

Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan

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

For Measurement Date as of December 31, 2022





March 24, 2023

Board of Trustees
Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan

Dear Board Members:

This report provides information required by the Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan (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 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 Volunteer Firefighter, EMT, and Search and Rescue Pension Plan ("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, 2022 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 again 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 Volunteer Firefighter, EMT, and Search and Rescue Pension Plan as of the valuation date.

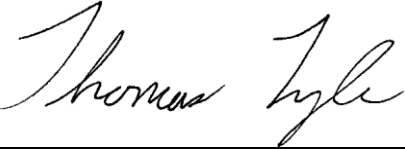
All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Paul T. Wood, Thomas A. Lyle, and Dana Woolfrey 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

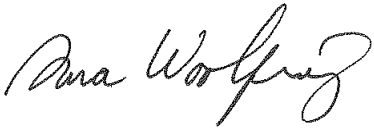
By 
Dana Woolfrey, FSA, EA, FCA, MAAA



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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2022

	2022
Actuarial Valuation Date	January 1, 2022
Measurement Date of the Net Pension Liability	December 31, 2022
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2022

Membership

Number of	
- Retirees and Beneficiaries	1,646
- Inactive, Nonretired Members	2,286
- Active Members	2,366
- Total	6,298
Covered Payroll	N/A

Net Pension Liability

Total Pension Liability	\$ 123,010,569
Plan Fiduciary Net Position	98,454,576
Net Pension Liability	\$ 24,555,993
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	80.04 %
Net Pension Liability as a Percentage of Covered Payroll	N/A

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*	4.05 %
Last year ending December 31 in the 2022 to 2121 projection period for which projected benefit payments are fully funded	2121

Total Pension Expense \$ 2,718,206

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	\$ 181,975	\$ 563,761
Changes in assumptions	371,377	0
Net difference between projected and actual earnings on pension plan investments	11,594,395	8,404,089
Total	\$ 12,147,747	\$ 8,967,850

**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, 2022. 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, 2022.

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 is expected to decrease for several years before stabilizing to a level dollar amount.
2. The unfunded liability is expected to be fully amortized during the lifetimes of current members.
3. 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 2121. 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, 2022 and a measurement date of December 31, 2022.



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 4.05% (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 Volunteer Firefighter, EMT, and Search and Rescue Pension Plan. 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, 2022

A. Expense

1. Service Cost	\$	1,792,369
2. Interest on the Total Pension Liability		8,011,636
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(558,326)
5. Projected Earnings on Plan Investments (made negative for addition here)		(7,289,422)
6. Pension Plan Administrative Expense		107,648
7. Other Changes in Plan Fiduciary Net Position		6,300
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		182,847
9. Recognition of Outflow (Inflow) of Resources due to Assets		465,154
10. Total Pension Expense	\$	2,718,206 *

* 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, 2022

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (725,126)
2. Assumption Changes (gains) or losses	\$ 0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.4937
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	\$ (161,365)
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	<u>\$ (161,365)</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	\$ (563,761)
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	<u>\$ (563,761)</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 14,492,994
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	\$ 2,898,599
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 11,594,395



History of Deferred Outflows and Inflows of Resources by Source

Fiscal Year Ended December 31, 2022

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

Recognition Period	7.2249	3.7588	3.7634	4.2211	4.0727	4.0494	3.9911	4.7012	4.4937		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	
Total	\$ -	\$ (211,035)	\$ (479,308)	\$ (3,538,907)	\$ (1,397,503)	\$ 441,209	\$ 361,487	\$ 151,112	\$ (725,126)	\$ (5,398,071)	
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	(56,144)	-	-	-	-	-	-	-	(56,144)	(56,144)
2016	-	(56,144)	(127,360)	-	-	-	-	-	-	(183,504)	(183,504)
2017	-	(56,144)	(127,360)	(838,385)	-	-	-	-	-	(1,021,889)	(1,021,889)
2018	-	(42,603)	(127,360)	(838,385)	(343,139)	-	-	-	-	(1,351,487)	(1,351,487)
2019	-	-	(97,228)	(838,385)	(343,139)	108,957	-	-	-	(1,169,795)	(1,169,795)
2020	-	-	-	(838,385)	(343,139)	108,957	90,573	-	-	(981,994)	(981,994)
2021	-	-	-	(185,367)	(343,139)	108,957	90,573	32,143	-	(296,833)	(296,833)
2022	-	-	-	-	(24,947)	108,957	90,573	32,143	(161,365)	45,361	45,361
2023	-	-	-	-	-	5,381	89,768	32,143	(161,365)	(34,073)	\$ (381,786)
2024	-	-	-	-	-	-	-	32,143	(161,365)	(129,222)	
2025	-	-	-	-	-	-	-	22,540	(161,365)	(138,825)	
2026	-	-	-	-	-	-	-	-	(79,666)	(79,666)	
2027	-	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	-	
	\$ -	\$ (211,035)	\$ (479,308)	\$ (3,538,907)	\$ (1,397,503)	\$ 441,209	\$ 361,487	\$ 151,112	\$ (725,126)	\$ (5,398,071)	

Assumption changes - Net (inflows)/outflows of resources

Recognition Period	7.2249	3.7588	3.7634	4.2211	4.0727	4.0494	3.9911	4.7012	4.4937		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	
Total	\$ 389,295	\$ (472,252)	\$ -	\$ 5,273,789	\$ -	\$ -	\$ -	\$ 646,349	\$ -	\$ 5,837,181	
2014	53,882	-	-	-	-	-	-	-	-	53,882	53,882
2015	53,882	(125,639)	-	-	-	-	-	-	-	(71,757)	(71,757)
2016	53,882	(125,639)	-	-	-	-	-	-	-	(71,757)	(71,757)
2017	53,882	(125,639)	-	1,249,387	-	-	-	-	-	1,177,630	1,177,630
2018	53,882	(95,335)	-	1,249,387	-	-	-	-	-	1,207,934	1,207,934
2019	53,882	-	-	1,249,387	-	-	-	-	-	1,303,269	1,303,269
2020	53,882	-	-	1,249,387	-	-	-	-	-	1,303,269	1,303,269
2021	12,121	-	-	276,241	-	-	-	137,486	-	425,848	425,848
2022	-	-	-	-	-	-	-	137,486	-	137,486	137,486
2023	-	-	-	-	-	-	-	137,486	-	137,486	\$ 371,377
2024	-	-	-	-	-	-	-	137,486	-	137,486	
2025	-	-	-	-	-	-	-	96,405	-	96,405	
2026	-	-	-	-	-	-	-	-	-	-	
2027	-	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	-	
	\$ 389,295	\$ (472,252)	\$ -	\$ 5,273,789	\$ -	\$ -	\$ -	\$ 646,349	\$ -	\$ 5,837,181	



