

Wyoming Air Guard Firefighters 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 Air Guard Firefighters Retirement System

Dear Board Members:

This report provides information required by the Wyoming Air Guard Firefighters Retirement System (WRS) in connection with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and Statement No. 68 "Accounting and Financial Reporting for Pensions." 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 Nos. 67 and 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 Air Guard Firefighters 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 are based on 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 Air Guard Firefighters 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.

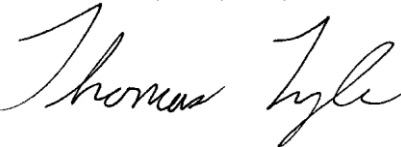
Paul T. Wood, Thomas A. Lyle, Dana Woolfrey, and Karli Fehrman are members of the American Academy of Actuaries (MAAA) and are experienced in performing valuations for public retirement systems. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.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

Respectfully submitted,

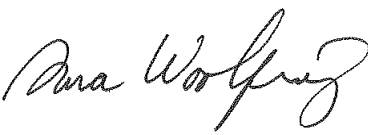
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SECTION A

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	20	
- Inactive, Nonretired Members	16	
- Active Members	38	
- Total	74	
Covered Payroll	\$	2,240,946

Net Pension Liability

Total Pension Liability	\$	12,301,050
Plan Fiduciary Net Position		10,543,115
Net Pension Liability	\$	1,757,935
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		85.71 %
Net Pension Liability as a Percentage of Covered Payroll		78.45 %

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	\$	263,133
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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	\$ 833,506	\$ 0
Changes in assumptions	232,721	0
Net difference between projected and actual earnings on pension plan investments	852,122	923,444
Total	\$ 1,918,349	\$ 923,444

*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 decrease slightly as a percentage of payroll.
2. The unfunded liability is expected to decrease as a percentage of payroll each year in the future.
3. The unfunded liability is expected to be fully amortized during the lifetimes of current members.
4. The funded status of the plan is expected to increase gradually towards a 100% funded ratio.

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 Air Guard Firefighters 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	\$	350,484
2. Interest on the Total Pension Liability		799,646
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(397,612)
5. Projected Earnings on Plan Investments (made negative for addition here)		(642,307)
6. Pension Plan Administrative Expense		9,887
7. Other Changes in Plan Fiduciary Net Position		746
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		387,744
9. Recognition of Outflow (Inflow) of Resources due to Assets		(245,455)
10. Total Pension Expense	\$	263,133 *

* 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	\$	147,399
2. Assumption Changes (gains) or losses	\$	0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		5.5901
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	\$	26,368
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for assumption changes	\$	0
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$	26,368
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	\$	121,031
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for assumption changes	\$	0
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$	121,031

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(608,244)
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	\$	(121,649)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(486,595)



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	7.6469	8.7180	8.3862	7.7574	7.8568	8.0476	7.9281	6.2137	5.6597	5.5901		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	
Total	\$ -	\$ 201,096	\$ 65,370	\$ 272,060	\$ 161,615	\$ 1,751	\$ 186,135	\$ 193,673	\$ 698,485	\$ 147,399		
2014	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	23,067	-	-	-	-	-	-	-	-	23,067	23,067
2016	-	23,067	7,795	-	-	-	-	-	-	-	30,862	30,862
2017	-	23,067	7,795	35,071	-	-	-	-	-	-	65,933	65,933
2018	-	23,067	7,795	35,071	20,570	-	-	-	-	-	86,503	86,503
2019	-	23,067	7,795	35,071	20,570	218	-	-	-	-	86,721	86,721
2020	-	23,067	7,795	35,071	20,570	218	23,478	-	-	-	110,199	110,199
2021	-	23,067	7,795	35,071	20,570	218	23,478	31,169	-	-	141,368	141,368
2022	-	23,067	7,795	35,071	20,570	218	23,478	31,169	123,414	-	264,782	264,782
2023	-	16,560	7,795	35,071	20,570	218	23,478	31,169	123,414	26,368	284,643	284,643
2024	-	-	3,010	26,563	20,570	218	23,478	31,169	123,414	26,368	254,790	\$ 833,506
2025	-	-	-	-	17,625	218	23,478	31,169	123,414	26,368	222,272	222,272
2026	-	-	-	-	-	218	23,478	31,169	123,414	26,368	204,647	204,647
2027	-	-	-	-	-	7	21,789	6,659	81,415	26,368	136,238	136,238
2028	-	-	-	-	-	-	-	-	-	15,559	15,559	15,559
Thereafter	-	-	-	-	-	-	-	-	-	-	-	-
	\$ -	\$ 201,096	\$ 65,370	\$ 272,060	\$ 161,615	\$ 1,751	\$ 186,135	\$ 193,673	\$ 698,485	\$ 147,399	\$ 1,927,584	

Assumption changes - Net (inflows)/outflows of resources

Recognition Period	7.6469	8.7180	8.3862	7.7574	7.8568	8.0476	7.9281	6.2137	5.6597	5.5901		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	
Total	\$ -	\$ -	\$ -	\$ 311,427	\$ -	\$ -	\$ -	\$ 391,181	\$ -	\$ -		
2014	-	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	40,146	-	-	-	-	-	-	40,146	40,146
2018	-	-	-	40,146	-	-	-	-	-	-	40,146	40,146
2019	-	-	-	40,146	-	-	-	-	-	-	40,146	40,146
2020	-	-	-	40,146	-	-	-	-	-	-	40,146	40,146
2021	-	-	-	40,146	-	-	-	62,955	-	-	103,101	103,101
2022	-	-	-	40,146	-	-	-	62,955	-	-	103,101	103,101
2023	-	-	-	40,146	-	-	-	62,955	-	-	103,101	103,101
2024	-	-	-	30,405	-	-	-	62,955	-	-	93,360	\$ 232,721
2025	-	-	-	-	-	-	-	62,955	-	-	62,955	62,955
2026	-	-	-	-	-	-	-	62,955	-	-	62,955	62,955
2027	-	-	-	-	-	-	-	13,451	-	-	13,451	13,451
2028	-	-	-	-	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-	-	-	-	-
	\$ -	\$ -	\$ -	\$ 311,427	\$ -	\$ -	\$ -	\$ 391,181	\$ -	\$ -	\$ 702,608	



