

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, 2021





June 2, 2022

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, 2021 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 incorporates 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.

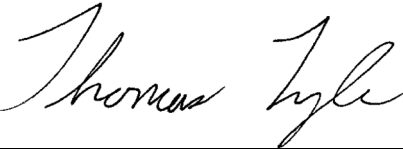
Paul T. Wood, Thomas A. Lyle, and Dana Woolfrey are members of the American Academy of Actuaries (MAAA) and are experienced in performing valuations for public retirement systems. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing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

Respectfully submitted,

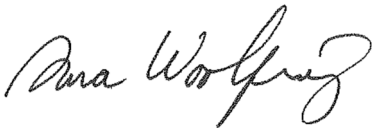
Gabriel, Roeder, Smith & Company

By 

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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2021

	2021	
Actuarial Valuation Date	January 1, 2021	
Measurement Date of the Net Pension Liability	December 31, 2021	
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2021	
 Membership		
Number of		
- Retirees and Beneficiaries	1,608	
- Inactive, Nonretired Members	2,101	
- Active Members	2,391	
- Total	6,100	
Covered Payroll	N/A	
 Net Pension Liability		
Total Pension Liability	\$	121,271,309
Plan Fiduciary Net Position		108,686,819
Net Pension Liability	\$	12,584,490
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		89.62 %
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*	1.84 %	
Last year ending December 31 in the 2021 to 2120 projection period for which projected benefit payments are fully funded	2120	
 Total Pension Expense	 \$	 (456,895)
 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	\$ 413,648	\$ 24,947
Changes in assumptions	508,863	0
Net difference between projected and actual earnings on pension plan investments	1,683,332	12,520,866
Total	\$ 2,605,843	\$ 12,545,813

*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, 2021. 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, 2021.

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 2120. 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, 2021 and a measurement date of December 31, 2021.



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 1.84% (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, 2021

A. Expense

1. Service Cost	\$	1,805,233
2. Interest on the Total Pension Liability		7,891,422
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(573,113)
5. Projected Earnings on Plan Investments (made negative for addition here)		(6,388,625)
6. Pension Plan Administrative Expense		95,155
7. Other Changes in Plan Fiduciary Net Position		3,410
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		129,015
9. Recognition of Outflow (Inflow) of Resources due to Assets		(3,419,392)
10. Total Pension Expense	\$	(456,895) *

* 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, 2021

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	151,112
2. Assumption Changes (gains) or losses	\$	646,349
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		4.7012
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	\$	32,143
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for assumption changes	\$	137,486
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$	169,629
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	\$	118,969
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for assumption changes	\$	508,863
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$	627,832

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(9,320,901)
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	\$	(1,864,180)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(7,456,721)



History of Deferred Outflows and Inflows of Resources by Source

Fiscal Year Ended December 31, 2021

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		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	Total	
Total	\$ -	\$ (211,035)	\$ (479,308)	\$ (3,538,907)	\$ (1,397,503)	\$ 441,209	\$ 361,487	\$ 151,112		
2014	-	-	-	-	-	-	-	-	-	-
2015	-	(56,144)	-	-	-	-	-	-	-	(56,144)
2016	-	(56,144)	(127,360)	-	-	-	-	-	-	(183,504)
2017	-	(56,144)	(127,360)	(838,385)	-	-	-	-	-	(1,021,889)
2018	-	(42,603)	(127,360)	(838,385)	(343,139)	-	-	-	-	(1,351,487)
2019	-	-	(97,228)	(838,385)	(343,139)	108,957	-	-	-	(1,169,795)
2020	-	-	-	(838,385)	(343,139)	108,957	90,573	-	-	(981,994)
2021	-	-	-	(185,367)	(343,139)	108,957	90,573	32,143	-	(296,833)
2022	-	-	-	-	(24,947)	108,957	90,573	32,143	-	206,726
2023	-	-	-	-	-	-	89,768	32,143	-	127,292
2024	-	-	-	-	-	-	-	32,143	-	32,143
2025	-	-	-	-	-	-	-	22,540	-	22,540
2026	-	-	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-	-	-
	\$ -	\$ (211,035)	\$ (479,308)	\$ (3,538,907)	\$ (1,397,503)	\$ 441,209	\$ 361,487	\$ 151,112	\$ (4,672,945)	\$ 388,701

