

Wyoming Judicial Retirement System

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

For Measurement Date as of December 31, 2020





March 26, 2021

Board of Trustees
Wyoming Judicial Retirement System

Dear Board Members:

This report provides information required by the Wyoming Judicial Retirement System (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 No. 67 and GASB Statement No. 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 Judicial Retirement System ("WRS") only in its entirety and only with the permission of WRS. GRS is not responsible for unauthorized use of this report.

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

This report complements the actuarial valuation report that was provided to WRS and should be considered in conjunction with that report. Please see the actuarial valuation report as of January 1, 2020 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 experience related to these assumptions, as well as the rationale for any changes, please see our latest Wyoming Retirement System Actuarial Experience Study Report. Our experience study report was dated January 10, 2018 and it covered the five-year investigation period ending December 31, 2016.

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 Judicial Retirement System as of the valuation date.

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

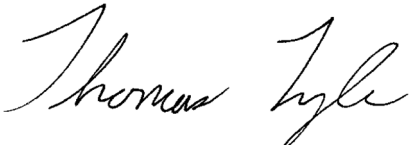
Paul T. Wood, Thomas A. Lyle, and Dana Woolfrey are members of the American Academy of Actuaries (MAAA) and are experienced in performing valuations for public retirement systems. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing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

Respectfully submitted,

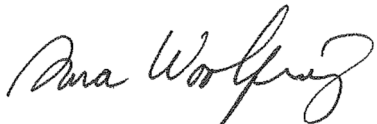
Gabriel, Roeder, Smith & Company

By 

Paul T. Wood, ASA, FCA, MAAA

By 

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

By 

Dana Woolfrey, FSA, EA, FCA, MAAA



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SECTION A



EXECUTIVE SUMMARY

Executive Summary as of December 31, 2020

	2020	
Actuarial Valuation Date	January 1, 2020	
Measurement Date of the Net Pension Liability	December 31, 2020	
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2020	
Membership		
Number of		
- Retirees and Beneficiaries		30
- Inactive, Nonretired Members		0
- Active Members		50
- Total		80
Covered Payroll	\$	7,410,536
Net Pension Liability		
Total Pension Liability	\$	36,498,979
Plan Fiduciary Net Position		37,469,418
Net Pension Liability	\$	(970,439)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		102.66 %
Net Pension Liability as a Percentage of Covered Payroll		(13.10)%
Development of the Single Discount Rate		
Single Discount Rate		7.00 %
Long-Term Expected Rate of Investment Return		7.00 %
Long-Term Municipal Bond Rate*		2.00 %
Last year ending December 31 in the 2020 to 2119 projection period for which projected benefit payments are fully funded		2119
Total Pension Expense	\$	798,640
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	\$ 1,149,196	\$ 491,601
Changes in assumptions	923,424	0
Net difference between projected and actual earnings on pension plan investments	1,237,050	3,281,184
Total	\$ 3,309,670	\$ 3,772,785

**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, 2020. 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, 2020.

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 7.00% 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 remain level as a percentage of payroll.
2. There is unfunded liability is expected to decrease to zero over the next few years.
3. The funded status of the plan is expected to be above 100% over the next few years.

This funding policy results in no expected crossover date and a GASB single discount rate of 7.00%. This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2119. 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, 2020 and a measurement date of December 31, 2020.

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 7.00%; the municipal bond rate is 2.00% (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 7.00%.

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 Judicial Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Statement of Pension Expense under GASB Statement No. 68

Fiscal Year Ended December 31, 2020

A. Expense

1. Service Cost	\$	1,713,172
2. Interest on the Total Pension Liability		2,393,270
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(721,821)
5. Projected Earnings on Plan Investments (made negative for addition here)		(2,371,931)
6. Pension Plan Administrative Expense		32,231
7. Other Changes in Plan Fiduciary Net Position		1,283
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		351,762
9. Recognition of Outflow (Inflow) of Resources due to Assets		(599,326)
10. Total Pension Expense	\$	798,640 *

* 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, 2020

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	1,225,009
2. Assumption Changes (gains) or losses	\$	0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		6.8706
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	\$	178,297
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	\$	178,297
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	\$	1,046,712
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	\$	1,046,712