History of Deferred Outflows and Inflows of Resources by Source Fiscal Year Ended December 31, 2022

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	Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	
Total	\$ 2,065,788	\$ 6,323,926	\$ 491,432	\$ (4,929,730)	\$ 8,416,656	\$ (8,468,230)	\$ (2,794,755)	\$ (9,320,901)	\$ 14,492,994	\$ 6,277,180	
2014	413,158										413,158
2015	413,158	1,264,785									1,677,943
2016	413,158	1,264,785	98,286								1,776,229
2017	413,158	1,264,785	98,286	(985,946)							790,283
2018	413,156	1,264,785	98,286	(985,946)	1,683,331						2,473,612
2019	-	1,264,786	98,286	(985,946)	1,683,331	(1,693,646)					366,811
2020	-	-	98,288	(985,946)	1,683,331	(1,693,646)	(558,951)				(1,456,924)
2021	-	-	-	(985,946)	1,683,331	(1,693,646)	(558,951)	(1,864,180)			(3,419,392)
2022	-	-	-	-	1,683,332	(1,693,646)	(558,951)	(1,864,180)	2,898,599		465,154
2023	-	-	-	-	-	(1,693,646)	(558,951)	(1,864,180)	2,898,599		(1,218,178)
2024	-	-	-	-	-	-	(558,951)	(1,864,180)	2,898,599		475,468
2025	-	-	-	-	-	-	-	(1,864,181)	2,898,599		1,034,418
2026	-	-	-	-	-	-	-	-	2,898,598		2,898,598
2027	-	-	-	-	-	-	-	-	-		-
Thereafter	-	-	-	-	-	-	-	-	-		-
	\$ 2,065,788	\$ 6,323,926	\$ 491,432	\$ (4,929,730)	\$ 8,416,656	\$ (8,468,230)	\$ (2,794,755)	\$ (9,320,901)	\$ 14,492,994	\$ 6,277,180	

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

	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	
Total	\$ 2,455,083	\$ 5,640,639	\$ 12,124	\$ (3,194,848)	\$ 7,019,153	\$ (8,027,021)	\$ (2,433,268)	\$ (8,523,440)	\$ 13,767,868	\$ 6,716,290	
2014	467,040										467,040
2015	467,040	1,083,002									1,550,042
2016	467,040	1,083,002	(29,074)								1,520,968
2017	467,040	1,083,002	(29,074)	(574,944)							946,024
2018	467,038	1,126,847	(29,074)	(574,944)	1,340,192						2,330,059
2019	53,882	1,264,786	1,058	(574,944)	1,340,192	(1,584,689)					500,285
2020	53,882	-	98,288	(574,944)	1,340,192	(1,584,689)	(468,378)				(1,135,649)
2021	12,121	-	-	(895,072)	1,340,192	(1,584,689)	(468,378)	(1,694,551)			(3,290,377)
2022	-	-	-	-	1,658,385	(1,584,689)	(468,378)	(1,694,551)	2,737,234		648,001
2023	-	-	-	-	-	(1,688,265)	(469,183)	(1,694,551)	2,737,234		(1,114,765)
2024	-	-	-	-	-	-	(558,951)	(1,694,551)	2,737,234		483,732
2025	-	-	-	-	-	-	-	(1,745,236)	2,737,234		991,998
2026	-	-	-	-	-	-	-	-	2,818,932		2,818,932
2027	-	-	-	-	-	-	-	-	-		-
Thereafter	-	-	-	-	-	-	-	-	-		-
	\$ 2,455,083	\$ 5,640,639	\$ 12,124	\$ (3,194,848)	\$ 7,019,153	\$ (8,027,021)	\$ (2,433,268)	\$ (8,523,440)	\$ 13,767,868	\$ 6,716,290	



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods

Fiscal Year Ended December 31, 2022

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	\$ 369,159	\$ 186,312	\$ 182,847
2. Due to Assets	4,581,931	4,116,777	465,154
3. Total	\$ 4,951,090	\$ 4,303,089	\$ 648,001

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	\$ 231,673	\$ 186,312	\$ 45,361
2. Assumption Changes	137,486	0	137,486
3. Net Difference between projected and actual earnings on pension plan investments	4,581,931	4,116,777	465,154
4. Total	\$ 4,951,090	\$ 4,303,089	\$ 648,001

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	\$ 181,975	\$ 563,761	\$ (381,786)
2. Assumption Changes	371,377	0	371,377
3. Net Difference between projected and actual earnings on pension plan investments	11,594,395	8,404,089	3,190,306
4. Total	\$ 12,147,747	\$ 8,967,850	\$ 3,179,897

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
2023	\$ (1,114,765)
2024	483,732
2025	991,998
2026	2,818,932
2027	0
Thereafter	0
Total	\$ 3,179,897



Statement of Fiduciary Net Position as of December 31, 2022

	2022
Assets	
Cash and Deposits	\$ 4,977,481
Receivables	
Accounts Receivable - Sale of Investments	\$ 42,385
Accrued Interest and Other Dividends	179,308
Contributions	36,025
Accounts Receivable - Other	7,086,660
Total Receivables	\$ 7,344,378
Investments	
Fixed Income	\$ 15,755,841
Equities	46,310,687
Private Markets	12,659,907
Marketable Alternatives	17,716,270
Security Lending Collateral	4,602,734
Capital Assets, at Cost, Net of Accumulated Depreciation	32,247
Total Investments	\$ 97,077,686
Total Assets	\$ 109,399,545
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 10,785,679
Accrued Expenses	141,753
Accounts Payable - Other	17,537
Total Liabilities	\$ 10,944,969
Net Position Restricted for Pensions	\$ 98,454,576



Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2022

	2022
Additions	
Contributions	
Employer	\$ 0
Employee	548,347
Other Employer Contributions	3,866,570
Other Employee Contributions	9,979
Total Contributions	\$ 4,424,896
Investment Income	
Net Appreciation in Fair Value of Investments	\$ (8,489,649)
Interest and Dividends	1,910,598
Less Investment Expense	(624,521)
Net Investment Income	\$ (7,203,572)
Other	\$ 0
Total Additions	\$ (2,778,676)
Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 7,339,619
Pension Plan Administrative Expense	107,648
Other	6,300
Total Deductions	\$ 7,453,567
Net Increase in Net Position	\$ (10,232,243)
Net Position Restricted for Pensions	
Beginning of Year	\$ 108,686,819
End of Year	\$ 98,454,576



SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan. 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, 2022

A. Total pension liability	
1. Service cost	\$ 1,792,369
2. Interest on the total pension liability	8,011,636
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	(725,126)
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(7,339,619)
7. Net change in total pension liability	1,739,260
8. Total pension liability – beginning	121,271,309
9. Total pension liability – ending	\$ 123,010,569
B. Plan fiduciary net position	
1. Contributions – employer	\$ 3,866,570
2. Contributions – employee	558,326
3. Net investment income	(7,203,572)
4. Benefit payments, including refunds of employee contributions	(7,339,619)
5. Pension plan administrative expense	(107,648)
6. Other	(6,300)
7. Net change in plan fiduciary net position	(10,232,243)
8. Plan fiduciary net position – beginning	108,686,819
9. Plan fiduciary net position – ending	\$ 98,454,576
C. Net pension liability	\$ 24,555,993
D. Plan fiduciary net position as a percentage of the total pension liability	80.04 %
E. Covered-employee payroll	N/A
F. Net pension liability as a percentage of covered-employee payroll	N/A



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,	2022	2021	2020	2019	2018	2017	2016	2015
Total pension liability								
Service cost	\$ 1,792,369	\$ 1,805,233	\$ 1,501,573	\$ 1,432,649	\$ 1,426,154	\$ 1,412,440	\$ 1,285,552	\$ 1,253,883
Interest on the total pension liability	8,011,636	7,891,422	7,885,554	7,685,536	7,474,042	7,372,254	7,761,646	7,520,888
Changes of benefit terms	0	0	0	0	0	0	0	21,809,884
Difference between expected and actual experience	(725,126)	151,112	361,487	441,209	(1,397,503)	(3,538,907)	(479,308)	(211,035)
Changes of assumptions	0	646,349	0	0	0	5,273,789	0	(472,252)
Benefit payments, including refunds of employee contributions	(7,339,619)	(7,059,693)	(6,810,666)	(6,506,775)	(6,145,822)	(5,813,888)	(5,541,861)	(4,867,630)
Net change in total pension liability	1,739,260	3,434,423	2,937,948	3,052,619	1,356,871	4,705,688	3,026,029	25,033,738
Total pension liability - beginning	121,271,309	117,836,886	114,898,938	111,846,319	110,489,448	105,783,760	102,757,731	77,723,993
Total pension liability - ending (a)	\$ 123,010,569	\$ 121,271,309	\$ 117,836,886	\$ 114,898,938	\$ 111,846,319	\$ 110,489,448	\$ 105,783,760	\$ 102,757,731
Plan fiduciary net position								
Employer contributions	\$ 3,866,570	\$ 4,670,469	\$ 5,509,382	\$ 3,118,824	\$ 2,959,943	\$ 3,290,994	\$ 3,198,930	\$ 2,238,612
Employee contributions	558,326	573,113	520,788	437,255	434,522	425,592	459,363	417,406
Pension plan net investment income	(7,203,572)	15,709,526	8,848,756	13,701,406	(2,782,682)	10,035,753	4,939,925	(675,297)
Benefit payments, including refunds of employee contributions	(7,339,619)	(7,059,693)	(6,810,666)	(6,506,775)	(6,145,822)	(5,813,888)	(5,541,861)	(4,867,630)
Pension plan administrative expense	(107,648)	(95,155)	(86,519)	(89,451)	(91,195)	(88,835)	(80,904)	(73,412)
Other	(6,300)	(3,410)	(3,290)	(3,455)	(3,201)	(3,453)	(3,453)	(3,470)
Net change in plan fiduciary net position	(10,232,243)	13,794,850	7,978,451	10,657,804	(5,628,435)	7,846,163	2,972,000	(2,963,791)
Plan fiduciary net position - beginning	108,686,819	94,891,969	86,913,518	76,255,714	81,884,149	74,037,986	71,065,986	74,029,777
Plan fiduciary net position - ending (b)	\$ 98,454,576	\$ 108,686,819	\$ 94,891,969	\$ 86,913,518	\$ 76,255,714	\$ 81,884,149	\$ 74,037,986	\$ 71,065,986
Net pension liability - ending (a) - (b)	\$ 24,555,993	\$ 12,584,490	\$ 22,944,917	\$ 27,985,420	\$ 35,590,605	\$ 28,605,299	\$ 31,745,774	\$ 31,691,745
Plan fiduciary net position as a percentage of total pension liability	80.04 %	89.62 %	80.53 %	75.64 %	68.18 %	74.11 %	69.99 %	69.16 %
Covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net pension liability as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes to Schedule:

For 2022, 2021, 2020, 2019, 2018, 2017, 2016 and 2015, "Other" changes to Plan Fiduciary Net Position includes other funding sources and depreciation expenses.



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
2015	\$ 102,757,731	\$ 71,065,986	\$ 31,691,745	69.16 %	N/A	N/A
2016	105,783,760	74,037,986	31,745,774	69.99 %	N/A	N/A
2017	110,489,448	81,884,149	28,605,299	74.11 %	N/A	N/A
2018	111,846,319	76,255,714	35,590,605	68.18 %	N/A	N/A
2019	114,898,938	86,913,518	27,985,420	75.64 %	N/A	N/A
2020	117,836,886	94,891,969	22,944,917	80.53 %	N/A	N/A
2021	121,271,309	108,686,819	12,584,490	89.62 %	N/A	N/A
2022	123,010,569	98,454,576	24,555,993	80.04 %	N/A	N/A



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
2015	\$ 1,139,454	\$ 2,238,612	\$ (1,099,158)	N/A	N/A
2016	3,128,272	3,198,930	(70,658)	N/A	N/A
2017	2,923,585	3,290,994	(367,409)	N/A	N/A
2018	3,275,465	2,959,943	315,522	N/A	N/A
2019	3,543,372	3,118,824	424,548	N/A	N/A
2020	3,669,138	5,509,382	(1,840,244)	N/A	N/A
2021	3,318,686	4,670,469	(1,351,783)	N/A	N/A
2022	3,130,017	3,866,570	(736,553)	N/A	N/A

* The Volunteer Firefighter, EMT, and Search and Rescue Retirement System is a new plan with new benefit provisions formed as of July 1, 2015 from the discontinued prior Volunteer Firemen's Pension Plan and the Volunteer EMT Pension Plan. The Actuarially Determined Contribution for 2015 is the sum of the amounts for the prior plans determined as of their respective January 1, 2015 actuarial valuations.

