

# Wyoming Retirement System Paid Firemen's Retirement Fund Plan A

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





June 2, 2022

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

Dear Board Members:

This report provides information required by the Wyoming Paid Firemen's Retirement Fund Plan A (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 A 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 effective August 23, 2017. For a detailed description of the economic and demographic assumptions, and benefit provisions. Furthermore, this report incorporates the assumptions adopted by the Board at the November 17, 2021 and the February 17, 2022 meetings. For a detailed description of the experience related to these assumptions, as well as the rationale for any changes, please see our latest Wyoming Retirement System Actuarial Experience Study Report that covered the five-year investigation period ending December 31, 2020.

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

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

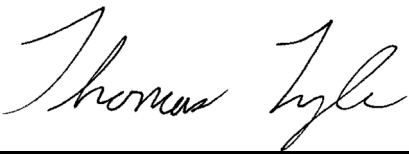
All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.


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

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## EXECUTIVE SUMMARY

# Executive Summary as of December 31, 2021

	<b>2021</b>
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	264
- Inactive, Nonretired Members	1
- Active Members	1
- Total	266
Covered Payroll	\$ 65,621

## Net Pension Liability

Total Pension Liability	\$ 171,214,768
Plan Fiduciary Net Position	73,443,552
Net Pension Liability	\$ 97,771,216
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	42.90 %
Net Pension Liability as a Percentage of Covered Payroll	148,994.79 %

## 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** \$ (228,860,127)

## 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	\$ 0	\$ 0
Changes in assumptions	0	0
Net difference between projected and actual earnings on pension plan investments	3,192,803	5,629,486
<b>Total</b>	<b>\$ 3,192,803</b>	<b>\$ 5,629,486</b>

*\*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**

Significant plan design and contribution policy changes have been made since the prior valuation per Enrolled Act No. 6 effective April 1, 2022. These changes include no cost of living adjustments going forward, State and Local contributions and an ongoing contribution in the form of 40% of the gross premium tax levied upon fire insurance premiums. As a result of this legislation, the Board will re-invest the Fire A assets in a similar fashion as the rest of the assets of WRS and therefore, the expected return on assets is increased from 1.00% to 6.80%.

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.

The single discount rate increased from 1.95% to 6.80% since the last valuation. This change in discount rate is measured as a change in assumptions. Furthermore, the change in the Cost of Living Adjustments was measured as a change in benefit terms.

### **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

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### 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 A. 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	\$	54,935
2. Interest on the Total Pension Liability		11,422,459
3. Current-Period Benefit Changes		(52,317,927)
4. Employee Contributions (made negative for addition here)		0
5. Projected Earnings on Plan Investments (made negative for addition here)		(819,689)
6. Pension Plan Administrative Expense		105,199
7. Other Changes in Plan Fiduciary Net Position		3,237
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(185,655,728) *
9. Recognition of Outflow (Inflow) of Resources due to Assets		(1,652,613)
<b>10. Total Pension Expense</b>	<b>\$</b>	<b>(228,860,127) **</b>

\* Includes change in the blended single discount rate from 1.95% to 6.80%

\*\* 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	\$ (271,077)
2. Assumption Changes (gains) or losses	\$ (185,384,651)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	1.0000
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	\$ (271,077)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for assumption changes	\$ (185,384,651)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ (185,655,728)
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	\$ 0
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	\$ 0

## B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 1,190,512
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	\$ 238,102
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 952,410



# 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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	2021	Total	
<b>Total</b>	\$ -	\$ (2,479,196)	\$ (1,825,288)	\$ 1,188,594	\$ (1,673,790)	\$ (3,107,578)	\$ (378,431)	\$ (271,077)	\$ -	
2014	-	-	-	-	-	-	-	-	-	-
2015	-	(2,479,196)	-	-	-	-	-	-	(2,479,196)	
2016	-	-	(1,825,288)	-	-	-	-	-	(1,825,288)	
2017	-	-	-	1,188,594	-	-	-	-	1,188,594	
2018	-	-	-	-	(1,673,790)	-	-	-	(1,673,790)	
2019	-	-	-	-	-	(3,107,578)	-	-	(3,107,578)	
2020	-	-	-	-	-	-	(378,431)	-	(378,431)	
2021	-	-	-	-	-	-	-	(271,077)	(271,077)	
2022	-	-	-	-	-	-	-	-	-	\$ -
2023	-	-	-	-	-	-	-	-	-	
2024	-	-	-	-	-	-	-	-	-	
2025	-	-	-	-	-	-	-	-	-	
2025	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	
<b>Total</b>	\$ -	\$ (2,479,196)	\$ (1,825,288)	\$ 1,188,594	\$ (1,673,790)	\$ (3,107,578)	\$ (378,431)	\$ (271,077)	\$ (8,546,766)	

### Assumption changes - Net (inflows)/outflows of resources

Recognition Period	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	Total	
	2014	2015	2016	2017	2018	2019	2020	2021		
<b>Total</b>	\$ 99,327,064	\$ 9,056,601	\$ (5,166,271)	\$ 41,599,453	\$ (11,600,861)	\$ 42,477,504	\$ 63,922,039	\$ (185,384,651)	\$ 99,327,064	
2014	99,327,064	-	-	-	-	-	-	-	9,056,601	
2015	-	9,056,601	-	-	-	-	-	-	(5,166,271)	
2016	-	-	(5,166,271)	-	-	-	-	-	41,599,453	
2017	-	-	-	41,599,453	-	-	-	-	(11,600,861)	
2018	-	-	-	-	(11,600,861)	-	-	-	42,477,504	
2019	-	-	-	-	-	42,477,504	-	-	63,922,039	
2020	-	-	-	-	-	-	63,922,039	-	(185,384,651)	
2021	-	-	-	-	-	-	-	(185,384,651)	(185,384,651)	
2022	-	-	-	-	-	-	-	-	-	\$ -
2023	-	-	-	-	-	-	-	-	-	
2024	-	-	-	-	-	-	-	-	-	
2025	-	-	-	-	-	-	-	-	-	
2025	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	
<b>Total</b>	\$ 99,327,064	\$ 9,056,601	\$ (5,166,271)	\$ 41,599,453	\$ (11,600,861)	\$ 42,477,504	\$ 63,922,039	\$ (185,384,651)	\$ 54,230,878	

