

Wyoming Retirement System Paid Firemen's Retirement Fund Plan B

GASB Statement Nos. 67 and 68 Accounting and Financial
Reporting for Pensions
For Measurement Date as of December 31, 2024





April 8, 2025

Board of Trustees
Wyoming Paid Firemen's Retirement Fund Plan B

Dear Board Members:

This report provides information required by the Wyoming Paid Firemen's Retirement Fund Plan B (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 Paid Firemen's Retirement Fund Plan B ("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, 2024 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. Furthermore, this report includes the assumptions adopted by the Board at the November 17, 2021 and the February 17, 2022 meetings. For a detailed description of the experience related to these assumptions, as well as the rationale for any changes, please see our latest Wyoming Retirement System Actuarial Experience Study Report that covered the five-year investigation period ending December 31, 2020.

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

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

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

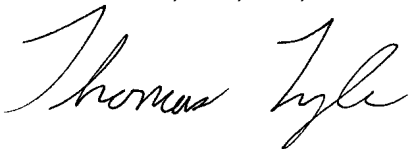
Paul T. Wood, Thomas A. Lyle, Dana Woolfrey, and Karli Fehrman are Members of the American Academy of Actuaries (MAAA) and are experienced in performing valuations for public retirement systems. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.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

Respectfully submitted,


Gabriel, Roeder, Smith & Company

By 

Paul T. Wood, ASA, FCA, MAAA

By 

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

By 

Dana Woolfrey, FSA, EA, FCA, MAAA

By 

Karli Fehrman, ASA, MAAA



Table of Contents

Page

Section A Executive Summary

Executive Summary	1
Discussion	2-5

Section B Financial Statements

Statement of Pension Expense under GASB Statement No. 68.....	7
Statement of Outflows and Inflows Arising from Current Reporting Period	8
History of Deferred Outflows and Inflows of Resources by Source	9-10
Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods.....	11
Statement of Fiduciary Net Position	12
Statement of Changes in Fiduciary Net Position	13

Section C Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Current Reporting Period.	15
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear	16
Schedule of Net Pension Liability Multiyear	17
Schedule of Contributions Multiyear	18
Notes to Schedule of Contributions	19
Schedule of Investment Returns Multiyear.....	20

Section D Notes to Financial Statements

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption	22
Summary of Population Statistics	23

Section E Summary of Benefits25-26

Section F Actuarial Cost Method and Actuarial Assumptions

Actuarial Assumptions and Cost Method.....	28-32
Experience Analysis	33

Section G Calculation of the Single Discount Rate

Calculation of the Single Discount Rate	35
Projection of Contributions	36-37
Projection of Plan Net Position	38-39
Present Values of Projected Benefits	40-41

Section H Glossary of Terms43-46

SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2024

	2024	
Actuarial Valuation Date	January 1, 2024	
Measurement Date of the Net Pension Liability	December 31, 2024	
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2024	
Membership		
Number of		
- Retirees and Beneficiaries	202	
- Inactive, Nonretired Members	101	
- Active Members	429	
- Total	732	
Covered Payroll	\$ 37,651,792	
Net Pension Liability		
Total Pension Liability	\$ 250,140,212	
Plan Fiduciary Net Position	259,867,087	
Net Pension Liability	\$ (9,726,875)	
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	103.89 %	
Net Pension Liability as a Percentage of Covered Payroll	(25.83)%	
Development of the Single Discount Rate		
Single Discount Rate	6.80 %	
Long-Term Expected Rate of Investment Return	6.80 %	
Long-Term Municipal Bond Rate*	4.08 %	
Last year ending December 31 in the 2024 to 2123 projection period for which projected benefit payments are fully funded	2123	
Total Pension Expense	\$ (1,183,471)	
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	\$ 2,774,393	\$ 2,005,901
Changes in assumptions	2,822,704	1,597,722
Net difference between projected and actual earnings on pension plan investments	11,911,642	18,488,357
Total	\$ 17,508,739	\$ 22,091,980

*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in the Bond Buyer "20-Bond GO Index" as of December 31, 2024.



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, 2024.

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 as a percentage of payroll as employee contributions increase.
2. The funded status of the plan is expected to stay above 100% in future years.

This funding policy results in no expected crossover date and a GASB single discount rate of 6.80%. This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2123. 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, 2024 and rolled forward to a measurement date of December 31, 2024.



Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.80%; the municipal bond rate is 4.08% (based on the daily rate closest to but not later than the measurement date of the Bond Buyer "20-Bond GO 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 Paid Firemen's Retirement Fund Plan B. 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, 2024

A. Expense

1. Service Cost	\$	9,100,533
2. Interest on the Total Pension Liability		15,922,622
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(4,576,138)
5. Projected Earnings on Plan Investments (made negative for addition here)		(15,963,595)
6. Pension Plan Administrative Expense		233,411
7. Other Changes in Plan Fiduciary Net Position		16,993
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(2,426,619)
9. Recognition of Outflow (Inflow) of Resources due to Assets		(3,490,678)
10. Total Pension Expense	\$	(1,183,471) *

* 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, 2024

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 1,174,468
2. Assumption Changes (gains) or losses	\$ 0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	6.7020
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	\$ 175,241
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for assumption changes	\$ 0
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	<u>\$ 175,241</u>
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ 999,227
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for assumption changes	\$ 0
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	<u>\$ 999,227</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (8,200,443)
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	\$ (1,640,089)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (6,560,354)



History of Deferred Outflows and Inflows of Resources by Source Fiscal Year Ended December 31, 2024

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

Recognition Period	8.3813	8.0494	7.8262	7.3965	6.9999	6.7949	6.7261	6.6818	6.4244	6.702		Deferred Net (Inflows)/Outflows at Measurement Date
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	
Total	\$ 120,064	\$ (93,703)	\$ (2,190,045)	\$ (6,466,191)	\$ 419,684	\$ (3,243,112)	\$ (310,679)	\$ (1,228,034)	\$ 2,490,564	\$ 1,174,468		
2015	14,325										14,325	
2016	14,325	(11,641)									2,684	
2017	14,325	(11,641)	(279,835)								(277,151)	
2018	14,325	(11,641)	(279,835)	(874,223)							(1,151,374)	
2019	14,325	(11,641)	(279,835)	(874,223)	59,956						(1,091,418)	
2020	14,325	(11,641)	(279,835)	(874,223)	59,956	(477,286)					(1,568,704)	
2021	14,325	(11,641)	(279,835)	(874,223)	59,956	(477,286)	(46,190)				(1,614,894)	
2022	14,325	(11,641)	(279,835)	(874,223)	59,956	(477,286)	(46,190)	(183,788)			(1,798,682)	
2023	5,464	(11,641)	(279,835)	(874,223)	59,956	(477,286)	(46,190)	(183,788)	387,673		(1,419,870)	
2024	-	(575)	(231,200)	(874,223)	59,956	(477,286)	(46,190)	(183,788)	387,673	175,241	(1,190,392)	
2025	-	-	-	(346,630)	59,948	(477,286)	(46,190)	(183,788)	387,673	175,241	(431,032)	\$ 768,492
2026	-	-	-	-	-	(379,396)	(46,190)	(183,788)	387,673	175,241	(46,460)	
2027	-	-	-	-	-	-	(33,539)	(183,788)	387,673	175,241	345,587	
2028	-	-	-	-	-	-	-	(125,306)	387,673	175,241	437,608	
2029	-	-	-	-	-	-	-	-	164,526	175,241	339,767	
Thereafter	-	-	-	-	-	-	-	-	-	123,022	123,022	
	\$ 120,064	\$ (93,703)	\$ (2,190,045)	\$ (6,466,191)	\$ 419,684	\$ (3,243,112)	\$ (310,679)	\$ (1,228,034)	\$ 2,490,564	\$ 1,174,468	\$ (9,326,984)	