** Includes other funding sources but excludes member redeposits and member service purchase contributions.



Notes to Schedule of Contributions

Valuation Date: January 1, 2022
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 Dollar, Closed
Remaining Amortization Period	26 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	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 The Volunteer Firefighter, EMT, and Search and Rescue Retirement System is a new plan with new benefit provisions formed as of July 1, 2015 from the discontinued prior Volunteer Firemen's Pension Plan and the Volunteer EMT Pension Plan. 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>
2015	(0.26)%
2016	7.60 %
2017	14.20 %
2018	(3.52)%
2019	18.72 %
2020	11.03 %
2021	17.19 %
2022	(6.99)%

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 Volunteer Firefighter, EMT, and Search and Rescue Pension Plan. 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 estimated fire tax rates, projected with inflation. 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 Result

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%
\$ 39,272,689	\$ 24,555,993	\$ 12,347,028



Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,646
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,286
Active Plan Members	<u>2,366</u>
Total Plan Members	6,298



SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

Covered Members	Any volunteer firefighter, EMT, or search and rescue employee for whom payments are received by the Volunteer Firefighter, EMT, and Search and Rescue pension account as prescribed in W.S. 35-9-621(e).
Service Retirement	
Eligibility	Age 60 with 5 years of service.
Monthly Benefit	\$16 per month for each of the first 10 years of service and \$19 per month for each year of service over 10. Normal Form of Payment is a 66% Joint & Survivor Annuity for married retirees and life annuity for unmarried retirees. Any contributing member of the discontinued Volunteer Firefighter Pension Plan and the Volunteer Emergency Medical Technician Pension Plan on June 30, 2015 is grandfathered in certain provisions of the discontinued plans, including receiving the greater of the benefit under the previous plan and the service retirement benefit under this plan.
Vesting	Any member with five or more years of service who has left employment, 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. In addition, a member with at least ten years of service may gain extra years of service by continuing to contribute, up to a maximum number of months served as an active member. A member who terminates with less than five years of service is only eligible for the lump-sum benefit.
Pre-retirement Death Benefit	
Eligibility	No age or service requirements.
Monthly Benefit	Upon the death of any participating member, the board shall authorize a monthly payment to the surviving spouse of the member during the spouse's remaining lifetime of an amount equal to 66% of the amount calculated above based on actual years of service, or five years of service if greater. Benefits are also payable to children under age 21, equal to 33% of the amount calculated above, upon death of the member and spouse.



Post-retirement Death Benefit

Monthly Benefit 66% of the member's benefit payable prior to the member's death. Benefits are also payable to children under age 21, equal to 33% of the amount calculated above, upon death of the member and spouse.

Lump Sum Death Benefit

Benefit A lump sum payment of \$5,000, or \$2,500 for members who contributed \$5.00 per month before July 1, 1989, less the amount of the monthly benefits paid to the estate upon the spouse's death. For a deceased member without an eligible survivor, the greater of the deceased member's account or \$5,000 (\$2,500 for certain members) is payable to the estate of the deceased member.

Contributions

Employee \$18.75 per month for volunteer firefighters and EMT
\$37.50 per month for search and rescue members

State 60% of gross fire insurance premium taxes paid on fire insurance policies in Wyoming.

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, 2022 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 dollar amount. Under this method, the employer contribution amount is the sum of (i) the employer normal cost amount, and (ii) the amount 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, and sex. 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, or survivor's benefit. 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 employer contribution amount which, if applied to 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 26 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

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.

5. Demographic Assumptions

a. Rates Before Retirement

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%

Age	Pre-Retirement		Post-Retirement	
	Projected to 2022 using the MP-2020 Ultimate Scale			
	Male	Female	Male	Female
20	0.03%	0.01%	0.03%	0.01%
25	0.02%	0.01%	0.02%	0.01%
30	0.03%	0.01%	0.03%	0.01%
35	0.04%	0.02%	0.04%	0.02%
40	0.06%	0.03%	0.06%	0.03%
45	0.08%	0.05%	0.09%	0.06%
50	0.13%	0.07%	0.25%	0.19%
55	0.19%	0.10%	0.37%	0.25%
60	0.27%	0.16%	0.52%	0.34%
65	0.40%	0.25%	0.78%	0.54%
70	0.61%	0.42%	1.31%	0.94%
75			2.32%	1.68%
80			4.18%	3.03%
85			7.74%	5.75%
90			13.60%	10.97%
95			21.81%	18.48%
100			31.45%	27.98%



b. Withdrawal Rates

Age	Withdrawal	
	Ultimate	
	Male	Female
20	10.00%	10.00%
25	6.00%	6.00%
30	5.00%	5.00%
35	4.00%	4.00%
40	4.00%	4.00%
45	3.00%	3.00%
50	2.50%	2.50%
55	1.50%	1.50%
60	1.00%	1.00%

c. Retirement Rates

Age	Rates
<60	0.00%
60	55.00%
61	25.00%
62	15.00%
63	15.00%
64	15.00%
65	25.00%
66	30.00%
67	20.00%
68	20.00%
69	20.00%
70	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. Administrative expenses: Average of actual expenses for the prior two years, with each year projected at 2.50% to the valuation date.
- e. Decrement timing: Decrements of all types are assumed to occur mid-year.
- f. 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.
- g. Incidence of contributions: Contributions are assumed to be received continuously throughout the year.
- h. Benefit service: All members are assumed to accrue one year of service each year.
- i. Premium tax allocation: Provided by staff and based on booked total premium taxes.
- j. Percent of eligible deferred vested members electing a refund: 25% of all future deferred vested members are assumed to leave their contributions in the fund and elect a deferred vested annuity payable commencing at age 60.
- k. No benefit data is available for members entitled to deferred benefits. The benefit is estimated using the final average compensation and service provided by WRS.