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		
	2014	2015	2016	2017	2018	2019	2020	2021	Total	
Total	\$ 389,295	\$ (472,252)	\$ -	\$ 5,273,789	\$ -	\$ -	\$ -	\$ 646,349		
2014	53,882	-	-	-	-	-	-	-	53,882	-
2015	53,882	(125,639)	-	-	-	-	-	-	(71,757)	-
2016	53,882	(125,639)	-	-	-	-	-	-	(71,757)	-
2017	53,882	(125,639)	-	1,249,387	-	-	-	-	1,177,630	-
2018	53,882	(95,335)	-	1,249,387	-	-	-	-	1,207,934	-
2019	53,882	-	-	1,249,387	-	-	-	-	1,303,269	-
2020	53,882	-	-	1,249,387	-	-	-	-	1,303,269	-
2021	12,121	-	-	276,241	-	-	-	-	425,848	-
2022	-	-	-	-	-	-	-	137,486	137,486	\$ 508,863
2023	-	-	-	-	-	-	-	137,486	137,486	-
2024	-	-	-	-	-	-	-	137,486	137,486	-
2025	-	-	-	-	-	-	-	137,486	137,486	-
2026	-	-	-	-	-	-	-	96,405	96,405	-
Thereafter	-	-	-	-	-	-	-	-	-	-
	\$ 389,295	\$ (472,252)	\$ -	\$ 5,273,789	\$ -	\$ -	\$ -	\$ 646,349	\$ 5,837,181	

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		
	2014	2015	2016	2017	2018	2019	2020	2021	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)		
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)	(2,433,445)	\$ (10,837,534)
2023	-	-	-	-	-	(1,693,646)	(558,951)	(1,864,180)	(4,116,777)	-
2024	-	-	-	-	-	-	(558,951)	(1,864,180)	(2,423,131)	-
2025	-	-	-	-	-	-	(558,951)	(1,864,181)	(1,864,181)	-
2026	-	-	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-	-	-
	\$ 2,065,788	\$ 6,323,926	\$ 491,432	\$ (4,929,730)	\$ 8,416,656	\$ (8,468,230)	\$ (2,794,755)	\$ (9,320,901)	\$ (8,215,814)	

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

	2014	2015	2016	2017	2018	2019	2020	2021	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)		
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)	(2,089,233)	\$ (9,939,970)
2023	-	-	-	-	-	(1,688,265)	(469,183)	(1,694,551)	(3,851,999)	-
2024	-	-	-	-	-	-	(558,951)	(1,694,551)	(2,253,502)	-
2025	-	-	-	-	-	-	-	(1,745,236)	(1,745,236)	-
2026	-	-	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-	-	-
	\$ 2,455,083	\$ 5,640,639	\$ 12,124	\$ (3,194,848)	\$ 7,019,153	\$ (8,027,021)	\$ (2,433,268)	\$ (8,523,440)	\$ (7,051,578)	



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

Fiscal Year Ended December 31, 2021

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	\$ 657,521	\$ 528,506	\$ 129,015
2. Due to Assets	1,683,331	5,102,723	(3,419,392)
3. Total	\$ 2,340,852	\$ 5,631,229	\$ (3,290,377)

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	\$ 528,506	\$ (296,833)
2. Assumption Changes	425,848	0	425,848
3. Net Difference between projected and actual earnings on pension plan investments	1,683,331	5,102,723	(3,419,392)
4. Total	\$ 2,340,852	\$ 5,631,229	\$ (3,290,377)

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	\$ 413,648	\$ 24,947	\$ 388,701
2. Assumption Changes	508,863	0	508,863
3. Net Difference between projected and actual earnings on pension plan investments	1,683,332	12,520,866	(10,837,534)
4. Total	\$ 2,605,843	\$ 12,545,813	\$ (9,939,970)

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
2022	\$ (2,089,233)
2023	(3,851,999)
2024	(2,253,502)
2025	(1,745,236)
2026	0
Thereafter	0
Total	\$ (9,939,970)



Statement of Fiduciary Net Position as of December 31, 2021

	2021
Assets	
Cash and Deposits	\$ 6,731,153
Receivables	
Accounts Receivable - Sale of Investments	\$ 102,519
Accrued Interest and Other Dividends	246,482
Contributions	40,150
Accounts Receivable - Other	10,402,155
Total Receivables	\$ 10,791,306
Investments	
Fixed Income	\$ 19,420,979
Equities	51,095,260
Private Markets	11,072,520
Marketable Alternatives	18,508,565
Security Lending Collateral	5,612,878
Capital Assets, at Cost, Net of Accumulated Depreciation	25,719
Total Investments	\$ 105,735,921
Total Assets	\$ 123,258,380
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 14,428,609
Accrued Expenses	137,243
Accounts Payable - Other	5,709
Total Liabilities	\$ 14,571,561
Net Position Restricted for Pensions	\$ 108,686,819



Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2021

	2021
Additions	
Contributions	
Employer	\$ 0
Employee	556,552
Other Employer Contributions	4,670,469
Other Employee Contributions	16,561
Total Contributions	\$ 5,243,582
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 14,526,385
Interest and Dividends	1,749,046
Less Investment Expense	(565,905)
Net Investment Income	\$ 15,709,526
Other	\$ 0
Total Additions	\$ 20,953,108
Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 7,059,693
Pension Plan Administrative Expense	95,155
Other	3,410
Total Deductions	\$ 7,158,258
Net Increase in Net Position	\$ 13,794,850
Net Position Restricted for Pensions	
Beginning of Year	\$ 94,891,969
End of Year	\$ 108,686,819