### 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	Total	
	2014	2015	2016	2017	2018	2019	2020	2021		
<b>Total</b>	\$ 3,803,304	\$ 11,373,619	\$ 853,305	\$ (7,714,751)	\$ 11,201,969	\$ (10,674,946)	\$ (2,265,845)	\$ 1,190,512	\$ 760,661	
2014	760,661	-	-	-	-	-	-	-	3,035,385	
2015	760,661	2,274,724	-	-	-	-	-	-	3,206,046	
2016	760,661	2,274,724	170,661	-	-	-	-	-	1,663,096	
2017	760,661	2,274,724	170,661	(1,542,950)	-	-	-	-	3,903,489	
2018	760,660	2,274,724	170,661	(1,542,950)	2,240,394	-	-	-	1,007,839	
2019	-	2,274,723	170,661	(1,542,950)	2,240,394	(2,134,989)	-	-	(1,720,053)	
2020	-	-	170,661	(1,542,950)	2,240,394	(2,134,989)	(453,169)	-	(1,652,613)	
2021	-	-	-	(1,542,951)	2,240,394	(2,134,989)	(453,169)	238,102	(109,663)	\$ (2,436,683)
2022	-	-	-	-	2,240,393	(2,134,989)	(453,169)	238,102	(2,350,057)	
2023	-	-	-	-	-	(2,134,990)	(453,169)	238,102	(215,067)	
2024	-	-	-	-	-	-	(453,169)	238,102	238,104	
2025	-	-	-	-	-	-	-	238,104	-	
2025	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	
<b>Total</b>	\$ 3,803,304	\$ 11,373,619	\$ 853,305	\$ (7,714,751)	\$ 11,201,969	\$ (10,674,946)	\$ (2,265,845)	\$ 1,190,512	\$ 7,767,167	

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

	2014	2015	2016	2017	2018	2019	2020	2021	Total	
<b>Total</b>	\$ 103,130,368	\$ 17,951,024	\$ (6,138,254)	\$ 35,073,296	\$ (2,072,682)	\$ 28,694,980	\$ 61,277,763	\$ (184,465,216)	\$ 100,087,725	
2014	100,087,725	-	-	-	-	-	-	-	9,612,790	
2015	760,661	8,852,129	-	-	-	-	-	-	(3,785,513)	
2016	760,661	2,274,724	(6,820,898)	-	-	-	-	-	44,451,143	
2017	760,661	2,274,724	170,661	41,245,097	-	-	-	-	(9,371,162)	
2018	760,660	2,274,724	170,661	(1,542,950)	(11,034,257)	-	-	-	40,377,765	
2019	-	2,274,723	170,661	(1,542,950)	2,240,394	37,234,937	-	-	61,823,555	
2020	-	-	170,661	(1,542,950)	2,240,394	(2,134,989)	63,090,439	-	(187,308,341)	
2021	-	-	-	(1,542,951)	2,240,394	(2,134,989)	(453,169)	(185,417,626)	(109,663)	\$ (2,436,683)
2022	-	-	-	-	2,240,393	(2,134,989)	(453,169)	238,102	(2,350,057)	
2023	-	-	-	-	-	(2,134,990)	(453,169)	238,102	(215,067)	
2024	-	-	-	-	-	-	(453,169)	238,102	238,104	
2025	-	-	-	-	-	-	-	238,104	-	
2025	-	-	-	-	-	-	-	-	-	
2026	-	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	-	
<b>Total</b>	\$ 103,130,368	\$ 17,951,024	\$ (6,138,254)	\$ 35,073,296	\$ (2,072,682)	\$ 28,694,980	\$ 61,277,763	\$ (184,465,216)	\$ 53,451,279	



# 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	\$ 0	\$ 185,655,728	\$ (185,655,728)
2. Due to Assets	2,478,496	4,131,109	(1,652,613)
<b>3. Total</b>	<b>\$ 2,478,496</b>	<b>\$ 189,786,837</b>	<b>\$ (187,308,341)</b>

## 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	\$ 0	\$ 271,077	\$ (271,077)
2. Assumption Changes	0	185,384,651	(185,384,651)
3. Net Difference between projected and actual earnings on pension plan investments	2,478,496	4,131,109	(1,652,613)
<b>4. Total</b>	<b>\$ 2,478,496</b>	<b>\$ 189,786,837</b>	<b>\$ (187,308,341)</b>

## 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	\$ 0	\$ 0	\$ 0
2. Assumption Changes	0	0	0
3. Net Difference between projected and actual earnings on pension plan investments	3,192,803	5,629,486	(2,436,683)
<b>4. Total</b>	<b>\$ 3,192,803</b>	<b>\$ 5,629,486</b>	<b>\$ (2,436,683)</b>

## 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	\$ (109,663)
2023	(2,350,057)
2024	(215,067)
2025	238,104
2026	0
Thereafter	0
<b>Total</b>	<b>\$ (2,436,683)</b>



## Statement of Fiduciary Net Position as of December 31, 2021

	<b>2021</b>
<b>Assets</b>	
Cash and Deposits	\$ 653,493
Receivables	
Accounts Receivable - Sale of Investments	\$ 0
Accrued Interest and Other Dividends	212
Contributions	0
Accounts Receivable - Other	0
Total Receivables	\$ 212
Investments	
Fixed Income	\$ 72,739,666
Equities	0
Private Markets	0
Marketable Alternatives	0
Other	69,869
Total Investments	\$ 72,809,535
<b>Total Assets</b>	<b>\$ 73,463,240</b>
<b>Liabilities</b>	
Payables	
Accounts Payable - Purchase of Investments	\$ 0
Accrued Expenses	19,688
Accounts Payable - Other	0
Total Liabilities	\$ 19,688
<b>Net Position Restricted for Pensions</b>	<b>\$ 73,443,552</b>





