

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- a comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

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), then the following outcomes are expected:

1. The employer normal cost as a percentage of pay is expected to remain level as a percentage of payroll.
2. The funded status of the plan is expected to stay above 100% in future years.

This funding policy results in no expected crossover date and a GASB single discount rate of 6.80%. This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2122. 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.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of January 1, 2023 and rolled forward to a measurement date of December 31, 2023.

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 (which is published by the Federal Reserve) 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 3.77% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 6.80%.

Effective Date and Transition

GASB Statement Nos. 67 and 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014 respectively, earlier application is encouraged by the GASB.

SECTION B

FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Judicial Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Statement of Pension Expense under GASB Statement No. 68

Fiscal Year Ended December 31, 2023

A. Expense

1. Service Cost	\$	2,360,406
2. Interest on the Total Pension Liability		2,780,674
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(799,521)
5. Projected Earnings on Plan Investments (made negative for addition here)		(2,726,515)
6. Pension Plan Administrative Expense		41,723
7. Other Changes in Plan Fiduciary Net Position		3,138
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		432,039
9. Recognition of Outflow (Inflow) of Resources due to Assets		(1,008,716)
10. Total Pension Expense	\$	1,083,228 *

* In accordance with GASB 71, employers may need to illustrate contributions made after the measurement date.

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended December 31, 2023

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (473,026)
2. Assumption Changes (gains) or losses	\$ (2,009,535)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	6.2849
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ (75,264)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for assumption changes	\$ (319,740)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	<u>\$ (395,004)</u>
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ (397,762)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for assumption changes	\$ (1,689,795)
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	<u>\$ (2,087,557)</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (2,664,963)
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ (532,993)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (2,131,970)



History of Deferred Outflows and Inflows of Resources by Source

Fiscal Year Ended December 31, 2023

Differences between expected and actual experience - Net (inflows)/outflows of resources

Recognition Period	7.9046	7.7907	7.3715	6.7663	6.7746	6.6532	6.8706	6.3142	5.8576	6.2849		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	
Total	\$ -	\$ (372,108)	\$ (229,282)	\$ (620,955)	\$ 183,937	\$ (112,158)	\$ 1,225,009	\$ (147,370)	\$ (658,488)	\$ (473,026)		
2014	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	(47,763)	-	-	-	-	-	-	-	-	(47,763)	(47,763)
2016	-	(47,763)	(31,104)	-	-	-	-	-	-	-	(78,867)	(78,867)
2017	-	(47,763)	(31,104)	(91,772)	-	-	-	-	-	-	(170,639)	(170,639)
2018	-	(47,763)	(31,104)	(91,772)	27,151	-	-	-	-	-	(143,488)	(143,488)
2019	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	-	-	-	-	(160,346)	(160,346)
2020	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	178,297	-	-	-	17,951	17,951
2021	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	178,297	(23,339)	-	-	(5,388)	(5,388)
2022	-	(37,767)	(31,104)	(91,772)	27,151	(16,858)	178,297	(23,339)	(112,416)	-	(107,808)	(107,808)
2023	-	-	(11,554)	(70,323)	27,151	(16,858)	178,297	(23,339)	(112,416)	(75,264)	(104,306)	(104,306)
2024	-	-	-	-	21,031	(16,858)	178,297	(23,339)	(112,416)	(75,264)	(28,549)	\$ (403,787)
2025	-	-	-	-	-	(11,010)	178,297	(23,339)	(112,416)	(75,264)	(43,732)	(43,732)
2026	-	-	-	-	-	-	155,227	(23,339)	(112,416)	(75,264)	(55,792)	(55,792)
2027	-	-	-	-	-	-	-	(7,336)	(96,408)	(75,264)	(179,008)	(179,008)
2028	-	-	-	-	-	-	-	-	-	(75,264)	(75,264)	(75,264)
Thereafter	-	-	-	-	-	-	-	-	-	(21,442)	(21,442)	(21,442)
	\$ -	\$ (372,108)	\$ (229,282)	\$ (620,955)	\$ 183,937	\$ (112,158)	\$ 1,225,009	\$ (147,370)	\$ (658,488)	\$ (473,026)	\$ (1,204,441)	

Assumption changes - Net (inflows)/outflows of resources

Recognition Period	7.9046	7.7907	7.3715	6.7663	6.7746	6.6532	6.8706	6.3142	5.8576	6.2849		
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	
Total	\$ -	\$ -	\$ -	\$ 2,258,668	\$ -	\$ -	\$ -	\$ 1,743,269	\$ 1,899,013	\$ (2,009,535)		
2014	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	333,811	-	-	-	-	-	-	333,811	333,811
2018	-	-	-	333,811	-	-	-	-	-	-	333,811	333,811
2019	-	-	-	333,811	-	-	-	-	-	-	333,811	333,811
2020	-	-	-	333,811	-	-	-	-	-	-	333,811	333,811
2021	-	-	-	333,811	-	-	-	276,087	-	-	609,898	609,898
2022	-	-	-	333,811	-	-	-	276,087	324,196	-	934,094	934,094
2023	-	-	-	255,802	-	-	-	276,087	324,196	(319,740)	536,345	536,345
2024	-	-	-	-	-	-	-	276,087	324,196	(319,740)	280,543	\$ 475,834
2025	-	-	-	-	-	-	-	276,087	324,196	(319,740)	280,543	280,543
2026	-	-	-	-	-	-	-	276,087	324,196	(319,740)	280,543	280,543
2027	-	-	-	-	-	-	-	86,747	278,033	(319,740)	45,040	45,040
2028	-	-	-	-	-	-	-	-	-	(319,740)	(319,740)	(319,740)
Thereafter	-	-	-	-	-	-	-	-	-	(91,095)	(91,095)	(91,095)
	\$ -	\$ -	\$ -	\$ 2,258,668	\$ -	\$ -	\$ -	\$ 1,743,269	\$ 1,899,013	\$ (2,009,535)	\$ 3,891,415	



History of Deferred Outflows and Inflows of Resources by Source

Fiscal Year Ended December 31, 2023 (continued)

Net Difference between projected and actual earnings on pension plan investments - Net (inflows)/outflows of resources

Recognition Period	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	
Total	\$ 626,833	\$ 2,022,635	\$ 138,916	\$ (1,759,558)	\$ 3,092,625	\$ (3,228,107)	\$ (1,240,511)	\$ (3,843,928)	\$ 5,933,942	\$ (2,664,963)		
2014	125,367										125,367	
2015	125,367	404,527									529,894	
2016	125,367	404,527	27,783								557,677	
2017	125,367	404,527	27,783	(351,912)							205,765	
2018	125,365	404,527	27,783	(351,912)	618,525						824,288	
2019	-	404,527	27,783	(351,912)	618,525	(645,621)					53,302	
2020	-	-	27,784	(351,912)	618,525	(645,621)	(248,102)				(599,326)	
2021	-	-	-	(351,910)	618,525	(645,621)	(248,102)	(768,786)			(1,395,894)	
2022	-	-	-	-	618,525	(645,621)	(248,102)	(768,786)	1,186,788		142,804	
2023	-	-	-	-	-	(645,623)	(248,102)	(768,786)	1,186,788	(532,993)	(1,008,716)	
2024	-	-	-	-	-	-	(248,103)	(768,786)	1,186,788	(532,993)	(363,094)	\$ (357,277)
2025	-	-	-	-	-	-	-	(768,784)	1,186,788	(532,993)	(114,989)	
2026	-	-	-	-	-	-	-	-	1,186,790	(532,993)	653,797	
2027	-	-	-	-	-	-	-	-	-	(532,991)	(532,991)	
2028	-	-	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	-	-	
	\$ 626,833	\$ 2,022,635	\$ 138,916	\$ (1,759,558)	\$ 3,092,625	\$ (3,228,107)	\$ (1,240,511)	\$ (3,843,928)	\$ 5,933,942	\$ (2,664,963)	\$ (922,116)	