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, 2021

A. Total pension liability	
1. Service cost	\$ 1,805,233
2. Interest on the total pension liability	7,891,422
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	151,112
5. Changes of assumptions	646,349
6. Benefit payments, including refunds of employee contributions	(7,059,693)
7. Net change in total pension liability	<u>3,434,423</u>
8. Total pension liability – beginning	<u>117,836,886</u>
9. Total pension liability – ending	<u><u>\$ 121,271,309</u></u>
B. Plan fiduciary net position	
1. Contributions – employer	\$ 4,670,469
2. Contributions – employee	573,113
3. Net investment income	15,709,526
4. Benefit payments, including refunds of employee contributions	(7,059,693)
5. Pension plan administrative expense	(95,155)
6. Other	(3,410)
7. Net change in plan fiduciary net position	<u>13,794,850</u>
8. Plan fiduciary net position – beginning	<u>94,891,969</u>
9. Plan fiduciary net position – ending	<u><u>\$ 108,686,819</u></u>
C. Net pension liability	<u><u>\$ 12,584,490</u></u>
D. Plan fiduciary net position as a percentage of the total pension liability	89.62 %
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

Fiscal year ending December 31,	2021	2020	2019	2018	2017	2016	2015
Total pension liability							
Service cost	\$ 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	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	21,809,884
Difference between expected and actual experience	151,112	361,487	441,209	(1,397,503)	(3,538,907)	(479,308)	(211,035)
Changes of assumptions	646,349	0	0	0	5,273,789	0	(472,252)
Benefit payments, including refunds of employee contributions	(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	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	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)	\$ 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	\$ 4,670,469	\$ 5,509,382	\$ 3,118,824	\$ 2,959,943	\$ 3,290,994	\$ 3,198,930	\$ 2,238,612
Employee contributions	573,113	520,788	437,255	434,522	425,592	459,363	417,406
Pension plan net investment income	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	(7,059,693)	(6,810,666)	(6,506,775)	(6,145,822)	(5,813,888)	(5,541,861)	(4,867,630)
Pension plan administrative expense	(95,155)	(86,519)	(89,451)	(91,195)	(88,835)	(80,904)	(73,412)
Other	(3,410)	(3,290)	(3,455)	(3,201)	(3,453)	(3,453)	(3,470)
Net change in plan fiduciary net position	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	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)	\$ 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)	\$ 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	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
Net pension liability as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes to Schedule:

For 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



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

* 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, 2021
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	27 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	0.00%
Investment Rate of Return	7.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2018 valuation pursuant to an experience study of the period 2012 - 2016.
Post-Retirement Mortality	RP-2014 Healthy Annuitant Mortality Table, fully generational, projected with Scale MP-2017 Males: No set back with a multiplier of 100% Females: No set back with a multiplier of 88%
Pre-Retirement Mortality	RP-2014 Employee Mortality Table, fully generational, projected with Scale MP-2017 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 %

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%
\$ 27,264,241	\$ 12,584,490	\$ 488,308



Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,608
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,101
Active Plan Members	<u>2,391</u>
Total Plan Members	6,100



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 \$15.00 (\$18.75 effective July 1, 2020) per month for volunteer firefighters and EMT
\$30.00 (\$37.50 effective July 1, 2020) 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, 2021 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 a 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 27 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 2021 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%	0.26%	0.20%
55	0.19%	0.11%	0.37%	0.25%
60	0.27%	0.16%	0.53%	0.34%
65	0.40%	0.26%	0.79%	0.55%
70	0.61%	0.43%	1.33%	0.95%
75			2.35%	1.70%
80			4.23%	3.06%
85			7.80%	5.81%
90			13.69%	11.04%
95			21.90%	18.55%
100			31.55%	28.06%



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 1.84%; 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 2021 to 2070