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

	2021
<b>Additions</b>	
Contributions	
Employer	\$ 0
Employee	0
Other	0
<b>Total Contributions</b>	<b>\$ 0</b>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ (630,285)
Interest and Dividends	327,782
Less Investment Expense	(68,320)
<b>Net Investment Income</b>	<b>\$ (370,823)</b>
Other	\$ 0
<b>Total Additions</b>	<b>\$ (370,823)</b>
 <b>Deductions</b>	
Benefit Payments, including Refunds of Employee Contributions	\$ 16,160,140
Pension Plan Administrative Expense	105,199
Other	3,237
<b>Total Deductions</b>	<b>\$ 16,268,576</b>
<b>Net Increase in Net Position</b>	<b>\$ (16,639,399)</b>
 <b>Net Position Restricted for Pensions</b>	
Beginning of Year	\$ 90,082,951
End of Year	<b>\$ 73,443,552</b>

## SECTION C

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### **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 A. 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

<b>A. Total pension liability</b>	
1. Service cost	\$ 54,935
2. Interest on the total pension liability	11,422,459
3. Changes of benefit terms	(52,317,927)
4. Difference between expected and actual experience of the total pension liability	(271,077)
5. Changes of assumptions	(185,384,651)
6. Benefit payments, including refunds of employee contributions	(16,160,140)
<b>7. Net change in total pension liability</b>	<u>(242,656,401)</u>
<b>8. Total pension liability – beginning</b>	<u>413,871,169</u>
<b>9. Total pension liability – ending</b>	<u><u>\$ 171,214,768</u></u>
<b>B. Plan fiduciary net position</b>	
1. Contributions – employer	\$ 0
2. Contributions – employee	0
3. Net investment income	(370,823)
4. Benefit payments, including refunds of employee contributions	(16,160,140)
5. Pension plan administrative expense	(105,199)
6. Other	(3,237)
<b>7. Net change in plan fiduciary net position</b>	<u>(16,639,399)</u>
<b>8. Plan fiduciary net position – beginning</b>	<u>90,082,951</u>
<b>9. Plan fiduciary net position – ending</b>	<u><u>\$ 73,443,552</u></u>
<b>C. Net pension liability</b>	<u><u>\$ 97,771,216</u></u>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	42.90 %
<b>E. Covered-employee payroll</b>	\$ 65,621
<b>F. Net pension liability as a percentage of covered-employee payroll</b>	148,994.79 %



# 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
<b>Total pension liability</b>								
Service cost	\$ 54,935	\$ 65,959	\$ 40,886	\$ 61,278	\$ 122,812	\$ 147,314	\$ 162,541	\$ 188,951
Interest on the total pension liability	11,422,459	8,068,467	10,996,219	12,801,237	12,582,433	12,906,407	12,910,372	13,337,846
Changes of benefit terms	(52,317,927)	0	0	0	0	0	0	0
Difference between expected and actual experience	(271,077)	(378,431)	(3,107,578)	(1,673,790)	1,188,594	(1,825,288)	(2,479,196)	0
Changes of assumptions	(185,384,651)	63,922,039	42,477,504	(11,600,861)	41,599,453	(5,166,271)	9,056,601	99,327,064
Benefit payments, including refunds of employee contributions	(16,160,140)	(16,341,689)	(16,093,422)	(15,788,064)	(15,410,878)	(15,075,912)	(14,824,715)	(14,581,980)
<b>Net change in total pension liability</b>	(242,656,401)	55,336,345	34,313,609	(16,200,200)	40,082,414	(9,013,750)	4,825,603	98,271,881
<b>Total pension liability - beginning</b>	413,871,169	358,534,824	324,221,215	340,421,415	300,339,001	309,352,751	304,527,148	206,255,267
<b>Total pension liability - ending (a)</b>	\$ 171,214,768	\$ 413,871,169	\$ 358,534,824	\$ 324,221,215	\$ 340,421,415	\$ 300,339,001	\$ 309,352,751	\$ 304,527,148
<b>Plan fiduciary net position</b>								
Employer contributions	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Employee contributions	0	0	0	0	0	0	0	0
Pension plan net investment income	(370,823)	8,557,543	16,923,518	(3,580,279)	15,351,989	8,160,117	(1,107,007)	7,064,066
Benefit payments, including refunds of employee contributions	(16,160,140)	(16,341,689)	(16,093,422)	(15,788,064)	(15,410,878)	(15,075,912)	(14,824,715)	(14,581,980)
Pension plan administrative expense	(105,199)	(88,626)	(87,238)	(98,669)	(108,773)	(110,274)	(102,903)	(113,705)
Other	(3,237)	(3,708)	(4,405)	(4,562)	(6,020)	(6,019)	(6,559)	(1,701)
<b>Net change in plan fiduciary net position</b>	(16,639,399)	(7,876,480)	738,453	(19,471,574)	(173,682)	(7,032,088)	(16,041,184)	(7,633,320)
<b>Plan fiduciary net position - beginning</b>	90,082,951	97,959,431	97,220,978	116,692,552	116,866,234	123,898,322	139,939,506	147,572,826
<b>Plan fiduciary net position - ending (b)</b>	\$ 73,443,552	\$ 90,082,951	\$ 97,959,431	\$ 97,220,978	\$ 116,692,552	\$ 116,866,234	\$ 123,898,322	\$ 139,939,506
<b>Net pension liability - ending (a) - (b)</b>	\$ 97,771,216	\$ 323,788,218	\$ 260,575,393	\$ 227,000,237	\$ 223,728,863	\$ 183,472,767	\$ 185,454,429	\$ 164,587,642
<b>Plan fiduciary net position as a percentage of total pension liability</b>	42.90 %	21.77 %	27.32 %	29.99 %	34.28 %	38.91 %	40.05 %	45.95 %
<b>Covered-employee payroll</b>	\$ 65,621	\$ 65,621	\$ 65,621	\$ 134,155	\$ 195,221	\$ 195,221	\$ 179,486	\$ 198,404
<b>Projected Valuation Payroll</b>	\$ 65,621	\$ 65,621	\$ 65,621	\$ 134,155	\$ 195,221	\$ 195,221	\$ 179,486	\$ 198,404
<b>Net pension liability as a percentage of covered-employee payroll</b>	148,994.79 %	493,424.95 %	397,094.13 %	169,207.64 %	114,602.87 %	93,982.30 %	103,325.47 %	82,955.64 %

**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

<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>
2014	\$ 304,527,148	\$ 139,939,506	\$ 164,587,642	45.95 %	\$ 198,404	82,955.64 %
2015	309,352,751	123,898,322	185,454,429	40.05 %	179,486	103,325.47 %
2016	300,339,001	116,866,234	183,472,767	38.91 %	195,221	93,982.30 %
2017	340,421,415	116,692,552	223,728,863	34.28 %	195,221	114,602.87 %
2018	324,221,215	97,220,978	227,000,237	29.99 %	134,155	169,207.64 %
2019	358,534,824	97,959,431	260,575,393	27.32 %	65,621	397,094.13 %
2020	413,871,169	90,082,951	323,788,218	21.77 %	65,621	493,424.95 %
2021	171,214,768	73,443,552	97,771,216	42.90 %	65,621	148,994.79 %

\* Covered payroll is the total of first class firefighter salaries in force as of the valuation date and may differ from the actual payroll paid during the year.