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	\$ 161,568	\$ 525,780	\$ 41,782	\$ (447,294)	\$ 776,171	\$ (795,705)	\$ (302,799)	\$ (940,725)	\$ 1,420,202	\$ (608,244)		
2014	32,314										32,314	
2015	32,314	105,156									137,470	
2016	32,314	105,156	8,356								145,826	
2017	32,314	105,156	8,356	(89,459)							56,367	
2018	32,312	105,156	8,356	(89,459)	155,234						211,599	
2019	-	105,156	8,356	(89,459)	155,234	(159,141)					20,146	
2020	-	-	8,358	(89,459)	155,234	(159,141)	(60,560)				(145,568)	
2021	-	-	-	(89,458)	155,234	(159,141)	(60,560)	(188,145)			(342,070)	
2022	-	-	-	-	155,235	(159,141)	(60,560)	(188,145)	284,040		31,429	
2023	-	-	-	-	-	(159,141)	(60,560)	(188,145)	284,040	(121,649)	(245,455)	
2024	-	-	-	-	-	-	(60,559)	(188,145)	284,040	(121,649)	(86,313)	\$ (71,322)
2025	-	-	-	-	-	-	-	(188,145)	284,040	(121,649)	(25,754)	
2026	-	-	-	-	-	-	-	-	284,042	(121,649)	162,393	
2027	-	-	-	-	-	-	-	-	-	(121,648)	(121,648)	
2028	-	-	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	-	-	
	\$ 161,568	\$ 525,780	\$ 41,782	\$ (447,294)	\$ 776,171	\$ (795,705)	\$ (302,799)	\$ (940,725)	\$ 1,420,202	\$ (608,244)	\$ (169,264)	

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

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	
Total	\$ 161,568	\$ 726,876	\$ 107,152	\$ 136,193	\$ 937,786	\$ (793,954)	\$ (116,664)	\$ (355,871)	\$ 2,118,687	\$ (460,845)		
2014	32,314										32,314	
2015	32,314	128,223									160,537	
2016	32,314	128,223	16,151								176,688	
2017	32,314	128,223	16,151	(14,242)							162,446	
2018	32,312	128,223	16,151	(14,242)	175,804						338,248	
2019	-	128,223	16,151	(14,242)	175,804	(158,923)					147,013	
2020	-	23,067	16,153	(14,242)	175,804	(158,923)	(37,082)				4,777	
2021	-	23,067	7,795	(14,241)	175,804	(158,923)	(37,082)	(94,021)			(97,601)	
2022	-	23,067	7,795	75,217	175,805	(158,923)	(37,082)	(94,021)	407,454		399,312	
2023	-	16,560	7,795	75,217	20,570	(158,923)	(37,082)	(94,021)	407,454	(95,281)	142,289	
2024	-	-	3,010	56,968	20,570	218	(37,081)	(94,021)	407,454	(95,281)	261,837	\$ 994,905
2025	-	-	-	-	17,625	218	23,478	(94,021)	407,454	(95,281)	259,473	
2026	-	-	-	-	-	218	23,478	94,124	407,456	(95,281)	429,995	
2027	-	-	-	-	-	7	21,789	20,110	81,415	(95,280)	28,041	
2028	-	-	-	-	-	-	-	-	-	15,559	15,559	
Thereafter	-	-	-	-	-	-	-	-	-	-	-	
	\$ 161,568	\$ 726,876	\$ 107,152	\$ 136,193	\$ 937,786	\$ (793,954)	\$ (116,664)	\$ (355,871)	\$ 2,118,687	\$ (460,845)	\$ 2,460,928	



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	\$ 387,744	\$ 0	\$ 387,744
2. Due to Assets	284,040	529,495	(245,455)
3. Total	\$ 671,784	\$ 529,495	\$ 142,289

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	\$ 284,643	\$ 0	\$ 284,643
2. Assumption Changes	103,101	0	103,101
3. Net Difference between projected and actual earnings on pension plan investments	284,040	529,495	(245,455)
4. Total	\$ 671,784	\$ 529,495	\$ 142,289

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	\$ 833,506	\$ 0	\$ 833,506
2. Assumption Changes	232,721	0	232,721
3. Net Difference between projected and actual earnings on pension plan investments	852,122	923,444	(71,322)
4. Total	\$ 1,918,349	\$ 923,444	\$ 994,905

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	\$ 261,837
2025	259,473
2026	429,995
2027	28,041
2028	15,559
Thereafter	0
Total	\$ 994,905



Statement of Fiduciary Net Position as of December 31, 2023

	2023
Assets	
Cash and Deposits	\$ 670,571
Receivables	
Accounts Receivable - Sale of Investments	\$ 236,151
Accrued Interest and Other Dividends	21,116
Contributions	4
Accounts Receivable - Other	611,647
Total Receivables	\$ 868,918
Investments	
Fixed Income	\$ 1,616,507
Equities	4,805,726
Private Markets	1,321,222
Marketable Alternatives	1,920,645
Security Lending Collateral	288,447
Capital Assets, at Cost, Net of Accumulated Depreciation	2,220
Total Investments	\$ 9,954,767
Total Assets	\$ 11,494,256
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 934,268
Accrued Expenses	16,873
Accounts Payable - Other	0
Total Liabilities	\$ 951,141
Net Position Restricted for Pensions	\$ 10,543,115



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

	2023
Additions	
Contributions	
Employer	\$ 170,030
Employee	397,612
Other - Employer	25
Other - Employee	0
Total Contributions	\$ 567,667
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 1,093,229
Interest and Dividends	233,213
Less Investment Expense	(75,891)
Net Investment Income	\$ 1,250,551
Other	\$ 0
Total Additions	\$ 1,818,218
 Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 858,328
Pension Plan Administrative Expense	9,887
Other	746
Total Deductions	\$ 868,961
Net Increase in Net Position	\$ 949,257
 Net Position Restricted for Pensions	
Beginning of Year	\$ 9,593,858
End of Year	\$ 10,543,115