Assumption changes - Net (inflows)/outflows of resources

Recognition Period	8.3813	8.0494	7.8262	7.3965	6.9999	6.7949	6.7261	6.6818	6.4244	6.7020		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	
Total	\$ 20,165,038	\$ (1,498,059)	\$ 16,738,920	\$ (29,804,719)	\$ -	\$ -	\$ 6,964,448	\$ -	\$ -	\$ -		
2015	2,405,956										2,405,956	
2016	2,405,956	(186,108)									2,219,848	
2017	2,405,956	(186,108)	2,138,831								4,358,679	
2018	2,405,956	(186,108)	2,138,831	(4,029,571)							329,108	
2019	2,405,956	(186,108)	2,138,831	(4,029,571)	-						329,108	
2020	2,405,956	(186,108)	2,138,831	(4,029,571)	-	-					329,108	
2021	2,405,956	(186,108)	2,138,831	(4,029,571)	-	-	1,035,436				1,364,544	
2022	2,405,956	(186,108)	2,138,831	(4,029,571)	-	-	1,035,436	-			1,364,544	
2023	917,390	(186,108)	2,138,831	(4,029,571)	-	-	1,035,436	-	-		(124,022)	
2024	-	(9,195)	1,767,103	(4,029,571)	-	-	1,035,436	-	-	-	(1,236,227)	
2025	-	-	-	(1,597,722)	-	-	1,035,436	-	-	-	(562,286)	\$ 1,224,982
2026	-	-	-	-	-	-	1,035,436	-	-	-	1,035,436	
2027	-	-	-	-	-	-	751,832	-	-	-	751,832	
2028	-	-	-	-	-	-	-	-	-	-	-	
2029	-	-	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	-	-	
	\$ 20,165,038	\$ (1,498,059)	\$ 16,738,920	\$ (29,804,719)	\$ -	\$ -	\$ 6,964,448	\$ -	\$ -	\$ -	\$ 12,565,628	



History of Deferred Outflows and Inflows of Resources by Source Fiscal Year Ended December 31, 2024 (continued)

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

Recognition Period	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000		Deferred Net (Inflows)/Outflows at Measurement Date
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	
Total	\$ 10,250,451	\$ 680,474	\$ (8,890,008)	\$ 15,436,045	\$ (16,212,170)	\$ (6,274,171)	\$ (19,316,800)	\$ 29,779,102	\$ (13,441,071)	\$ (8,200,443)		
2015	2,050,090										2,050,090	
2016	2,050,090	136,095									2,186,185	
2017	2,050,090	136,095	(1,778,002)								408,183	
2018	2,050,090	136,095	(1,778,002)	3,087,209							3,495,392	
2019	2,050,091	136,095	(1,778,002)	3,087,209	(3,242,434)						252,959	
2020	-	136,094	(1,778,002)	3,087,209	(3,242,434)	(1,254,834)					(3,051,967)	
2021	-	-	(1,778,000)	3,087,209	(3,242,434)	(1,254,834)	(3,863,360)				(7,051,419)	
2022	-	-	-	3,087,209	(3,242,434)	(1,254,834)	(3,863,360)	5,955,820			682,401	
2023	-	-	-	-	(3,242,434)	(1,254,834)	(3,863,360)	5,955,820	(2,688,214)		(5,093,022)	
2024	-	-	-	-	-	(1,254,835)	(3,863,360)	5,955,820	(2,688,214)	(1,640,089)	(3,490,678)	
2025	-	-	-	-	-	-	(3,863,360)	5,955,820	(2,688,214)	(1,640,089)	(2,235,843)	\$ (6,576,715)
2026	-	-	-	-	-	-	-	5,955,822	(2,688,214)	(1,640,089)	1,627,519	
2027	-	-	-	-	-	-	-	-	(2,688,215)	(1,640,089)	(4,328,304)	
2028	-	-	-	-	-	-	-	-	-	(1,640,087)	(1,640,087)	
2029	-	-	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	-	-	
	\$ 10,250,451	\$ 680,474	\$ (8,890,008)	\$ 15,436,045	\$ (16,212,170)	\$ (6,274,171)	\$ (19,316,800)	\$ 29,779,102	\$ (13,441,071)	\$ (8,200,443)	\$ (16,188,591)	

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

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	
Total	\$ 30,535,553	\$ (911,288)	\$ 5,658,867	\$ (20,834,865)	\$ (15,792,486)	\$ (9,517,283)	\$ (12,663,031)	\$ 28,551,068	\$ (10,950,507)	\$ (7,025,975)		
2015	4,470,371										4,470,371	
2016	4,470,371	(61,654)									4,408,717	
2017	4,470,371	(61,654)	80,994								4,489,711	
2018	4,470,371	(61,654)	80,994	(1,816,585)							2,673,126	
2019	4,470,372	(61,654)	80,994	(1,816,585)	(3,182,478)						(509,351)	
2020	2,420,281	(61,655)	80,994	(1,816,585)	(3,182,478)	(1,732,120)					(4,291,563)	
2021	2,420,281	(197,749)	80,996	(1,816,585)	(3,182,478)	(1,732,120)	(2,874,114)				(7,301,769)	
2022	2,420,281	(197,749)	1,858,996	(1,816,585)	(3,182,478)	(1,732,120)	(2,874,114)	5,772,032			248,263	
2023	922,854	(197,749)	1,858,996	(4,903,794)	(3,182,478)	(1,732,120)	(2,874,114)	5,772,032	(2,300,541)		(6,636,914)	
2024	-	(9,770)	1,535,903	(4,903,794)	59,956	(1,732,121)	(2,874,114)	5,772,032	(2,300,541)	(1,464,848)	(5,917,297)	
2025	-	-	-	(1,944,352)	59,948	(477,286)	(2,874,114)	5,772,032	(2,300,541)	(1,464,848)	(3,229,161)	\$ (4,583,241)
2026	-	-	-	-	-	(379,396)	989,246	5,772,034	(2,300,541)	(1,464,848)	2,616,495	
2027	-	-	-	-	-	-	718,293	(183,788)	(2,300,542)	(1,464,848)	(3,230,885)	
2028	-	-	-	-	-	-	-	(125,306)	387,673	(1,464,846)	(1,202,479)	
2029	-	-	-	-	-	-	-	-	164,526	175,241	339,767	
Thereafter	-	-	-	-	-	-	-	-	-	123,022	123,022	
	\$ 30,535,553	\$ (911,288)	\$ 5,658,867	\$ (20,834,865)	\$ (15,792,486)	\$ (9,517,283)	\$ (12,663,031)	\$ 28,551,068	\$ (10,950,507)	\$ (7,025,975)	\$ (12,949,947)	



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 2024

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	\$ 3,425,409	\$ 5,852,028	\$ (2,426,619)
2. Due to Assets	5,955,820	9,446,498	(3,490,678)
3. Total	\$ 9,381,229	\$ 15,298,526	\$ (5,917,297)

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	\$ 622,870	\$ 1,813,262	\$ (1,190,392)
2. Assumption Changes	2,802,539	4,038,766	(1,236,227)
3. Net Difference between projected and actual earnings on pension plan investments	5,955,820	9,446,498	(3,490,678)
4. Total	\$ 9,381,229	\$ 15,298,526	\$ (5,917,297)

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	\$ 2,774,393	\$ 2,005,901	\$ 768,492
2. Assumption Changes	2,822,704	1,597,722	1,224,982
3. Net Difference between projected and actual earnings on pension plan investments	11,911,642	18,488,357	(6,576,715)
4. Total	\$ 17,508,739	\$ 22,091,980	\$ (4,583,241)