## Schedule of Contributions Multiyear Last 10 Fiscal Years

FY Ending December 31,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	\$ 9,458,093	\$ 0	\$ 9,458,093	\$ 198,404	0.00 %
2015	9,714,697	0	9,714,697	179,486	0.00 %
2016	10,663,740	0	10,663,740	195,221	0.00 %
2017	11,734,389	0	11,734,389	195,221	0.00 %
2018	15,597,369	0	15,597,369	134,155	0.00 %
2019	16,974,397	0	16,974,397	65,621	0.00 %
2020	18,379,604	0	18,379,604	65,621	0.00 %
2021	41,595,929	0	41,595,929	65,621	0.00 %

\* Covered payroll is the total of first class firefighter salaries in force as of the valuation date and may differ 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 Dollar, Open
Remaining Amortization Period	10 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	4.50% including inflation
Cost-of-Living Increase	3.00%
Investment Rate of Return	1.00%
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 Males: No set back with a multiplier of 100% Females: No set back with a multiplier of 100%

### Other Information:

**Notes** During the year, legislation passed to end the 3% COLA for members receiving benefits.  
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 Return<sup>1</sup></u>
2014	4.70 %
2015	(0.26)%
2016	7.60 %
2017	14.20 %
2018	(3.52)%
2019	18.72 %
2020	11.03 %
2021	(0.45)%

<sup>1</sup> Annual money-weighted rate of return, net of investment expenses.



## SECTION D

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### 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 A. 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 an expected rate of return on pension plan investments of 6.80%. The projection of cash flows used to determine this Single Discount Rate assumed future contributions will be made in accordance with the legislation that passed during the year which outlines the updated funding strategy of the plan. 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%
\$ 112,803,724	\$ 97,771,216	\$ 84,826,960

## Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	264
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	<u>1</u>
Total Plan Members	266

# SECTION E

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## SUMMARY OF BENEFITS

## Summary of Benefits

<b>Covered Members</b>	Any person who is a member of Wyoming Paid Firemen’s Retirement Fund Plan A. This plan only covers members hired prior to July 1, 1981.
<b>Fireman First Class</b>	The highest salary grade which a fireman can obtain within his department without any promotion in rank. The term specifically excludes chiefs, officers, engineers, fire equipment operators, secretaries, mechanics, inspectors and all other specialized grades, ratings and ranks.
<b>Form of Payment</b>	Monthly benefit for life. Upon death, 100% of the benefit continues to be paid to the beneficiary.
<b>Service Retirement</b>	
Eligibility	20 or more years of service.
Monthly Benefit	75.0% of the maximum salary for a fireman first class for 20 years of service plus 1.5% of the maximum salary for a fireman first class for each year of service in excess of 20 years.
Vesting	Any employee who has left the service with at least 10 years of service can elect to receive a lump-sum refund of 99.5% of contributions. An employee who terminates with less than ten years of service is only eligible for the lump-sum benefit.
<b>Disability Retirement</b>	
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. 15-5-204.
Monthly Benefit	75.0% of the maximum salary for a fireman first class for 20 years of service plus 1.5% of the maximum salary for a fireman first class for each year of service in excess of 20 years.



## Pre-retirement Death Benefit

Eligibility	No age or service requirements.
Monthly Benefit	75.0% of the maximum salary for a fireman first class for 20 years of service plus 1.5% of the maximum salary for a fireman first class for each year of service in excess of 20 years.

## Contributions

Employee	None
Employer	In 2022, employers will contribute a one-time amount of \$20 million dollars
State	In 2022, the state will contribute a one-time amount of \$55 million dollars, plus 40% of gross fire insurance premium taxes paid on fire insurance policies in Wyoming.



## **SECTION F**

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### **ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS**

## Summary of Actuarial Assumptions and Methods

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

### 1. Valuation Date

The valuation date for any given year is January 1<sup>st</sup>, 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).

- 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 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 10 years from the valuation date.





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 This rate represents the assumed return, net of investment expenses.

b. Inflation

2.25% per year

c. Salary increase rate

4.50% per year

d. Payroll growth rate

In the amortization of the unfunded actuarial accrued liability, payroll is not assumed to increase. The assumed payroll growth in a closed plan is 0%.

5. Demographic Assumptions

a. Mortality

Healthy Pre-Retirement Mortality:

RP-2014 Mortality Table for Healthy Employees Table, amount weighted, 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%

Healthy Post-Retirement Mortality:

RP-2014 Mortality Table for Healthy Annuitants Table, amount weighted, 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%

Disabled Mortality

RP-2014 Disabled Mortality Table, amount weighted, 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%