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)
2021	N/A	N/A	N/A	\$ 573,113	\$ 4,670,469	\$ -	\$ 5,243,582
2022	-	-	-	387,670	2,833,807	72,389	3,149,089
2023	-	-	-	361,367	2,865,687	139,721	3,087,333
2024	-	-	-	336,168	2,897,926	202,690	3,031,404
2025	-	-	-	311,289	2,930,528	265,404	2,976,414
2026	-	-	-	288,479	2,963,496	327,742	2,924,234
2027	-	-	-	268,696	2,996,836	380,726	2,884,806
2028	-	-	-	250,324	3,030,550	428,055	2,852,820
2029	-	-	-	232,645	3,064,644	473,381	2,823,908
2030	-	-	-	216,427	3,099,121	516,427	2,799,121
2031	-	-	-	201,132	3,133,986	553,605	2,781,514
2032	-	-	-	186,744	3,169,244	591,298	2,764,690
2033	-	-	-	173,377	3,204,898	622,937	2,755,337
2034	-	-	-	160,559	3,240,953	654,830	2,746,682
2035	-	-	-	148,874	3,277,413	682,877	2,743,410
2036	-	-	-	137,896	3,314,284	708,333	2,743,848
2037	-	-	-	126,911	3,351,570	732,023	2,746,458
2038	-	-	-	116,191	3,389,275	756,770	2,748,696
2039	-	-	-	106,055	3,427,405	778,332	2,755,127
2040	-	-	-	96,564	3,465,963	799,504	2,763,023
2041	-	-	-	87,307	3,504,955	817,181	2,775,081
2042	-	-	-	77,816	3,544,386	836,698	2,785,503
2043	-	-	-	68,646	3,584,260	854,942	2,797,963
2044	-	-	-	60,467	3,624,583	872,436	2,812,614
2045	-	-	-	53,303	3,665,359	885,331	2,833,331
2046	-	-	-	46,600	3,706,595	897,616	2,855,579
2047	-	-	-	40,813	3,748,294	908,089	2,881,018
2048	-	-	-	35,497	3,790,462	915,785	2,910,174
2049	-	-	-	30,251	3,833,105	923,982	2,939,374
2050	-	-	-	25,880	3,876,227	931,428	2,970,679
2051	-	-	-	22,224	3,919,835	935,466	3,006,593
2052	-	-	-	18,782	3,963,933	939,767	3,042,948
2053	-	-	-	15,694	4,008,527	943,247	3,080,975
2054	-	-	-	12,947	4,053,623	946,344	3,120,226
2055	-	-	-	10,630	4,099,227	948,737	3,161,119
2056	-	-	-	8,677	4,145,343	950,418	3,203,602
2057	-	-	-	6,891	4,191,978	951,770	3,247,099
2058	-	-	-	5,262	4,239,138	953,392	3,291,008
2059	-	-	-	3,981	4,286,828	954,749	3,336,059
2060	-	-	-	3,052	4,335,055	955,450	3,382,657
2061	-	-	-	2,274	4,383,824	955,832	3,430,267
2062	-	-	-	1,619	4,433,142	956,477	3,478,284
2063	-	-	-	1,159	4,483,015	956,859	3,527,316
2064	-	-	-	827	4,533,449	957,090	3,577,187
2065	-	-	-	585	4,584,450	957,268	3,627,767
2066	-	-	-	407	4,636,025	957,372	3,679,060
2067	-	-	-	259	4,688,181	957,476	3,730,964
2068	-	-	-	148	4,740,923	957,621	3,783,450
2069	-	-	-	86	4,794,258	957,688	3,836,657
2070	-	-	-	51	4,848,193	957,695	3,890,550



Single Discount Rate Development Projection of Contributions Ending December 31 for 2071 to 2120 (concluded)

Year	Payroll		Total Employee Payroll (c)	Contributions from Current Employees (d)	Total Employer Contributions (e)	Employer Portion of New Entrant's		Total Contributions (g)=(d)+(e)-(f)
	Employees (a)	Future Employees (b)=max(0,(c)-(a))				Normal Cost (f)		
2071	\$ -	\$ -	\$ -	\$ 23	\$ 4,902,736	\$ 957,708	\$ 3,945,051	
2072	-	-	-	6	4,957,891	957,739	4,000,158	
2073	-	-	-	1	5,013,668	957,742	4,055,927	
2074	-	-	-	1	5,070,071	957,743	4,112,329	
2075	-	-	-	-	5,127,110	957,749	4,169,361	
2076	-	-	-	-	5,184,790	957,762	4,227,027	
2077	-	-	-	-	5,243,119	957,780	4,285,338	
2078	-	-	-	-	5,302,104	957,801	4,344,302	
2079	-	-	-	-	5,361,752	957,824	4,403,929	
2080	-	-	-	-	5,422,072	957,854	4,464,218	
2081	-	-	-	-	5,483,070	957,882	4,525,188	
2082	-	-	-	-	5,544,755	957,909	4,586,846	
2083	-	-	-	-	5,607,133	957,933	4,649,201	
2084	-	-	-	-	5,670,214	957,955	4,712,259	
2085	-	-	-	-	5,734,004	957,971	4,776,033	
2086	-	-	-	-	5,798,511	957,981	4,840,530	
2087	-	-	-	-	5,863,744	957,984	4,905,760	
2088	-	-	-	-	5,929,711	957,984	4,971,728	
2089	-	-	-	-	5,996,421	957,978	5,038,443	
2090	-	-	-	-	6,063,880	957,969	5,105,912	
2091	-	-	-	-	6,132,099	957,958	5,174,141	
2092	-	-	-	-	6,201,085	957,946	5,243,140	
2093	-	-	-	-	6,270,847	957,932	5,312,915	
2094	-	-	-	-	6,341,394	957,919	5,383,475	
2095	-	-	-	-	6,412,735	957,906	5,454,829	
2096	-	-	-	-	6,484,878	957,896	5,526,982	
2097	-	-	-	-	6,557,833	957,887	5,599,947	
2098	-	-	-	-	6,631,609	957,879	5,673,730	
2099	-	-	-	-	6,706,215	957,872	5,748,342	
2100	-	-	-	-	6,781,659	957,868	5,823,791	
2101	-	-	-	-	6,857,953	957,865	5,900,088	
2102	-	-	-	-	6,935,105	957,863	5,977,242	
2103	-	-	-	-	7,013,125	957,862	6,055,263	
2104	-	-	-	-	7,092,023	957,862	6,134,161	
2105	-	-	-	-	7,171,808	957,862	6,213,946	
2106	-	-	-	-	7,252,491	957,864	6,294,627	
2107	-	-	-	-	7,334,081	957,865	6,376,216	
2108	-	-	-	-	7,416,590	957,867	6,458,723	
2109	-	-	-	-	7,500,026	957,869	6,542,157	
2110	-	-	-	-	7,584,402	957,872	6,626,530	
2111	-	-	-	-	7,669,726	957,874	6,711,852	
2112	-	-	-	-	7,756,011	957,876	6,798,134	
2113	-	-	-	-	7,843,266	957,878	6,885,387	
2114	-	-	-	-	7,931,502	957,880	6,973,622	
2115	-	-	-	-	8,020,732	957,882	7,062,850	
2116	-	-	-	-	8,110,965	957,884	7,153,081	
2117	-	-	-	-	8,202,213	957,886	7,244,328	
2118	-	-	-	-	8,294,488	957,887	7,336,601	
2119	-	-	-	-	8,387,801	957,888	7,429,913	
2120	-	-	-	-	8,482,164	957,889	7,524,275	