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
2025	\$ (3,229,161)
2026	2,616,495
2027	(3,230,885)
2028	(1,202,479)
2029	339,767
Thereafter	123,022
Total	\$ (4,583,241)



Statement of Fiduciary Net Position as of December 31, 2024

	<u>2024</u>
Assets	
Cash and Deposits	\$ 18,068,221
Receivables	
Accounts Receivable - Sale of Investments	\$ 2,260,007
Accrued Interest and Other Dividends	506,777
Contributions	755,795
Accounts Receivable - Other	14,534,050
Total Receivables	<u>\$ 18,056,629</u>
Investments	
Fixed Income	\$ 40,982,584
Equities	121,217,381
Private Markets	31,447,699
Marketable Alternatives	45,539,665
Security Lending Collateral	8,987,410
Capital Assets, at Cost, Net of Accumulated Depreciation	45,457
Total Investments	<u>\$ 248,220,196</u>
Total Assets	<u>\$ 284,345,046</u>
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 24,093,484
Accrued Expenses	373,960
Accounts Payable - Other	10,515
Total Liabilities	<u>\$ 24,477,959</u>
Net Position Restricted for Pensions	<u>\$ 259,867,087</u>



Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2024

	<u>2024</u>
Additions	
Contributions	
Employer	\$ 6,510,392
Employee	4,576,138
Other Employer Contributions	1,652
Other Employee Contributions	<u>0</u>
Total Contributions	<u>\$ 11,088,182</u>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 20,740,734
Interest and Dividends	5,237,330
Less Investment Expense	<u>(1,814,026)</u>
Net Investment Income	<u>\$ 24,164,038</u>
Other	<u>\$ 0</u>
Total Additions	<u>\$ 35,252,220</u>
 Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 8,979,748
Pension Plan Administrative Expense	233,411
Other	<u>16,993</u>
Total Deductions	<u>\$ 9,230,152</u>
 Net Increase in Net Position	 \$ 26,022,068
 Net Position Restricted for Pensions	
Beginning of Year	<u>\$ 233,845,019</u>
End of Year	<u><u>\$ 259,867,087</u></u>



SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Paid Firemen's Retirement Fund Plan B. 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, 2024

A. Total pension liability	
1. Service cost	\$ 9,100,533
2. Interest on the total pension liability	15,922,622
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	1,174,468
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(8,979,748)
7. Net change in total pension liability	17,217,875
8. Total pension liability – beginning	232,922,337
9. Total pension liability – ending	\$ 250,140,212
B. Plan fiduciary net position	
1. Contributions – employer	\$ 6,512,044
2. Contributions – employee	4,576,138
3. Net investment income	24,164,038
4. Benefit payments	(8,914,889)
5. Refunds	(64,859)
6. Pension plan administrative expense	(233,411)
7. Other	(16,993)
8. Net change in plan fiduciary net position	26,022,068
9. Plan fiduciary net position – beginning	233,845,019
10. Plan fiduciary net position – ending	\$ 259,867,087
C. Net pension liability	\$ (9,726,875)
D. Plan fiduciary net position as a percentage of the total pension liability	
	103.89 %
E. Covered-employee payroll	\$ 37,651,792
F. Net pension liability as a percentage of covered-employee payroll	
	(25.83)%

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Fiscal year ending December 31,	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Total pension liability										
Service cost	\$ 9,100,533	\$ 8,015,475	\$ 7,471,374	\$ 7,168,972	\$ 6,738,176	\$ 6,563,232	\$ 6,259,734	\$ 8,912,364	\$ 7,422,919	\$ 7,421,040
Interest on the total pension liability	15,922,622	14,839,390	13,752,235	12,955,679	12,013,695	11,411,054	10,593,553	9,917,806	9,744,190	8,937,063
Changes of benefit terms	0	0	0	0	0	0	0	0	0	0
Difference between expected and actual experience	1,174,468	2,490,564	(1,228,034)	(310,679)	(3,243,112)	419,684	(6,466,191)	(2,190,045)	(93,703)	120,064
Changes of assumptions	0	0	0	6,964,448	0	0	(29,804,719)	16,738,920	(1,498,059)	20,165,038
Benefit payments, including refunds of employee contributions	(8,979,748)	(8,297,594)	(7,700,577)	(6,973,898)	(6,468,585)	(5,956,099)	(5,538,105)	(5,174,732)	(4,415,543)	(3,787,302)
Net change in total pension liability	17,217,875	17,047,835	12,294,998	19,804,522	9,040,174	12,437,871	(24,955,728)	28,204,313	11,159,804	32,855,903
Total pension liability - beginning	232,922,337	215,874,502	203,579,504	183,774,982	174,734,808	162,296,937	187,252,665	159,048,352	147,888,548	115,032,645
Total pension liability - ending (a)	\$ 250,140,212	\$ 232,922,337	\$ 215,874,502	\$ 203,579,504	\$ 183,774,982	\$ 174,734,808	\$ 162,296,937	\$ 187,252,665	\$ 159,048,352	\$ 147,888,548
Plan fiduciary net position										
Employer contributions	\$ 6,512,044	\$ 5,893,864	\$ 5,171,246	\$ 4,508,405	\$ 4,034,134	\$ 3,516,198	\$ 3,356,547	\$ 3,230,196	\$ 3,370,961	\$ 3,273,668
Employee contributions	4,576,138	4,149,048	3,799,401	3,261,693	3,053,576	2,787,467	2,821,872	2,773,651	2,858,418	2,924,752
Pension plan net investment income	24,164,038	27,425,248	(14,871,186)	31,992,426	18,023,705	26,111,099	(5,197,809)	17,838,337	8,477,077	(1,158,548)
Benefit payments	(8,914,889)	(8,157,492)	(7,559,981)	(6,902,972)	(6,383,271)	(5,921,008)	(5,474,014)	(5,054,595)	(4,343,944)	(3,712,240)
Refunds	(64,859)	(140,102)	(140,596)	(70,926)	(85,314)	(35,091)	(64,091)	(120,137)	(71,599)	(75,062)
Pension plan administrative expense	(233,411)	(214,075)	(191,754)	(176,943)	(158,826)	(138,634)	(140,922)	(130,931)	(112,132)	(90,438)
Other	(16,993)	(15,930)	(12,678)	(6,688)	(6,345)	(6,402)	(5,708)	(5,700)	(5,700)	(5,444)
Net change in plan fiduciary net position	26,022,068	28,940,561	(13,805,548)	32,604,995	18,477,659	26,313,629	(4,704,125)	18,530,821	10,173,081	1,156,688
Plan fiduciary net position - beginning	233,845,019	204,904,458	218,710,006	186,105,011	167,627,352	141,313,723	146,017,848	127,487,027	117,313,946	116,157,258
Plan fiduciary net position - ending (b)	\$ 259,867,087	\$ 233,845,019	\$ 204,904,458	\$ 218,710,006	\$ 186,105,011	\$ 167,627,352	\$ 141,313,723	\$ 146,017,848	\$ 127,487,027	\$ 117,313,946
Net pension liability - ending (a) - (b)	\$ (9,726,875)	\$ (922,682)	\$ 10,970,044	\$ (15,130,502)	\$ (2,330,029)	\$ 7,107,456	\$ 20,983,214	\$ 41,234,817	\$ 31,561,325	\$ 30,574,602
Plan fiduciary net position as a percentage of total pension liability	103.89 %	100.40 %	94.92 %	107.43 %	101.27 %	95.93 %	87.07 %	77.98 %	80.16 %	79.33 %
Covered-employee payroll	\$ 37,651,792	\$ 33,464,571	\$ 31,251,620	\$ 29,973,443	\$ 28,557,976	\$ 28,028,382	\$ 26,811,084	\$ 28,209,686	\$ 26,390,481	\$ 25,986,443
Projected valuation payroll	\$ 38,593,087	\$ 34,301,185	\$ 32,032,911	\$ 30,722,779	\$ 29,271,925	\$ 28,729,092	\$ 28,168,395	\$ 29,408,598	\$ 27,512,076	\$ 27,090,867
Net pension liability as a percentage of covered-employee payroll	(25.83)%	(2.76)%	35.10 %	(50.48)%	(8.16)%	25.36 %	78.26 %	146.17 %	119.59 %	117.66 %