Age	Pre-Retirement		Post-Retirement		Disabled	
	Projected to 2021 using Scale MP-2017					
	Male	Female	Male	Female	Male	Female
20	0.04%	0.02%	0.04%	0.01%	0.04%	0.02%
25	0.05%	0.02%	0.06%	0.03%	0.19%	0.09%
30	0.05%	0.02%	0.09%	0.06%	0.50%	0.24%
35	0.06%	0.03%	0.13%	0.10%	0.92%	0.45%
40	0.07%	0.04%	0.19%	0.14%	1.32%	0.68%
45	0.09%	0.06%	0.27%	0.18%	1.62%	0.90%
50	0.16%	0.11%	0.38%	0.23%	1.89%	1.13%
55	0.26%	0.17%	0.54%	0.32%	2.21%	1.43%
60	0.46%	0.25%	0.77%	0.46%	2.63%	1.72%
65	0.82%	0.36%	1.10%	0.69%	3.16%	2.04%
70	1.34%	0.59%	1.62%	1.06%	3.89%	2.65%
75			2.52%	1.72%	5.10%	3.83%
80			4.19%	2.90%	7.17%	5.77%
85			7.30%	5.10%	10.68%	8.66%
90			12.90%	9.08%	16.42%	12.78%
95			20.72%	15.14%	23.43%	18.82%
100			30.16%	23.14%	31.39%	27.00%

b. Disability and Withdrawal

Age	Disability		Withdrawal	
	Male	Female	Ultimate	
			Male	Female
20	0.03%	0.03%	12.00%	12.00%
25	0.03%	0.03%	8.00%	8.00%
30	0.03%	0.03%	5.00%	5.00%
35	0.19%	0.19%	3.00%	3.00%
40	0.42%	0.42%	1.00%	1.00%
45	0.65%	0.65%	1.00%	1.00%
50	0.82%	0.82%	1.00%	1.00%
55	1.81%	1.81%	0.50%	0.50%
60	2.00%	2.00%	0.50%	0.50%

c. Retirement Rates

Age	Rate	Age	Rate
50	20%	57	25%
51	25%	58	25%
52	25%	59	25%
53	25%	60	100%
54	25%	61	100%
55	25%	62	100%
56	25%		

## 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 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. We assume all members are totally disabled.
- h. No surviving spouse will remarry.
- i. Administrative expenses: Assumed to be the average of 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.



## 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

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## CALCULATION OF THE SINGLE DISCOUNT RATE

## Calculation of the Single Discount Rate

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

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.80%; the municipal bond rate is 1.84%; and the resulting Single Discount Rate is 6.80%.

The tables in this section provide background for the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

# Single Discount Rate Development Projection of Contributions Ending December 31 for 2021 to 2070

Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)=max(0,(c)-(a))	Total Employee Payroll (c)	Contributions from Current Employees (d)	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)
2021	\$ 65,621	\$ 0	\$ 65,621	\$ 0	\$ 0	\$ 0	\$ 0
2022	0	0	0	0	77,062,178	0	0
2023	0	0	0	0	2,108,577	0	0
2024	0	0	0	0	2,156,020	0	0
2025	0	0	0	0	2,204,530	0	0
2026	0	0	0	0	2,254,132	0	0
2027	0	0	0	0	2,304,850	0	0
2028	0	0	0	0	2,356,709	0	0
2029	0	0	0	0	2,409,735	0	0
2030	0	0	0	0	2,463,954	0	0
2031	0	0	0	0	2,519,393	0	0
2032	0	0	0	0	2,576,080	0	0
2033	0	0	0	0	2,634,042	0	0
2034	0	0	0	0	2,693,308	0	0
2035	0	0	0	0	2,753,907	0	0
2036	0	0	0	0	2,815,870	0	0
2037	0	0	0	0	2,879,227	0	0
2038	0	0	0	0	2,944,010	0	0
2039	0	0	0	0	3,010,250	0	0
2040	0	0	0	0	3,077,980	0	0
2041	0	0	0	0	3,147,235	0	0
2042	0	0	0	0	0	0	0
2043	0	0	0	0	0	0	0
2044	0	0	0	0	0	0	0
2045	0	0	0	0	0	0	0
2046	0	0	0	0	0	0	0
2047	0	0	0	0	0	0	0
2048	0	0	0	0	0	0	0
2049	0	0	0	0	0	0	0
2050	0	0	0	0	0	0	0
2051	0	0	0	0	0	0	0
2052	0	0	0	0	0	0	0
2053	0	0	0	0	0	0	0
2054	0	0	0	0	0	0	0
2055	0	0	0	0	0	0	0
2056	0	0	0	0	0	0	0
2057	0	0	0	0	0	0	0
2058	0	0	0	0	0	0	0
2059	0	0	0	0	0	0	0
2060	0	0	0	0	0	0	0
2061	0	0	0	0	0	0	0
2062	0	0	0	0	0	0	0
2063	0	0	0	0	0	0	0
2064	0	0	0	0	0	0	0
2065	0	0	0	0	0	0	0
2066	0	0	0	0	0	0	0
2067	0	0	0	0	0	0	0
2068	0	0	0	0	0	0	0
2069	0	0	0	0	0	0	0
2070	0	0	0	0	0	0	0





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

Year	Payroll for Current	Payroll for Future	Total Employee	Contributions from	Employer	Employer Contributions	Total Contributions
	Employees	Employees	Payroll	Current Employees	Contributions for Current Employees	Related to Payroll of Future Employees	
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)=(a)*ER%	(f) = (b)*netER%	(g)=(d)+(e)+(f)
2071	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2072	0	0	0	0	0	0	0
2073	0	0	0	0	0	0	0
2074	0	0	0	0	0	0	0
2075	0	0	0	0	0	0	0
2076	0	0	0	0	0	0	0
2077	0	0	0	0	0	0	0
2078	0	0	0	0	0	0	0
2079	0	0	0	0	0	0	0
2080	0	0	0	0	0	0	0
2081	0	0	0	0	0	0	0
2082	0	0	0	0	0	0	0
2083	0	0	0	0	0	0	0
2084	0	0	0	0	0	0	0
2085	0	0	0	0	0	0	0
2086	0	0	0	0	0	0	0
2087	0	0	0	0	0	0	0
2088	0	0	0	0	0	0	0
2089	0	0	0	0	0	0	0
2090	0	0	0	0	0	0	0
2091	0	0	0	0	0	0	0
2092	0	0	0	0	0	0	0
2093	0	0	0	0	0	0	0
2094	0	0	0	0	0	0	0
2095	0	0	0	0	0	0	0
2096	0	0	0	0	0	0	0
2097	0	0	0	0	0	0	0
2098	0	0	0	0	0	0	0
2099	0	0	0	0	0	0	0
2100	0	0	0	0	0	0	0
2101	0	0	0	0	0	0	0
2102	0	0	0	0	0	0	0
2103	0	0	0	0	0	0	0
2104	0	0	0	0	0	0	0
2105	0	0	0	0	0	0	0
2106	0	0	0	0	0	0	0
2107	0	0	0	0	0	0	0
2108	0	0	0	0	0	0	0
2109	0	0	0	0	0	0	0
2110	0	0	0	0	0	0	0
2111	0	0	0	0	0	0	0
2112	0	0	0	0	0	0	0
2113	0	0	0	0	0	0	0
2114	0	0	0	0	0	0	0
2115	0	0	0	0	0	0	0
2116	0	0	0	0	0	0	0
2117	0	0	0	0	0	0	0
2118	0	0	0	0	0	0	0
2119	0	0	0	0	0	0	0
2120	0	0	0	0	0	0	0