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Air Guard Firefighters 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	\$ 350,484
2. Interest on the total pension liability	799,646
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	147,399
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(858,328)
7. Net change in total pension liability	439,201
8. Total pension liability – beginning	11,861,849
9. Total pension liability – ending	\$ 12,301,050
B. Plan fiduciary net position	
1. Contributions – employer	\$ 170,055
2. Contributions – employee	397,612
3. Net investment income	1,250,551
4. Benefit payments, including refunds of employee contributions	(858,328)
5. Pension plan administrative expense	(9,887)
6. Other	(746)
7. Net change in plan fiduciary net position	949,257
8. Plan fiduciary net position – beginning	9,593,858
9. Plan fiduciary net position – ending	\$ 10,543,115
C. Net pension liability	\$ 1,757,935
D. Plan fiduciary net position as a percentage of the total pension liability	85.71 %
E. Covered-employee payroll	\$ 2,240,946
F. Net pension liability as a percentage of covered-employee payroll	78.45 %



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	\$ 350,484	\$ 341,554	\$ 344,841	\$ 312,751	\$ 317,202	\$ 294,146	\$ 272,169	\$ 337,474	\$ 331,123	\$ 276,305
Interest on the total pension liability	799,646	772,538	711,065	667,446	624,153	599,634	563,514	554,448	517,889	455,677
Changes of benefit terms	0	0	0	0	0	0	0	0	0	0
Difference between expected and actual experience	147,399	698,485	193,673	186,135	1,751	161,615	272,060	65,370	201,096	0
Changes of assumptions	0	0	391,181	0	0	0	311,427	0	0	0
Benefit payments, including refunds of employee contributions	(858,328)	(875,856)	(822,537)	(500,565)	(512,859)	(598,879)	(390,843)	(702,598)	(189,069)	(126,427)
Net change in total pension liability	439,201	936,721	818,223	665,767	430,247	456,516	1,028,327	254,694	861,039	605,554
Total pension liability - beginning	11,861,849	10,925,128	10,106,905	9,441,138	9,010,891	8,554,375	7,526,048	7,271,354	6,410,315	5,804,761
Total pension liability - ending (a)	\$ 12,301,050	\$ 11,861,849	\$ 10,925,128	\$ 10,106,905	\$ 9,441,138	\$ 9,010,891	\$ 8,554,375	\$ 7,526,048	\$ 7,271,354	\$ 6,410,315
Plan fiduciary net position										
Employer contributions	\$ 170,055	\$ 168,339	\$ 155,959	\$ 141,013	\$ 158,176	\$ 159,583	\$ 156,263	\$ 136,768	\$ 158,319	\$ 142,437
Employee contributions	397,612	393,638	364,707	329,758	369,907	445,101	367,485	376,685	405,026	335,763
Pension plan net investment income	1,250,551	(708,418)	1,567,665	897,557	1,300,461	(253,859)	902,109	431,043	(55,411)	260,772
Benefit payments, including refunds of employee contributions	(858,328)	(875,856)	(822,537)	(500,565)	(512,859)	(598,879)	(390,843)	(702,598)	(189,069)	(126,427)
Pension plan administrative expense	(9,887)	(10,439)	(12,936)	(8,047)	(6,972)	(7,141)	(6,431)	(5,731)	(4,637)	(4,312)
Other	(746)	(616)	(337)	(323)	(327)	(292)	(602)	(301)	(276)	1,085
Net change in plan fiduciary net position	949,257	(1,033,352)	1,252,521	859,393	1,308,386	(255,487)	1,027,981	235,866	313,952	609,318
Plan fiduciary net position - beginning	9,593,858	10,627,210	9,374,689	8,515,296	7,206,910	7,462,397	6,434,416	6,198,550	5,884,598	5,275,280
Plan fiduciary net position - ending (b)	\$ 10,543,115	\$ 9,593,858	\$ 10,627,210	\$ 9,374,689	\$ 8,515,296	\$ 7,206,910	\$ 7,462,397	\$ 6,434,416	\$ 6,198,550	\$ 5,884,598
Net pension liability - ending (a) - (b)	\$ 1,757,935	\$ 2,267,991	\$ 297,918	\$ 732,216	\$ 925,842	\$ 1,803,981	\$ 1,091,978	\$ 1,091,632	\$ 1,072,804	\$ 525,717
Plan fiduciary net position as a percentage of total pension liability	85.71 %	80.88 %	97.27 %	92.76 %	90.19 %	79.98 %	87.23 %	85.50 %	85.25 %	91.80 %
Covered-employee payroll	\$ 2,240,946	\$ 2,145,431	\$ 2,157,801	\$ 2,316,140	\$ 2,341,404	\$ 2,154,544	\$ 1,975,631	\$ 2,151,997	\$ 2,124,296	\$ 1,731,731
Projected valuation payroll	\$ 2,296,970	\$ 2,199,066	\$ 2,211,746	\$ 2,374,043	\$ 2,399,940	\$ 2,208,407	\$ 2,059,595	\$ 2,243,456	\$ 2,214,578	\$ 1,805,329
Net pension liability as a percentage of covered-employee payroll	78.45 %	105.71 %	13.81 %	31.61 %	39.54 %	83.73 %	55.27 %	50.73 %	50.50 %	30.36 %

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	\$ 6,410,315	\$ 5,884,598	\$ 525,717	91.80 %	\$ 1,731,731	30.36 %
2015	7,271,354	6,198,550	1,072,804	85.25 %	2,124,296	50.50 %
2016	7,526,048	6,434,416	1,091,632	85.50 %	2,151,997	50.73 %
2017	8,554,375	7,462,397	1,091,978	87.23 %	1,975,631	55.27 %
2018	9,010,891	7,206,910	1,803,981	79.98 %	2,154,544	83.73 %
2019	9,441,138	8,515,296	925,842	90.19 %	2,341,404	39.54 %
2020	10,106,905	9,374,689	732,216	92.76 %	2,316,140	31.61 %
2021	10,925,128	10,627,210	297,918	97.27 %	2,157,801	13.81 %
2022	11,861,849	9,593,858	2,267,991	80.88 %	2,145,431	105.71 %
2023	12,301,050	10,543,115	1,757,935	85.71 %	2,240,946	78.45 %