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 4.05%; 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 2022 to 2071

Year	Payroll for Current	Payroll for Future	Total Employee	Contributions from	Total Employer	Employer Portion	Total Contributions
	Employees	Employees	Payroll	Current Employees	Contributions	of New Entrant's Normal Cost	
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)	(f)	(g)=(d)+(e)-(f)
2022	N/A	N/A	N/A	\$ 558,326	\$ 3,866,570	\$ -	\$ 4,424,896
2023	-	-	-	382,408	3,433,631	94,860	3,721,179
2024	-	-	-	356,150	3,472,259	179,515	3,648,894
2025	-	-	-	330,438	3,511,322	262,796	3,578,964
2026	-	-	-	306,085	3,550,825	346,085	3,510,825
2027	-	-	-	284,618	3,590,771	421,325	3,454,065
2028	-	-	-	265,278	3,631,168	485,080	3,411,366
2029	-	-	-	247,003	3,672,018	544,823	3,374,198
2030	-	-	-	230,303	3,713,328	599,282	3,344,349
2031	-	-	-	214,559	3,755,103	646,718	3,322,945
2032	-	-	-	199,666	3,797,348	693,529	3,303,484
2033	-	-	-	185,628	3,840,068	734,158	3,291,539
2034	-	-	-	172,305	3,883,269	774,270	3,281,304
2035	-	-	-	160,080	3,926,956	809,198	3,277,838
2036	-	-	-	148,472	3,971,134	841,430	3,278,176
2037	-	-	-	136,742	4,015,810	871,354	3,281,197
2038	-	-	-	125,432	4,060,987	903,432	3,282,987
2039	-	-	-	114,798	4,106,673	929,854	3,291,618
2040	-	-	-	104,737	4,152,874	957,136	3,300,474
2041	-	-	-	94,967	4,199,593	979,208	3,315,352
2042	-	-	-	84,918	4,246,839	1,004,305	3,327,452
2043	-	-	-	75,410	4,294,616	1,027,524	3,342,501
2044	-	-	-	66,852	4,342,930	1,048,851	3,360,931
2045	-	-	-	59,118	4,391,788	1,065,895	3,385,011
2046	-	-	-	51,928	4,441,196	1,081,939	3,411,185
2047	-	-	-	45,722	4,491,159	1,095,428	3,441,453
2048	-	-	-	40,028	4,541,685	1,105,376	3,476,337
2049	-	-	-	34,453	4,592,779	1,115,870	3,511,362
2050	-	-	-	29,731	4,644,447	1,125,404	3,548,774
2051	-	-	-	25,737	4,696,698	1,131,148	3,591,286
2052	-	-	-	21,916	4,749,535	1,136,813	3,634,639
2053	-	-	-	18,354	4,802,968	1,142,188	3,679,134
2054	-	-	-	15,198	4,857,001	1,147,223	3,724,977
2055	-	-	-	12,542	4,911,642	1,150,989	3,773,195
2056	-	-	-	10,278	4,966,898	1,153,972	3,823,205
2057	-	-	-	8,291	5,022,776	1,156,521	3,874,546
2058	-	-	-	6,560	5,079,282	1,158,925	3,926,916
2059	-	-	-	5,185	5,136,424	1,160,943	3,980,666
2060	-	-	-	4,136	5,194,209	1,162,179	4,036,166
2061	-	-	-	3,169	5,252,644	1,163,217	4,092,596
2062	-	-	-	2,305	5,311,736	1,164,833	4,149,208
2063	-	-	-	1,642	5,371,493	1,165,911	4,207,224
2064	-	-	-	1,148	5,431,922	1,166,908	4,266,162
2065	-	-	-	826	5,493,031	1,167,459	4,326,398
2066	-	-	-	593	5,554,828	1,167,742	4,387,679
2067	-	-	-	404	5,617,320	1,167,965	4,449,758
2068	-	-	-	264	5,680,515	1,168,149	4,512,629
2069	-	-	-	175	5,744,420	1,168,197	4,576,398
2070	-	-	-	116	5,809,045	1,168,160	4,641,002
2071	-	-	-	66	5,874,397	1,168,121	4,706,342



Single Discount Rate Development Projection of Contributions Ending December 31 for 2072 to 2121 (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)	Total Employer Contributions (e)	Employer Portion of New Entrant's Normal Cost (f)	Total Contributions (g)=(d)+(e)-(f)
2072	\$ -	\$ -	\$ -	\$ 30	\$ 5,940,484	\$ 1,168,105	\$ 4,772,409
2073	-	-	-	12	6,007,314	1,168,026	4,839,300
2074	-	-	-	2	6,074,897	1,167,957	4,906,942
2075	-	-	-	-	6,143,239	1,167,868	4,975,371
2076	-	-	-	-	6,212,351	1,167,785	5,044,565
2077	-	-	-	-	6,282,240	1,167,722	5,114,517
2078	-	-	-	-	6,352,915	1,167,668	5,185,247
2079	-	-	-	-	6,424,385	1,167,625	5,256,760
2080	-	-	-	-	6,496,659	1,167,603	5,329,056
2081	-	-	-	-	6,569,747	1,167,585	5,402,162
2082	-	-	-	-	6,643,656	1,167,569	5,476,087
2083	-	-	-	-	6,718,398	1,167,560	5,550,837
2084	-	-	-	-	6,793,980	1,167,555	5,626,424
2085	-	-	-	-	6,870,412	1,167,547	5,702,864
2086	-	-	-	-	6,947,704	1,167,541	5,780,163
2087	-	-	-	-	7,025,866	1,167,536	5,858,329
2088	-	-	-	-	7,104,907	1,167,533	5,937,373
2089	-	-	-	-	7,184,837	1,167,530	6,017,307
2090	-	-	-	-	7,265,666	1,167,530	6,098,136
2091	-	-	-	-	7,347,405	1,167,532	6,179,872
2092	-	-	-	-	7,430,063	1,167,538	6,262,525
2093	-	-	-	-	7,513,651	1,167,544	6,346,107
2094	-	-	-	-	7,598,180	1,167,552	6,430,628
2095	-	-	-	-	7,683,660	1,167,563	6,516,096
2096	-	-	-	-	7,770,101	1,167,575	6,602,525
2097	-	-	-	-	7,857,514	1,167,588	6,689,927
2098	-	-	-	-	7,945,911	1,167,600	6,778,311
2099	-	-	-	-	8,035,303	1,167,612	6,867,691
2100	-	-	-	-	8,125,700	1,167,623	6,958,077
2101	-	-	-	-	8,217,114	1,167,633	7,049,481
2102	-	-	-	-	8,309,557	1,167,641	7,141,916
2103	-	-	-	-	8,403,039	1,167,647	7,235,392
2104	-	-	-	-	8,497,573	1,167,651	7,329,923
2105	-	-	-	-	8,593,171	1,167,653	7,425,518
2106	-	-	-	-	8,689,844	1,167,653	7,522,191
2107	-	-	-	-	8,787,605	1,167,652	7,619,953
2108	-	-	-	-	8,886,466	1,167,649	7,718,816
2109	-	-	-	-	8,986,438	1,167,646	7,818,792
2110	-	-	-	-	9,087,536	1,167,642	7,919,893
2111	-	-	-	-	9,189,771	1,167,638	8,022,132
2112	-	-	-	-	9,293,155	1,167,634	8,125,522
2113	-	-	-	-	9,397,703	1,167,630	8,230,074
2114	-	-	-	-	9,503,428	1,167,626	8,335,802
2115	-	-	-	-	9,610,341	1,167,622	8,442,719
2116	-	-	-	-	9,718,458	1,167,619	8,550,838
2117	-	-	-	-	9,827,790	1,167,617	8,660,173
2118	-	-	-	-	9,938,353	1,167,615	8,770,738
2119	-	-	-	-	10,050,159	1,167,613	8,882,546
2120	-	-	-	-	10,163,224	1,167,612	8,995,612
2121	-	-	-	-	10,277,560	1,167,611	9,109,949