# 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 6.80%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2021	\$ 90,082,951	\$ 0	\$ 16,296,338	\$ 108,436	\$ (370,823)	\$ 73,307,354
2022	73,307,354	77,062,178	16,401,449	95,500	7,010,253	140,882,836
2023	140,882,836	2,108,577	16,199,129	95,500	9,105,639	135,802,423
2024	135,802,423	2,156,020	15,966,616	95,500	8,769,533	130,665,860
2025	130,665,860	2,204,530	15,706,426	95,500	8,430,570	125,499,035
2026	125,499,035	2,254,132	15,420,926	95,500	8,090,432	120,327,173
2027	120,327,173	2,304,850	15,112,245	95,500	7,750,764	115,175,041
2028	115,175,041	2,356,709	14,782,217	95,500	7,413,190	110,067,223
2029	110,067,223	2,409,735	14,432,380	95,500	7,079,330	105,028,408
2030	105,028,408	2,463,954	14,063,983	95,500	6,750,823	100,083,703
2031	100,083,703	2,519,393	13,678,068	95,500	6,429,343	95,258,871
2032	95,258,871	2,576,080	13,275,519	95,500	6,116,611	90,580,543
2033	90,580,543	2,634,042	12,857,117	95,500	5,814,415	86,076,383
2034	86,076,383	2,693,308	12,423,596	95,500	5,524,611	81,775,205
2035	81,775,205	2,753,907	11,975,655	95,500	5,249,137	77,707,095
2036	77,707,095	2,815,870	11,514,042	95,500	4,990,015	73,903,437
2037	73,903,437	2,879,227	11,039,599	95,500	4,749,350	70,396,915
2038	70,396,915	2,944,010	10,553,225	95,500	4,529,338	67,221,538
2039	67,221,538	3,010,250	10,056,013	95,500	4,332,255	64,412,529
2040	64,412,529	3,077,980	9,549,292	95,500	4,160,452	62,006,169
2041	62,006,169	3,147,235	9,034,628	95,500	4,016,346	60,039,622
2042	60,039,622	0	8,513,847	95,500	3,794,790	55,225,066
2043	55,225,066	0	7,988,966	95,500	3,484,953	50,625,553
2044	50,625,553	0	7,462,129	95,500	3,189,804	46,257,728
2045	46,257,728	0	6,935,644	95,500	2,910,398	42,136,982
2046	42,136,982	0	6,412,139	95,500	2,647,694	38,277,036
2047	38,277,036	0	5,894,479	95,500	2,402,528	34,689,586
2048	34,689,586	0	5,385,744	95,500	2,175,594	31,383,937
2049	31,383,937	0	4,889,270	95,500	1,967,413	28,366,579
2050	28,366,579	0	4,408,484	95,500	1,778,310	25,640,906
2051	25,640,906	0	3,946,838	95,500	1,608,402	23,206,970
2052	23,206,970	0	3,507,624	95,500	1,457,582	21,061,429
2053	21,061,429	0	3,093,718	95,500	1,325,527	19,197,738
2054	19,197,738	0	2,707,483	95,500	1,211,712	17,606,468
2055	17,606,468	0	2,350,762	95,500	1,115,435	16,275,641
2056	16,275,641	0	2,024,909	95,500	1,035,835	15,191,067
2057	15,191,067	0	1,730,723	95,500	971,922	14,336,766
2058	14,336,766	0	1,468,385	95,500	922,602	13,695,483
2059	13,695,483	0	1,237,403	95,500	886,719	13,249,300
2060	13,249,300	0	1,036,613	95,500	863,094	12,980,280
2061	12,980,280	0	864,283	95,500	850,563	12,871,060
2062	12,871,060	0	718,219	95,500	848,021	12,905,362
2063	12,905,362	0	595,904	95,500	854,443	13,068,402
2064	13,068,402	0	494,618	95,500	868,917	13,347,201
2065	13,347,201	0	411,596	95,500	890,652	13,730,757
2066	13,730,757	0	344,111	95,500	918,990	14,210,136
2067	14,210,136	0	289,572	95,500	953,412	14,778,477
2068	14,778,477	0	245,638	95,500	993,528	15,430,867
2069	15,430,867	0	210,243	95,500	1,039,075	16,164,199
2070	16,164,199	0	181,613	95,500	1,089,899	16,976,985