Total net differences from all sources - Net (inflows)/outflows of resources

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	
Total	\$ 626,833	\$ 1,650,527	\$ (90,366)	\$ (121,845)	\$ 3,276,562	\$ (3,340,265)	\$ (15,502)	\$ (2,248,029)	\$ 7,174,467	\$ (5,147,524)		
2014	125,367										125,367	
2015	125,367	356,764									482,131	
2016	125,367	356,764	(3,321)								478,810	
2017	125,367	356,764	(3,321)	(109,873)							368,937	
2018	125,365	356,764	(3,321)	(109,873)	645,676						1,014,611	
2019	-	356,764	(3,321)	(109,873)	645,676	(662,479)					226,767	
2020	-	(47,763)	(3,320)	(109,873)	645,676	(662,479)	(69,805)				(247,564)	
2021	-	(47,763)	(31,104)	(109,871)	645,676	(662,479)	(69,805)	(516,038)			(791,384)	
2022	-	(37,767)	(31,104)	242,039	645,676	(662,479)	(69,805)	(516,038)	1,398,568		969,090	
2023	-	-	(11,554)	185,479	27,151	(662,481)	(69,805)	(516,038)	1,398,568	(927,997)	(576,677)	
2024	-	-	-	-	21,031	(16,858)	(69,806)	(516,038)	1,398,568	(927,997)	(111,100)	\$ (285,230)
2025	-	-	-	-	-	(11,010)	178,297	(516,036)	1,398,568	(927,997)	121,822	
2026	-	-	-	-	-	-	155,227	252,748	1,398,570	(927,997)	878,548	
2027	-	-	-	-	-	-	-	79,411	181,625	(927,995)	(666,959)	
2028	-	-	-	-	-	-	-	-	-	(395,004)	(395,004)	
Thereafter	-	-	-	-	-	-	-	-	-	(112,537)	(112,537)	
	\$ 626,833	\$ 1,650,527	\$ (90,366)	\$ (121,845)	\$ 3,276,562	\$ (3,340,265)	\$ (15,502)	\$ (2,248,029)	\$ 7,174,467	\$ (5,147,524)	\$ 1,764,858	



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 2023

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 1,061,533	\$ 629,494	\$ 432,039
2. Due to Assets	1,186,788	2,195,504	(1,008,716)
3. Total	\$ 2,248,321	\$ 2,824,998	\$ (576,677)

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 205,448	\$ 309,754	\$ (104,306)
2. Assumption Changes	856,085	319,740	536,345
3. Net Difference between projected and actual earnings on pension plan investments	1,186,788	2,195,504	(1,008,716)
4. Total	\$ 2,248,321	\$ 2,824,998	\$ (576,677)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 532,852	\$ 936,639	\$ (403,787)
2. Assumption Changes	2,165,629	1,689,795	475,834
3. Net Difference between projected and actual earnings on pension plan investments	3,560,366	3,917,643	(357,277)
4. Total	\$ 6,258,847	\$ 6,544,077	\$ (285,230)

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending December 31	Net Deferred Outflows of Resources
2024	\$ (111,100)
2025	121,822
2026	878,548
2027	(666,959)
2028	(395,004)
Thereafter	(112,537)
Total	\$ (285,230)



Statement of Fiduciary Net Position as of December 31, 2023

	2023
Assets	
Cash and Deposits	\$ 2,265,737
Receivables	
Accounts Receivable - Sale of Investments	\$ 1,027,053
Accrued Interest and Other Dividends	89,271
Contributions	0
Accounts Receivable - Other	2,660,124
Total Receivables	\$ 3,776,448
Investments	
Fixed Income	\$ 7,030,380
Equities	20,900,681
Private Markets	5,746,153
Marketable Alternatives	8,353,117
Security Lending Collateral	1,254,493
Capital Assets, at Cost, Net of Accumulated Depreciation	9,810
Total Investments	\$ 43,294,634
Total Assets	\$ 49,336,819
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 4,063,245
Accrued Expenses	72,997
Accounts Payable - Other	0
Total Liabilities	\$ 4,136,242
Net Position Restricted for Pensions	\$ 45,200,577

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2023

	2023
Additions	
Contributions	
Employer	\$ 1,258,171
Employee	799,521
Other - Employer	64
Other - Employee	0
Total Contributions	\$ 2,057,756
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 4,734,871
Interest and Dividends	983,388
Less Investment Expense	(326,781)
Net Investment Income	\$ 5,391,478
Other	\$ 0
Total Additions	\$ 7,449,234
Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 2,577,048
Pension Plan Administrative Expense	41,723
Other	3,138
Total Deductions	\$ 2,621,909
Net Increase in Net Position	\$ 4,827,325
Net Position Restricted for Pensions	
Beginning of Year	\$ 40,373,252
End of Year	\$ 45,200,577

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Judicial Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Schedule of Changes in Net Pension Liability and Related Ratios

Current Reporting Period

Fiscal Year Ended December 31, 2023

A. Total pension liability	
1. Service cost	\$ 2,360,406
2. Interest on the total pension liability	2,780,674
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	(473,026)
5. Changes of assumptions	(2,009,535)
6. Benefit payments, including refunds of employee contributions	(2,577,048)
7. Net change in total pension liability	81,471
8. Total pension liability – beginning	44,459,652
9. Total pension liability – ending	\$ 44,541,123
B. Plan fiduciary net position	
1. Contributions – employer	\$ 1,258,235
2. Contributions – employee	799,521
3. Net investment income	5,391,478
4. Benefit payments, including refunds of employee contributions	(2,577,048)
5. Pension plan administrative expense	(41,723)
6. Other	(3,138)
7. Net change in plan fiduciary net position	4,827,325
8. Plan fiduciary net position – beginning	40,373,252
9. Plan fiduciary net position – ending	\$ 45,200,577
C. Net pension liability	\$ (659,454)
D. Plan fiduciary net position as a percentage of the total pension liability	101.48 %
E. Covered-employee payroll	\$ 8,433,335
F. Net pension liability as a percentage of covered-employee payroll	(7.82)%