Single Discount Rate Development Projection of Plan Net Position Ending December 31 for 2022 to 2071

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)
2022	\$ 108,686,819	\$ 4,424,896	\$ 7,345,919	\$ 97,700	\$ (7,203,572)	\$ 98,464,524
2023	98,464,524	3,721,179	7,866,273	99,898	6,553,631	100,773,164
2024	100,773,164	3,648,894	8,119,894	102,146	6,699,645	102,899,663
2025	102,899,663	3,578,964	8,392,357	104,444	6,832,720	104,814,546
2026	104,814,546	3,510,825	8,643,925	106,794	6,952,163	106,526,815
2027	106,526,815	3,454,065	8,845,449	109,197	7,059,879	108,086,114
2028	108,086,114	3,411,366	9,017,853	111,654	7,158,636	109,526,609
2029	109,526,609	3,374,198	9,193,435	114,166	7,249,391	110,842,597
2030	110,842,597	3,344,349	9,345,177	116,735	7,332,720	112,057,755
2031	112,057,755	3,322,945	9,491,050	119,362	7,409,669	113,179,957
2032	113,179,957	3,303,484	9,624,389	122,048	7,480,779	114,217,784
2033	114,217,784	3,291,539	9,734,910	124,794	7,547,164	115,196,783
2034	115,196,783	3,281,304	9,830,529	127,602	7,610,102	116,130,059
2035	116,130,059	3,277,838	9,890,398	130,473	7,671,351	117,058,378
2036	117,058,378	3,278,176	9,933,128	133,409	7,733,028	118,005,045
2037	118,005,045	3,281,197	9,998,446	136,411	7,795,151	118,946,535
2038	118,946,535	3,282,987	10,058,488	139,480	7,857,122	119,888,676
2039	119,888,676	3,291,618	10,096,859	142,618	7,920,088	120,860,904
2040	120,860,904	3,300,474	10,110,302	145,827	7,985,938	121,891,188
2041	121,891,188	3,315,352	10,128,499	149,108	8,055,777	122,984,710
2042	122,984,710	3,327,452	10,156,934	152,463	8,129,478	124,132,243
2043	124,132,243	3,342,501	10,173,767	155,893	8,207,336	125,352,420
2044	125,352,420	3,360,931	10,153,679	159,401	8,291,479	126,691,750
2045	126,691,750	3,385,011	10,092,949	162,988	8,385,269	128,206,092
2046	128,206,092	3,411,185	10,018,501	166,655	8,491,487	129,923,608
2047	129,923,608	3,441,453	9,909,175	170,405	8,612,821	131,898,303
2048	131,898,303	3,476,337	9,775,885	174,239	8,752,596	134,177,111
2049	134,177,111	3,511,362	9,646,452	178,159	8,912,923	136,776,785
2050	136,776,785	3,548,774	9,484,317	182,168	9,096,240	139,755,314
2051	139,755,314	3,591,286	9,291,072	186,267	9,306,527	143,175,788
2052	143,175,788	3,634,639	9,099,560	190,458	9,546,833	147,067,241
2053	147,067,241	3,679,134	8,900,831	194,743	9,819,442	151,470,244
2054	151,470,244	3,724,977	8,694,115	199,125	10,127,145	156,429,126
2055	156,429,126	3,773,195	8,471,229	203,605	10,473,266	162,000,752
2056	162,000,752	3,823,205	8,236,792	208,186	10,861,495	168,240,475
2057	168,240,475	3,874,546	8,000,259	212,870	11,295,266	175,197,158
2058	175,197,158	3,926,916	7,759,307	217,660	11,777,970	182,925,077
2059	182,925,077	3,980,666	7,504,555	222,557	12,313,621	191,492,252
2060	191,492,252	4,036,166	7,239,983	227,565	12,906,725	200,967,595
2061	200,967,595	4,092,596	6,981,373	232,685	13,561,412	211,407,545
2062	211,407,545	4,149,208	6,724,420	237,920	14,281,640	222,876,052
2063	222,876,052	4,207,224	6,461,459	243,273	15,072,053	235,450,597
2064	235,450,597	4,266,162	6,194,534	248,747	15,937,836	249,211,314
2065	249,211,314	4,326,398	5,922,112	254,344	16,884,502	264,245,759
2066	264,245,759	4,387,679	5,649,326	260,067	17,917,824	280,641,869
2067	280,641,869	4,449,758	5,378,565	265,919	19,043,694	298,490,837
2068	298,490,837	4,512,629	5,109,132	271,902	20,268,337	317,890,769
2069	317,890,769	4,576,398	4,840,631	278,020	21,598,439	338,946,954
2070	338,946,954	4,641,002	4,574,059	284,275	23,041,125	361,770,747
2071	361,770,747	4,706,342	4,310,621	290,671	24,603,924	386,479,720



