

Wyoming Air Guard Firefighters Retirement System

GASB Statement Nos. 67 and 68 Accounting and Financial
Reporting for Pensions
For Measurement Date as of December 31, 2021





June 2, 2022

Board of Trustees
Wyoming Air Guard Firefighters Retirement System

Dear Board Members:

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

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

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement Nos. 67 and 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the Wyoming Air Guard Firefighters Retirement System ("WRS") only in its entirety and only with the permission of WRS. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by WRS, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by WRS.

This report complements the actuarial valuation report that was provided to WRS and should be considered in conjunction with that report. Please see the actuarial valuation report as of January 1, 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 are based on assumptions adopted by the Board at the November 17, 2021 and the February 17, 2022 meetings. For a detailed description of the experience related to these assumptions, as well as the rationale for any changes, please see our latest Wyoming Retirement System Actuarial Experience Study Report that covered the five-year investigation period ending December 31, 2020.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

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

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

Paul T. Wood, Thomas A. Lyle, 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.

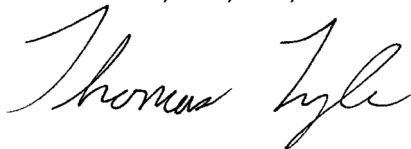
Respectfully submitted,

Gabriel, Roeder, Smith & Company



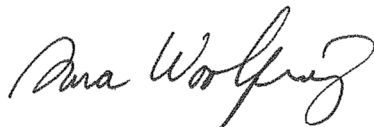
By

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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	15
- Inactive, Nonretired Members	12
- Active Members	38
- Total	65
Covered Payroll	\$ 2,157,801
Net Pension Liability	
Total Pension Liability	\$ 10,925,128
Plan Fiduciary Net Position	10,627,210
Net Pension Liability	\$ 297,918
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	97.27 %
Net Pension Liability as a Percentage of Covered Payroll	13.81 %
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	\$ (20,069)

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	\$ 537,047	\$ 0
Changes in assumptions	438,923	0
Net difference between projected and actual earnings on pension plan investments	155,235	1,252,541
Total	\$ 1,131,205	\$ 1,252,541

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

This funding policy results in no expected crossover date and a GASB single discount rate of 6.80%. This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 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 Air Guard Firefighters Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Statement of Pension Expense under GASB Statement No. 68

Fiscal Year Ended December 31, 2021

A. Expense

1. Service Cost	\$	344,841
2. Interest on the Total Pension Liability		711,065
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(364,707)
5. Projected Earnings on Plan Investments (made negative for addition here)		(626,940)
6. Pension Plan Administrative Expense		12,936
7. Other Changes in Plan Fiduciary Net Position		337
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		244,469
9. Recognition of Outflow (Inflow) of Resources due to Assets		(342,070)
10. Total Pension Expense	\$	(20,069) *

* 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	\$	193,673
2. Assumption Changes (gains) or losses	\$	391,181
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		6.2137
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	\$	31,169
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for assumption changes	\$	62,955
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$	94,123
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	\$	162,504
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for assumption changes	\$	328,226
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$	490,731

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(940,725)
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	\$	(188,145)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(752,580)



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	7.6469	8.7180	8.3862	7.7574	7.8568	8.0476	7.9281	6.2137		Deferred Net (Inflows)/Outflows at Measurement
	2014	2015	2016	2017	2018	2019	2020	2021	Total	
Total	\$ -	\$ 201,096	\$ 65,370	\$ 272,060	\$ 161,615	\$ 1,751	\$ 186,135	\$ 193,673		
2014	-	-	-	-	-	-	-	-	-	-
2015	-	23,067	-	-	-	-	-	-	23,067	23,067
2016	-	23,067	7,795	-	-	-	-	-	30,862	30,862
2017	-	23,067	7,795	35,071	-	-	-	-	65,933	65,933
2018	-	23,067	7,795	35,071	20,570	-	-	-	86,503	86,503
2019	-	23,067	7,795	35,071	20,570	218	-	-	86,721	86,721
2020	-	23,067	7,795	35,071	20,570	218	23,478	-	110,199	110,199
2021	-	23,067	7,795	35,071	20,570	218	23,478	31,169	141,368	141,368
2022	-	23,067	7,795	35,071	20,570	218	23,478	31,169	141,368	\$ 537,047
2023	-	16,560	7,795	35,071	20,570	218	23,478	31,169	134,861	134,861
2024	-	-	3,010	26,563	20,570	218	23,478	31,169	105,008	105,008
2025	-	-	-	-	17,625	218	23,478	31,169	72,490	72,490
2025	-	-	-	-	-	218	23,478	31,169	54,855	54,855
Thereafter	-	-	-	-	-	7	21,789	6,659	28,455	28,455
	\$ -	\$ 201,096	\$ 65,370	\$ 272,060	\$ 161,615	\$ 1,751	\$ 186,135	\$ 193,673	\$ 1,081,700	

Assumption changes - Net (inflows)/outflows of resources

Recognition Period	7.6469	8.7180	8.3862	7.7574	7.8568	8.0476	7.9281	6.2137		Deferred Net (Inflows)/Outflows at Measurement
	2014	2015	2016	2017	2018	2019	2020	2021	Total	
Total	\$ -	\$ -	\$ -	\$ 311,427	\$ -	\$ -	\$ -	\$ 391,181		
2014	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	40,146	-	-	-	-	40,146	40,146
2018	-	-	-	40,146	-	-	-	-	40,146	40,146
2019	-	-	-	40,146	-	-	-	-	40,146	40,146
2020	-	-	-	40,146	-	-	-	-	40,146	40,146
2021	-	-	-	40,146	-	-	-	62,955	103,101	103,101
2022	-	-	-	40,146	-	-	-	62,955	103,101	\$ 438,923
2023	-	-	-	40,146	-	-	-	62,955	103,101	103,101
2024	-	-	-	30,405	-	-	-	62,955	93,360	93,360
2025	-	-	-	-	-	-	-	62,955	62,955	62,955
2025	-	-	-	-	-	-	-	62,955	62,955	62,955
Thereafter	-	-	-	-	-	-	-	13,451	13,451	13,451
	\$ -	\$ -	\$ -	\$ 311,427	\$ -	\$ -	\$ -	\$ 391,181	\$ 702,608	