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending December 31,	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability										
Service cost	\$ 2,360,406	\$ 2,110,197	\$ 2,006,844	\$ 1,713,172	\$ 1,529,896	\$ 1,509,964	\$ 1,470,668	\$ 1,263,270	\$ 1,263,278	\$ 1,186,595
Interest on the total pension liability	2,780,674	2,717,927	2,592,567	2,393,270	2,168,200	2,037,989	1,880,909	1,793,779	1,659,184	1,539,910
Changes of benefit terms	0	0	0	0	0	0	0	0	0	0
Difference between expected and actual experience	(473,026)	(658,488)	(147,370)	1,225,009	(112,158)	183,937	(620,955)	(229,282)	(372,108)	0
Changes of assumptions	(2,009,535)	1,899,013	1,743,269	0	0	0	2,258,668	0	0	0
Benefit payments, including refunds of employee contributions	(2,577,048)	(2,359,700)	(1,943,586)	(1,878,084)	(1,720,417)	(1,454,953)	(1,166,423)	(981,321)	(931,621)	(775,805)
Net change in total pension liability	81,471	3,708,949	4,251,724	3,453,367	1,865,521	2,276,937	3,822,867	1,846,446	1,618,733	1,950,700
Total pension liability - beginning	44,459,652	40,750,703	36,498,979	33,045,612	31,180,091	28,903,154	25,080,287	23,233,841	21,615,108	19,664,408
Total pension liability - ending (a)	\$ 44,541,123	\$ 44,459,652	\$ 40,750,703	\$ 36,498,979	\$ 33,045,612	\$ 31,180,091	\$ 28,903,154	\$ 25,080,287	\$ 23,233,841	\$ 21,615,108
Plan fiduciary net position										
Employer contributions	\$ 1,258,235	\$ 1,191,503	\$ 1,171,758	\$ 1,135,182	\$ 1,060,477	\$ 960,478	\$ 949,300	\$ 925,971	\$ 920,867	\$ 916,598
Employee contributions	799,521	757,596	745,064	721,821	1,028,339	610,818	603,602	588,791	585,545	582,831
Pension plan net investment income	5,391,478	(2,970,950)	6,389,711	3,612,442	5,224,148	(1,038,644)	3,549,526	1,679,033	(228,304)	1,038,134
Benefit payments, including refunds of employee contributions	(2,577,048)	(2,359,700)	(1,943,586)	(1,878,084)	(1,720,417)	(1,454,953)	(1,166,423)	(981,321)	(931,621)	(775,805)
Pension plan administrative expense	(41,723)	(37,872)	(35,804)	(32,231)	(27,764)	(28,405)	(25,315)	(22,090)	(17,833)	(17,117)
Other	(3,138)	(2,539)	(1,347)	(1,283)	(1,284)	(1,146)	(2,313)	(1,128)	(1,072)	(244)
Net change in plan fiduciary net position	4,827,325	(3,421,962)	6,325,796	3,557,847	5,563,499	(951,852)	3,908,377	2,189,256	327,582	1,744,397
Plan fiduciary net position - beginning	40,373,252	43,795,214	37,469,418	33,911,571	28,348,072	29,299,924	25,391,547	23,202,291	22,874,709	21,130,312
Plan fiduciary net position - ending (b)	\$ 45,200,577	\$ 40,373,252	\$ 43,795,214	\$ 37,469,418	\$ 33,911,571	\$ 28,348,072	\$ 29,299,924	\$ 25,391,547	\$ 23,202,291	\$ 22,874,709
Net pension liability - ending (a) - (b)	\$ (659,454)	\$ 4,086,400	\$ (3,044,511)	\$ (970,439)	\$ (865,959)	\$ 2,832,019	\$ (396,770)	\$ (311,260)	\$ 31,550	\$ (1,259,601)
Plan fiduciary net position as a percentage of total pension liability	101.48 %	90.81 %	107.47 %	102.66 %	102.62 %	90.92 %	101.37 %	101.24 %	99.86 %	105.83 %
Covered-employee payroll	\$ 8,433,335	\$ 8,194,423	\$ 7,886,295	\$ 7,410,536	\$ 6,602,303	\$ 6,558,029	\$ 6,386,001	\$ 6,384,628	\$ 6,363,028	\$ 5,989,181
Projected Valuation Payroll	\$ 8,749,585	\$ 8,501,713	\$ 8,182,031	\$ 7,706,958	\$ 6,866,395	\$ 6,820,351	\$ 6,641,441	\$ 6,624,052	\$ 6,601,641	\$ 6,213,775
Net pension liability as a percentage of covered-employee payroll	(7.82)%	49.87 %	(38.61)%	(13.10)%	(13.12)%	43.18 %	(6.21)%	(4.88)%	0.50 %	(21.03)%

Notes to Schedule:

For 2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016 and 2015, "Other" changes to Plan Fiduciary Net Position includes other funding sources and depreciation expenses.
For 2014, "Other" changes also may include member redeposits and member service purchase contributions.



Schedules of Required Supplementary Information

Schedule of Net Pension Liability Multiyear

FY Ending December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	\$ 21,615,108	\$ 22,874,709	\$ (1,259,601)	105.83 %	\$ 5,989,181	(21.03)%
2015	23,233,841	23,202,291	31,550	99.86 %	6,363,028	0.50 %
2016	25,080,287	25,391,547	(311,260)	101.24 %	6,384,628	(4.88)%
2017	28,903,154	29,299,924	(396,770)	101.37 %	6,386,001	(6.21)%
2018	31,180,091	28,348,072	2,832,019	90.92 %	6,558,029	43.18 %
2019	33,045,612	33,911,571	(865,959)	102.62 %	6,602,303	(13.12)%
2020	36,498,979	37,469,418	(970,439)	102.66 %	7,410,536	(13.10)%
2021	40,750,703	43,795,214	(3,044,511)	107.47 %	7,886,295	(38.61)%
2022	44,459,652	40,373,252	4,086,400	90.81 %	8,194,423	49.87 %
2023	44,541,123	45,200,577	(659,454)	101.48 %	8,433,335	(7.82)%

* Covered payroll is the amount in force as of the valuation date and likely differs from the actual payroll paid during the year.

Schedule of Contributions Multiyear Last 10 Fiscal Years

FY Ending December 31,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	\$ 596,723	\$ 916,598	\$ (319,875)	\$ 5,989,181	15.30 %
2015	589,177	920,867	(331,690)	6,363,028	14.47 %
2016	579,926	925,971	(346,045)	6,384,628	14.50 %
2017	543,468	949,263	(405,795)	6,386,001	14.86 %
2018	909,557	960,478	(50,921)	6,558,029	14.65 %
2019	986,724	1,060,477	(73,753)	6,602,303	16.06 %
2020	1,176,110	1,135,182	40,928	7,410,536	15.32 %
2021	1,197,434	1,171,758	25,676	7,886,295	14.86 %
2022	1,440,301	1,191,503	248,798	8,194,423	14.54 %
2023	1,465,658	1,258,235	207,423	8,433,335	14.92 %

* Covered payroll is the amount in force as of the valuation date and likely differs from the actual payroll paid during the year.

Notes to Schedule of Contributions

Valuation Date: January 1, 2023
Notes Actuarially determined contribution rates are calculated as of July 1 each year for implementation the following fiscal year.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	8 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	3.75% per annum
Payroll Growth Rate	3.75%
Cost-of-Living Increase	0.00%
Investment Rate of Return	6.80%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2022 valuation pursuant to an experience study of the period 2016 - 2020.
Post-Retirement Mortality	Pub-2010 General Healthy Annuitant Mortality Table, amount-weighted, fully generational, projected with the MP-2020 Ultimate Scale Males: No set back with a multiplier of 100% Females: No set back with a multiplier of 103%
Pre-Retirement Mortality	Pub-2010 General Employee Mortality Table, amount-weighted, fully generational, projected with the MP-2020 Ultimate Scale Males: No set back with a multiplier of 100% Females: No set back with a multiplier of 100%

Other Information:

Notes There were no benefit changes during the year.
The employer is currently contributing at the rate of 14.50% of salary. Employees are currently contributing at the rate of 9.22% of salary. Effective July 1, 2024, employee contribution rates will increase to 11.47%.
The roll-forward methodology employed for purposes of the GASB disclosures is based on generally accepted actuarial methods.