Single Discount Rate Development Projection of Plan Net Position Ending December 31 for 2021 to 2070

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)
2021	\$ 94,891,969	\$ 5,243,582	\$ 7,308,020	\$ 94,800	\$ 6,380,447	\$ 99,113,178
2022	99,113,178	3,149,089	7,574,527	96,933	6,588,464	101,179,270
2023	101,179,270	3,087,333	7,857,755	99,114	6,717,349	103,027,084
2024	103,027,084	3,031,404	8,126,768	101,344	6,832,059	104,662,435
2025	104,662,435	2,976,414	8,406,239	103,624	6,932,002	106,060,988
2026	106,060,988	2,924,234	8,660,832	105,956	7,016,767	107,235,202
2027	107,235,202	2,884,806	8,866,286	108,340	7,088,345	108,233,726
2028	108,233,726	2,852,820	9,043,788	110,778	7,149,158	109,081,138
2029	109,081,138	2,823,908	9,218,620	113,271	7,199,885	109,773,039
2030	109,773,039	2,799,121	9,376,667	115,820	7,240,735	110,320,408
2031	110,320,408	2,781,514	9,521,886	118,426	7,272,424	110,734,033
2032	110,734,033	2,764,690	9,655,166	121,091	7,295,441	111,017,908
2033	111,017,908	2,755,337	9,759,333	123,816	7,310,858	111,200,953
2034	111,200,953	2,746,682	9,851,820	126,602	7,319,829	111,289,043
2035	111,289,043	2,743,410	9,908,611	129,451	7,323,716	111,318,106
2036	111,318,106	2,743,848	9,943,700	132,364	7,324,436	111,310,326
2037	111,310,326	2,746,458	10,003,829	135,342	7,321,884	111,239,497
2038	111,239,497	2,748,696	10,060,900	138,387	7,315,132	111,104,038
2039	111,104,038	2,755,127	10,090,775	141,501	7,305,032	110,931,921
2040	110,931,921	2,763,023	10,098,962	144,685	7,293,212	110,744,508
2041	110,744,508	2,775,081	10,108,214	147,940	7,280,453	110,543,888
2042	110,543,888	2,785,503	10,125,975	151,269	7,266,454	110,318,601
2043	110,318,601	2,797,963	10,138,341	154,673	7,251,024	110,074,574
2044	110,074,574	2,812,614	10,106,222	158,153	7,235,878	109,858,691
2045	109,858,691	2,833,331	10,030,234	161,711	7,224,313	109,724,390
2046	109,724,390	2,855,579	9,942,801	165,349	7,218,726	109,690,545
2047	109,690,545	2,881,018	9,818,781	169,069	7,221,299	109,805,012
2048	109,805,012	2,910,174	9,675,308	172,873	7,234,728	110,101,733
2049	110,101,733	2,939,374	9,535,801	176,763	7,260,417	110,588,959
2050	110,588,959	2,970,679	9,359,988	180,740	7,300,341	111,319,251
2051	111,319,251	3,006,593	9,153,531	184,807	7,357,970	112,345,476
2052	112,345,476	3,042,948	8,947,764	188,965	7,435,711	113,687,406
2053	113,687,406	3,080,975	8,729,791	193,217	7,535,381	115,380,755
2054	115,380,755	3,120,226	8,506,227	197,564	7,659,172	117,456,362
2055	117,456,362	3,161,119	8,268,448	202,009	7,809,484	119,956,509
2056	119,956,509	3,203,602	8,019,899	206,554	7,989,074	122,922,732
2057	122,922,732	3,247,099	7,773,851	211,201	8,200,305	126,385,083
2058	126,385,083	3,291,008	7,529,528	215,953	8,445,224	130,375,835
2059	130,375,835	3,336,059	7,271,952	220,812	8,726,553	134,945,683
2060	134,945,683	3,382,657	7,002,215	225,780	9,047,715	140,148,059
2061	140,148,059	3,430,267	6,733,684	230,860	9,411,879	146,025,660
2062	146,025,660	3,478,284	6,465,652	236,054	9,821,951	152,624,189
2063	152,624,189	3,527,316	6,191,830	241,365	10,281,270	159,999,579
2064	159,999,579	3,577,187	5,917,003	246,796	10,793,473	168,206,439
2065	168,206,439	3,627,767	5,643,508	252,349	11,362,191	177,300,540
2066	177,300,540	3,679,060	5,371,927	258,027	11,991,197	187,340,844
2067	187,340,844	3,730,964	5,103,796	263,833	12,684,446	198,388,624
2068	198,388,624	3,783,450	4,838,273	269,769	13,446,131	210,510,163
2069	210,510,163	3,836,657	4,574,460	275,839	14,280,794	223,777,315
2070	223,777,315	3,890,550	4,313,317	282,045	15,193,288	238,265,791