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		Deferred Net (Inflows)/Outflows at Measurement
	2014	2015	2016	2017	2018	2019	2020	2021	Total	
Total	\$ 161,568	\$ 525,780	\$ 41,782	\$ (447,294)	\$ 776,171	\$ (795,705)	\$ (302,799)	\$ (940,725)		
2014	32,314	-	-	-	-	-	-	-	32,314	32,314
2015	32,314	105,156	-	-	-	-	-	-	137,470	137,470
2016	32,314	105,156	8,356	-	-	-	-	-	145,826	145,826
2017	32,314	105,156	8,356	(89,459)	-	-	-	-	56,367	56,367
2018	32,312	105,156	8,356	(89,459)	155,234	-	-	-	211,599	211,599
2019	-	105,156	8,356	(89,459)	155,234	(159,141)	-	-	20,146	20,146
2020	-	-	8,358	(89,459)	155,234	(159,141)	(60,560)	-	(145,568)	(145,568)
2021	-	-	-	(89,458)	155,234	(159,141)	(60,560)	(188,145)	(342,070)	(342,070)
2022	-	-	-	-	155,235	(159,141)	(60,560)	(188,145)	(252,611)	\$ (1,097,306)
2023	-	-	-	-	-	(159,141)	(60,560)	(188,145)	(407,846)	(407,846)
2024	-	-	-	-	-	-	(60,559)	(188,145)	(248,704)	(248,704)
2025	-	-	-	-	-	-	-	(188,145)	(188,145)	(188,145)
2025	-	-	-	-	-	-	-	-	-	-
Thereafter	\$ 161,568	\$ 525,780	\$ 41,782	\$ (447,294)	\$ 776,171	\$ (795,705)	\$ (302,799)	\$ (940,725)	\$ (981,222)	

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

	2014	2015	2016	2017	2018	2019	2020	2021	Total	Deferred Net (Inflows)/Outflows at Measurement
Total	\$ 161,568	\$ 726,876	\$ 107,152	\$ 136,193	\$ 937,786	\$ (793,954)	\$ (116,664)	\$ (355,871)		
2014	32,314	-	-	-	-	-	-	-	32,314	32,314
2015	32,314	128,223	-	-	-	-	-	-	160,537	160,537
2016	32,314	128,223	16,151	-	-	-	-	-	176,688	176,688
2017	32,314	128,223	16,151	(14,242)	-	-	-	-	162,446	162,446
2018	32,312	128,223	16,151	(14,242)	175,804	-	-	-	338,248	338,248
2019	-	128,223	16,151	(14,242)	175,804	(158,923)	-	-	147,013	147,013
2020	-	23,067	16,153	(14,242)	175,804	(158,923)	(37,082)	-	4,777	4,777
2021	-	23,067	7,795	(14,241)	175,804	(158,923)	(37,082)	(94,021)	(97,601)	(97,601)
2022	-	23,067	7,795	75,217	175,805	(158,923)	(37,082)	(94,021)	(8,142)	\$ (121,336)
2023	-	16,560	7,795	75,217	20,570	(158,923)	(37,082)	(94,021)	(169,884)	(169,884)
2024	-	-	3,010	56,968	20,570	218	(37,081)	(94,021)	(50,336)	(50,336)
2025	-	-	-	-	17,625	218	23,478	(94,021)	(52,700)	(52,700)
2025	-	-	-	-	-	218	23,478	94,124	117,820	117,820
Thereafter	\$ 161,568	\$ 726,876	\$ 107,152	\$ 136,193	\$ 937,786	\$ (793,954)	\$ (116,664)	\$ (355,871)	\$ 803,086	



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	\$ 244,469	\$ 0	\$ 244,469
2. Due to Assets	155,234	497,304	(342,070)
3. Total	\$ 399,703	\$ 497,304	\$ (97,601)

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	\$ 141,368	\$ 0	\$ 141,368
2. Assumption Changes	103,101	0	103,101
3. Net Difference between projected and actual earnings on pension plan investments	155,234	497,304	(342,070)
4. Total	\$ 399,703	\$ 497,304	\$ (97,601)

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	\$ 537,047	\$ 0	\$ 537,047
2. Assumption Changes	438,923	0	438,923
3. Net Difference between projected and actual earnings on pension plan investments	155,235	1,252,541	(1,097,306)
4. Total	\$ 1,131,205	\$ 1,252,541	\$ (121,336)

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	\$ (8,142)
2023	(169,884)
2024	(50,336)
2025	(52,700)
2026	117,820
Thereafter	41,906
Total	\$ (121,336)



Statement of Fiduciary Net Position as of December 31, 2021

	2021
Assets	
Cash and Deposits	\$ 749,720
Receivables	
Accounts Receivable - Sale of Investments	\$ 10,126
Accrued Interest and Other Dividends	24,329
Contributions	0
Accounts Receivable - Other	839,753
Total Receivables	\$ 874,208
Investments	
Fixed Income	\$ 1,918,199
Equities	5,046,648
Private Markets	1,093,626
Marketable Alternatives	1,828,080
Security Lending Collateral	554,381
Capital Assets, at Cost, Net of Accumulated Depreciation	992
Total Investments	\$ 10,441,926
Total Assets	\$ 12,065,854
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 1,425,105
Accrued Expenses	13,539
Accounts Payable - Other	0
Total Liabilities	\$ 1,438,644
Net Position Restricted for Pensions	\$ 10,627,210

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

	2021
Additions	
Contributions	
Employer	\$ 155,959
Employee	364,707
Other - Employer	0
Other - Employee	0
Total Contributions	\$ 520,666
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 1,450,745
Interest and Dividends	176,019
Less Investment Expense	(59,099)
Net Investment Income	\$ 1,567,665
Other	\$ 0
Total Additions	\$ 2,088,331
 Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 822,537
Pension Plan Administrative Expense	12,936
Other	337
Total Deductions	\$ 835,810
Net Increase in Net Position	\$ 1,252,521
 Net Position Restricted for Pensions	
Beginning of Year	\$ 9,374,689
End of Year	\$ 10,627,210