Notes to Schedule:

For 2024 through 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

<u>FY Ending December 31,</u>	<u>Total Pension Liability</u>	<u>Plan Net Position</u>	<u>Net Pension Liability</u>	<u>Plan Net Position as a % of Total Pension Liability</u>	<u>Covered Payroll*</u>	<u>Net Pension Liability as a % of Covered Payroll</u>
2015	\$ 147,888,548	\$ 117,313,946	\$ 30,574,602	79.33 %	\$ 25,986,443	117.66 %
2016	159,048,352	127,487,027	31,561,325	80.16 %	26,390,481	119.59 %
2017	187,252,665	146,017,848	41,234,817	77.98 %	28,209,686	146.17 %
2018	162,296,937	141,313,723	20,983,214	87.07 %	26,811,084	78.26 %
2019	174,734,808	167,627,352	7,107,456	95.93 %	28,028,382	25.36 %
2020	183,774,982	186,105,011	(2,330,029)	101.27 %	28,557,976	(8.16)%
2021	203,579,504	218,710,006	(15,130,502)	107.43 %	29,973,443	(50.48)%
2022	215,874,502	204,904,458	10,970,044	94.92 %	31,251,620	35.10 %
2023	232,922,337	233,845,019	(922,682)	100.40 %	33,464,571	(2.76)%
2024	250,140,212	259,867,087	(9,726,875)	103.89 %	37,651,792	(25.83)%

* 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>
2015	\$ 3,275,448	\$ 3,273,668	\$ 1,780	\$ 25,986,443	12.60 %
2016	3,420,716	3,370,961	49,755	26,390,481	12.77 %
2017	3,496,053	3,230,196	265,857	28,209,686	11.45 %
2018	4,221,146	3,356,547	864,599	26,811,084	12.52 %
2019	4,760,014	3,516,198	1,243,816	28,028,382	12.55 %
2020	4,694,424	4,034,134	660,290	28,557,976	14.13 %
2021	4,547,521	4,508,405	39,116	29,973,443	15.04 %
2022	4,535,192	5,171,246	(636,054)	31,251,620	16.55 %
2023	4,834,727	5,893,864	(1,059,137)	33,464,571	17.61 %
2024	5,120,134	6,512,044	(1,391,910)	37,651,792	17.30 %

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

** 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, 2024
Notes Actuarially determined contribution rates are calculated as of July 1 each year for implementation the following fiscal year.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	23 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	4.50% to 7.50% including inflation
Payroll Growth Rate	2.50%
Cost-of-Living Increase	0.00%
Investment Rate of Return	6.80%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2022 valuation pursuant to an experience study of the period 2016 - 2020.
Post-Retirement Mortality	Pub-2010 Safety 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 100%
Pre-Retirement Mortality	Pub-2010 Safety Employee Mortality Table, amount-weighted, fully generational, projected with the MP-2020 Ultimate Scale Males: No set back with a multiplier of 100% Females: No set back with a multiplier of 100%

Other Information:

Notes There were no benefit changes during the year.
The employer is currently contributing at the rate of 16.00% of salary.
Employees are currently contributing at the rate of 11.245% 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

FY Ending December 31,	Annual Return ¹
2014	4.70 %
2015	(0.26)%
2016	7.60 %
2017	14.20 %
2018	(3.52)%
2019	18.72 %
2020	11.03 %
2021	17.19 %
2022	(6.99)%
2023	13.84 %
2024	10.54 %

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 Paid Firemen's Retirement Fund Plan B. 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 rates. 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

Current Single Discount		
1% Decrease	Rate Assumption	1% Increase
5.80%	6.80%	7.80%
\$ 24,297,438	\$ (9,726,875)	\$ (37,960,379)

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	202
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	101
Active Plan Members	<u>429</u>
Total Plan Members	732

SECTION E

SUMMARY OF BENEFITS

Summary of Plan Provisions

Covered Members	Any person who is employed by the Wyoming Paid Firemen Retirement Fund Plan B for members hired on or after July 1, 1981.
Final Average Salary	Employee's average annual salary for the highest paid three continuous years of service.
Service Retirement	
Eligibility	Age 50 with four or more years of service.
Monthly Benefit	2.80% of employee's highest three-year average salary for each year of credited service, with a max of 25 years or 70%.
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 without interest. An employee who terminates with less than four years of service is only eligible for the lump-sum benefit.
Disability Retirement	
Eligibility	No age or service eligibility requirements. Partial or total disability resulting from an individual and specific act, the type of which would normally occur only while employed as an employee, or as otherwise defined under W.S. 15-5-405.
Monthly Benefit	50.0% of Final Average Salary.

Pre-retirement Death Benefit

Eligibility	No age or service requirements.
Monthly Benefit	50% of member's final actual salary, payable to the surviving spouse or eligible dependent child.

Post-retirement Death Benefit

Monthly Benefit	On the death of a member, inactive member, retired member, or survivor the excess of the accumulated member contributions over all pension payments made are payable as a death benefit.
-----------------	--

Contributions

Employee	11.245% of salary. The employer may subsidize all or part of the employee contributions.
----------	--

Employer	16.00% of salary.
----------	-------------------

Interest	None.
----------	-------

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 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 3	Monthly benefit for life. Upon death, 50% of the benefit continues to be paid to the beneficiary.
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

Summary of Actuarial Assumptions and Methods

The following methods and assumptions were used in preparing the January 1, 2024 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 percentage 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) or the surplus amount.

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

Age	Rate
< 20	7.50%
20-25	7.50%
25-29	7.00%
30-35	5.50%
35 +	4.50%

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. Rates Before Retirement

Healthy Pre-Retirement Mortality:

Pub-2010 Safety 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 Safety 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 100%

Disabled Mortality:

Pub-2010 Safety 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 2024 using the MP-2020 Ultimate Scale					
	Male	Female	Male	Female	Male	Female
20	0.03%	0.01%	0.03%	0.01%	0.10%	0.04%
25	0.03%	0.02%	0.03%	0.02%	0.09%	0.05%
30	0.03%	0.02%	0.03%	0.02%	0.10%	0.07%
35	0.04%	0.03%	0.04%	0.03%	0.11%	0.10%
40	0.05%	0.04%	0.05%	0.04%	0.14%	0.14%
45	0.07%	0.06%	0.10%	0.07%	0.20%	0.18%
50	0.10%	0.08%	0.16%	0.12%	0.29%	0.25%
55	0.14%	0.10%	0.25%	0.21%	0.40%	0.38%
60	0.22%	0.14%	0.42%	0.37%	0.61%	0.58%
65	0.34%	0.19%	0.73%	0.64%	0.99%	0.88%
70	0.64%	0.38%	1.32%	1.12%	1.60%	1.35%
75			2.40%	1.95%	2.75%	2.07%
80			4.37%	3.39%	4.79%	3.39%
85			8.08%	6.05%	8.15%	6.05%
90			14.52%	10.81%	14.52%	10.81%
95			22.55%	17.92%	22.55%	17.92%
100			31.27%	27.00%	31.27%	27.00%