* 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	\$ 13,694	\$ 143,582	\$ (129,888)	\$ 1,731,731	8.29 %
2015	3,987	158,319	(154,332)	2,124,296	7.45 %
2016	7,634	136,768	(129,134)	2,151,997	6.36 %
2017	6,011	156,263	(150,252)	1,975,631	7.91 %
2018	11,590	159,583	(147,993)	2,154,544	7.41 %
2019	4,344	158,176	(153,832)	2,341,404	6.76 %
2020	15,348	141,013	(125,665)	2,316,140	6.09 %
2021	19,558	155,959	(136,401)	2,157,801	7.23 %
2022	126,605	168,339	(41,734)	2,145,431	7.85 %
2023	126,727	170,055	(43,328)	2,240,946	7.59 %

* 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	23 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	4.75% to 8.75% including inflation
Payroll Growth Rate	2.50%
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 7.12% of salary.
Employees are currently contributing at the rate of 16.25% of salary.
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 Air Guard Firefighters 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 the expected rate of return on pension plan investments of 6.80%. 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%
\$ 3,355,124	\$ 1,757,935	\$ 481,873

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	20
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	16
Active Plan Members	<u>38</u>
Total Plan Members	74

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

Covered Members	Any employees covered by the Air Guard Firefighter Pension Plan (Air Guard Firefighters employees).
Final Average Salary	Employee's average annual salary for the highest paid three continuous years of service.
Service Retirement	
Eligibility	Age 60 with four or more years of service or age 50 with 25 or more years of service. All employees are eligible for a reduced benefit at age 50 with four or more years of service or any age with 25 or more years of service.
Monthly Benefit	2.50% of employee's Final Average Salary for each year of credited service. This amount is reduced by 5.0% per year that the employee is under age 60. However, members who are at least age 55 retiring with a combined age and service of at least 75 receive an unreduced benefit.
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 is only eligible for the lump-sum benefit.
Disability Benefit	
Eligibility	Ten or more years of service.
Benefit	65% of salary as of the date of disability, payable immediately.
Pre-retirement Death Benefit	
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 annuity equal to the actuarial equivalent of the retirement benefit that would be due the employee.
Contributions	
Employee	16.65% of salary.
Employer	7.12% 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.

Optional Forms of Payment

- | | |
|------------------------|---|
| Option 1 (normal form) | Monthly benefit for life with a lump-sum death benefit equal to the excess (if any) of the employee contributions with interest over the total benefits received. |
| Option 2 | Monthly benefit for life. Upon death, 100% of the benefit continues to be paid to the beneficiary. |
| Option 2P | Monthly benefit for life. Upon death, 100% of the benefit continues to be paid to the beneficiary. Benefit reverts to Option 1 amount but without the cash refund feature upon beneficiary death. |
| Option 3 | Monthly benefit for life. Upon death, 50% of the benefit continues to be paid to the beneficiary. |
| Option 3P | Monthly benefit for life. Upon death, 50% of the benefit continues to be paid to the beneficiary. Benefit reverts to Option 1 amount but without the cash refund feature upon beneficiary death. |
| Option 4 | Monthly benefit for life with a guarantee of 120 monthly payments |
| Option 5 | The largest possible monthly benefit payable for life with no lump-sum death benefit. |

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Actuarial Assumptions and Cost Method

The following methods and assumptions were used in preparing the January 1, 2023 actuarial valuation report 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 30 years from the valuation date. The Board's policy consists of amortizing the unfunded liability as of January 1, 2018, over a closed 30-year period with each subsequent amortization base created as a result of year to year experience changes over individual 20-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

Service	Rate
1	6.50%
2	6.50%
3	6.50%
4	6.00%
5	5.25%
6	4.75%
7	4.25%
8	4.00%
9	4.00%
10	3.50%
11	3.50%
12	3.50%
13	3.50%
14	3.25%
15	3.00%
16	3.00%
17	2.75%
18	2.75%
19	2.75%
20	2.75%
21+	2.50%

c. Payroll growth rate

In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 2.50% 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 Healthy 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	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	0.03%	0.03%
50	0.08%	0.08%
55	0.20%	0.20%
60	0.20%	0.20%

65% of active disabilities are assumed to be duty-related

c. Withdrawal

Service	Male	Female
1-4	13.00%	14.00%
5	13.00%	13.00%
6	11.00%	11.00%
7	10.00%	10.00%
8	9.00%	9.00%
9	8.00%	8.00%
10	8.00%	8.00%
11	8.00%	8.00%
12	8.00%	7.00%
13	7.00%	7.00%
14	6.00%	7.00%
15	6.00%	6.00%
16	5.00%	6.00%
17	5.00%	6.00%
18	4.00%	6.00%
19+	3.00%	6.00%