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(1,240,511)
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	\$	(248,102)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(992,409)

History of Deferred Outflows and Inflows of Resources by Source

Fiscal Year Ended December 31, 2020

History of Deferred Outflows and Deferred Inflows of Resources by Source

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

Recognition Period	7.9046	7.7907	7.3715	6.7663	6.7746	6.6532	6.8706		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	2020	Total	
Total	\$ -	\$ (372,108)	\$ (229,282)	\$ (620,955)	\$ 183,937	\$ (112,158)	\$ 1,225,009		
2014	-	-	-	-	-	-	-	-	-
2015	-	(47,763)	-	-	-	-	-	(47,763)	(47,763)
2016	-	(47,763)	(31,104)	-	-	-	-	(78,867)	(78,867)
2017	-	(47,763)	(31,104)	(91,772)	-	-	-	(170,639)	(170,639)
2018	-	(47,763)	(31,104)	(91,772)	27,151	-	-	(143,488)	(143,488)
2019	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	-	(160,346)	(160,346)
2020	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	178,297	17,951	17,951
2021	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	178,297	17,951	\$ 657,595
2022	-	(37,767)	(31,104)	(91,772)	27,151	(16,858)	178,297	27,947	
2023	-	-	(11,554)	(70,323)	27,151	(16,858)	178,297	106,713	
2024	-	-	-	-	21,031	(16,858)	178,297	182,470	
2025	-	-	-	-	-	(11,010)	178,297	167,287	
Thereafter	-	-	-	-	-	-	155,227	155,227	
Total	\$ -	\$ (372,108)	\$ (229,282)	\$ (620,955)	\$ 183,937	\$ (112,158)	\$ 1,225,009	\$ 74,443	

Assumption changes - Net (inflows)/outflows of resources

Recognition Period	7.9046	7.7907	7.3715	6.7663	6.7746	6.6532	6.8706		
	2014	2015	2016	2017	2018	2019	2020	Total	
Total	\$ -	\$ -	\$ -	\$ 2,258,668	\$ -	\$ -	\$ -		
2014	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-
2017	-	-	-	333,811	-	-	-	333,811	333,811
2018	-	-	-	333,811	-	-	-	333,811	333,811
2019	-	-	-	333,811	-	-	-	333,811	333,811
2020	-	-	-	333,811	-	-	-	333,811	333,811
2021	-	-	-	333,811	-	-	-	333,811	\$ 923,424
2022	-	-	-	333,811	-	-	-	333,811	
2023	-	-	-	255,802	-	-	-	255,802	
2024	-	-	-	-	-	-	-	-	
2025	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	
Total	\$ -	\$ -	\$ -	\$ 2,258,668	\$ -	\$ -	\$ -	\$ 2,258,668	

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		
	2014	2015	2016	2017	2018	2019	2020	Total	
Total	\$ 626,833	\$ 2,022,635	\$ 138,916	\$ (1,759,558)	\$ 3,092,625	\$ (3,228,107)	\$ (1,240,511)		
2014	125,367	-	-	-	-	-	-	125,367	
2015	125,367	404,527	-	-	-	-	-	529,894	
2016	125,367	404,527	27,783	-	-	-	-	557,677	
2017	125,367	404,527	27,783	(351,912)	-	-	-	205,765	
2018	125,365	404,527	27,783	(351,912)	618,525	-	-	824,288	
2019	-	404,527	27,783	(351,912)	618,525	(645,621)	-	53,302	
2020	-	-	27,784	(351,912)	618,525	(645,621)	(248,102)	(599,326)	
2021	-	-	-	(351,910)	618,525	(645,621)	(248,102)	(627,108)	\$ (2,044,134)
2022	-	-	-	-	618,525	(645,621)	(248,102)	(275,198)	
2023	-	-	-	-	-	(645,623)	(248,102)	(893,725)	
2024	-	-	-	-	-	-	(248,103)	(248,103)	
2025	-	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	-	
Total	\$ 626,833	\$ 2,022,635	\$ 138,916	\$ (1,759,558)	\$ 3,092,625	\$ (3,228,107)	\$ (1,240,511)	\$ (347,167)	