100% of active deaths and disabilities are assumed to be duty-related.

b. Disability and Withdrawal

Age	Disability		Withdrawal	
			Ultimate	
	Male	Female	Male	Female
20	0.02%	0.02%	10.00%	10.00%
25	0.02%	0.02%	6.00%	6.00%
30	0.02%	0.02%	4.00%	4.00%
35	0.15%	0.15%	2.50%	2.50%
40	0.34%	0.34%	2.00%	2.00%
45	0.52%	0.52%	1.50%	1.50%
50	0.66%	0.66%	1.50%	1.50%
55	1.45%	1.45%	0.50%	0.50%
60	1.60%	1.60%	0.50%	0.50%

c. Retirement Rates

Age	Rate
50	25.00%
51	10.00%
52	10.00%
53	10.00%
54	10.00%
55	25.00%
56	25.00%
57	25.00%
58	15.00%
59	15.00%
60	25.00%
61	50.00%
62	100.00%

6. Other Assumptions

- a. Percent married: 100.00% 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 20 years after hire date.
- f. No benefit amount data is available for members entitled to deferred benefits. The benefit is estimated using the final average compensation and service provided by WRS.
- g. There will be no recoveries once disabled. We assume all members are totally disabled.
- h. Administrative expenses: Assumed to be the average of the prior two years, with each year projected at 2.50% to the valuation date.
- i. 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.
- j. Decrement timing: Decrements of all types are assumed to occur mid-year.
- k. 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.
- l. 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.
- m. Benefit Service: All members are assumed to accrue one year of service each year.

Experience Analysis

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

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

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

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.80%; the municipal bond rate is 4.08%; 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 2024 to 2073

Year	Payroll for Current Employees		Payroll for Future Employees		Total Employee Payroll		Contributions from Current Employees		Employer Contributions for Current Employees	Employer Contributions Related to Payroll of Future Employees	Total Contributions
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)=(a)*ER%	(f) = (b)*netER%	(g)=(d)+(e)+(f)				
2024	\$ 38,027,432	\$ 565,655	\$ 38,593,087	\$ 4,576,138	\$ 6,500,058	\$ 11,986	\$ 11,088,182				
2025	37,039,329	2,518,585	39,557,914	4,165,073	5,926,293	53,367	10,144,733				
2026	36,330,312	4,216,550	40,546,862	4,085,344	5,812,850	88,351	9,986,545				
2027	35,680,601	5,879,933	41,560,534	4,012,284	5,708,896	122,080	9,843,260				
2028	34,928,981	7,670,566	42,599,547	3,927,764	5,588,637	160,392	9,676,793				
2029	34,008,270	9,656,266	43,664,536	3,824,230	5,441,323	206,948	9,472,501				
2030	32,986,465	11,769,684	44,756,149	3,709,328	5,277,834	259,122	9,246,284				
2031	31,913,218	13,961,835	45,875,053	3,588,641	5,106,115	314,950	9,009,706				
2032	30,813,209	16,208,720	47,021,929	3,464,945	4,930,113	374,385	8,769,443				
2033	29,686,523	18,510,954	48,197,477	3,338,250	4,749,844	438,347	8,526,441				
2034	28,509,639	20,892,775	49,402,414	3,205,909	4,561,542	506,946	8,274,397				
2035	27,263,606	23,373,868	50,637,474	3,065,792	4,362,177	579,943	8,007,912				
2036	25,900,988	26,002,423	51,903,411	2,912,566	4,144,158	658,349	7,715,073				
2037	24,473,907	28,727,089	53,200,996	2,752,091	3,915,825	741,335	7,409,251				
2038	23,109,979	31,421,042	54,531,021	2,598,717	3,697,597	826,302	7,122,616				
2039	21,687,219	34,207,078	55,894,297	2,438,728	3,469,955	916,869	6,825,552				
2040	20,132,595	37,159,059	57,291,654	2,263,910	3,221,215	1,014,284	6,499,409				
2041	18,554,221	40,169,724	58,723,945	2,086,422	2,968,675	1,116,340	6,171,437				
2042	16,979,815	43,212,229	60,192,044	1,909,380	2,716,770	1,222,342	5,848,492				
2043	15,461,963	46,234,882	61,696,845	1,738,698	2,473,914	1,331,705	5,544,317				
2044	13,977,103	49,262,163	63,239,266	1,571,725	2,236,337	1,445,221	5,253,283				
2045	12,541,250	52,278,998	64,820,248	1,410,264	2,006,600	1,561,946	4,978,810				
2046	11,138,196	55,302,558	66,440,754	1,252,490	1,782,111	1,682,171	4,716,772				
2047	9,743,283	58,358,490	68,101,773	1,095,632	1,558,925	1,805,438	4,459,995				
2048	8,444,193	61,360,124	69,804,317	949,549	1,351,071	1,928,862	4,229,482				
2049	7,243,544	64,305,881	71,549,425	814,537	1,158,967	2,051,107	4,024,611				
2050	6,113,279	67,224,882	73,338,161	687,438	978,125	2,172,819	3,838,382				
2051	5,091,128	70,080,487	75,171,615	572,497	814,580	2,292,974	3,680,051				
2052	4,164,814	72,886,091	77,050,905	468,333	666,370	2,410,242	3,544,945				
2053	3,357,300	75,619,878	78,977,178	377,528	537,168	2,523,626	3,438,322				
2054	2,663,719	78,287,888	80,951,607	299,535	426,195	2,633,586	3,359,316				
2055	2,055,008	80,920,389	82,975,397	231,086	328,801	2,740,653	3,300,540				
2056	1,563,096	83,486,686	85,049,782	175,770	250,095	2,844,010	3,269,875				
2057	1,174,189	86,001,838	87,176,027	132,038	187,870	2,943,929	3,263,837				
2058	856,697	88,498,731	89,355,428	96,336	137,071	3,041,315	3,274,722				
2059	590,674	90,998,640	91,589,314	66,421	94,508	3,136,776	3,297,705				
2060	376,545	93,502,502	93,879,047	42,343	60,247	3,230,462	3,333,052				
2061	211,542	96,014,481	96,226,023	23,788	33,847	3,322,845	3,380,480				
2062	102,619	98,529,055	98,631,674	11,540	16,419	3,414,241	3,442,200				
2063	59,193	101,038,273	101,097,466	6,656	9,471	3,504,676	3,520,803				
2064	38,829	103,586,074	103,624,903	4,366	6,213	3,595,506	3,606,085				
2065	20,849	106,194,677	106,215,526	2,344	3,336	3,687,921	3,693,601				
2066	7,329	108,863,585	108,870,914	824	1,173	3,782,302	3,784,299				
2067	0	111,592,687	111,592,687	0	0	3,878,563	3,878,563				
2068	0	114,382,504	114,382,504	0	0	3,976,791	3,976,791				
2069	0	117,242,067	117,242,067	0	0	4,077,211	4,077,211				
2070	0	120,173,119	120,173,119	0	0	4,179,921	4,179,921				
2071	0	123,177,447	123,177,447	0	0	4,284,990	4,284,990				
2072	0	126,256,883	126,256,883	0	0	4,392,521	4,392,521				
2073	0	129,413,305	129,413,305	0	0	4,502,623	4,502,623				



Single Discount Rate Development

Projection of Contributions

Ending December 31 for 2074 to 2124 (concluded)