d. Retirement Rates

Age	Retirement	
	Unreduced	Reduced
<50	15.00%	0.20%
50-54	15.00%	0.20%
55-59	17.00%	0.20%
60-61	13.00%	0.20%
62	18.00%	0.30%
63-64	15.00%	0.50%
65	30.00%	1.00%
66	35.00%	1.00%
67	28.00%	1.00%
68	25.00%	1.50%
69	25.00%	2.00%
70	25.00%	2.50%
71-73	20.00%	2.50%
74-79	15.00%	2.50%
80+	100.00%	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 60.
- 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 actual expenses for 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	\$ 2,233,720	\$ 63,249	\$ 2,296,970	\$ 397,612	\$ 164,185	\$ 5,845	\$ 567,642
2024	2,105,010	249,384	2,354,394	350,484	149,877	23,047	523,408
2025	1,985,750	427,504	2,413,254	330,627	141,385	39,513	511,525
2026	1,873,014	600,571	2,473,585	311,857	133,359	55,513	500,729
2027	1,770,545	764,880	2,535,425	294,796	126,063	70,710	491,569
2028	1,683,925	914,886	2,598,811	280,373	119,895	84,603	484,871
2029	1,610,222	1,053,559	2,663,781	268,102	114,648	97,521	480,271
2030	1,539,908	1,190,468	2,730,376	256,395	109,641	110,397	476,433
2031	1,471,490	1,327,145	2,798,635	245,003	104,770	123,334	473,107
2032	1,407,756	1,460,845	2,868,601	234,391	100,232	136,041	470,664
2033	1,348,239	1,592,077	2,940,316	224,482	95,995	148,543	469,020
2034	1,296,513	1,717,311	3,013,824	215,869	92,312	160,508	468,689
2035	1,244,958	1,844,212	3,089,170	207,286	88,641	172,636	468,563
2036	1,197,742	1,968,657	3,166,399	199,424	85,279	184,535	469,238
2037	1,158,752	2,086,807	3,245,559	192,932	82,503	195,855	471,290
2038	1,119,051	2,207,647	3,326,698	186,322	79,676	207,438	473,436
2039	1,077,953	2,331,912	3,409,865	179,479	76,750	219,333	475,562
2040	1,031,224	2,463,888	3,495,112	171,699	73,423	231,956	477,078
2041	975,363	2,607,127	3,582,490	162,398	69,446	245,623	477,467
2042	918,963	2,753,089	3,672,052	153,007	65,430	259,555	477,992
2043	860,494	2,903,359	3,763,853	143,272	61,267	273,895	478,434
2044	795,495	3,062,454	3,857,949	132,450	56,639	289,084	478,173
2045	720,742	3,233,656	3,954,398	120,004	51,317	305,427	476,748
2046	646,630	3,406,628	4,053,258	107,664	46,040	321,936	475,640
2047	584,797	3,569,792	4,154,589	97,369	41,638	337,553	476,560
2048	531,234	3,727,220	4,258,454	88,450	37,824	352,662	478,936
2049	477,261	3,887,654	4,364,915	79,464	33,981	368,064	481,509
2050	422,775	4,051,263	4,474,038	70,392	30,102	383,763	484,257
2051	371,356	4,214,533	4,585,889	61,831	26,441	399,430	487,702
2052	319,278	4,381,258	4,700,536	53,160	22,733	415,420	491,313
2053	268,467	4,549,582	4,818,049	44,700	19,115	431,530	495,345
2054	226,151	4,712,349	4,938,500	37,654	16,102	447,095	500,851
2055	190,772	4,871,191	5,061,963	31,764	13,583	462,278	507,625
2056	159,863	5,028,649	5,188,512	26,617	11,382	477,321	515,320
2057	133,301	5,184,924	5,318,225	22,195	9,491	492,244	523,930
2058	111,263	5,339,918	5,451,181	18,525	7,922	507,041	533,488
2059	92,664	5,494,797	5,587,461	15,429	6,598	521,828	543,855
2060	76,362	5,650,786	5,727,148	12,714	5,437	536,713	554,864
2061	62,823	5,807,504	5,870,327	10,460	4,473	551,665	566,598
2062	52,285	5,964,800	6,017,085	8,705	3,723	566,671	579,099
2063	43,402	6,124,110	6,167,512	7,226	3,090	581,870	592,186
2064	35,272	6,286,428	6,321,700	5,873	2,511	597,353	605,737
2065	28,155	6,451,588	6,479,743	4,688	2,005	613,103	619,796
2066	22,120	6,619,617	6,641,737	3,683	1,575	629,126	634,384
2067	16,626	6,791,154	6,807,780	2,768	1,184	645,482	649,434
2068	12,012	6,965,963	6,977,975	2,000	855	662,145	665,000
2069	9,044	7,143,380	7,152,424	1,506	644	679,053	681,203
2070	6,944	7,324,291	7,331,235	1,156	494	696,292	697,942
2071	5,269	7,509,247	7,514,516	877	375	713,914	715,166
2072	4,160	7,698,219	7,702,379	693	296	731,916	732,905



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	\$ 3,321	\$ 7,891,617	\$ 7,894,938	\$ 553	\$ 236	\$ 750,337	\$ 751,126
2074	2,619	8,089,692	8,092,311	436	186	769,200	769,822
2075	2,000	8,292,619	8,294,619	333	142	788,521	788,996
2076	1,550	8,500,434	8,501,984	258	110	808,303	808,671
2077	1,256	8,713,278	8,714,534	209	89	828,560	828,858
2078	1,016	8,931,381	8,932,397	169	72	849,314	849,555
2079	763	9,154,944	9,155,707	127	54	870,585	870,766
2080	504	9,384,096	9,384,600	84	36	892,383	892,503
2081	288	9,618,927	9,619,215	48	20	914,718	914,786
2082	99	9,859,596	9,859,695	17	7	937,605	937,629
2083	-	10,106,187	10,106,187	-	-	961,051	961,051
2084	-	10,358,842	10,358,842	-	-	985,072	985,072
2085	-	10,617,813	10,617,813	-	-	1,009,693	1,009,693
2086	-	10,883,258	10,883,258	-	-	1,034,927	1,034,927
2087	-	11,155,339	11,155,339	-	-	1,060,791	1,060,791
2088	-	11,434,222	11,434,222	-	-	1,087,302	1,087,302
2089	-	11,720,078	11,720,078	-	-	1,114,476	1,114,476
2090	-	12,013,080	12,013,080	-	-	1,142,329	1,142,329
2091	-	12,313,407	12,313,407	-	-	1,170,879	1,170,879
2092	-	12,621,242	12,621,242	-	-	1,200,143	1,200,143
2093	-	12,936,773	12,936,773	-	-	1,230,139	1,230,139
2094	-	13,260,192	13,260,192	-	-	1,260,887	1,260,887
2095	-	13,591,697	13,591,697	-	-	1,292,404	1,292,404
2096	-	13,931,489	13,931,489	-	-	1,324,710	1,324,710
2097	-	14,279,776	14,279,776	-	-	1,357,825	1,357,825
2098	-	14,636,770	14,636,770	-	-	1,391,768	1,391,768
2099	-	15,002,689	15,002,689	-	-	1,426,561	1,426,561
2100	-	15,377,756	15,377,756	-	-	1,462,225	1,462,225
2101	-	15,762,200	15,762,200	-	-	1,498,781	1,498,781
2102	-	16,156,255	16,156,255	-	-	1,536,252	1,536,252
2103	-	16,560,161	16,560,161	-	-	1,574,661	1,574,661
2104	-	16,974,165	16,974,165	-	-	1,614,030	1,614,030
2105	-	17,398,519	17,398,519	-	-	1,654,384	1,654,384
2106	-	17,833,482	17,833,482	-	-	1,695,746	1,695,746
2107	-	18,279,319	18,279,319	-	-	1,738,144	1,738,144
2108	-	18,736,302	18,736,302	-	-	1,781,600	1,781,600
2109	-	19,204,710	19,204,710	-	-	1,826,144	1,826,144
2110	-	19,684,828	19,684,828	-	-	1,871,800	1,871,800
2111	-	20,176,949	20,176,949	-	-	1,918,598	1,918,598
2112	-	20,681,373	20,681,373	-	-	1,966,565	1,966,565
2113	-	21,198,407	21,198,407	-	-	2,015,732	2,015,732
2114	-	21,728,367	21,728,367	-	-	2,066,126	2,066,126
2115	-	22,271,576	22,271,576	-	-	2,117,781	2,117,781
2116	-	22,828,365	22,828,365	-	-	2,170,726	2,170,726
2117	-	23,399,074	23,399,074	-	-	2,224,995	2,224,995
2118	-	23,984,051	23,984,051	-	-	2,280,620	2,280,620
2119	-	24,583,652	24,583,652	-	-	2,337,635	2,337,635
2120	-	25,198,243	25,198,243	-	-	2,396,075	2,396,075
2121	-	25,828,199	25,828,199	-	-	2,455,977	2,455,977
2122	-	26,473,904	26,473,904	-	-	2,517,375	2,517,375