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

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

Schedule of Changes in Net Pension Liability and Related Ratios

Current Reporting Period

Fiscal Year Ended December 31, 2021

A. Total pension liability	
1. Service cost	\$ 344,841
2. Interest on the total pension liability	711,065
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	193,673
5. Changes of assumptions	391,181
6. Benefit payments, including refunds of employee contributions	(822,537)
7. Net change in total pension liability	818,223
8. Total pension liability – beginning	10,106,905
9. Total pension liability – ending	\$ 10,925,128
B. Plan fiduciary net position	
1. Contributions – employer	\$ 155,959
2. Contributions – employee	364,707
3. Net investment income	1,567,665
4. Benefit payments, including refunds of employee contributions	(822,537)
5. Pension plan administrative expense	(12,936)
6. Other	(337)
7. Net change in plan fiduciary net position	1,252,521
8. Plan fiduciary net position – beginning	9,374,689
9. Plan fiduciary net position – ending	\$ 10,627,210
C. Net pension liability	\$ 297,918
D. Plan fiduciary net position as a percentage of the total pension liability	97.27 %
E. Covered-employee payroll	\$ 2,157,801
F. Net pension liability as a percentage of covered-employee payroll	13.81 %



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,	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability								
Service cost	\$ 344,841	\$ 312,751	\$ 317,202	\$ 294,146	\$ 272,169	\$ 337,474	\$ 331,123	\$ 276,305
Interest on the total pension liability	711,065	667,446	624,153	599,634	563,514	554,448	517,889	455,677
Changes of benefit terms	0	0	0	0	0	0	0	0
Difference between expected and actual experience	193,673	186,135	1,751	161,615	272,060	65,370	201,096	0
Changes of assumptions	391,181	0	0	0	311,427	0	0	0
Benefit payments, including refunds of employee contributions	(822,537)	(500,565)	(512,859)	(598,879)	(390,843)	(702,598)	(189,069)	(126,427)
Net change in total pension liability	818,223	665,767	430,247	456,516	1,028,327	254,694	861,039	605,554
Total pension liability - beginning	10,106,905	9,441,138	9,010,891	8,554,375	7,526,048	7,271,354	6,410,315	5,804,761
Total pension liability - ending (a)	\$ 10,925,128	\$ 10,106,905	\$ 9,441,138	\$ 9,010,891	\$ 8,554,375	\$ 7,526,048	\$ 7,271,354	\$ 6,410,315
Plan fiduciary net position								
Employer contributions	\$ 155,959	\$ 141,013	\$ 158,176	\$ 159,583	\$ 156,263	\$ 136,768	\$ 158,319	\$ 142,437
Employee contributions	364,707	329,758	369,907	445,101	367,485	376,685	405,026	335,763
Pension plan net investment income	1,567,665	897,557	1,300,461	(253,859)	902,109	431,043	(55,411)	260,772
Benefit payments, including refunds of employee contributions	(822,537)	(500,565)	(512,859)	(598,879)	(390,843)	(702,598)	(189,069)	(126,427)
Pension plan administrative expense	(12,936)	(8,047)	(6,972)	(7,141)	(6,431)	(5,731)	(4,637)	(4,312)
Other	(337)	(323)	(327)	(292)	(602)	(301)	(276)	1,085
Net change in plan fiduciary net position	1,252,521	859,393	1,308,386	(255,487)	1,027,981	235,866	313,952	609,318
Plan fiduciary net position - beginning	9,374,689	8,515,296	7,206,910	7,462,397	6,434,416	6,198,550	5,884,598	5,275,280
Plan fiduciary net position - ending (b)	\$ 10,627,210	\$ 9,374,689	\$ 8,515,296	\$ 7,206,910	\$ 7,462,397	\$ 6,434,416	\$ 6,198,550	\$ 5,884,598
Net pension liability - ending (a) - (b)	\$ 297,918	\$ 732,216	\$ 925,842	\$ 1,803,981	\$ 1,091,978	\$ 1,091,632	\$ 1,072,804	\$ 525,717
Plan fiduciary net position as a percentage of total pension liability	97.27 %	92.76 %	90.19 %	79.98 %	87.23 %	85.50 %	85.25 %	91.80 %
Covered-employee payroll	\$ 2,157,801	\$ 2,316,140	\$ 2,341,404	\$ 2,154,544	\$ 1,975,631	\$ 2,151,997	\$ 2,124,296	\$ 1,731,731
Projected valuation payroll	\$ 2,211,746	\$ 2,374,043	\$ 2,399,940	\$ 2,208,407	\$ 2,059,595	\$ 2,243,456	\$ 2,214,578	\$ 1,805,329
Net pension liability as a percentage of covered-employee payroll	13.81 %	31.61 %	39.54 %	83.73 %	55.27 %	50.73 %	50.50 %	30.36 %

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.

For 2014, "Other" changes also may include member redeposits and member service purchase contributions.



Schedules of Required Supplementary Information

Schedule of Net Pension Liability Multiyear

FY Ending December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	\$ 6,410,315	\$ 5,884,598	\$ 525,717	91.80 %	\$ 1,731,731	30.36 %
2015	7,271,354	6,198,550	1,072,804	85.25 %	2,124,296	50.50 %
2016	7,526,048	6,434,416	1,091,632	85.50 %	2,151,997	50.73 %
2017	8,554,375	7,462,397	1,091,978	87.23 %	1,975,631	55.27 %
2018	9,010,891	7,206,910	1,803,981	79.98 %	2,154,544	83.73 %
2019	9,441,138	8,515,296	925,842	90.19 %	2,341,404	39.54 %
2020	10,106,905	9,374,689	732,216	92.76 %	2,316,140	31.61 %
2021	10,925,128	10,627,210	297,918	97.27 %	2,157,801	13.81 %

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



Schedule of Contributions Multiyear Last 10 Fiscal Years

<u>FY Ending December 31,</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll*</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2014	\$ 13,694	\$ 143,582	\$ (129,888)	\$ 1,731,731	8.29 %
2015	3,987	158,319	(154,332)	2,124,296	7.45 %
2016	7,634	136,768	(129,134)	2,151,997	6.36 %
2017	6,011	156,263	(150,252)	1,975,631	7.91 %
2018	11,590	159,583	(147,993)	2,154,544	7.41 %
2019	4,344	158,176	(153,832)	2,341,404	6.76 %
2020	15,348	141,013	(125,665)	2,316,140	6.09 %
2021	19,558	155,959	(136,401)	2,157,801	7.23 %

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



Notes to Schedule of Contributions

Valuation Date: January 1, 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 Percentage of Payroll, Closed
Remaining Amortization Period	27 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	4.75% to 8.75% including inflation
Payroll Growth Rate	2.50%
Cost-of-Living Increase	0.00%
Investment Rate of Return	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 There were no benefit changes during the year.
The employer is currently contributing at the rate of 7.12% of salary.
Employees are currently contributing at the rate of 16.25% of salary.
The roll-forward methodology employed for purposes of the GASB disclosures is based on generally accepted actuarial methods.