Year	Payroll for Current Employees		Payroll for Future Employees		Total Employee Payroll		Contributions from Current Employees		Employer Contributions for Current Employees	Employer Contributions Related to Payroll of Future Employees	Total Contributions
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)=(a)*ER%	(f) = (b)*netER%	(g)=(d)+(e)+(f)				
2074	\$	0	\$ 132,648,638	\$ 132,648,638	\$ 0	\$ 4,615,311	\$ 4,615,311				
2075		0	135,964,854	135,964,854	0	4,730,661	4,730,661				
2076		0	139,363,975	139,363,975	0	4,848,744	4,848,744				
2077		0	142,848,074	142,848,074	0	4,969,673	4,969,673				
2078		0	146,419,276	146,419,276	0	5,093,597	5,093,597				
2079		0	150,079,758	150,079,758	0	5,220,569	5,220,569				
2080		0	153,831,752	153,831,752	0	5,350,679	5,350,679				
2081		0	157,677,546	157,677,546	0	5,484,046	5,484,046				
2082		0	161,619,485	161,619,485	0	5,620,751	5,620,751				
2083		0	165,659,972	165,659,972	0	5,760,890	5,760,890				
2084		0	169,801,471	169,801,471	0	5,904,570	5,904,570				
2085		0	174,046,508	174,046,508	0	6,051,887	6,051,887				
2086		0	178,397,671	178,397,671	0	6,202,933	6,202,933				
2087		0	182,857,613	182,857,613	0	6,357,820	6,357,820				
2088		0	187,429,053	187,429,053	0	6,516,639	6,516,639				
2089		0	192,114,779	192,114,779	0	6,679,487	6,679,487				
2090		0	196,917,648	196,917,648	0	6,846,495	6,846,495				
2091		0	201,840,589	201,840,589	0	7,017,750	7,017,750				
2092		0	206,886,604	206,886,604	0	7,193,341	7,193,341				
2093		0	212,058,769	212,058,769	0	7,373,361	7,373,361				
2094		0	217,360,238	217,360,238	0	7,557,898	7,557,898				
2095		0	222,794,244	222,794,244	0	7,747,063	7,747,063				
2096		0	228,364,100	228,364,100	0	7,940,964	7,940,964				
2097		0	234,073,203	234,073,203	0	8,139,705	8,139,705				
2098		0	239,925,033	239,925,033	0	8,343,393	8,343,393				
2099		0	245,923,159	245,923,159	0	8,552,143	8,552,143				
2100		0	252,071,238	252,071,238	0	8,766,079	8,766,079				
2101		0	258,373,019	258,373,019	0	8,985,330	8,985,330				
2102		0	264,832,344	264,832,344	0	9,210,030	9,210,030				
2103		0	271,453,153	271,453,153	0	9,440,310	9,440,310				
2104		0	278,239,482	278,239,482	0	9,676,306	9,676,306				
2105		0	285,195,469	285,195,469	0	9,918,167	9,918,167				
2106		0	292,325,356	292,325,356	0	10,166,048	10,166,048				
2107		0	299,633,490	299,633,490	0	10,420,107	10,420,107				
2108		0	307,124,327	307,124,327	0	10,680,503	10,680,503				
2109		0	314,802,435	314,802,435	0	10,947,403	10,947,403				
2110		0	322,672,496	322,672,496	0	11,220,975	11,220,975				
2111		0	330,739,308	330,739,308	0	11,501,390	11,501,390				
2112		0	339,007,791	339,007,791	0	11,788,826	11,788,826				
2113		0	347,482,986	347,482,986	0	12,083,461	12,083,461				
2114		0	356,170,061	356,170,061	0	12,385,479	12,385,479				
2115		0	365,074,313	365,074,313	0	12,695,066	12,695,066				
2116		0	374,201,171	374,201,171	0	13,012,411	13,012,411				
2117		0	383,556,200	383,556,200	0	13,337,709	13,337,709				
2118		0	393,145,105	393,145,105	0	13,671,156	13,671,156				
2119		0	402,973,733	402,973,733	0	14,012,956	14,012,956				
2120		0	413,048,076	413,048,076	0	14,363,313	14,363,313				
2121		0	423,374,278	423,374,278	0	14,722,440	14,722,440				
2122		0	433,958,635	433,958,635	0	15,090,553	15,090,553				
2123		0	444,807,601	444,807,601	0	15,467,872	15,467,872				
2124		0	455,927,791	455,927,791	0	15,854,568	15,854,568				

Single Discount Rate Development

Projection of Plan Net Position

Ending December 31 for 2024 to 2073

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)
2024	\$ 233,845,019	\$ 11,088,182	\$ 8,979,748	\$ 250,404	\$ 24,164,038	\$ 259,867,087
2025	259,867,087	10,144,733	10,178,538	235,172	17,661,967	277,260,077
2026	277,260,077	9,986,545	11,011,648	241,051	18,811,344	294,805,267
2027	294,805,267	9,843,260	11,798,165	247,077	19,973,122	312,576,406
2028	312,576,406	9,676,793	12,813,436	253,254	21,141,835	330,328,344
2029	330,328,344	9,472,501	14,033,393	259,586	22,301,126	347,808,992
2030	347,808,992	9,246,284	15,341,828	266,075	23,438,273	364,885,647
2031	364,885,647	9,009,706	16,546,812	272,727	24,551,056	381,626,871
2032	381,626,871	8,769,443	17,722,469	279,545	25,641,882	398,036,182
2033	398,036,182	8,526,441	18,891,339	286,534	26,710,267	414,095,018
2034	414,095,018	8,274,397	20,092,942	293,697	27,753,417	429,736,193
2035	429,736,193	8,007,912	21,390,782	301,040	28,764,459	444,816,743
2036	444,816,743	7,715,073	22,698,669	308,566	29,736,156	459,260,737
2037	459,260,737	7,409,251	24,024,064	316,280	30,663,540	472,993,183
2038	472,993,183	7,122,616	25,274,847	324,187	31,545,669	486,062,434
2039	486,062,434	6,825,552	26,524,398	332,292	32,382,387	498,413,683
2040	498,413,683	6,499,409	27,856,292	340,599	33,166,548	509,882,749
2041	509,882,749	6,171,437	29,153,179	349,114	33,891,823	520,443,716
2042	520,443,716	5,848,492	30,394,204	357,842	34,557,377	530,097,539
2043	530,097,539	5,544,317	31,551,342	366,788	35,164,670	538,888,395
2044	538,888,395	5,253,283	32,649,842	375,957	35,715,674	546,831,553
2045	546,831,553	4,978,810	33,636,189	385,356	36,213,332	554,002,150
2046	554,002,150	4,716,772	34,554,410	394,990	36,661,141	560,430,664
2047	560,430,664	4,459,995	35,443,246	404,865	37,059,640	566,102,188
2048	566,102,188	4,229,482	36,188,178	414,987	37,412,345	571,140,850
2049	571,140,850	4,024,611	36,795,801	425,361	37,727,457	575,671,756
2050	575,671,756	3,838,382	37,295,302	435,995	38,012,271	579,791,113
2051	579,791,113	3,680,051	37,583,365	446,895	38,277,095	583,718,000
2052	583,718,000	3,544,945	37,709,443	458,068	38,535,016	587,630,450
2053	587,630,450	3,438,322	37,693,565	469,519	38,797,645	591,703,334
2054	591,703,334	3,359,316	37,546,859	481,257	39,076,472	596,111,007
2055	596,111,007	3,300,540	37,287,498	493,289	39,382,500	601,013,259
2056	601,013,259	3,269,875	36,878,532	505,621	39,728,091	606,627,073
2057	606,627,073	3,263,837	36,351,307	518,261	40,126,837	613,148,178
2058	613,148,178	3,274,722	35,728,677	531,218	40,591,024	620,754,029
2059	620,754,029	3,297,705	35,025,447	544,498	41,132,063	629,613,851
2060	629,613,851	3,333,052	34,242,444	558,111	41,761,442	639,907,790
2061	639,907,790	3,380,480	33,384,176	572,064	42,491,250	651,823,280
2062	651,823,280	3,442,200	32,447,570	586,365	43,334,410	665,565,954
2063	665,565,954	3,520,803	31,430,813	601,024	44,305,052	681,359,972
2064	681,359,972	3,606,085	30,365,226	616,050	45,417,028	699,401,810
2065	699,401,810	3,693,601	29,266,423	631,451	46,683,030	719,880,567
2066	719,880,567	3,784,299	28,136,545	647,238	48,115,874	742,996,958
2067	742,996,958	3,878,563	26,977,680	663,419	49,729,154	768,963,575
2068	768,963,575	3,976,791	25,793,246	680,004	51,537,222	798,004,339
2069	798,004,339	4,077,211	24,591,886	697,004	53,554,958	830,347,618
2070	830,347,618	4,179,921	23,377,869	714,429	55,797,751	866,232,992
2071	866,232,992	4,284,990	22,155,632	732,290	58,281,746	905,911,806
2072	905,911,806	4,392,521	20,929,790	750,597	61,023,882	949,647,822
2073	949,647,822	4,502,623	19,704,958	769,362	64,041,945	997,718,069