Single Discount Rate Development Projection of Plan Net Position Ending December 31 for 2072 to 2121 (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)
2072	\$ 386,479,720	\$ 4,772,409	\$ 4,050,079	\$ 297,211	\$ 26,294,837	\$ 413,199,676
2073	413,199,676	4,839,300	3,792,549	303,898	28,122,420	442,064,948
2074	442,064,948	4,906,942	3,538,954	310,736	30,095,772	473,217,971
2075	473,217,971	4,975,371	3,289,934	317,728	32,224,559	506,810,240
2076	506,810,240	5,044,565	3,046,536	324,877	34,519,048	543,002,440
2077	543,002,440	5,114,517	2,809,705	332,187	36,990,132	581,965,198
2078	581,965,198	5,185,247	2,580,349	339,661	39,649,385	623,879,819
2079	623,879,819	5,256,760	2,359,374	347,303	42,509,105	668,939,008
2080	668,939,008	5,329,056	2,147,661	355,117	45,582,366	717,347,652
2081	717,347,652	5,402,162	1,945,987	363,107	48,883,075	769,323,794
2082	769,323,794	5,476,087	1,754,992	371,277	52,426,039	825,099,652
2083	825,099,652	5,550,837	1,575,177	379,631	56,227,031	884,922,711
2084	884,922,711	5,626,424	1,406,847	388,173	60,302,870	949,056,986
2085	949,056,986	5,702,864	1,250,149	396,907	64,671,505	1,017,784,299
2086	1,017,784,299	5,780,163	1,105,097	405,837	69,352,099	1,091,405,627
2087	1,091,405,627	5,858,329	971,544	414,968	74,365,124	1,170,242,568
2088	1,170,242,568	5,937,373	849,232	424,305	79,732,457	1,254,638,862
2089	1,254,638,862	6,017,307	737,835	433,852	85,477,484	1,344,961,967
2090	1,344,961,967	6,098,136	636,943	443,614	91,625,206	1,441,604,752
2091	1,441,604,752	6,179,872	546,089	453,595	98,202,353	1,544,987,293
2092	1,544,987,293	6,262,525	464,774	463,801	105,237,508	1,655,558,751
2093	1,655,558,751	6,346,107	392,474	474,237	112,761,231	1,773,799,379
2094	1,773,799,379	6,430,628	328,642	484,907	120,806,198	1,900,222,655
2095	1,900,222,655	6,516,096	272,715	495,817	129,407,344	2,035,377,563
2096	2,035,377,563	6,602,525	224,114	506,973	138,602,020	2,179,851,022
2097	2,179,851,022	6,689,927	182,261	518,380	148,430,156	2,334,270,463
2098	2,334,270,463	6,778,311	146,584	530,044	158,934,437	2,499,306,583
2099	2,499,306,583	6,867,691	116,501	541,970	170,160,489	2,675,676,293
2100	2,675,676,293	6,958,077	91,430	554,164	182,157,083	2,864,145,859
2101	2,864,145,859	7,049,481	70,801	566,633	194,976,343	3,065,534,249
2102	3,065,534,249	7,141,916	54,060	579,382	208,673,978	3,280,716,700
2103	3,280,716,700	7,235,392	40,669	592,418	223,309,522	3,510,628,529
2104	3,510,628,529	7,329,923	30,121	605,747	238,946,595	3,756,269,178
2105	3,756,269,178	7,425,518	21,947	619,376	255,653,173	4,018,706,546
2106	4,018,706,546	7,522,191	15,723	633,312	273,501,889	4,299,081,592
2107	4,299,081,592	7,619,953	11,069	647,562	292,570,341	4,598,613,255
2108	4,598,613,255	7,718,816	7,656	662,132	312,941,427	4,918,603,711
2109	4,918,603,711	7,818,792	5,204	677,030	334,703,705	5,260,443,974
2110	5,260,443,974	7,919,893	3,478	692,263	357,951,772	5,625,619,898
2111	5,625,619,898	8,022,132	2,289	707,839	382,786,673	6,015,718,575
2112	6,015,718,575	8,125,522	1,487	723,765	409,316,334	6,432,435,179
2113	6,432,435,179	8,230,074	957	740,050	437,656,033	6,877,580,278
2114	6,877,580,278	8,335,802	613	756,701	467,928,890	7,353,087,655
2115	7,353,087,655	8,442,719	393	773,727	500,266,405	7,861,022,659
2116	7,861,022,659	8,550,838	254	791,136	534,809,023	8,403,591,130
2117	8,403,591,130	8,660,173	165	808,937	571,706,743	8,983,148,945
2118	8,983,148,945	8,770,738	109	827,138	611,119,765	9,602,212,201
2119	9,602,212,201	8,882,546	72	845,749	653,219,185	10,263,468,111
2120	10,263,468,111	8,995,612	48	864,778	698,187,732	10,969,786,628
2121	10,969,786,628	9,109,949	35	884,236	746,220,564	11,724,232,870