Schedule of Investment Returns Multiyear Last 10 Fiscal Years

<u>FY Ending December 31,</u>	<u>Annual Return¹</u>
2014	4.70 %
2015	(0.26)%
2016	7.60 %
2017	14.20 %
2018	(3.52)%
2019	18.72 %
2020	11.03 %
2021	17.19 %
2022	(6.99)%
2023	13.84 %

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

SECTION D

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Judicial Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

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 an expected rate of return on pension plan investments of 6.80% and a municipal bond rate of 3.77%. 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 statutory required contribution rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments 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.

Sensitivity of Results

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 6.80%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

1% Decrease	Current Single Discount Rate Assumption	1% Increase
5.80%	6.80%	7.80%
\$ 3,869,175	\$ (659,454)	\$ (4,548,598)

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	35
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	5
Active Plan Members	<u>55</u>
Total Plan Members	95

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

Covered Members	Any justice of the supreme court, district judge appointed or circuit court judge appointed to any of those offices on or after July 1, 1998, or who elects to participate in the judicial retirement program under this act in accordance with W.S. 9-3-713.
Final Average Salary	Employee's average annual salary for the highest paid three continuous years of service.
Form of Payment	Monthly benefit for life. Upon death, 50% of the benefit continues to be paid to the beneficiary.
Service Retirement	
Eligibility	Age 70 with continuous service from appointment, age 65 with four or more years of service, or age 60 with 20 or more years of service.
Monthly Benefit	Highest Average Salary times the sum of the following: <ul style="list-style-type: none">• 4% for each of the first five years of service,• 3% for each year from and including the sixth year through the fifteenth year of service,• 2% for each year from and including the sixteenth year through the twentieth year of service,• 1% for each year thereafter.
Vesting	Any employee who has left employment with four or more years of service, and who has not withdrawn accumulated contributions, is eligible to receive the above benefit or can elect to receive a lump-sum refund of contributions with interest. An employee who terminates with less than four years of service and has not served continuously from the date of appointment to the age of 70 is only eligible for the lump-sum benefit.
Early Retirement	A member who is at least age 55 with four or more years of service may retire with the benefits described above reduced five percent for each year of retirement prior to age 65.
Disability Retirement	
Eligibility	Retirement by reason of permanent disability after completion of at least 10 years of service.
Monthly Benefit	Service retirement benefit determined as of the disability retirement date.

Pre-Retirement Death

Eligibility No age or service requirements.

Benefit A lump sum equal to two times the employee contributions with interest. If the employee is vested, the beneficiary can elect, in lieu of this lump sum, to receive a monthly benefit equal to the actuarial equivalent of the retirement benefit that would be due the employee as if the member had terminated on the date of death.

Contributions

Employee 9.22% of salary. Effective July 1, 2024, the employee contribution rate will increase to 11.47% of salary.

Employer 14.50% of salary.

Interest 3.00% annually.

Cost-of-Living Improvements

W.S. 9-3-454 prohibits benefit changes, including cost-of-living increases, unless the funded ratio stays above 100% plus a margin for adverse experience throughout the life of the benefit change.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Actuarial Assumptions and Methods

The following methods and assumptions were used in preparing the January 1, 2023 actuarial valuation for GASB reporting purposes and are based on assumptions adopted by the Board at the November 17, 2021 and the February 17, 2022 meetings.

1. Valuation Date

The valuation date for any given year is January 1st, the first day of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

2. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal (EAN) actuarial cost method, amortized as a level percent of payroll. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) the rate that will amortize the unfunded actuarial accrued liability (UAAL).

- a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 6.80%), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable for the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Fund on account of the present group of participants and beneficiaries.
- b. The employer contributions required to support the benefits of the Fund are determined using a level funding approach, and consist of a normal cost contribution and an unfunded accrued liability contribution.
- c. The normal cost contribution is determined using the "entry age normal" actuarial cost method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his/her anticipated covered service, would be required to meet the cost of all benefits payable on his/her behalf based on the benefits provisions applicable for the individual member.

- d. The unfunded actuarial accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 15 years from the valuation date. The Board's policy consists of amortizing the unfunded liability as of January 1, 2018, over a closed 15 year period with each subsequent amortization base created as a result of year to year experience changes over individual 15 year closed periods. The current year amortization base is determined by taking the current unfunded liability less the outstanding amounts of prior year bases.

3. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income, with interest, dividends, and other income recognized immediately. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. An adjustment is made if the actuarial value is not within 20% of the Market Value. For any year following a year in which the 20% of market value adjustment was applied, the actuarial value is determined as if the adjustment was not applied in the previous year.

4. Economic Assumptions

a. Investment return

6.80% per year, compounded annually, composed of an assumed 2.25% inflation rate and a 4.55% net real rate of return. This rate represents the assumed return, net of investment expenses.

b. Salary increase rate

3.75% per annum

c. Payroll growth rate

In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.75% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

d. Cost-of-Living adjustment

No cost-of-living adjustment is assumed since the policy for providing the benefit requires Board approval to make the recommendation to the Joint Appropriations Committee and the funded level of the plan shows a cost-of-living requirement would not be permitted.

5. Demographic Assumptions

a. Mortality

Healthy Pre-Retirement Mortality:

Pub-2010 General Active Mortality Table, amount weighted, fully generational, projected with the MP-2020 Ultimate Scale

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 100%

Healthy Post-Retirement Mortality:

Pub-2010 General Healthy Annuitant Mortality Table, amount weighted, fully generational, projected with the MP-2020 Ultimate Scale

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 103%

Disabled Mortality

Pub-2010 General Disabled Retiree Mortality Table, amount weighted, fully generational, projected with the MP-2020 Ultimate Scale

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 100%

Age	Pre-Retirement		Post-Retirement		Disabled	
	Projected to 2023 using the MP-2020 Ultimate Scale					
	Male	Female	Male	Female	Male	Female
20	0.03%	0.01%	0.03%	0.01%	0.35%	0.20%
25	0.02%	0.01%	0.02%	0.01%	0.23%	0.14%
30	0.03%	0.01%	0.03%	0.01%	0.30%	0.22%
35	0.04%	0.02%	0.04%	0.02%	0.38%	0.34%
40	0.06%	0.03%	0.06%	0.03%	0.54%	0.53%
45	0.08%	0.05%	0.09%	0.06%	0.84%	0.83%
50	0.12%	0.07%	0.25%	0.19%	1.35%	1.24%
55	0.18%	0.10%	0.36%	0.25%	1.77%	1.46%
60	0.27%	0.16%	0.52%	0.33%	2.10%	1.64%
65	0.39%	0.25%	0.77%	0.53%	2.56%	1.90%
70	0.60%	0.42%	1.30%	0.93%	3.32%	2.43%
75			2.29%	1.66%	4.46%	3.44%
80			4.13%	3.00%	6.36%	5.20%
85			7.67%	5.70%	9.65%	8.33%
90			13.51%	10.90%	14.97%	12.59%
95			21.73%	18.41%	22.42%	18.32%
100			31.36%	27.89%	31.36%	27.08%

b. Disability

Age	Disability	
	Male	Female
20	0.01%	0.01%
25	0.01%	0.01%
30	0.01%	0.01%
35	0.01%	0.01%
40	0.01%	0.01%
45	0.01%	0.01%
50	0.03%	0.03%
55	0.05%	0.05%
60	0.07%	0.07%

c. Withdrawal

No terminations are assumed to occur during the year.