Schedule of Investment Returns Multiyear Last 10 Fiscal Years

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

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



SECTION D

NOTES TO FINANCIAL STATEMENTS

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

Single Discount Rate

A Single Discount Rate of 6.80% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.80%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the statutory required contribution rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of Results

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

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

1% Decrease	Current Single Discount Rate Assumption	1% Increase
5.80%	6.80%	7.80%
\$ 1,725,901	\$ 297,918	\$ (851,594)

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	15
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	12
Active Plan Members	<u>38</u>
Total Plan Members	65

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

Covered Members	Any employees covered by the Air Guard Firefighter Pension Plan (Air Guard Firefighters employees).
Final Average Salary	Employee's average annual salary for the highest paid three continuous years of service.
Service Retirement	
Eligibility	Age 60 with four or more years of service or age 50 with 25 or more years of service. All employees are eligible for a reduced benefit at age 50 with four or more years of service or any age with 25 or more years of service.
Monthly Benefit	2.50% of employee's Final Average Salary for each year of credited service. This amount is reduced by 5.0% per year that the employee is under age 60. However, members who are at least age 55 retiring with a combined age and service of at least 75 receive an unreduced benefit.
Vesting	Any employee who has left employment with four or more years of service, and who has not withdrawn accumulated contributions, is eligible to receive the above benefit or can elect to receive a lump-sum refund of contributions with interest. An employee who terminates with less than four years of service is only eligible for the lump-sum benefit.
Disability Benefit	
Eligibility	Ten or more years of service.
Benefit	65% of salary as of the date of disability, payable immediately.
Pre-retirement Death Benefit	
Eligibility	No age or service requirements.
Benefit	A lump sum equal to two times the employee contributions with interest. If the employee is vested, the beneficiary can elect, in lieu of this lump sum, to receive a monthly annuity equal to the actuarial equivalent of the retirement benefit that would be due the employee.
Contributions	
Employee	16.65% of salary.
Employer	7.12% of salary.
Interest	3.00% annually.



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

Optional Forms of Payment

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



SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Actuarial Assumptions and Cost Method

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

1. Valuation Date

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

2. Actuarial Cost Method

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

- a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 6.80%), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable for the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Fund on account of the present group of participants and beneficiaries.
- b. The employer contributions required to support the benefits of the Fund are determined using a level funding approach, and consist of a normal cost contribution and 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 percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his/her anticipated covered service, would be required to meet the cost of all benefits payable on his/her behalf based on the benefits provisions applicable for the individual member.
- d. The unfunded actuarial accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 30 years from the valuation date. The Board's policy consists of amortizing the unfunded liability as of January 1, 2018, over a closed 30 year period with each subsequent amortization base created as a result of year to year experience changes over individual 20 year closed periods. The current year amortization base is determined by taking the current unfunded liability less the outstanding amounts of prior year bases.



3. Actuarial Value of Assets

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

4. Economic Assumptions

a. Investment return

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

b. Salary increase rate

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

c. Payroll growth rate

In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 2.50% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

d. Cost-of-Living adjustment

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

5. Demographic Assumptions

a. Mortality

Healthy Pre-Retirement Mortality:

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

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 100%

Healthy Post-Retirement Mortality:

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

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 103%

Disabled Mortality

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

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 100%

Age	Pre-Retirement		Post-Retirement		Disabled	
	Projected to 2021 using the MP-2020 Ultimate Scale					
	Male	Female	Male	Female	Male	Female
20	0.03%	0.01%	0.03%	0.01%	0.35%	0.20%
25	0.02%	0.01%	0.02%	0.01%	0.24%	0.14%
30	0.03%	0.01%	0.03%	0.01%	0.30%	0.22%
35	0.04%	0.02%	0.04%	0.02%	0.39%	0.35%
40	0.06%	0.03%	0.06%	0.03%	0.56%	0.54%
45	0.08%	0.05%	0.09%	0.06%	0.87%	0.85%
50	0.13%	0.07%	0.26%	0.20%	1.38%	1.28%
55	0.19%	0.11%	0.37%	0.25%	1.82%	1.50%
60	0.27%	0.16%	0.53%	0.34%	2.16%	1.68%
65	0.40%	0.26%	0.79%	0.55%	2.63%	1.95%
70	0.61%	0.43%	1.33%	0.95%	3.40%	2.49%
75			2.35%	1.70%	4.56%	3.52%
80			4.23%	3.06%	6.51%	5.32%
85			7.80%	5.81%	9.82%	8.48%
90			13.69%	11.04%	15.16%	12.75%
95			21.90%	18.55%	22.60%	18.47%
100			31.55%	28.06%	31.55%	27.24%

b. Disability

Age	Male	Female
20	0.01%	0.01%
25	0.01%	0.01%
30	0.01%	0.01%
35	0.01%	0.01%
40	0.01%	0.01%
45	0.03%	0.03%
50	0.08%	0.08%
55	0.20%	0.20%
60	0.20%	0.20%

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

c. Withdrawal

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

d. Retirement Rates

Age	Retirement	
	Unreduced	Reduced
<50	15.00%	0.20%
50-54	15.00%	0.20%
55-59	17.00%	0.20%
60-61	13.00%	0.20%
62	18.00%	0.30%
63-64	15.00%	0.50%
65	30.00%	1.00%
66	35.00%	1.00%
67	28.00%	1.00%
68	25.00%	1.50%
69	25.00%	2.00%
70	25.00%	2.50%
71-73	20.00%	2.50%
74-79	15.00%	2.50%
80+	100.00%	100.00%

6. Other Assumptions

- a. Percent married: 85.00% of employees are assumed to be married. (No beneficiaries other than the spouse assumed.)
- b. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- c. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
- d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- e. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available, which for this plan is age 60.
- f. No benefit amount data is available for members entitled to deferred benefits. The present value of benefits expected to be paid to vested inactive non-retired members is approximated using the data provided.
- g. There will be no recoveries once disabled.
- h. No surviving spouse will remarry.
- i. Administrative expenses: Assumed to be the average of the actual expenses for the prior two years, with each year projected at 2.50% to the valuation date.
- j. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pay represents amount paid to members during the year ended on the valuation date.
- k. Decrement timing: Decrements of all types are assumed to occur mid-year.

- l. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- m. Decrement relativity: Decrement rates are converted to probabilities in order to account for multiple decrements.
- n. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in the report, and the actual payroll payable at the time contributions are made.
- o. Benefit Service: All members are assumed to accrue one year of service each year. Exact fractional service is used to determine the amount of benefit payable.