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	\$ 9,593,858	\$ 567,667	\$ 858,328	\$ 10,633	\$ 1,250,551	\$ 10,543,115
2024	10,543,115	523,408	739,971	12,478	709,272	11,023,346
2025	11,023,346	511,525	720,411	12,790	742,175	11,543,846
2026	11,543,846	500,729	717,164	13,110	777,305	12,091,606
2027	12,091,606	491,569	736,396	13,438	813,593	12,646,933
2028	12,646,933	484,871	754,298	13,774	850,521	13,214,253
2029	13,214,253	480,271	764,760	14,118	888,584	13,804,230
2030	13,804,230	476,433	778,085	14,471	928,116	14,416,224
2031	14,416,224	473,107	792,658	14,833	969,121	15,050,961
2032	15,050,961	470,664	808,416	15,204	1,011,662	15,709,668
2033	15,709,668	469,020	825,083	15,584	1,055,829	16,393,850
2034	16,393,850	468,689	843,502	15,973	1,101,714	17,104,777
2035	17,104,777	468,563	865,239	16,373	1,149,312	17,841,039
2036	17,841,039	469,238	885,807	16,782	1,198,699	18,606,387
2037	18,606,387	471,290	905,400	17,201	1,250,142	19,405,218
2038	19,405,218	473,436	928,728	17,631	1,303,740	20,236,035
2039	20,236,035	475,562	962,248	18,072	1,359,171	21,090,449
2040	21,090,449	477,078	997,220	18,524	1,416,137	21,967,920
2041	21,967,920	477,467	1,035,275	18,987	1,474,530	22,865,654
2042	22,865,654	477,992	1,066,986	19,462	1,534,517	23,791,716
2043	23,791,716	478,434	1,110,700	19,948	1,596,026	24,735,528
2044	24,735,528	478,173	1,167,848	20,447	1,658,269	25,683,675
2045	25,683,675	476,748	1,228,618	20,958	1,720,646	26,631,492
2046	26,631,492	475,640	1,288,581	21,482	1,783,038	27,580,107
2047	27,580,107	476,560	1,362,509	22,019	1,845,084	28,517,223
2048	28,517,223	478,936	1,441,062	22,570	1,906,242	29,438,769
2049	29,438,769	481,509	1,488,272	23,134	1,967,396	30,376,268
2050	30,376,268	484,257	1,545,305	23,712	2,029,311	31,320,819
2051	31,320,819	487,702	1,603,268	24,305	2,091,697	32,272,645
2052	32,272,645	491,313	1,643,598	24,913	2,155,173	33,250,620
2053	33,250,620	495,345	1,685,578	25,536	2,220,386	34,255,236
2054	34,255,236	500,851	1,731,195	26,174	2,287,337	35,286,055
2055	35,286,055	507,625	1,782,690	26,828	2,355,915	36,340,077
2056	36,340,077	515,320	1,821,611	27,499	2,426,522	37,432,810
2057	37,432,810	523,930	1,840,130	28,187	2,500,474	38,588,896
2058	38,588,896	533,488	1,848,124	28,891	2,579,116	39,824,486
2059	39,824,486	543,855	1,860,906	29,614	2,663,031	41,140,852
2060	41,140,852	554,864	1,882,710	30,354	2,752,159	42,534,811
2061	42,534,811	566,598	1,900,081	31,113	2,846,734	44,016,948
2062	44,016,948	579,099	1,914,170	31,891	2,947,440	45,597,427
2063	45,597,427	592,186	1,901,945	32,688	3,055,732	47,310,713
2064	47,310,713	605,737	1,860,055	33,505	3,174,063	49,196,952
2065	49,196,952	619,796	1,815,600	34,343	3,304,256	51,271,061
2066	51,271,061	634,384	1,768,760	35,201	3,447,320	53,548,804
2067	53,548,804	649,434	1,720,248	36,081	3,604,303	56,046,213
2068	56,046,213	665,000	1,669,875	36,983	3,776,302	58,780,657
2069	58,780,657	681,203	1,617,049	37,908	3,964,522	61,771,425
2070	61,771,425	697,942	1,562,870	38,856	4,170,234	65,037,874
2071	65,037,874	715,166	1,507,824	39,827	4,394,736	68,600,127
2072	68,600,127	732,905	1,451,775	40,823	4,639,404	72,479,837