Single Discount Rate Development

Projection of Plan Net Position

Ending December 31 for 2071 to 2120 (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)
2071	\$ 238,265,791	\$ 3,945,051	\$ 4,055,814	\$ 288,391	\$ 16,188,726	\$ 254,055,363
2072	254,055,363	4,000,158	3,801,809	294,880	17,272,537	271,231,368
2073	271,231,368	4,055,927	3,551,371	301,515	18,450,523	289,884,932
2074	289,884,932	4,112,329	3,305,427	308,299	19,728,849	310,112,384
2075	310,112,384	4,169,361	3,064,719	315,236	21,114,041	332,015,831
2076	332,015,831	4,227,027	2,829,900	322,329	22,613,019	355,703,648
2077	355,703,648	4,285,338	2,601,826	329,581	24,233,125	381,290,705
2078	381,290,705	4,344,302	2,381,386	336,997	25,982,140	408,898,764
2079	408,898,764	4,403,929	2,169,471	344,579	27,868,315	438,656,958
2080	438,656,958	4,464,218	1,966,947	352,332	29,900,402	470,702,299
2081	470,702,299	4,525,188	1,774,573	360,259	32,087,692	505,180,347
2082	505,180,347	4,586,846	1,592,975	368,365	34,440,063	542,245,916
2083	542,245,916	4,649,201	1,422,647	376,653	36,968,025	582,063,842
2084	582,063,842	4,712,259	1,263,875	385,128	39,682,779	624,809,876
2085	624,809,876	4,776,033	1,116,780	393,793	42,596,271	670,671,608
2086	670,671,608	4,840,530	981,339	402,653	45,721,259	719,849,404
2087	719,849,404	4,905,760	857,346	411,713	49,071,374	772,557,479
2088	772,557,479	4,971,728	744,476	420,977	52,661,194	829,024,947
2089	829,024,947	5,038,443	642,323	430,449	56,506,312	889,496,929
2090	889,496,929	5,105,912	550,392	440,134	60,623,413	954,235,728
2091	954,235,728	5,174,141	468,138	450,037	65,030,353	1,023,522,047
2092	1,023,522,047	5,243,140	394,999	460,163	69,746,237	1,097,656,262
2093	1,097,656,262	5,312,915	330,403	470,517	74,791,511	1,176,959,768
2094	1,176,959,768	5,383,475	273,781	481,104	80,188,048	1,261,776,406
2095	1,261,776,406	5,454,829	224,561	491,929	85,959,250	1,352,473,995
2096	1,352,473,995	5,526,982	182,168	502,997	92,130,146	1,449,445,958
2097	1,449,445,958	5,599,947	146,033	514,314	98,727,510	1,553,113,067
2098	1,553,113,067	5,673,730	115,588	525,886	105,779,972	1,663,925,296
2099	1,663,925,296	5,748,342	90,256	537,718	113,318,150	1,782,363,814
2100	1,782,363,814	5,823,791	69,458	549,817	121,374,783	1,908,943,113
2101	1,908,943,113	5,900,088	52,632	562,188	129,984,876	2,044,213,256
2102	2,044,213,256	5,977,242	39,235	574,837	139,185,850	2,188,762,277
2103	2,188,762,277	6,055,263	28,746	587,771	149,017,711	2,343,218,734
2104	2,343,218,734	6,134,161	20,679	600,996	159,523,216	2,508,254,436
2105	2,508,254,436	6,213,946	14,592	614,518	170,748,063	2,684,587,335
2106	2,684,587,335	6,294,627	10,091	628,345	182,741,087	2,872,984,613
2107	2,872,984,613	6,376,216	6,833	642,483	195,554,466	3,074,265,979
2108	3,074,265,979	6,458,723	4,526	656,939	209,243,952	3,289,307,189
2109	3,289,307,189	6,542,157	2,930	671,720	223,869,103	3,519,043,799
2110	3,519,043,799	6,626,530	1,853	686,834	239,493,545	3,764,475,187
2111	3,764,475,187	6,711,852	1,143	702,288	256,185,239	4,026,668,848
2112	4,026,668,848	6,798,134	688	718,089	274,016,781	4,306,764,986
2113	4,306,764,986	6,885,387	404	734,246	293,065,705	4,605,981,428
2114	4,605,981,428	6,973,622	231	750,767	313,414,827	4,925,618,880
2115	4,925,618,880	7,062,850	129	767,659	335,152,596	5,267,066,538
2116	5,267,066,538	7,153,081	70	784,931	358,373,479	5,631,808,096
2117	5,631,808,096	7,244,328	37	802,592	383,178,366	6,021,428,162
2118	6,021,428,162	7,336,601	19	820,650	409,675,013	6,437,619,107
2119	6,437,619,107	7,429,913	10	839,115	437,978,501	6,882,188,397
2120	6,882,188,397	7,524,275	7	857,995	468,211,737	7,357,066,406