d. Retirement Rates

Age	Retirement	
	Unreduced	Reduced
50-59	2.00%	2.00%
60	25.00%	15.00%
61-64	15.00%	10.00%
65	100.00%	15.00%
66		15.00%
67		100.00%

6. Other Assumptions

- a. Percent married: 85.00% of employees are assumed to be married. (No beneficiaries other than the spouse assumed.)
- b. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- c. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
- d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- e. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available, which for this plan is age 65.
- f. No benefit amount data is available for members entitled to deferred benefits. The benefit is estimated using the final average compensation and service provided by WRS.
- g. There will be no recoveries once disabled.
- h. No surviving spouse will remarry.
- i. Administrative expenses: Assumed to be the average of the prior two years, with each year projected at 2.50% to the valuation date.
- j. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pay represents amount paid to members during the year ended on the valuation date.
- k. Decrement timing: Decrements of all types are assumed to occur mid-year.
- l. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- m. Decrement relativity: Decrement rates are converted to probabilities in order to account for multiple decrements.
- n. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in the report, and the actual payroll payable at the time contributions are made.
- o. Benefit Service: All members are assumed to accrue one year of service each year. Exact fractional service is used to determine the amount of benefit payable.

Experience Analysis

An experience study was conducted on behalf of all WRS' plans covering the five year period ending December 31, 2020. That study provided a detailed analysis concerning the development of the long term inflation rate, real rate of return and discount rate. The study also analyzed each major actuarial assumption (e.g. mortality, salary increases, retirement, termination and disability) and proposed assumptions consistent with the findings. For further information on the experience study and related assumption recommendation, the reader is directed to request the December 31, 2020 Wyoming Retirement System Experience Study.

SECTION G

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 Federal Reserve) 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 3.77%; 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 **Projection of Plan 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 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.

Single Discount Rate Development Projection of Contributions Ending December 31 for 2023 to 2072

Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)=max(0,(c)-(a))	Total Employee Payroll (c)	Contributions from Current Employees (d)	Employer Contributions for Current Employees (e)=(a)*ER%	Employer Contributions Related to Payroll of Future Employees (f) = (b)*netER%	Total Contributions (g)=(d)+(e)+(f)
2023	\$ 8,432,551	\$ 317,034	\$ 8,749,585	\$ 799,521	\$ 1,258,171	\$ -	\$ 2,057,692
2024	8,046,905	1,030,790	9,077,695	832,452	1,166,801	-	1,999,253
2025	7,617,808	1,800,301	9,418,109	873,763	1,104,582	-	1,978,345
2026	7,269,885	2,501,403	9,771,288	833,856	1,054,133	-	1,887,989
2027	6,998,483	3,139,228	10,137,711	802,726	1,014,780	-	1,817,506
2028	6,770,688	3,747,187	10,517,875	776,598	981,750	-	1,758,348
2029	6,511,866	4,400,429	10,912,295	746,911	944,221	-	1,691,132
2030	6,198,920	5,122,586	11,321,506	711,016	898,843	-	1,609,859
2031	6,044,132	5,701,930	11,746,062	693,262	876,399	-	1,569,661
2032	5,977,354	6,209,185	12,186,539	685,602	866,716	-	1,552,318
2033	5,825,985	6,817,549	12,643,534	668,240	844,768	-	1,513,008
2034	5,641,843	7,475,824	13,117,667	647,119	818,067	-	1,465,186
2035	5,455,781	8,153,799	13,609,580	625,778	791,088	-	1,416,866
2036	5,297,521	8,822,418	14,119,939	607,626	768,141	-	1,375,767
2037	5,110,635	9,538,802	14,649,437	586,190	741,042	-	1,327,232
2038	4,766,584	10,432,207	15,198,791	546,727	691,155	-	1,237,882
2039	4,205,724	11,563,022	15,768,746	482,397	609,830	-	1,092,227
2040	3,712,047	12,648,027	16,360,074	425,772	538,247	-	964,019
2041	3,394,508	13,579,069	16,973,577	389,350	492,204	-	881,554
2042	3,023,295	14,586,791	17,610,086	346,772	438,378	-	785,150
2043	2,676,780	15,593,684	18,270,464	307,027	388,133	-	695,160
2044	2,196,641	16,758,965	18,955,606	251,955	318,513	-	570,468
2045	1,771,537	17,894,904	19,666,441	203,195	256,873	-	460,068
2046	1,504,953	18,898,980	20,403,933	172,618	218,218	382	391,218
2047	1,217,014	19,952,066	21,169,080	139,592	176,467	6,045	322,104
2048	1,018,829	20,944,092	21,962,921	116,860	147,730	15,360	279,950
2049	876,687	21,909,844	22,786,531	100,556	127,120	22,813	250,489
2050	817,997	22,823,029	23,641,026	93,824	118,610	33,163	245,597
2051	654,864	23,872,700	24,527,564	75,113	94,955	43,436	213,504
2052	504,001	24,943,347	25,447,348	57,809	73,080	46,984	177,873
2053	394,793	26,006,831	26,401,624	45,283	57,245	55,609	158,137
2054	268,109	27,123,576	27,391,685	30,752	38,876	60,195	129,823
2055	235,607	28,183,266	28,418,873	27,024	34,163	69,468	130,655
2056	206,990	29,277,591	29,484,581	23,742	30,014	78,316	132,072
2057	181,795	30,408,458	30,590,253	20,852	26,360	86,667	133,879
2058	87,772	31,649,615	31,737,387	10,067	12,727	95,670	118,464
2059	-	32,927,539	32,927,539	-	-	102,026	102,026
2060	-	34,162,322	34,162,322	-	-	112,443	112,443
2061	-	35,443,409	35,443,409	-	-	122,311	122,311
2062	-	36,772,537	36,772,537	-	-	130,646	130,646
2063	-	38,151,507	38,151,507	-	-	137,654	137,654
2064	-	39,582,189	39,582,189	-	-	145,091	145,091
2065	-	41,066,521	41,066,521	-	-	151,385	151,385
2066	-	42,606,516	42,606,516	-	-	156,510	156,510
2067	-	44,204,260	44,204,260	-	-	160,372	160,372
2068	-	45,861,920	45,861,920	-	-	162,762	162,762
2069	-	47,581,742	47,581,742	-	-	167,052	167,052
2070	-	49,366,057	49,366,057	-	-	170,700	170,700
2071	-	51,217,284	51,217,284	-	-	174,600	174,600
2072	-	53,137,932	53,137,932	-	-	177,713	177,713



Single Discount Rate Development Projection of Contributions Ending December 31 for 2073 to 2122 (concluded)

Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)=max(0,(c)-(a))	Total Employee Payroll (c)	Contributions from Current Employees (d)	Employer Contributions for Current Employees (e)=(a)*ER%	Employer Contributions Related to Payroll of Future Employees (f) = (b)*netER%	Total Contributions (g)=(d)+(e)+(f)
2073	\$ -	\$ 55,130,604	\$ 55,130,604	\$ -	\$ -	\$ 182,264	\$ 182,264
2074	-	57,198,002	57,198,002	-	-	188,571	188,571
2075	-	59,342,927	59,342,927	-	-	194,732	194,732
2076	-	61,568,287	61,568,287	-	-	202,242	202,242
2077	-	63,877,098	63,877,098	-	-	208,934	208,934
2078	-	66,272,489	66,272,489	-	-	218,038	218,038
2079	-	68,757,707	68,757,707	-	-	227,332	227,332
2080	-	71,336,121	71,336,121	-	-	236,687	236,687
2081	-	74,011,226	74,011,226	-	-	246,960	246,960
2082	-	76,786,647	76,786,647	-	-	257,156	257,156
2083	-	79,666,146	79,666,146	-	-	268,483	268,483
2084	-	82,653,626	82,653,626	-	-	279,665	279,665
2085	-	85,753,137	85,753,137	-	-	291,360	291,360
2086	-	88,968,880	88,968,880	-	-	302,888	302,888
2087	-	92,305,213	92,305,213	-	-	314,663	314,663
2088	-	95,766,658	95,766,658	-	-	327,164	327,164
2089	-	99,357,908	99,357,908	-	-	339,881	339,881
2090	-	103,083,830	103,083,830	-	-	352,603	352,603
2091	-	106,949,474	106,949,474	-	-	365,011	365,011
2092	-	110,960,079	110,960,079	-	-	378,160	378,160
2093	-	115,121,082	115,121,082	-	-	391,744	391,744
2094	-	119,438,123	119,438,123	-	-	405,694	405,694
2095	-	123,917,053	123,917,053	-	-	419,910	419,910
2096	-	128,563,942	128,563,942	-	-	434,679	434,679
2097	-	133,385,090	133,385,090	-	-	450,258	450,258
2098	-	138,387,031	138,387,031	-	-	466,487	466,487
2099	-	143,576,545	143,576,545	-	-	483,627	483,627
2100	-	148,960,665	148,960,665	-	-	501,270	501,270
2101	-	154,546,690	154,546,690	-	-	520,011	520,011
2102	-	160,342,191	160,342,191	-	-	539,670	539,670
2103	-	166,355,023	166,355,023	-	-	560,172	560,172
2104	-	172,593,336	172,593,336	-	-	581,607	581,607
2105	-	179,065,586	179,065,586	-	-	603,744	603,744
2106	-	185,780,545	185,780,545	-	-	626,976	626,976
2107	-	192,747,315	192,747,315	-	-	651,024	651,024
2108	-	199,975,339	199,975,339	-	-	675,984	675,984
2109	-	207,474,414	207,474,414	-	-	701,751	701,751
2110	-	215,254,705	215,254,705	-	-	728,408	728,408
2111	-	223,326,756	223,326,756	-	-	756,060	756,060
2112	-	231,701,509	231,701,509	-	-	784,590	784,590
2113	-	240,390,316	240,390,316	-	-	814,134	814,134
2114	-	249,404,953	249,404,953	-	-	844,594	844,594
2115	-	258,757,639	258,757,639	-	-	876,141	876,141
2116	-	268,461,050	268,461,050	-	-	908,811	908,811
2117	-	278,528,339	278,528,339	-	-	942,663	942,663
2118	-	288,973,152	288,973,152	-	-	977,723	977,723
2119	-	299,809,645	299,809,645	-	-	1,014,026	1,014,026
2120	-	311,052,507	311,052,507	-	-	1,051,733	1,051,733
2121	-	322,716,976	322,716,976	-	-	1,090,892	1,090,892
2122	-	334,818,863	334,818,863	-	-	1,131,584	1,131,584



Single Discount Rate Development Projection of Plan Net Position Ending December 31 for 2023 to 2072

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.800%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2023	\$ 40,373,252	\$ 2,057,756	\$ 2,577,048	\$ 44,861	\$ 5,391,478	\$ 45,200,577
2024	45,200,577	1,999,253	2,770,749	39,034	3,046,534	47,436,581
2025	47,436,581	1,978,345	3,036,971	40,498	3,188,932	49,526,389
2026	49,526,389	1,887,989	3,227,360	42,017	3,321,600	51,466,601
2027	51,466,601	1,817,506	3,378,472	43,592	3,446,071	53,308,114
2028	53,308,114	1,758,348	3,510,176	45,227	3,564,857	55,075,916
2029	55,075,916	1,691,132	3,672,800	46,923	3,677,324	56,724,649
2030	56,724,649	1,609,859	3,901,867	48,682	3,779,001	58,162,961
2031	58,162,961	1,569,661	3,995,786	50,508	3,872,261	59,558,588
2032	59,558,588	1,552,318	4,034,865	52,402	3,965,213	60,988,852
2033	60,988,852	1,513,008	4,113,651	54,367	4,058,456	62,392,299
2034	62,392,299	1,465,186	4,204,535	56,406	4,149,184	63,745,728
2035	63,745,728	1,416,866	4,296,526	58,521	4,236,454	65,044,001
2036	65,044,001	1,375,767	4,411,803	60,716	4,319,434	66,266,683
2037	66,266,683	1,327,232	4,497,754	62,993	4,398,003	67,431,171
2038	67,431,171	1,237,882	4,655,428	65,355	4,468,848	68,417,118
2039	68,417,118	1,092,227	4,935,847	67,806	4,521,563	69,027,255
2040	69,027,255	964,019	5,163,772	70,348	4,551,057	69,308,211
2041	69,308,211	881,554	5,257,819	72,986	4,564,172	69,423,132
2042	69,423,132	785,150	5,377,093	75,723	4,564,682	69,320,148
2043	69,320,148	695,160	5,467,347	78,563	4,551,557	69,020,956
2044	69,020,956	570,468	5,626,235	81,509	4,521,630	68,405,310
2045	68,405,310	460,068	5,728,492	84,566	4,472,553	67,524,873
2046	67,524,873	391,218	5,733,596	87,737	4,410,104	66,504,861
2047	66,504,861	322,104	5,739,449	91,027	4,338,126	65,334,615
2048	65,334,615	279,950	5,683,223	94,441	4,258,906	64,095,806
2049	64,095,806	250,489	5,584,572	97,982	4,176,862	62,840,603
2050	62,840,603	245,597	5,431,926	101,656	4,096,326	61,648,944
2051	61,648,944	213,504	5,349,342	105,469	4,016,854	60,424,492
2052	60,424,492	177,873	5,250,312	109,424	3,935,580	59,178,208
2053	59,178,208	158,137	5,127,261	113,527	3,854,150	57,949,707
2054	57,949,707	129,823	5,010,018	117,784	3,773,443	56,725,172
2055	56,725,172	130,655	4,830,982	122,201	3,696,042	55,598,686
2056	55,598,686	132,072	4,649,567	126,784	3,625,402	54,579,809
2057	54,579,809	133,879	4,465,591	131,538	3,562,172	53,678,731
2058	53,678,731	118,464	4,330,747	136,471	3,504,728	52,834,705
2059	52,834,705	102,026	4,184,099	141,588	3,451,517	52,062,561
2060	52,062,561	112,443	3,973,609	146,898	3,406,221	51,460,718
2061	51,460,718	122,311	3,760,997	152,407	3,372,551	51,042,176
2062	51,042,176	130,646	3,546,067	158,122	3,351,366	50,819,998
2063	50,819,998	137,654	3,328,891	164,051	3,343,556	50,808,267
2064	50,808,267	145,091	3,095,315	170,203	3,350,612	51,038,452
2065	51,038,452	151,385	2,876,948	176,586	3,373,564	51,509,868
2066	51,509,868	156,510	2,659,408	183,208	3,412,845	52,236,607
2067	52,236,607	160,372	2,442,797	190,078	3,469,407	53,233,511
2068	53,233,511	162,762	2,228,777	197,206	3,544,195	54,514,484
2069	54,514,484	167,052	2,019,268	204,601	3,638,203	56,095,870
2070	56,095,870	170,700	1,808,157	212,274	3,752,663	57,998,802
2071	57,998,802	174,600	1,613,255	220,234	3,888,444	60,228,357
2072	60,228,357	177,713	1,430,777	228,493	4,045,984	62,792,784