# 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 6.80%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2071	\$ 16,976,985	\$ 0	\$ 158,224	\$ 95,500	\$ 1,145,950	\$ 17,869,211
2072	17,869,211	0	138,855	95,500	1,207,269	18,842,125
2073	18,842,125	0	122,532	95,500	1,273,973	19,898,067
2074	19,898,067	0	108,491	95,500	1,346,247	21,040,322
2075	21,040,322	0	96,165	95,500	1,424,332	22,272,989
2076	22,272,989	0	85,133	95,500	1,508,523	23,600,879
2077	23,600,879	0	75,103	95,500	1,599,155	25,029,430
2078	25,029,430	0	65,911	95,500	1,696,604	26,564,622
2079	26,564,622	0	57,425	95,500	1,801,280	28,212,978
2080	28,212,978	0	49,561	95,500	1,913,632	29,981,548
2081	29,981,548	0	42,273	95,500	2,034,138	31,877,913
2082	31,877,913	0	35,561	95,500	2,163,315	33,910,167
2083	33,910,167	0	29,470	95,500	2,301,712	36,086,909
2084	36,086,909	0	24,021	95,500	2,449,913	38,417,301
2085	38,417,301	0	19,227	95,500	2,608,540	40,911,113
2086	40,911,113	0	15,084	95,500	2,778,258	43,578,787
2087	43,578,787	0	11,592	95,500	2,959,776	46,431,471
2088	46,431,471	0	8,715	95,500	3,153,855	49,481,111
2089	49,481,111	0	6,400	95,500	3,361,308	52,740,519
2090	52,740,519	0	4,579	95,500	3,583,009	56,223,449
2091	56,223,449	0	3,193	95,500	3,819,894	59,944,650
2092	59,944,650	0	2,167	95,500	4,072,970	63,919,953
2093	63,919,953	0	1,430	95,500	4,343,315	68,166,338
2094	68,166,338	0	915	95,500	4,632,087	72,702,010
2095	72,702,010	0	568	95,500	4,940,524	77,546,465
2096	77,546,465	0	343	95,500	5,269,955	82,720,577
2097	82,720,577	0	201	95,500	5,621,799	88,246,675
2098	88,246,675	0	115	95,500	5,997,576	94,148,637
2099	94,148,637	0	64	95,500	6,398,912	100,451,985
2100	100,451,985	0	34	95,500	6,827,540	107,183,991
2101	107,183,991	0	19	95,500	7,285,317	114,373,790
2102	114,373,790	0	10	95,500	7,774,224	122,052,503
2103	122,052,503	0	5	95,500	8,296,376	130,253,374
2104	130,253,374	0	0	95,500	8,854,036	139,011,910
2105	139,011,910	0	0	95,500	9,449,616	148,366,027
2106	148,366,027	0	0	95,500	10,085,696	158,356,223
2107	158,356,223	0	0	95,500	10,765,030	169,025,752
2108	169,025,752	0	0	95,500	11,490,558	180,420,810
2109	180,420,810	0	0	95,500	12,265,421	192,590,731
2110	192,590,731	0	0	95,500	13,092,976	205,588,207
2111	205,588,207	0	0	95,500	13,976,805	219,469,512
2112	219,469,512	0	0	95,500	14,920,733	234,294,745
2113	234,294,745	0	0	95,500	15,928,849	250,128,094
2114	250,128,094	0	0	95,500	17,005,517	267,038,111
2115	267,038,111	0	0	95,500	18,155,398	285,098,009
2116	285,098,009	0	0	95,500	19,383,471	304,385,980
2117	304,385,980	0	0	95,500	20,695,053	324,985,533
2118	324,985,533	0	0	95,500	22,095,823	346,985,856
2119	346,985,856	0	0	95,500	23,591,845	370,482,200
2120	370,482,200	0	0	95,500	25,189,596	395,576,296



# 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 <sup>(a)-.5</sup>	(g)=(e)*vf <sup>(a)-.5</sup>	(h)=((c)/(1+SDR)) <sup>(a)-.5</sup>
2021	\$ 90,082,951	\$ 16,296,338	\$ 16,296,338	\$ 0	\$ 15,769,009	\$ 0	\$ 15,769,009
2022	73,307,354	16,401,449	16,401,449	0	14,860,223	0	14,860,223
2023	140,882,836	16,199,129	16,199,129	0	13,742,430	0	13,742,430
2024	135,802,423	15,966,616	15,966,616	0	12,682,752	0	12,682,752
2025	130,665,860	15,706,426	15,706,426	0	11,681,718	0	11,681,718
2026	125,499,035	15,420,926	15,420,926	0	10,739,117	0	10,739,117
2027	120,327,173	15,112,245	15,112,245	0	9,854,075	0	9,854,075
2028	115,175,041	14,782,217	14,782,217	0	9,025,166	0	9,025,166
2029	110,067,223	14,432,380	14,432,380	0	8,250,539	0	8,250,539
2030	105,028,408	14,063,983	14,063,983	0	7,528,032	0	7,528,032
2031	100,083,703	13,678,068	13,678,068	0	6,855,302	0	6,855,302
2032	95,258,871	13,275,519	13,275,519	0	6,229,915	0	6,229,915
2033	90,580,543	12,857,117	12,857,117	0	5,649,408	0	5,649,408
2034	86,076,383	12,423,596	12,423,596	0	5,111,348	0	5,111,348
2035	81,775,205	11,975,655	11,975,655	0	4,613,347	0	4,613,347
2036	77,707,095	11,514,042	11,514,042	0	4,153,110	0	4,153,110
2037	73,903,437	11,039,599	11,039,599	0	3,728,444	0	3,728,444
2038	70,396,915	10,553,225	10,553,225	0	3,337,246	0	3,337,246
2039	67,221,538	10,056,013	10,056,013	0	2,977,540	0	2,977,540
2040	64,412,529	9,549,292	9,549,292	0	2,647,474	0	2,647,474
2041	62,006,169	9,034,628	9,034,628	0	2,345,307	0	2,345,307
2042	60,039,622	8,513,847	8,513,847	0	2,069,397	0	2,069,397
2043	55,225,066	7,988,966	7,988,966	0	1,818,182	0	1,818,182
2044	50,625,553	7,462,129	7,462,129	0	1,590,151	0	1,590,151
2045	46,257,728	6,935,644	6,935,644	0	1,383,857	0	1,383,857
2046	42,136,982	6,412,139	6,412,139	0	1,197,943	0	1,197,943
2047	38,277,036	5,894,479	5,894,479	0	1,031,115	0	1,031,115
2048	34,689,586	5,385,744	5,385,744	0	882,137	0	882,137
2049	31,383,937	4,889,270	4,889,270	0	749,831	0	749,831
2050	28,366,579	4,408,484	4,408,484	0	633,049	0	633,049
2051	25,640,906	3,946,838	3,946,838	0	530,672	0	530,672
2052	23,206,970	3,507,624	3,507,624	0	441,589	0	441,589
2053	21,061,429	3,093,718	3,093,718	0	364,683	0	364,683
2054	19,197,738	2,707,483	2,707,483	0	298,833	0	298,833
2055	17,606,468	2,350,762	2,350,762	0	242,941	0	242,941
2056	16,275,641	2,024,909	2,024,909	0	195,941	0	195,941
2057	15,191,067	1,730,723	1,730,723	0	156,811	0	156,811
2058	14,336,766	1,468,385	1,468,385	0	124,571	0	124,571
2059	13,695,483	1,237,403	1,237,403	0	98,292	0	98,292
2060	13,249,300	1,036,613	1,036,613	0	77,100	0	77,100
2061	12,980,280	864,283	864,283	0	60,189	0	60,189
2062	12,871,060	718,219	718,219	0	46,833	0	46,833
2063	12,905,362	595,904	595,904	0	36,383	0	36,383
2064	13,068,402	494,618	494,618	0	28,276	0	28,276
2065	13,347,201	411,596	411,596	0	22,032	0	22,032
2066	13,730,757	344,111	344,111	0	17,247	0	17,247
2067	14,210,136	289,572	289,572	0	13,589	0	13,589
2068	14,778,477	245,638	245,638	0	10,793	0	10,793
2069	15,430,867	210,243	210,243	0	8,650	0	8,650
2070	16,164,199	181,613	181,613	0	6,996	0	6,996