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	\$ 72,479,837	\$ 751,126	\$ 1,395,183	\$ 41,843	\$ 4,905,692	\$ 76,699,629
2074	76,699,629	769,822	1,338,105	42,889	5,195,137	81,283,594
2075	81,283,594	788,996	1,280,537	43,961	5,509,377	86,257,468
2076	86,257,468	808,671	1,222,365	45,061	5,850,167	91,648,880
2077	91,648,880	828,858	1,163,511	46,187	6,219,388	97,487,428
2078	97,487,428	849,555	1,104,065	47,342	6,619,051	103,804,628
2079	103,804,628	870,766	1,044,154	48,525	7,051,294	110,634,009
2080	110,634,009	892,503	983,865	49,738	7,518,394	118,011,303
2081	118,011,303	914,786	923,272	50,982	8,022,780	125,974,615
2082	125,974,615	937,629	862,565	52,256	8,567,037	134,564,459
2083	134,564,459	961,051	801,840	53,563	9,153,916	143,824,023
2084	143,824,023	985,072	741,357	54,902	9,786,348	153,799,184
2085	153,799,184	1,009,693	681,569	56,274	10,467,435	164,538,469
2086	164,538,469	1,034,927	622,762	57,681	11,200,470	176,093,423
2087	176,093,423	1,060,791	565,284	59,123	11,988,946	188,518,753
2088	188,518,753	1,087,302	509,462	60,601	12,836,572	201,872,564
2089	201,872,564	1,114,476	455,567	62,116	13,747,292	216,216,649
2090	216,216,649	1,142,329	403,910	63,669	14,725,296	231,616,695
2091	231,616,695	1,170,879	354,815	65,261	15,775,043	248,142,541
2092	248,142,541	1,200,143	308,574	66,893	16,901,271	265,868,488
2093	265,868,488	1,230,139	265,423	68,565	18,109,025	284,873,664
2094	284,873,664	1,260,887	225,557	70,279	19,403,681	305,242,396
2095	305,242,396	1,292,404	189,134	72,036	20,790,968	327,064,598
2096	327,064,598	1,324,710	156,306	73,837	22,276,996	350,436,161
2097	350,436,161	1,357,825	127,185	75,683	23,868,282	375,459,399
2098	375,459,399	1,391,768	101,806	77,575	25,571,782	402,243,569
2099	402,243,569	1,426,561	80,107	79,514	27,394,930	430,905,439
2100	430,905,439	1,462,225	61,902	81,502	29,345,672	461,569,932
2101	461,569,932	1,498,781	46,910	83,540	31,432,514	494,370,777
2102	494,370,777	1,536,252	34,810	85,628	33,664,559	529,451,150
2103	529,451,150	1,574,661	25,258	87,769	36,051,556	566,964,340
2104	566,964,340	1,614,030	17,894	89,963	38,603,943	607,074,456
2105	607,074,456	1,654,384	12,361	92,212	41,332,890	649,957,158
2106	649,957,158	1,695,746	8,314	94,517	44,250,355	695,800,428
2107	695,800,428	1,738,144	5,439	96,880	47,369,132	744,805,385
2108	744,805,385	1,781,600	3,456	99,302	50,702,908	797,187,135
2109	797,187,135	1,826,144	2,130	101,785	54,266,318	853,175,682
2110	853,175,682	1,871,800	1,273	104,330	58,075,010	913,016,889
2111	913,016,889	1,918,598	737	106,938	62,145,707	976,973,519
2112	976,973,519	1,966,565	414	109,611	66,496,284	1,045,326,343
2113	1,045,326,343	2,015,732	226	112,352	71,145,834	1,118,375,332
2114	1,118,375,332	2,066,126	120	115,160	76,114,761	1,196,440,939
2115	1,196,440,939	2,117,781	63	118,039	81,424,855	1,279,865,473
2116	1,279,865,473	2,170,726	32	120,990	87,099,396	1,369,014,573
2117	1,369,014,573	2,224,995	16	124,015	93,163,249	1,464,278,786
2118	1,464,278,786	2,280,620	8	127,115	99,642,972	1,566,075,255
2119	1,566,075,255	2,337,635	4	130,293	106,566,933	1,674,849,525
2120	1,674,849,525	2,396,075	2	133,551	113,965,428	1,791,077,476
2121	1,791,077,476	2,455,977	1	136,889	121,870,821	1,915,267,384
2122	1,915,267,384	2,517,375	0	140,312	130,317,673	2,047,962,120