Single Discount Rate Development Projection of Plan Net Position Ending December 31 for 2073 to 2122 (concluded)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.800%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2073	\$ 62,792,784	\$ 182,264	\$ 1,256,717	\$ 237,062	\$ 4,226,051	\$ 65,707,320
2074	65,707,320	188,571	1,096,769	245,951	4,429,502	68,982,673
2075	68,982,673	194,732	952,295	255,175	4,656,955	72,626,890
2076	72,626,890	202,242	821,010	264,744	4,909,083	76,652,461
2077	76,652,461	208,934	702,876	274,672	5,186,664	81,070,512
2078	81,070,512	218,038	597,670	284,972	5,490,570	85,896,477
2079	85,896,477	227,332	504,870	295,658	5,821,792	91,145,074
2080	91,145,074	236,687	423,713	306,745	6,181,353	96,832,656
2081	96,832,656	246,960	353,240	318,248	6,570,424	102,978,552
2082	102,978,552	257,156	292,389	330,183	6,990,322	109,603,458
2083	109,603,458	268,483	240,117	342,564	7,442,528	116,731,789
2084	116,731,789	279,665	195,453	355,411	7,928,692	124,389,282
2085	124,389,282	291,360	157,580	368,738	8,450,614	132,604,938
2086	132,604,938	302,888	125,720	382,566	9,010,267	141,409,807
2087	141,409,807	314,663	99,120	396,912	9,609,802	150,838,241
2088	150,838,241	327,164	77,147	411,797	10,251,590	160,928,051
2089	160,928,051	339,881	59,214	427,239	10,938,206	171,719,684
2090	171,719,684	352,603	44,754	443,260	11,672,410	183,256,684
2091	183,256,684	365,011	33,250	459,883	12,457,170	195,585,732
2092	195,585,732	378,160	24,241	477,128	13,295,710	208,758,232
2093	208,758,232	391,744	17,311	495,021	14,191,527	222,829,171
2094	222,829,171	405,694	12,088	513,584	15,148,371	237,857,564
2095	237,857,564	419,910	8,239	532,843	16,170,262	253,906,654
2096	253,906,654	434,679	5,472	552,825	17,261,519	271,044,555
2097	271,044,555	450,258	3,535	573,556	18,426,788	289,344,511
2098	289,344,511	466,487	2,218	595,064	19,671,053	308,884,769
2099	308,884,769	483,627	1,350	617,379	20,999,646	329,749,313
2100	329,749,313	501,270	796	640,531	22,418,270	352,027,526
2101	352,027,526	520,011	455	664,551	23,933,023	375,815,554
2102	375,815,554	539,670	251	689,471	25,550,440	401,215,942
2103	401,215,942	560,172	133	715,327	27,277,491	428,338,145
2104	428,338,145	581,607	69	742,151	29,121,623	457,299,155
2105	457,299,155	603,744	35	769,982	31,090,782	488,223,665
2106	488,223,665	626,976	17	798,856	33,193,461	521,245,229
2107	521,245,229	651,024	8	828,813	35,438,730	556,506,161
2108	556,506,161	675,984	4	859,894	37,836,269	594,158,516
2109	594,158,516	701,751	2	892,140	40,396,412	634,364,537
2110	634,364,537	728,408	1	925,595	43,130,194	677,297,544
2111	677,297,544	756,060	0	960,305	46,049,403	723,142,701
2112	723,142,701	784,590	-	996,316	49,166,623	772,097,598
2113	772,097,598	814,134	-	1,033,678	52,495,295	824,373,349
2114	824,373,349	844,594	-	1,072,441	56,049,768	880,195,271
2115	880,195,271	876,141	-	1,112,658	59,845,369	939,804,123
2116	939,804,123	908,811	-	1,154,383	63,898,468	1,003,457,019
2117	1,003,457,019	942,663	-	1,197,672	68,226,550	1,071,428,560
2118	1,071,428,560	977,723	-	1,242,585	72,848,285	1,144,011,983
2119	1,144,011,983	1,014,026	-	1,289,181	77,783,613	1,221,520,441
2120	1,221,520,441	1,051,733	-	1,337,526	83,053,833	1,304,288,481
2121	1,304,288,481	1,090,892	-	1,387,683	88,681,692	1,392,673,381
2122	1,392,673,381	1,131,584	-	1,439,721	94,691,486	1,487,056,730