Single Discount Rate Development

Projection of Plan Net Position

Ending December 31 for 2074 to 2124 (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)
2074	\$ 997,718,069	\$ 4,615,311	\$ 18,485,936	\$ 788,596	\$ 67,354,612	\$ 1,050,413,460
2075	1,050,413,460	4,730,661	17,277,695	808,311	70,981,501	1,108,039,617
2076	1,108,039,617	4,848,744	16,085,020	828,519	74,943,237	1,170,918,058
2077	1,170,918,058	4,969,673	14,912,499	849,232	79,261,532	1,239,387,533
2078	1,239,387,533	5,093,597	13,764,572	870,463	83,959,278	1,313,805,373
2079	1,313,805,373	5,220,569	12,645,455	892,224	89,060,634	1,394,548,897
2080	1,394,548,897	5,350,679	11,559,157	914,530	94,591,126	1,482,017,015
2081	1,482,017,015	5,484,046	10,509,675	937,393	100,577,748	1,576,631,741
2082	1,576,631,741	5,620,751	9,501,006	960,828	107,049,068	1,678,839,727
2083	1,678,839,727	5,760,890	8,537,058	984,849	114,035,330	1,789,114,040
2084	1,789,114,040	5,904,570	7,621,347	1,009,470	121,568,587	1,907,956,380
2085	1,907,956,380	6,051,887	6,756,891	1,034,706	129,682,856	2,035,899,526
2086	2,035,899,526	6,202,933	5,946,246	1,060,574	138,414,285	2,173,509,925
2087	2,173,509,925	6,357,820	5,191,396	1,087,089	147,801,328	2,321,390,588
2088	2,321,390,588	6,516,639	4,493,795	1,114,266	157,884,944	2,480,184,110
2089	2,480,184,110	6,679,487	3,854,242	1,142,122	168,708,805	2,650,576,037
2090	2,650,576,037	6,846,495	3,273,000	1,170,675	180,319,523	2,833,298,380
2091	2,833,298,380	7,017,750	2,750,018	1,199,942	192,766,879	3,029,133,049
2092	3,029,133,049	7,193,341	2,284,600	1,229,941	206,104,070	3,238,915,919
2093	3,238,915,919	7,373,361	1,875,361	1,260,689	220,387,982	3,463,541,211
2094	3,463,541,211	7,557,898	1,520,220	1,292,207	235,679,495	3,703,966,177
2095	3,703,966,177	7,747,063	1,216,188	1,324,512	252,043,805	3,961,216,346
2096	3,961,216,346	7,940,964	959,644	1,357,625	269,550,773	4,236,390,814
2097	4,236,390,814	8,139,705	746,404	1,391,565	288,275,279	4,530,667,829
2098	4,530,667,829	8,343,393	571,759	1,426,354	308,297,604	4,845,310,713
2099	4,845,310,713	8,552,143	430,922	1,462,013	329,703,818	5,181,673,739
2100	5,181,673,739	8,766,079	319,239	1,498,564	352,586,171	5,541,208,186
2101	5,541,208,186	8,985,330	232,282	1,536,028	377,043,500	5,925,468,706
2102	5,925,468,706	9,210,030	165,886	1,574,428	403,181,666	6,336,120,088
2103	6,336,120,088	9,440,310	116,190	1,613,789	431,114,006	6,774,944,425
2104	6,774,944,425	9,676,306	79,759	1,654,134	460,961,822	7,243,848,660
2105	7,243,848,660	9,918,167	53,620	1,695,487	492,854,889	7,744,872,610
2106	7,744,872,610	10,166,048	35,279	1,737,874	526,932,003	8,280,197,508
2107	8,280,197,508	10,420,107	22,706	1,781,321	563,341,560	8,852,155,147
2108	8,852,155,147	10,680,503	14,290	1,825,854	602,242,179	9,463,237,685
2109	9,463,237,685	10,947,403	8,793	1,871,500	643,803,375	10,116,108,170
2110	10,116,108,170	11,220,975	5,289	1,918,288	688,206,268	10,813,611,836
2111	10,813,611,836	11,501,390	3,111	1,966,245	735,644,364	11,558,788,235
2112	11,558,788,235	11,788,826	1,790	2,015,401	786,324,372	12,354,884,241
2113	12,354,884,241	12,083,461	1,008	2,065,786	840,467,094	13,205,368,003
2114	13,205,368,003	12,385,479	554	2,117,431	898,308,378	14,113,943,874
2115	14,113,943,874	12,695,066	298	2,170,367	960,100,128	15,084,568,404
2116	15,084,568,404	13,012,411	157	2,224,626	1,026,111,399	16,121,467,431
2117	16,121,467,431	13,337,709	81	2,280,242	1,096,629,554	17,229,154,371
2118	17,229,154,371	13,671,156	41	2,337,248	1,171,961,511	18,412,449,749
2119	18,412,449,749	14,012,956	20	2,395,679	1,252,435,074	19,676,502,080
2120	19,676,502,080	14,363,313	9	2,455,571	1,338,400,346	21,026,810,159
2121	21,026,810,159	14,722,440	4	2,516,960	1,430,231,252	22,469,246,888
2122	22,469,246,888	15,090,553	2	2,579,884	1,528,327,156	24,010,084,710
2123	24,010,084,710	15,467,872	1	2,644,381	1,633,114,589	25,656,022,789
2124	25,656,022,789	15,854,568	0	0	1,745,139,740	27,417,017,097

Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2024 to 2073

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))
2024	\$ 233,845,019	\$ 8,979,748	\$ 8,979,748	\$ 0	\$ 8,689,175	\$ 0	\$ 8,689,175
2025	259,867,087	10,178,538	10,178,538	0	9,222,072	0	9,222,072
2026	277,260,077	11,011,648	11,011,648	0	9,341,663	0	9,341,663
2027	294,805,267	11,798,165	11,798,165	0	9,371,629	0	9,371,629
2028	312,576,406	12,813,436	12,813,436	0	9,530,045	0	9,530,045
2029	330,328,344	14,033,393	14,033,393	0	9,772,840	0	9,772,840
2030	347,808,992	15,341,828	15,341,828	0	10,003,776	0	10,003,776
2031	364,885,647	16,546,812	16,546,812	0	10,102,525	0	10,102,525
2032	381,626,871	17,722,469	17,722,469	0	10,131,379	0	10,131,379
2033	398,036,182	18,891,339	18,891,339	0	10,111,971	0	10,111,971
2034	414,095,018	20,092,942	20,092,942	0	10,070,369	0	10,070,369
2035	429,736,193	21,390,782	21,390,782	0	10,038,233	0	10,038,233
2036	444,816,743	22,698,669	22,698,669	0	9,973,779	0	9,973,779
2037	459,260,737	24,024,064	24,024,064	0	9,884,042	0	9,884,042
2038	472,993,183	25,274,847	25,274,847	0	9,736,556	0	9,736,556
2039	486,062,434	26,524,398	26,524,398	0	9,567,338	0	9,567,338
2040	498,413,683	27,856,292	27,856,292	0	9,408,007	0	9,408,007
2041	509,882,749	29,153,179	29,153,179	0	9,219,110	0	9,219,110
2042	520,443,716	30,394,204	30,394,204	0	8,999,587	0	8,999,587
2043	530,097,539	31,551,342	31,551,342	0	8,747,388	0	8,747,388
2044	538,888,395	32,649,842	32,649,842	0	8,475,599	0	8,475,599
2045	546,831,553	33,636,189	33,636,189	0	8,175,698	0	8,175,698
2046	554,002,150	34,554,410	34,554,410	0	7,864,123	0	7,864,123
2047	560,430,664	35,443,246	35,443,246	0	7,552,818	0	7,552,818
2048	566,102,188	36,188,178	36,188,178	0	7,220,562	0	7,220,562
2049	571,140,850	36,795,801	36,795,801	0	6,874,345	0	6,874,345
2050	575,671,756	37,295,302	37,295,302	0	6,524,030	0	6,524,030
2051	579,791,113	37,583,365	37,583,365	0	6,155,824	0	6,155,824
2052	583,718,000	37,709,443	37,709,443	0	5,783,216	0	5,783,216
2053	587,630,450	37,693,565	37,693,565	0	5,412,716	0	5,412,716
2054	591,703,334	37,546,859	37,546,859	0	5,048,361	0	5,048,361
2055	596,111,007	37,287,498	37,287,498	0	4,694,278	0	4,694,278
2056	601,013,259	36,878,532	36,878,532	0	4,347,183	0	4,347,183
2057	606,627,073	36,351,307	36,351,307	0	4,012,205	0	4,012,205
2058	613,148,178	35,728,677	35,728,677	0	3,692,400	0	3,692,400
2059	620,754,029	35,025,447	35,025,447	0	3,389,255	0	3,389,255
2060	629,613,851	34,242,444	34,242,444	0	3,102,516	0	3,102,516
2061	639,907,790	33,384,176	33,384,176	0	2,832,166	0	2,832,166
2062	651,823,280	32,447,570	32,447,570	0	2,577,442	0	2,577,442
2063	665,565,954	31,430,813	31,430,813	0	2,337,713	0	2,337,713
2064	681,359,972	30,365,226	30,365,226	0	2,114,661	0	2,114,661
2065	699,401,810	29,266,423	29,266,423	0	1,908,370	0	1,908,370
2066	719,880,567	28,136,545	28,136,545	0	1,717,879	0	1,717,879
2067	742,996,958	26,977,680	26,977,680	0	1,542,251	0	1,542,251
2068	768,963,575	25,793,246	25,793,246	0	1,380,655	0	1,380,655
2069	798,004,339	24,591,886	24,591,886	0	1,232,537	0	1,232,537
2070	830,347,618	23,377,869	23,377,869	0	1,097,089	0	1,097,089
2071	866,232,992	22,155,632	22,155,632	0	973,531	0	973,531
2072	905,911,806	20,929,790	20,929,790	0	861,111	0	861,111
2073	949,647,822	19,704,958	19,704,958	0	759,099	0	759,099



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2074 to 2124 (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)
2074	\$ 997,718,069	\$ 18,485,936	\$ 18,485,936	\$ 0	\$ 666,796	\$ 0	\$ 666,796
2075	1,050,413,460	17,277,695	17,277,695	0	583,534	0	583,534
2076	1,108,039,617	16,085,020	16,085,020	0	508,664	0	508,664
2077	1,170,918,058	14,912,499	14,912,499	0	441,559	0	441,559
2078	1,239,387,533	13,764,572	13,764,572	0	381,619	0	381,619
2079	1,313,805,373	12,645,455	12,645,455	0	328,269	0	328,269
2080	1,394,548,897	11,559,157	11,559,157	0	280,964	0	280,964
2081	1,482,017,015	10,509,675	10,509,675	0	239,190	0	239,190
2082	1,576,631,741	9,501,006	9,501,006	0	202,466	0	202,466
2083	1,678,839,727	8,537,058	8,537,058	0	170,341	0	170,341
2084	1,789,114,040	7,621,347	7,621,347	0	142,387	0	142,387
2085	1,907,956,380	6,756,891	6,756,891	0	118,199	0	118,199
2086	2,035,899,526	5,946,246	5,946,246	0	97,396	0	97,396
2087	2,173,509,925	5,191,396	5,191,396	0	79,618	0	79,618
2088	2,321,390,588	4,493,795	4,493,795	0	64,531	0	64,531
2089	2,480,184,110	3,854,242	3,854,242	0	51,823	0	51,823
2090	2,650,576,037	3,273,000	3,273,000	0	41,206	0	41,206
2091	2,833,298,380	2,750,018	2,750,018	0	32,417	0	32,417
2092	3,029,133,049	2,284,600	2,284,600	0	25,216	0	25,216
2093	3,238,915,919	1,875,361	1,875,361	0	19,381	0	19,381
2094	3,463,541,211	1,520,220	1,520,220	0	14,711	0	14,711
2095	3,703,966,177	1,216,188	1,216,188	0	11,019	0	11,019
2096	3,961,216,346	959,644	959,644	0	8,141	0	8,141
2097	4,236,390,814	746,404	746,404	0	5,929	0	5,929
2098	4,530,667,829	571,759	571,759	0	4,253	0	4,253
2099	4,845,310,713	430,922	430,922	0	3,001	0	3,001
2100	5,181,673,739	319,239	319,239	0	2,082	0	2,082
2101	5,541,208,186	232,282	232,282	0	1,418	0	1,418
2102	5,925,468,706	165,886	165,886	0	948	0	948
2103	6,336,120,088	116,190	116,190	0	622	0	622
2104	6,774,944,425	79,759	79,759	0	400	0	400
2105	7,243,848,660	53,620	53,620	0	252	0	252
2106	7,744,872,610	35,279	35,279	0	155	0	155
2107	8,280,197,508	22,706	22,706	0	93	0	93
2108	8,852,155,147	14,290	14,290	0	55	0	55
2109	9,463,237,685	8,793	8,793	0	32	0	32
2110	10,116,108,170	5,289	5,289	0	18	0	18
2111	10,813,611,836	3,111	3,111	0	10	0	10
2112	11,558,788,235	1,790	1,790	0	5	0	5
2113	12,354,884,241	1,008	1,008	0	3	0	3
2114	13,205,368,003	554	554	0	1	0	1
2115	14,113,943,874	298	298	0	1	0	1
2116	15,084,568,404	157	157	0	0	0	0
2117	16,121,467,431	81	81	0	0	0	0
2118	17,229,154,371	41	41	0	0	0	0
2119	18,412,449,749	20	20	0	0	0	0
2120	19,676,502,080	9	9	0	0	0	0
2121	21,026,810,159	4	4	0	0	0	0
2122	22,469,246,888	2	2	0	0	0	0
2123	24,010,084,710	1	1	0	0	0	0
Totals					\$ 316,109,841	\$ 0	\$ 316,109,841



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.