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	\$ 9,593,858	\$ 858,328	\$ 858,328	\$ 0	\$ 830,554	\$ 0	\$ 830,554
2024	10,543,115	739,971	739,971	0	670,437	0	670,437
2025	11,023,346	720,411	720,411	0	611,156	0	611,156
2026	11,543,846	717,164	717,164	0	569,664	0	569,664
2027	12,091,606	736,396	736,396	0	547,698	0	547,698
2028	12,646,933	754,298	754,298	0	525,292	0	525,292
2029	13,214,253	764,760	764,760	0	498,668	0	498,668
2030	13,804,230	778,085	778,085	0	475,053	0	475,053
2031	14,416,224	792,658	792,658	0	453,138	0	453,138
2032	15,050,961	808,416	808,416	0	432,721	0	432,721
2033	15,709,668	825,083	825,083	0	413,523	0	413,523
2034	16,393,850	843,502	843,502	0	395,837	0	395,837
2035	17,104,777	865,239	865,239	0	380,186	0	380,186
2036	17,841,039	885,807	885,807	0	364,441	0	364,441
2037	18,606,387	905,400	905,400	0	348,785	0	348,785
2038	19,405,218	928,728	928,728	0	334,992	0	334,992
2039	20,236,035	962,248	962,248	0	324,983	0	324,983
2040	21,090,449	997,220	997,220	0	315,351	0	315,351
2041	21,967,920	1,035,275	1,035,275	0	306,540	0	306,540
2042	22,865,654	1,066,986	1,066,986	0	295,814	0	295,814
2043	23,791,716	1,110,700	1,110,700	0	288,328	0	288,328
2044	24,735,528	1,167,848	1,167,848	0	283,860	0	283,860
2045	25,683,675	1,228,618	1,228,618	0	279,617	0	279,617
2046	26,631,492	1,288,581	1,288,581	0	274,592	0	274,592
2047	27,580,107	1,362,509	1,362,509	0	271,859	0	271,859
2048	28,517,223	1,441,062	1,441,062	0	269,225	0	269,225
2049	29,438,769	1,488,272	1,488,272	0	260,342	0	260,342
2050	30,376,268	1,545,305	1,545,305	0	253,107	0	253,107
2051	31,320,819	1,603,268	1,603,268	0	245,881	0	245,881
2052	32,272,645	1,643,598	1,643,598	0	236,017	0	236,017
2053	33,250,620	1,685,578	1,685,578	0	226,634	0	226,634
2054	34,255,236	1,731,195	1,731,195	0	217,947	0	217,947
2055	35,286,055	1,782,690	1,782,690	0	210,141	0	210,141
2056	36,340,077	1,821,611	1,821,611	0	201,057	0	201,057
2057	37,432,810	1,840,130	1,840,130	0	190,169	0	190,169
2058	38,588,896	1,848,124	1,848,124	0	178,835	0	178,835
2059	39,824,486	1,860,906	1,860,906	0	168,606	0	168,606
2060	41,140,852	1,882,710	1,882,710	0	159,721	0	159,721
2061	42,534,811	1,900,081	1,900,081	0	150,931	0	150,931
2062	44,016,948	1,914,170	1,914,170	0	142,369	0	142,369
2063	45,597,427	1,901,945	1,901,945	0	132,453	0	132,453
2064	47,310,713	1,860,055	1,860,055	0	121,288	0	121,288
2065	49,196,952	1,815,600	1,815,600	0	110,852	0	110,852
2066	51,271,061	1,768,760	1,768,760	0	101,116	0	101,116
2067	53,548,804	1,720,248	1,720,248	0	92,081	0	92,081
2068	56,046,213	1,669,875	1,669,875	0	83,694	0	83,694
2069	58,780,657	1,617,049	1,617,049	0	75,886	0	75,886
2070	61,771,425	1,562,870	1,562,870	0	68,673	0	68,673
2071	65,037,874	1,507,824	1,507,824	0	62,036	0	62,036
2072	68,600,127	1,451,775	1,451,775	0	55,927	0	55,927



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	\$ 72,479,837	\$ 1,395,183	\$ 1,395,183	\$ 0	\$ 50,325	\$ 0	\$ 50,325
2074	76,699,629	1,338,105	1,338,105	0	45,193	0	45,193
2075	81,283,594	1,280,537	1,280,537	0	40,495	0	40,495
2076	86,257,468	1,222,365	1,222,365	0	36,194	0	36,194
2077	91,648,880	1,163,511	1,163,511	0	32,258	0	32,258
2078	97,487,428	1,104,065	1,104,065	0	28,661	0	28,661
2079	103,804,628	1,044,154	1,044,154	0	25,380	0	25,380
2080	110,634,009	983,865	983,865	0	22,392	0	22,392
2081	118,011,303	923,272	923,272	0	19,675	0	19,675
2082	125,974,615	862,565	862,565	0	17,211	0	17,211
2083	134,564,459	801,840	801,840	0	14,981	0	14,981
2084	143,824,023	741,357	741,357	0	12,969	0	12,969
2085	153,799,184	681,569	681,569	0	11,164	0	11,164
2086	164,538,469	622,762	622,762	0	9,551	0	9,551
2087	176,093,423	565,284	565,284	0	8,117	0	8,117
2088	188,518,753	509,462	509,462	0	6,850	0	6,850
2089	201,872,564	455,567	455,567	0	5,735	0	5,735
2090	216,216,649	403,910	403,910	0	4,761	0	4,761
2091	231,616,695	354,815	354,815	0	3,916	0	3,916
2092	248,142,541	308,574	308,574	0	3,189	0	3,189
2093	265,868,488	265,423	265,423	0	2,568	0	2,568
2094	284,873,664	225,557	225,557	0	2,044	0	2,044
2095	305,242,396	189,134	189,134	0	1,605	0	1,605
2096	327,064,598	156,306	156,306	0	1,242	0	1,242
2097	350,436,161	127,185	127,185	0	946	0	946
2098	375,459,399	101,806	101,806	0	709	0	709
2099	402,243,569	80,107	80,107	0	522	0	522
2100	430,905,439	61,902	61,902	0	378	0	378
2101	461,569,932	46,910	46,910	0	268	0	268
2102	494,370,777	34,810	34,810	0	186	0	186
2103	529,451,150	25,258	25,258	0	127	0	127
2104	566,964,340	17,894	17,894	0	84	0	84
2105	607,074,456	12,361	12,361	0	54	0	54
2106	649,957,158	8,314	8,314	0	34	0	34
2107	695,800,428	5,439	5,439	0	21	0	21
2108	744,805,385	3,456	3,456	0	12	0	12
2109	797,187,135	2,130	2,130	0	7	0	7
2110	853,175,682	1,273	1,273	0	4	0	4
2111	913,016,889	737	737	0	2	0	2
2112	976,973,519	414	414	0	1	0	1
2113	1,045,326,343	226	226	0	1	0	1
2114	1,118,375,332	120	120	0	0	0	0
2115	1,196,440,939	63	63	0	0	0	0
2116	1,279,865,473	32	32	0	0	0	0
2117	1,369,014,573	16	16	0	0	0	0
2118	1,464,278,786	8	8	0	0	0	0
2119	1,566,075,255	4	4	0	0	0	0
2120	1,674,849,525	2	2	0	0	0	0
2121	1,791,077,476	1	1	0	0	0	0
2122	1,915,267,384	0	0	0	0	0	0
Totals					\$ 14,917,911	\$ 0	\$ 14,917,911



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.