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2023 to 2072

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected 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 All 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}
2023	\$ 40,373,252	\$ 2,577,048	\$ 2,577,048	\$ 0	\$ 2,493,658	\$ 0	\$ 2,493,658
2024	45,200,577	2,770,749	2,770,749	0	2,510,385	0	2,510,385
2025	47,436,581	3,036,971	3,036,971	0	2,576,396	0	2,576,396
2026	49,526,389	3,227,360	3,227,360	0	2,563,586	0	2,563,586
2027	51,466,601	3,378,472	3,378,472	0	2,512,752	0	2,512,752
2028	53,308,114	3,510,176	3,510,176	0	2,444,483	0	2,444,483
2029	55,075,916	3,672,800	3,672,800	0	2,394,882	0	2,394,882
2030	56,724,649	3,901,867	3,901,867	0	2,382,254	0	2,382,254
2031	58,162,961	3,995,786	3,995,786	0	2,284,266	0	2,284,266
2032	59,558,588	4,034,865	4,034,865	0	2,159,743	0	2,159,743
2033	60,988,852	4,113,651	4,113,651	0	2,061,718	0	2,061,718
2034	62,392,299	4,204,535	4,204,535	0	1,973,098	0	1,973,098
2035	63,745,728	4,296,526	4,296,526	0	1,887,890	0	1,887,890
2036	65,044,001	4,411,803	4,411,803	0	1,815,115	0	1,815,115
2037	66,266,683	4,497,754	4,497,754	0	1,732,657	0	1,732,657
2038	67,431,171	4,655,428	4,655,428	0	1,679,211	0	1,679,211
2039	68,417,118	4,935,847	4,935,847	0	1,667,002	0	1,667,002
2040	69,027,255	5,163,772	5,163,772	0	1,632,940	0	1,632,940
2041	69,308,211	5,257,819	5,257,819	0	1,556,817	0	1,556,817
2042	69,423,132	5,377,093	5,377,093	0	1,490,761	0	1,490,761
2043	69,320,148	5,467,347	5,467,347	0	1,419,273	0	1,419,273
2044	69,020,956	5,626,235	5,626,235	0	1,367,527	0	1,367,527
2045	68,405,310	5,728,492	5,728,492	0	1,303,728	0	1,303,728
2046	67,524,873	5,733,596	5,733,596	0	1,221,807	0	1,221,807
2047	66,504,861	5,739,449	5,739,449	0	1,145,182	0	1,145,182
2048	65,334,615	5,683,223	5,683,223	0	1,061,763	0	1,061,763
2049	64,095,806	5,584,572	5,584,572	0	976,904	0	976,904
2050	62,840,603	5,431,926	5,431,926	0	889,702	0	889,702
2051	61,648,944	5,349,342	5,349,342	0	820,389	0	820,389
2052	60,424,492	5,250,312	5,250,312	0	753,934	0	753,934
2053	59,178,208	5,127,261	5,127,261	0	689,386	0	689,386
2054	57,949,707	5,010,018	5,010,018	0	630,732	0	630,732
2055	56,725,172	4,830,982	4,830,982	0	569,469	0	569,469
2056	55,598,686	4,649,567	4,649,567	0	513,187	0	513,187
2057	54,579,809	4,465,591	4,465,591	0	461,499	0	461,499
2058	53,678,731	4,330,747	4,330,747	0	419,067	0	419,067
2059	52,834,705	4,184,099	4,184,099	0	379,098	0	379,098
2060	52,062,561	3,973,609	3,973,609	0	337,103	0	337,103
2061	51,460,718	3,760,997	3,760,997	0	298,751	0	298,751
2062	51,042,176	3,546,067	3,546,067	0	263,744	0	263,744
2063	50,819,998	3,328,891	3,328,891	0	231,827	0	231,827
2064	50,808,267	3,095,315	3,095,315	0	201,836	0	201,836
2065	51,038,452	2,876,948	2,876,948	0	175,652	0	175,652
2066	51,509,868	2,659,408	2,659,408	0	152,032	0	152,032
2067	52,236,607	2,442,797	2,442,797	0	130,757	0	130,757
2068	53,233,511	2,228,777	2,228,777	0	111,706	0	111,706
2069	54,514,484	2,019,268	2,019,268	0	94,761	0	94,761
2070	56,095,870	1,808,157	1,808,157	0	79,451	0	79,451
2071	57,998,802	1,613,255	1,613,255	0	66,374	0	66,374
2072	60,228,357	1,430,777	1,430,777	0	55,118	0	55,118



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2073 to 2122 (concluded)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected 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 All 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)
2073	\$ 62,792,784	\$ 1,256,717	\$ 1,256,717	\$ 0	\$ 45,330	\$ 0	\$ 45,330
2074	65,707,320	1,096,769	1,096,769	0	37,042	0	37,042
2075	68,982,673	952,295	952,295	0	30,115	0	30,115
2076	72,626,890	821,010	821,010	0	24,310	0	24,310
2077	76,652,461	702,876	702,876	0	19,487	0	19,487
2078	81,070,512	597,670	597,670	0	15,515	0	15,515
2079	85,896,477	504,870	504,870	0	12,272	0	12,272
2080	91,145,074	423,713	423,713	0	9,643	0	9,643
2081	96,832,656	353,240	353,240	0	7,528	0	7,528
2082	102,978,552	292,389	292,389	0	5,834	0	5,834
2083	109,603,458	240,117	240,117	0	4,486	0	4,486
2084	116,731,789	195,453	195,453	0	3,419	0	3,419
2085	124,389,282	157,580	157,580	0	2,581	0	2,581
2086	132,604,938	125,720	125,720	0	1,928	0	1,928
2087	141,409,807	99,120	99,120	0	1,423	0	1,423
2088	150,838,241	77,147	77,147	0	1,037	0	1,037
2089	160,928,051	59,214	59,214	0	745	0	745
2090	171,719,684	44,754	44,754	0	528	0	528
2091	183,256,684	33,250	33,250	0	367	0	367
2092	195,585,732	24,241	24,241	0	251	0	251
2093	208,758,232	17,311	17,311	0	168	0	168
2094	222,829,171	12,088	12,088	0	110	0	110
2095	237,857,564	8,239	8,239	0	70	0	70
2096	253,906,654	5,472	5,472	0	43	0	43
2097	271,044,555	3,535	3,535	0	26	0	26
2098	289,344,511	2,218	2,218	0	15	0	15
2099	308,884,769	1,350	1,350	0	9	0	9
2100	329,749,313	796	796	0	5	0	5
2101	352,027,526	455	455	0	3	0	3
2102	375,815,554	251	251	0	1	0	1
2103	401,215,942	133	133	0	1	0	1
2104	428,338,145	69	69	0	0	0	0
2105	457,299,155	35	35	0	0	0	0
2106	488,223,665	17	17	0	0	0	0
2107	521,245,229	8	8	0	0	0	0
2108	556,506,161	4	4	0	0	0	0
2109	594,158,516	2	2	0	0	0	0
2110	634,364,537	1	1	0	0	0	0
2111	677,297,544	0	0	0	0	0	0
2112	723,142,701	0	0	0	0	0	0
2113	772,097,598	0	0	0	0	0	0
2114	824,373,349	0	0	0	0	0	0
2115	880,195,271	0	0	0	0	0	0
2116	939,804,123	0	0	0	0	0	0
2117	1,003,457,019	0	0	0	0	0	0
2118	1,071,428,560	0	0	0	0	0	0
2119	1,144,011,983	0	0	0	0	0	0
2120	1,221,520,441	0	0	0	0	0	0
2121	1,304,288,481	0	0	0	0	0	0
2122	1,392,673,381	0	0	0	0	0	0
Totals					\$ 58,865,664	\$ 0	\$ 58,865,664



SECTION H

GLOSSARY OF TERMS

Glossary of Terms

Accrued Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Actuarial Accrued Liability (AAL)	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."
Actuarial Assumptions	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.
Actuarial Cost Method	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.
Actuarial Equivalent	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.
Actuarial Gain (Loss)	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.
Actuarial Present Value (APV)	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.
Actuarial Valuation	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.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	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

Amortization Method	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).
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	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.
Covered-Employee Payroll	The payroll of employees that are provided with pensions through the pension plan.
Deferred Inflows and Outflows	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.
Deferred Retirement Option Program (DROP)	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.

Glossary of Terms

Discount Rate

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.

Entry Age Actuarial Cost Method (EAN)

The EAN is a cost 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 ages(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.

Fiduciary Net Position

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

GASB

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

Money-Weighted Rate of Return

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.

Multiple-Employer Defined Benefit Pension Plan

A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

Municipal Bond Rate

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.

Net Pension Liability (NPL)

The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.



Glossary of Terms

Other Postemployment Benefits (OPEB)	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 healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
Total Pension Expense	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year:</p> <ol style="list-style-type: none">1. Service Cost2. Interest on the Total Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
Total Pension Liability (TPL)	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
Unfunded Actuarial Accrued Liability (UAAL)	The UAAL is the difference between actuarial accrued liability and valuation assets.
Valuation Assets	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.