# Single Discount Rate Development

## Present Values of Projected Benefits

### Ending December 31 for 2071 to 2120 (concluded)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>a</sup> ((a)-.5)	(g)=(e)*vf <sup>a</sup> ((a)-.5)	(h)=((c)/(1+SDR)) <sup>a</sup> ((a)-.5)
2071	\$ 16,976,985	\$ 158,224	\$ 158,224	\$ 0	\$ 5,707	\$ 0	\$ 5,707
2072	17,869,211	138,855	138,855	0	4,690	0	4,690
2073	18,842,125	122,532	122,532	0	3,875	0	3,875
2074	19,898,067	108,491	108,491	0	3,212	0	3,212
2075	21,040,322	96,165	96,165	0	2,666	0	2,666
2076	22,272,989	85,133	85,133	0	2,210	0	2,210
2077	23,600,879	75,103	75,103	0	1,826	0	1,826
2078	25,029,430	65,911	65,911	0	1,500	0	1,500
2079	26,564,622	57,425	57,425	0	1,224	0	1,224
2080	28,212,978	49,561	49,561	0	989	0	989
2081	29,981,548	42,273	42,273	0	790	0	790
2082	31,877,913	35,561	35,561	0	622	0	622
2083	33,910,167	29,470	29,470	0	483	0	483
2084	36,086,909	24,021	24,021	0	368	0	368
2085	38,417,301	19,227	19,227	0	276	0	276
2086	40,911,113	15,084	15,084	0	203	0	203
2087	43,578,787	11,592	11,592	0	146	0	146
2088	46,431,471	8,715	8,715	0	103	0	103
2089	49,481,111	6,400	6,400	0	71	0	71
2090	52,740,519	4,579	4,579	0	47	0	47
2091	56,223,449	3,193	3,193	0	31	0	31
2092	59,944,650	2,167	2,167	0	20	0	20
2093	63,919,953	1,430	1,430	0	12	0	12
2094	68,166,338	915	915	0	7	0	7
2095	72,702,010	568	568	0	4	0	4
2096	77,546,465	343	343	0	2	0	2
2097	82,720,577	201	201	0	1	0	1
2098	88,246,675	115	115	0	1	0	1
2099	94,148,637	64	64	0	0	0	0
2100	100,451,985	34	34	0	0	0	0
2101	107,183,991	19	19	0	0	0	0
2102	114,373,790	10	10	0	0	0	0
2103	122,052,503	5	5	0	0	0	0
2104	130,253,374	0	0	0	0	0	0
2105	139,011,910	0	0	0	0	0	0
2106	148,366,027	0	0	0	0	0	0
2107	158,356,223	0	0	0	0	0	0
2108	169,025,752	0	0	0	0	0	0
2109	180,420,810	0	0	0	0	0	0
2110	192,590,731	0	0	0	0	0	0
2111	205,588,207	0	0	0	0	0	0
2112	219,469,512	0	0	0	0	0	0
2113	234,294,745	0	0	0	0	0	0
2114	250,128,094	0	0	0	0	0	0
2115	267,038,111	0	0	0	0	0	0
2116	285,098,009	0	0	0	0	0	0
2117	304,385,980	0	0	0	0	0	0
2118	324,985,533	0	0	0	0	0	0
2119	346,985,856	0	0	0	0	0	0
2120	370,482,200	0	0	0	0	0	0
<b>Totals</b>					\$ 175,950,672	\$ 0	\$ 175,950,672



# SECTION H

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## GLOSSARY OF TERMS

## Glossary of Terms

<b>Accrued Service</b>	Service credited under the system that was rendered before the date of the actuarial valuation.
<b>Actuarial Accrued Liability (AAL)</b>	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."
<b>Actuarial Assumptions</b>	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.
<b>Actuarial Cost Method</b>	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.
<b>Actuarial Equivalent</b>	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.
<b>Actuarial Gain (Loss)</b>	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.
<b>Actuarial Present Value (APV)</b>	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.
<b>Actuarial Valuation</b>	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.
<b>Actuarial Valuation Date</b>	The date as of which an actuarial valuation is performed.
<b>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</b>	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

<b>Amortization Method</b>	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).
<b>Amortization Payment</b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b>Cost-of-Living Adjustments</b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</b>	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.
<b>Covered-Employee Payroll</b>	The payroll of employees that are provided with pensions through the pension plan.
<b>Deferred Inflows and Outflows</b>	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.
<b>Deferred Retirement Option Program (DROP)</b>	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

<b>Other Postemployment Benefits (OPEB)</b>	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.
<b>Real Rate of Return</b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b>Service Cost</b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b>Total Pension Expense</b>	<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"><li>1. Service Cost</li><li>2. Interest on the Total Pension Liability</li><li>3. Current-Period Benefit Changes</li><li>4. Employee Contributions (made negative for addition here)</li><li>5. Projected Earnings on Plan Investments (made negative for addition here)</li><li>6. Pension Plan Administrative Expense</li><li>7. Other Changes in Plan Fiduciary Net Position</li><li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li></ol>
<b>Total Pension Liability (TPL)</b>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b>Valuation Assets</b>	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.