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2022 to 2071

Year	Projected 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)
2022	\$ 108,686,819	\$ 7,345,919	\$ 7,345,919	\$ 0	\$ 7,108,214	\$ 0	\$ 7,108,214
2023	98,464,524	7,866,273	7,866,273	0	7,127,088	0	7,127,088
2024	100,773,164	8,119,894	8,119,894	0	6,888,461	0	6,888,461
2025	102,899,663	8,392,357	8,392,357	0	6,666,296	0	6,666,296
2026	104,814,546	8,643,925	8,643,925	0	6,428,954	0	6,428,954
2027	106,526,815	8,845,449	8,845,449	0	6,159,961	0	6,159,961
2028	108,086,114	9,017,853	9,017,853	0	5,880,172	0	5,880,172
2029	109,526,609	9,193,435	9,193,435	0	5,612,979	0	5,612,979
2030	110,842,597	9,345,177	9,345,177	0	5,342,344	0	5,342,344
2031	112,057,755	9,491,050	9,491,050	0	5,080,277	0	5,080,277
2032	113,179,957	9,624,389	9,624,389	0	4,823,641	0	4,823,641
2033	114,217,784	9,734,910	9,734,910	0	4,568,383	0	4,568,383
2034	115,196,783	9,830,529	9,830,529	0	4,319,528	0	4,319,528
2035	116,130,059	9,890,398	9,890,398	0	4,069,133	0	4,069,133
2036	117,058,378	9,931,128	9,931,128	0	3,825,740	0	3,825,740
2037	118,005,045	9,998,446	9,998,446	0	3,606,435	0	3,606,435
2038	118,946,535	10,058,488	10,058,488	0	3,397,090	0	3,397,090
2039	119,888,676	10,096,859	10,096,859	0	3,192,930	0	3,192,930
2040	120,860,904	10,110,302	10,110,302	0	2,993,615	0	2,993,615
2041	121,891,188	10,128,499	10,128,499	0	2,808,055	0	2,808,055
2042	122,984,710	10,156,934	10,156,934	0	2,636,647	0	2,636,647
2043	124,132,243	10,173,767	10,173,767	0	2,472,862	0	2,472,862
2044	125,352,420	10,153,679	10,153,679	0	2,310,842	0	2,310,842
2045	126,691,750	10,092,949	10,092,949	0	2,150,768	0	2,150,768
2046	128,206,092	10,018,501	10,018,501	0	1,998,974	0	1,998,974
2047	129,923,608	9,909,175	9,909,175	0	1,851,273	0	1,851,273
2048	131,898,303	9,775,885	9,775,885	0	1,710,086	0	1,710,086
2049	134,177,111	9,646,452	9,646,452	0	1,580,004	0	1,580,004
2050	136,776,785	9,484,317	9,484,317	0	1,454,539	0	1,454,539
2051	139,755,314	9,291,072	9,291,072	0	1,334,178	0	1,334,178
2052	143,175,788	9,099,560	9,099,560	0	1,223,481	0	1,223,481
2053	147,067,241	8,900,831	8,900,831	0	1,120,562	0	1,120,562
2054	151,470,244	8,694,115	8,694,115	0	1,024,848	0	1,024,848
2055	156,429,126	8,471,229	8,471,229	0	934,995	0	934,995
2056	162,000,752	8,236,792	8,236,792	0	851,236	0	851,236
2057	168,240,475	8,000,259	8,000,259	0	774,149	0	774,149
2058	175,197,158	7,759,307	7,759,307	0	703,027	0	703,027
2059	182,925,077	7,504,555	7,504,555	0	636,653	0	636,653
2060	191,492,252	7,239,983	7,239,983	0	575,101	0	575,101
2061	200,967,595	6,981,373	6,981,373	0	519,250	0	519,250
2062	211,407,545	6,724,420	6,724,420	0	468,295	0	468,295
2063	222,876,052	6,461,459	6,461,459	0	421,331	0	421,331
2064	235,450,597	6,194,534	6,194,534	0	378,208	0	378,208
2065	249,211,314	5,922,112	5,922,112	0	338,553	0	338,553
2066	264,245,759	5,649,326	5,649,326	0	302,396	0	302,396
2067	280,641,869	5,378,565	5,378,565	0	269,572	0	269,572
2068	298,490,837	5,109,132	5,109,132	0	239,764	0	239,764
2069	317,890,769	4,840,631	4,840,631	0	212,700	0	212,700
2070	338,946,954	4,574,059	4,574,059	0	188,190	0	188,190
2071	361,770,747	4,310,621	4,310,621	0	166,059	0	166,059



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2072 to 2121 (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
2072	\$ 386,479,720	\$ 4,050,079	\$ 4,050,079	\$ 0	\$ 146,088	\$ 0	\$ 146,088
2073	413,199,676	3,792,549	3,792,549	0	128,089	0	128,089
2074	442,064,948	3,538,954	3,538,954	0	111,914	0	111,914
2075	473,217,971	3,289,934	3,289,934	0	97,415	0	97,415
2076	506,810,240	3,046,536	3,046,536	0	84,464	0	84,464
2077	543,002,440	2,809,705	2,809,705	0	72,938	0	72,938
2078	581,965,198	2,580,349	2,580,349	0	62,720	0	62,720
2079	623,879,819	2,359,374	2,359,374	0	53,697	0	53,697
2080	668,939,008	2,147,661	2,147,661	0	45,766	0	45,766
2081	717,347,652	1,945,987	1,945,987	0	38,828	0	38,828
2082	769,323,794	1,754,992	1,754,992	0	32,788	0	32,788
2083	825,099,652	1,575,177	1,575,177	0	27,555	0	27,555
2084	884,922,711	1,406,847	1,406,847	0	23,043	0	23,043
2085	949,056,986	1,250,149	1,250,149	0	19,173	0	19,173
2086	1,017,784,299	1,105,097	1,105,097	0	15,869	0	15,869
2087	1,091,405,627	971,544	971,544	0	13,063	0	13,063
2088	1,170,242,568	849,232	849,232	0	10,691	0	10,691
2089	1,254,638,862	737,835	737,835	0	8,698	0	8,698
2090	1,344,961,967	636,943	636,943	0	7,030	0	7,030
2091	1,441,604,752	546,089	546,089	0	5,644	0	5,644
2092	1,544,987,293	464,774	464,774	0	4,497	0	4,497
2093	1,655,558,751	392,474	392,474	0	3,556	0	3,556
2094	1,773,799,379	328,642	328,642	0	2,788	0	2,788
2095	1,900,222,655	272,715	272,715	0	2,166	0	2,166
2096	2,035,377,563	224,114	224,114	0	1,667	0	1,667
2097	2,179,851,022	182,261	182,261	0	1,269	0	1,269
2098	2,334,270,463	146,584	146,584	0	956	0	956
2099	2,499,306,583	116,501	116,501	0	711	0	711
2100	2,675,676,293	91,430	91,430	0	523	0	523
2101	2,864,145,859	70,801	70,801	0	379	0	379
2102	3,065,534,249	54,060	54,060	0	271	0	271
2103	3,280,716,700	40,669	40,669	0	191	0	191
2104	3,510,628,529	30,121	30,121	0	132	0	132
2105	3,756,269,178	21,947	21,947	0	90	0	90
2106	4,018,706,546	15,723	15,723	0	61	0	61
2107	4,299,081,592	11,069	11,069	0	40	0	40
2108	4,598,613,255	7,656	7,656	0	26	0	26
2109	4,918,603,711	5,204	5,204	0	16	0	16
2110	5,260,443,974	3,478	3,478	0	10	0	10
2111	5,625,619,898	2,289	2,289	0	6	0	6
2112	6,015,718,575	1,487	1,487	0	4	0	4
2113	6,432,435,179	957	957	0	2	0	2
2114	6,877,580,278	613	613	0	1	0	1
2115	7,353,087,655	393	393	0	1	0	1
2116	7,861,022,659	254	254	0	1	0	1
2117	8,403,591,130	165	165	0	0	0	0
2118	8,983,148,945	109	109	0	0	0	0
2119	9,602,212,201	72	72	0	0	0	0
2120	10,263,468,111	48	48	0	0	0	0
2121	10,969,786,628	35	35	0	0	0	0
Totals	\$	\$	\$	\$	\$ 131,772,680	\$ 0	\$ 131,772,680



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	The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year: <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.