Experience Analysis

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



SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

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

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.80%; the municipal bond rate is 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		Payroll for Future Employees		Total Employee Payroll	Contributions from Current Employees	Employer Contributions for	Employer Contributions	Total Contributions
	(a)	(b)=max(0,(c)-(a))	(c)	(d)			Current Employees	Related to Payroll of Future Employees	
							(e)=(a)*ER%	(f) = (b)*netER%	(g)=(d)+(e)+(f)
2021	\$ 2,145,470	\$ 66,277	\$ 2,211,746	\$ 364,707	\$ 149,781	\$ 6,178	\$ 520,666		
2022	2,010,786	256,254	2,267,040	334,796	143,168	23,888	501,852		
2023	1,888,151	435,565	2,323,716	314,377	134,436	40,608	489,421		
2024	1,785,661	596,148	2,381,809	297,313	127,139	55,579	480,031		
2025	1,688,841	752,513	2,441,354	281,192	120,245	70,160	471,597		
2026	1,587,144	915,244	2,502,388	264,259	113,005	85,354	462,618		
2027	1,495,136	1,069,812	2,564,948	248,940	106,454	99,850	455,244		
2028	1,416,069	1,213,003	2,629,072	235,776	100,824	113,380	449,980		
2029	1,350,298	1,344,501	2,694,799	224,825	96,141	125,888	446,854		
2030	1,289,601	1,472,568	2,762,169	214,719	91,820	138,107	444,646		
2031	1,232,989	1,598,234	2,831,223	205,293	87,789	150,121	443,203		
2032	1,183,093	1,718,911	2,902,004	196,985	84,236	161,691	442,912		
2033	1,136,526	1,838,028	2,974,554	189,232	80,921	173,124	443,277		
2034	1,093,388	1,955,530	3,048,918	182,049	77,849	184,403	444,301		
2035	1,048,103	2,077,038	3,125,141	174,509	74,625	196,055	445,189		
2036	1,000,032	2,203,238	3,203,270	166,505	71,202	208,138	445,845		
2037	948,884	2,334,468	3,283,352	157,989	67,561	220,689	446,239		
2038	900,272	2,465,164	3,365,436	149,895	64,099	233,180	447,174		
2039	857,152	2,592,420	3,449,572	142,716	61,029	245,346	449,091		
2040	811,011	2,724,800	3,535,811	135,033	57,744	258,010	450,787		
2041	762,336	2,861,870	3,624,206	126,929	54,278	271,138	452,345		
2042	714,616	3,000,195	3,714,811	118,984	50,881	284,427	454,292		
2043	664,719	3,142,962	3,807,681	110,676	47,328	298,163	456,167		
2044	606,615	3,296,258	3,902,873	101,001	43,191	312,916	457,108		
2045	534,782	3,465,663	4,000,445	89,041	38,076	329,205	456,322		
2046	462,235	3,638,221	4,100,456	76,962	32,911	345,798	455,671		
2047	401,429	3,801,538	4,202,967	66,838	28,582	361,535	456,955		
2048	350,242	3,957,799	4,308,041	58,315	24,937	376,628	459,880		
2049	304,053	4,111,689	4,415,742	50,625	21,649	391,503	463,777		
2050	260,487	4,265,649	4,526,136	43,371	18,547	406,381	468,299		
2051	221,191	4,418,098	4,639,289	36,828	15,749	421,099	473,676		
2052	186,776	4,568,495	4,755,271	31,098	13,298	435,613	480,009		
2053	155,675	4,718,478	4,874,153	25,920	11,084	450,066	487,070		
2054	130,104	4,865,903	4,996,007	21,662	9,263	464,257	495,182		
2055	108,862	5,012,045	5,120,907	18,126	7,751	478,312	504,189		
2056	89,968	5,158,962	5,248,930	14,980	6,406	492,427	513,813		
2057	73,965	5,306,188	5,380,153	12,315	5,266	506,555	524,136		
2058	60,924	5,453,733	5,514,657	10,144	4,338	520,703	535,185		
2059	49,136	5,603,387	5,652,523	8,181	3,498	535,045	546,724		
2060	38,152	5,755,684	5,793,836	6,352	2,716	549,631	558,699		
2061	29,490	5,909,192	5,938,682	4,910	2,100	564,326	571,336		
2062	23,258	6,063,891	6,087,149	3,872	1,656	579,136	584,664		
2063	18,481	6,220,847	6,239,328	3,077	1,316	594,161	598,554		
2064	14,780	6,380,531	6,395,311	2,461	1,052	609,448	612,961		
2065	11,758	6,543,436	6,555,194	1,958	837	625,043	627,838		
2066	9,085	6,709,989	6,719,074	1,513	647	640,987	643,147		
2067	6,942	6,880,109	6,887,051	1,156	494	657,272	658,922		
2068	5,272	7,053,955	7,059,227	878	375	673,912	675,165		
2069	4,128	7,231,580	7,235,708	687	294	690,913	691,894		
2070	3,190	7,413,411	7,416,601	531	227	708,318	709,076		