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2021 to 2070

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))
2021	\$ 94,891,969	\$ 7,308,020	\$ 7,308,020	\$ 0	\$ 7,071,542	\$ 0	\$ 7,071,542
2022	99,113,178	7,574,527	7,574,527	0	6,862,758	0	6,862,758
2023	101,179,270	7,857,755	7,857,755	0	6,666,077	0	6,666,077
2024	103,027,084	8,126,768	8,126,768	0	6,455,331	0	6,455,331
2025	104,662,435	8,406,239	8,406,239	0	6,252,175	0	6,252,175
2026	106,060,988	8,660,832	8,660,832	0	6,031,394	0	6,031,394
2027	107,235,202	8,866,286	8,866,286	0	5,781,341	0	5,781,341
2028	108,233,726	9,043,788	9,043,788	0	5,521,613	0	5,521,613
2029	109,081,138	9,218,620	9,218,620	0	5,269,996	0	5,269,996
2030	109,773,039	9,376,667	9,376,667	0	5,019,051	0	5,019,051
2031	110,320,408	9,521,886	9,521,886	0	4,772,268	0	4,772,268
2032	110,734,033	9,655,166	9,655,166	0	4,530,961	0	4,530,961
2033	111,017,908	9,759,333	9,759,333	0	4,288,244	0	4,288,244
2034	111,200,953	9,851,820	9,851,820	0	4,053,261	0	4,053,261
2035	111,289,043	9,908,611	9,908,611	0	3,817,065	0	3,817,065
2036	111,318,106	9,943,700	9,943,700	0	3,586,688	0	3,586,688
2037	111,310,326	10,003,829	10,003,829	0	3,378,630	0	3,378,630
2038	111,239,497	10,060,900	10,060,900	0	3,181,559	0	3,181,559
2039	111,104,038	10,090,775	10,090,775	0	2,987,833	0	2,987,833
2040	110,931,921	10,098,962	10,098,962	0	2,799,866	0	2,799,866
2041	110,744,508	10,108,214	10,108,214	0	2,624,000	0	2,624,000
2042	110,543,888	10,125,975	10,125,975	0	2,461,245	0	2,461,245
2043	110,318,601	10,138,341	10,138,341	0	2,307,351	0	2,307,351
2044	110,074,574	10,106,222	10,106,222	0	2,153,597	0	2,153,597
2045	109,858,691	10,030,234	10,030,234	0	2,001,315	0	2,001,315
2046	109,724,390	9,942,801	9,942,801	0	1,857,556	0	1,857,556
2047	109,690,545	9,818,781	9,818,781	0	1,717,589	0	1,717,589
2048	109,805,012	9,675,308	9,675,308	0	1,584,730	0	1,584,730
2049	110,101,733	9,535,801	9,535,801	0	1,462,435	0	1,462,435
2050	110,588,959	9,359,988	9,359,988	0	1,344,074	0	1,344,074
2051	111,319,251	9,153,531	9,153,531	0	1,230,738	0	1,230,738
2052	112,345,476	8,947,764	8,947,764	0	1,126,471	0	1,126,471
2053	113,687,406	8,729,791	8,729,791	0	1,029,054	0	1,029,054
2054	115,380,755	8,506,227	8,506,227	0	938,858	0	938,858
2055	117,456,362	8,268,448	8,268,448	0	854,507	0	854,507
2056	119,956,509	8,019,899	8,019,899	0	776,050	0	776,050
2057	122,922,732	7,773,851	7,773,851	0	704,345	0	704,345
2058	126,385,083	7,529,528	7,529,528	0	638,772	0	638,772
2059	130,375,835	7,271,952	7,271,952	0	577,641	0	577,641
2060	134,945,683	7,002,215	7,002,215	0	520,800	0	520,800
2061	140,148,059	6,733,684	6,733,684	0	468,940	0	468,940
2062	146,025,660	6,465,652	6,465,652	0	421,605	0	421,605
2063	152,624,189	6,191,830	6,191,830	0	378,043	0	378,043
2064	159,999,579	5,917,003	5,917,003	0	338,261	0	338,261
2065	168,206,439	5,643,508	5,643,508	0	302,084	0	302,084
2066	177,300,540	5,371,927	5,371,927	0	269,239	0	269,239
2067	187,340,844	5,103,796	5,103,796	0	239,514	0	239,514
2068	198,388,624	4,838,273	4,838,273	0	212,596	0	212,596
2069	210,510,163	4,574,460	4,574,460	0	188,206	0	188,206
2070	223,777,315	4,313,317	4,313,317	0	166,163	0	166,163