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

Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)=max(0,(c)-(a))	Total Employee Payroll (c)	Contributions from Current Employees (d)	Employer Contributions for Current Employees (e)=(a)*ER%	Employer Contributions Related to Payroll of Future Employees (f) = (b)*netER%	Total Contributions (g)=(d)+(e)+(f)
2071	\$ 2,355	\$ 7,599,661	\$ 7,602,016	\$ 392	\$ 168	\$ 726,144	\$ 726,704
2072	1,894	7,790,172	7,792,066	315	135	744,376	744,826
2073	1,479	7,985,389	7,986,868	246	105	763,057	763,408
2074	1,027	8,185,513	8,186,540	171	73	782,202	782,446
2075	593	8,390,611	8,391,204	99	42	801,820	801,961
2076	332	8,600,652	8,600,984	55	24	821,906	821,985
2077	250	8,815,759	8,816,009	42	18	842,475	842,535
2078	216	9,036,193	9,036,409	36	15	863,551	863,602
2079	187	9,262,132	9,262,319	31	13	885,151	885,195
2080	89	9,493,788	9,493,877	15	6	907,295	907,316
2081	-	9,731,224	9,731,224	-	-	929,988	929,988
2082	-	9,974,505	9,974,505	-	-	953,238	953,238
2083	-	10,223,868	10,223,868	-	-	977,068	977,068
2084	-	10,479,465	10,479,465	-	-	1,001,492	1,001,492
2085	-	10,741,452	10,741,452	-	-	1,026,526	1,026,526
2086	-	11,009,988	11,009,988	-	-	1,052,184	1,052,184
2087	-	11,285,238	11,285,238	-	-	1,078,483	1,078,483
2088	-	11,567,369	11,567,369	-	-	1,105,438	1,105,438
2089	-	11,856,553	11,856,553	-	-	1,133,066	1,133,066
2090	-	12,152,967	12,152,967	-	-	1,161,385	1,161,385
2091	-	12,456,791	12,456,791	-	-	1,190,412	1,190,412
2092	-	12,768,211	12,768,211	-	-	1,220,165	1,220,165
2093	-	13,087,416	13,087,416	-	-	1,250,663	1,250,663
2094	-	13,414,601	13,414,601	-	-	1,281,924	1,281,924
2095	-	13,749,966	13,749,966	-	-	1,313,967	1,313,967
2096	-	14,093,715	14,093,715	-	-	1,346,813	1,346,813
2097	-	14,446,058	14,446,058	-	-	1,380,480	1,380,480
2098	-	14,807,209	14,807,209	-	-	1,414,990	1,414,990
2099	-	15,177,389	15,177,389	-	-	1,450,364	1,450,364
2100	-	15,556,824	15,556,824	-	-	1,486,623	1,486,623
2101	-	15,945,745	15,945,745	-	-	1,523,789	1,523,789
2102	-	16,344,389	16,344,389	-	-	1,561,885	1,561,885
2103	-	16,752,999	16,752,999	-	-	1,600,933	1,600,933
2104	-	17,171,824	17,171,824	-	-	1,640,959	1,640,959
2105	-	17,601,120	17,601,120	-	-	1,681,985	1,681,985
2106	-	18,041,148	18,041,148	-	-	1,724,037	1,724,037
2107	-	18,492,177	18,492,177	-	-	1,767,140	1,767,140
2108	-	18,954,481	18,954,481	-	-	1,811,322	1,811,322
2109	-	19,428,343	19,428,343	-	-	1,856,607	1,856,607
2110	-	19,914,052	19,914,052	-	-	1,903,025	1,903,025
2111	-	20,411,903	20,411,903	-	-	1,950,603	1,950,603
2112	-	20,922,201	20,922,201	-	-	1,999,370	1,999,370
2113	-	21,445,256	21,445,256	-	-	2,049,356	2,049,356
2114	-	21,981,387	21,981,387	-	-	2,100,592	2,100,592
2115	-	22,530,922	22,530,922	-	-	2,153,108	2,153,108
2116	-	23,094,195	23,094,195	-	-	2,206,937	2,206,937
2117	-	23,671,550	23,671,550	-	-	2,262,111	2,262,111
2118	-	24,263,339	24,263,339	-	-	2,318,664	2,318,664
2119	-	24,869,922	24,869,922	-	-	2,376,630	2,376,630
2120	-	25,491,670	25,491,670	-	-	2,436,046	2,436,046



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	\$ 9,374,689	\$ 520,666	\$ 822,537	\$ 13,273	\$ 1,567,665	\$ 10,627,210
2022	10,627,210	501,852	588,374	7,935	719,492	11,252,245
2023	11,252,245	489,421	592,734	8,133	761,426	11,902,225
2024	11,902,225	480,031	588,607	8,336	805,442	12,590,754
2025	12,590,754	471,597	604,955	8,545	851,426	13,300,277
2026	13,300,277	462,618	631,593	8,758	898,475	14,021,019
2027	14,021,019	455,244	665,476	8,977	946,099	14,747,909
2028	14,747,909	449,980	696,589	9,202	994,303	15,486,401
2029	15,486,401	446,854	718,774	9,432	1,043,667	16,248,716
2030	16,248,716	444,646	740,777	9,668	1,094,686	17,037,603
2031	17,037,603	443,203	761,041	9,909	1,147,597	17,857,452
2032	17,857,452	442,912	781,319	10,157	1,202,650	18,711,539
2033	18,711,539	443,277	802,621	10,411	1,260,020	19,601,804
2034	19,601,804	444,301	824,908	10,671	1,319,838	20,530,364
2035	20,530,364	445,189	849,847	10,938	1,382,167	21,496,935
2036	21,496,935	445,845	876,225	11,211	1,447,024	22,502,368
2037	22,502,368	446,239	905,055	11,492	1,514,434	23,546,494
2038	23,546,494	447,174	937,359	11,779	1,584,375	24,628,906
2039	24,628,906	449,091	980,218	12,074	1,656,600	25,742,305
2040	25,742,305	450,787	1,024,164	12,375	1,730,889	26,887,441
2041	26,887,441	452,345	1,065,967	12,685	1,807,402	28,068,536
2042	28,068,536	454,292	1,105,562	13,002	1,886,447	29,290,710
2043	29,290,710	456,167	1,149,679	13,327	1,968,131	30,552,002
2044	30,552,002	457,108	1,202,286	13,660	2,052,160	31,845,324
2045	31,845,324	456,322	1,254,823	14,002	2,138,311	33,171,133
2046	33,171,133	455,671	1,314,166	14,352	2,226,448	34,524,734
2047	34,524,734	456,955	1,373,821	14,710	2,316,529	35,909,687
2048	35,909,687	459,880	1,439,883	15,078	2,408,582	37,323,188
2049	37,323,188	463,777	1,487,167	15,455	2,503,237	38,787,580
2050	38,787,580	468,299	1,543,098	15,841	2,601,084	40,298,024
2051	40,298,024	473,676	1,596,990	16,238	2,702,158	41,860,630
2052	41,860,630	480,009	1,614,062	16,643	2,808,043	43,517,977
2053	43,517,977	487,070	1,640,524	17,060	2,920,079	45,267,543
2054	45,267,543	495,182	1,689,068	17,486	3,037,684	47,093,855
2055	47,093,855	504,189	1,746,559	17,923	3,160,237	48,993,798
2056	48,993,798	513,813	1,771,032	18,371	3,288,921	51,007,130
2057	51,007,130	524,136	1,753,588	18,831	3,426,741	53,185,588
2058	53,185,588	535,185	1,723,527	19,301	3,576,235	55,554,181
2059	55,554,181	546,724	1,691,824	19,784	3,738,730	58,128,026
2060	58,128,026	558,699	1,679,907	20,278	3,914,534	60,901,074
2061	60,901,074	571,336	1,663,632	20,785	4,104,051	63,892,044
2062	63,892,044	584,664	1,621,611	21,305	4,309,270	67,143,062
2063	67,143,062	598,554	1,577,158	21,838	4,532,273	70,674,892
2064	70,674,892	612,961	1,530,733	22,384	4,774,453	74,509,190
2065	74,509,190	627,838	1,483,009	22,943	5,037,260	78,668,335
2066	78,668,335	643,147	1,434,509	23,517	5,322,197	83,175,653
2067	83,175,653	658,922	1,385,124	24,105	5,630,853	88,056,199
2068	88,056,199	675,165	1,335,093	24,707	5,964,927	93,336,490
2069	93,336,490	691,894	1,284,433	25,325	6,326,219	99,044,846
2070	99,044,846	709,076	1,233,554	25,958	6,716,642	105,211,052



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	\$ 105,211,052	\$ 726,704	\$ 1,182,484	\$ 26,607	\$ 7,138,220	\$ 111,866,885
2072	111,866,885	744,826	1,130,812	27,272	7,593,129	119,046,756
2073	119,046,756	763,408	1,078,912	27,954	8,083,694	126,786,992
2074	126,786,992	782,446	1,026,771	28,653	8,612,387	135,126,400
2075	135,126,400	801,961	974,240	29,369	9,181,852	144,106,603
2076	144,106,603	821,985	921,103	30,103	9,794,928	153,772,311
2077	153,772,311	842,535	867,275	30,856	10,454,658	164,171,372
2078	164,171,372	863,602	812,906	31,627	11,164,291	175,354,732
2079	175,354,732	885,195	758,132	32,418	11,927,287	187,376,664
2080	187,376,664	907,316	703,226	33,229	12,747,327	200,294,851
2081	200,294,851	929,988	648,265	34,059	13,628,332	214,170,847
2082	214,170,847	953,238	593,380	34,911	14,574,484	229,070,278
2083	229,070,278	977,068	538,997	35,784	15,590,232	245,062,796
2084	245,062,796	1,001,492	485,495	36,678	16,680,299	262,222,414
2085	262,222,414	1,026,526	433,339	37,595	17,849,704	280,627,709
2086	280,627,709	1,052,184	383,004	38,535	19,103,774	300,362,128
2087	300,362,128	1,078,483	334,948	39,498	20,448,168	321,514,333
2088	321,514,333	1,105,438	289,601	40,486	21,888,903	344,178,588
2089	344,178,588	1,133,066	247,341	41,498	23,432,376	368,455,190
2090	368,455,190	1,161,385	208,520	42,535	25,085,395	394,450,915
2091	394,450,915	1,190,412	173,451	43,599	26,855,212	422,279,489
2092	422,279,489	1,220,165	142,332	44,689	28,749,555	452,062,188
2093	452,062,188	1,250,663	115,159	45,806	30,776,669	483,928,555
2094	483,928,555	1,281,924	91,790	46,951	32,945,371	518,017,109
2095	518,017,109	1,313,967	72,009	48,125	35,265,086	554,476,028
2096	554,476,028	1,346,813	55,551	49,328	37,745,901	593,463,864
2097	593,463,864	1,380,480	42,131	50,561	40,398,607	635,150,260
2098	635,150,260	1,414,990	31,410	51,825	43,234,753	679,716,767
2099	679,716,767	1,450,364	23,005	53,121	46,266,696	727,357,702
2100	727,357,702	1,486,623	16,539	54,449	49,507,664	778,281,000
2101	778,281,000	1,523,789	11,662	55,810	52,971,809	832,709,126
2102	832,709,126	1,561,885	8,058	57,205	56,674,269	890,880,017
2103	890,880,017	1,600,933	5,449	58,635	60,631,235	953,048,100
2104	953,048,100	1,640,959	3,603	60,101	64,860,016	1,019,485,370
2105	1,019,485,370	1,681,985	2,328	61,604	69,379,114	1,090,482,538
2106	1,090,482,538	1,724,037	1,468	63,144	74,208,305	1,166,350,269
2107	1,166,350,269	1,767,140	903	64,723	79,368,718	1,247,420,501
2108	1,247,420,501	1,811,322	541	66,341	84,882,930	1,334,047,871
2109	1,334,047,871	1,856,607	315	67,999	90,775,057	1,426,611,222
2110	1,426,611,222	1,903,025	178	69,699	97,070,865	1,525,515,235
2111	1,525,515,235	1,950,603	98	71,442	103,797,873	1,631,192,171
2112	1,631,192,171	1,999,370	53	73,228	110,985,478	1,744,103,739
2113	1,744,103,739	2,049,356	28	75,058	118,665,076	1,864,743,084
2114	1,864,743,084	2,100,592	14	76,935	126,870,202	1,993,636,929
2115	1,993,636,929	2,153,108	7	78,858	135,636,676	2,131,347,847
2116	2,131,347,847	2,206,937	3	80,830	145,002,752	2,278,476,703
2117	2,278,476,703	2,262,111	2	82,850	155,009,292	2,435,665,255
2118	2,435,665,255	2,318,664	1	84,922	165,699,936	2,603,598,931
2119	2,603,598,931	2,376,630	0	87,045	177,121,293	2,783,009,809
2120	2,783,009,809	2,436,046	0	89,221	189,323,147	2,974,679,781