Single Discount Rate Development Present Values of Projected Benefits Ending December 31 for 2071 to 2120 (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}
2071	\$ 238,265,791	\$ 4,055,814	\$ 4,055,814	\$ 0	\$ 146,295	\$ 0	\$ 146,295
2072	254,055,363	3,801,809	3,801,809	0	128,402	0	128,402
2073	271,231,368	3,551,371	3,551,371	0	112,307	0	112,307
2074	289,884,932	3,305,427	3,305,427	0	97,874	0	97,874
2075	310,112,384	3,064,719	3,064,719	0	84,968	0	84,968
2076	332,015,831	2,829,900	2,829,900	0	73,463	0	73,463
2077	355,703,648	2,601,826	2,601,826	0	63,242	0	63,242
2078	381,290,705	2,381,386	2,381,386	0	54,198	0	54,198
2079	408,898,764	2,169,471	2,169,471	0	46,231	0	46,231
2080	438,656,958	1,966,947	1,966,947	0	39,247	0	39,247
2081	470,702,299	1,774,573	1,774,573	0	33,154	0	33,154
2082	505,180,347	1,592,975	1,592,975	0	27,866	0	27,866
2083	542,245,916	1,422,647	1,422,647	0	23,302	0	23,302
2084	582,063,842	1,263,875	1,263,875	0	19,383	0	19,383
2085	624,809,876	1,116,780	1,116,780	0	16,037	0	16,037
2086	670,671,608	981,339	981,339	0	13,195	0	13,195
2087	719,849,404	857,346	857,346	0	10,794	0	10,794
2088	772,557,479	744,476	744,476	0	8,776	0	8,776
2089	829,024,947	642,323	642,323	0	7,090	0	7,090
2090	889,496,929	550,392	550,392	0	5,688	0	5,688
2091	954,235,728	468,138	468,138	0	4,530	0	4,530
2092	1,023,522,047	394,999	394,999	0	3,579	0	3,579
2093	1,097,656,262	330,403	330,403	0	2,803	0	2,803
2094	1,176,959,768	273,781	273,781	0	2,175	0	2,175
2095	1,261,776,406	224,561	224,561	0	1,670	0	1,670
2096	1,352,473,995	182,168	182,168	0	1,269	0	1,269
2097	1,449,445,958	146,033	146,033	0	952	0	952
2098	1,553,113,067	115,588	115,588	0	706	0	706
2099	1,663,925,296	90,256	90,256	0	516	0	516
2100	1,782,363,814	69,458	69,458	0	372	0	372
2101	1,908,943,113	52,632	52,632	0	264	0	264
2102	2,044,213,256	39,235	39,235	0	184	0	184
2103	2,188,762,277	28,746	28,746	0	126	0	126
2104	2,343,218,734	20,679	20,679	0	85	0	85
2105	2,508,254,436	14,592	14,592	0	56	0	56
2106	2,684,587,335	10,091	10,091	0	36	0	36
2107	2,872,984,613	6,833	6,833	0	23	0	23
2108	3,074,265,979	4,526	4,526	0	14	0	14
2109	3,289,307,189	2,930	2,930	0	9	0	9
2110	3,519,043,799	1,853	1,853	0	5	0	5
2111	3,764,475,187	1,143	1,143	0	3	0	3
2112	4,026,668,848	688	688	0	2	0	2
2113	4,306,764,986	404	404	0	1	0	1
2114	4,605,981,428	231	231	0	0	0	0
2115	4,925,618,880	129	129	0	0	0	0
2116	5,267,066,538	70	70	0	0	0	0
2117	5,631,808,096	37	37	0	0	0	0
2118	6,021,428,162	19	19	0	0	0	0
2119	6,437,619,107	10	10	0	0	0	0
2120	6,882,188,397	7	7	0	0	0	0
Totals					\$ 130,254,322	\$ 0	\$ 130,254,322



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.