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	\$ 9,374,689	\$ 822,537	\$ 822,537	\$ 0	\$ 795,921	\$ 0	\$ 795,921
2022	10,627,210	588,374	588,374	0	533,085	0	533,085
2023	11,252,245	592,734	592,734	0	502,842	0	502,842
2024	11,902,225	588,607	588,607	0	467,548	0	467,548
2025	12,590,754	604,955	604,955	0	449,938	0	449,938
2026	13,300,277	631,593	631,593	0	439,841	0	439,841
2027	14,021,019	665,476	665,476	0	433,930	0	433,930
2028	14,747,909	696,589	696,589	0	425,297	0	425,297
2029	15,486,401	718,774	718,774	0	410,900	0	410,900
2030	16,248,716	740,777	740,777	0	396,516	0	396,516
2031	17,037,603	761,041	761,041	0	381,426	0	381,426
2032	17,857,452	781,319	781,319	0	366,656	0	366,656
2033	18,711,539	802,621	802,621	0	352,671	0	352,671
2034	19,601,804	824,908	824,908	0	339,386	0	339,386
2035	20,530,364	849,847	849,847	0	327,384	0	327,384
2036	21,496,935	876,225	876,225	0	316,054	0	316,054
2037	22,502,368	905,055	905,055	0	305,667	0	305,667
2038	23,546,494	937,359	937,359	0	296,421	0	296,421
2039	24,628,906	980,218	980,218	0	290,238	0	290,238
2040	25,742,305	1,024,164	1,024,164	0	283,942	0	283,942
2041	26,887,441	1,065,967	1,065,967	0	276,715	0	276,715
2042	28,068,536	1,105,562	1,105,562	0	268,721	0	268,721
2043	29,290,710	1,149,679	1,149,679	0	261,652	0	261,652
2044	30,552,002	1,202,286	1,202,286	0	256,202	0	256,202
2045	31,845,324	1,254,823	1,254,823	0	250,373	0	250,373
2046	33,171,133	1,314,166	1,314,166	0	245,518	0	245,518
2047	34,524,734	1,373,821	1,373,821	0	240,321	0	240,321
2048	35,909,687	1,439,883	1,439,883	0	235,840	0	235,840
2049	37,323,188	1,487,167	1,487,167	0	228,076	0	228,076
2050	38,787,580	1,543,098	1,543,098	0	221,586	0	221,586
2051	40,298,024	1,596,990	1,596,990	0	214,723	0	214,723
2052	41,860,630	1,614,062	1,614,062	0	203,201	0	203,201
2053	43,517,977	1,640,524	1,640,524	0	193,382	0	193,382
2054	45,267,543	1,689,068	1,689,068	0	186,428	0	186,428
2055	47,093,855	1,746,559	1,746,559	0	180,499	0	180,499
2056	48,993,798	1,771,032	1,771,032	0	171,375	0	171,375
2057	51,007,130	1,753,588	1,753,588	0	158,883	0	158,883
2058	53,185,588	1,723,527	1,723,527	0	146,216	0	146,216
2059	55,554,181	1,691,824	1,691,824	0	134,388	0	134,388
2060	58,128,026	1,679,907	1,679,907	0	124,946	0	124,946
2061	60,901,074	1,663,632	1,663,632	0	115,857	0	115,857
2062	63,892,044	1,621,611	1,621,611	0	105,740	0	105,740
2063	67,143,062	1,577,158	1,577,158	0	96,294	0	96,294
2064	70,674,892	1,530,733	1,530,733	0	87,508	0	87,508
2065	74,509,190	1,483,009	1,483,009	0	79,382	0	79,382
2066	78,668,335	1,434,509	1,434,509	0	71,897	0	71,897
2067	83,175,653	1,385,124	1,385,124	0	65,002	0	65,002
2068	88,056,199	1,335,093	1,335,093	0	58,665	0	58,665
2069	93,336,490	1,284,433	1,284,433	0	52,845	0	52,845
2070	99,044,846	1,233,554	1,233,554	0	47,521	0	47,521



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2071 to 2120 (concluded)

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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=((c)/(1+SDR) ^a ((a)-.5)
2071	\$ 105,211,052	\$ 1,182,484	\$ 1,182,484	\$ 0	\$ 42,653	\$ 0	\$ 42,653
2072	111,866,885	1,130,812	1,130,812	0	38,192	0	38,192
2073	119,046,756	1,078,912	1,078,912	0	34,119	0	34,119
2074	126,786,992	1,026,771	1,026,771	0	30,403	0	30,403
2075	135,126,400	974,240	974,240	0	27,011	0	27,011
2076	144,106,603	921,103	921,103	0	23,911	0	23,911
2077	153,772,311	867,275	867,275	0	21,081	0	21,081
2078	164,171,372	812,906	812,906	0	18,501	0	18,501
2079	175,354,732	758,132	758,132	0	16,156	0	16,156
2080	187,376,664	703,226	703,226	0	14,032	0	14,032
2081	200,294,851	648,265	648,265	0	12,111	0	12,111
2082	214,170,847	593,380	593,380	0	10,380	0	10,380
2083	229,070,278	538,997	538,997	0	8,828	0	8,828
2084	245,062,796	485,495	485,495	0	7,446	0	7,446
2085	262,222,414	433,339	433,339	0	6,223	0	6,223
2086	280,627,709	383,004	383,004	0	5,150	0	5,150
2087	300,362,128	334,948	334,948	0	4,217	0	4,217
2088	321,514,333	289,601	289,601	0	3,414	0	3,414
2089	344,178,588	247,341	247,341	0	2,730	0	2,730
2090	368,455,190	208,520	208,520	0	2,155	0	2,155
2091	394,450,915	173,451	173,451	0	1,678	0	1,678
2092	422,279,489	142,332	142,332	0	1,290	0	1,290
2093	452,062,188	115,159	115,159	0	977	0	977
2094	483,928,555	91,790	91,790	0	729	0	729
2095	518,017,109	72,009	72,009	0	536	0	536
2096	554,476,028	55,551	55,551	0	387	0	387
2097	593,463,864	42,131	42,131	0	275	0	275
2098	635,150,260	31,410	31,410	0	192	0	192
2099	679,716,767	23,005	23,005	0	132	0	132
2100	727,357,702	16,539	16,539	0	89	0	89
2101	778,281,000	11,662	11,662	0	58	0	58
2102	832,709,126	8,058	8,058	0	38	0	38
2103	890,880,017	5,449	5,449	0	24	0	24
2104	953,048,100	3,603	3,603	0	15	0	15
2105	1,019,485,370	2,328	2,328	0	9	0	9
2106	1,090,482,538	1,468	1,468	0	5	0	5
2107	1,166,350,269	903	903	0	3	0	3
2108	1,247,420,501	541	541	0	2	0	2
2109	1,334,047,871	315	315	0	1	0	1
2110	1,426,611,222	178	178	0	0	0	0
2111	1,525,515,235	98	98	0	0	0	0
2112	1,631,192,171	53	53	0	0	0	0
2113	1,744,103,739	28	28	0	0	0	0
2114	1,864,743,084	14	14	0	0	0	0
2115	1,993,636,929	7	7	0	0	0	0
2116	2,131,347,847	3	3	0	0	0	0
2117	2,278,476,703	2	2	0	0	0	0
2118	2,435,665,255	1	1	0	0	0	0
2119	2,603,598,931	0	0	0	0	0	0
2120	2,783,009,809	0	0	0	0	0	0
Totals					\$ 13,430,567	\$ 0	\$ 13,430,567



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.