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

	2014	2015	2016	2017	2018	2019	2020	Total	
Total	\$ 626,833	\$ 1,650,527	\$ (90,366)	\$ (121,845)	\$ 3,276,562	\$ (3,340,265)	\$ (15,502)		
2014	125,367	-	-	-	-	-	-	125,367	
2015	125,367	356,764	-	-	-	-	-	482,131	
2016	125,367	356,764	(3,321)	-	-	-	-	478,810	
2017	125,367	356,764	(3,321)	(109,873)	-	-	-	368,937	
2018	125,365	356,764	(3,321)	(109,873)	645,676	-	-	1,014,611	
2019	-	356,764	(3,321)	(109,873)	645,676	(662,479)	-	226,767	
2020	-	(47,763)	(3,320)	(109,873)	645,676	(662,479)	(69,805)	(247,564)	
2021	-	(47,763)	(31,104)	(109,871)	645,676	(662,479)	(69,805)	(275,346)	\$ (463,115)
2022	-	(37,767)	(31,104)	242,039	645,676	(662,479)	(69,805)	86,560	
2023	-	-	(11,554)	185,479	27,151	(662,481)	(69,805)	(531,210)	
2024	-	-	-	-	21,031	(16,858)	(69,806)	(65,633)	
2025	-	-	-	-	-	(11,010)	178,297	167,287	
Thereafter	-	-	-	-	-	-	155,227	155,227	
Total	\$ 626,833	\$ 1,650,527	\$ (90,366)	\$ (121,845)	\$ 3,276,562	\$ (3,340,265)	\$ (15,502)	\$ 1,985,944	



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 2020

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	\$ 539,259	\$ 187,497	\$ 351,762
2. Due to Assets	646,309	1,245,635	(599,326)
3. Total	\$ 1,185,568	\$ 1,433,132	\$ (247,564)

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	\$ 205,448	\$ 187,497	\$ 17,951
2. Assumption Changes	333,811	0	333,811
3. Net Difference between projected and actual earnings on pension plan investments	646,309	1,245,635	(599,326)
4. Total	\$ 1,185,568	\$ 1,433,132	\$ (247,564)

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	\$ 1,149,196	\$ 491,601	\$ 657,595
2. Assumption Changes	923,424	0	923,424
3. Net Difference between projected and actual earnings on pension plan investments	1,237,050	3,281,184	(2,044,134)
4. Total	\$ 3,309,670	\$ 3,772,785	\$ (463,115)

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
2021	\$ (275,346)
2022	86,560
2023	(531,210)
2024	(65,633)
2025	167,287
Thereafter	155,227
Total	\$ (463,115)

Statement of Fiduciary Net Position as of December 31, 2020

	2020
Assets	
Cash and Deposits	\$ 1,481,473
Receivables	
Accounts Receivable - Sale of Investments	\$ 73,381
Accrued Interest and Other Dividends	71,019
Contributions	0
Accounts Receivable - Other	3,802,034
Total Receivables	\$ 3,946,434
Investments	
Fixed Income	\$ 7,837,356
Equities	18,317,367
Private Markets	3,369,205
Marketable Alternatives	6,666,395
Other	1,405,243
Total Investments	\$ 37,595,566
Total Assets	\$ 43,023,473
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 5,477,330
Accrued Expenses	58,390
Accounts Payable - Other	18,335
Total Liabilities	\$ 5,554,055
Net Position Restricted for Pensions	\$ 37,469,418

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2020

	2020
Additions	
Contributions	
Employer	\$ 1,135,182
Employee	721,821
Other - Employer	0
Other - Employee	0
Total Contributions	\$ 1,857,003
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 3,343,153
Interest and Dividends	478,424
Less Investment Expense	(209,135)
Net Investment Income	\$ 3,612,442
Other	\$ 0
Total Additions	\$ 5,469,445
 Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 1,878,084
Pension Plan Administrative Expense	32,231
Other	1,283
Total Deductions	\$ 1,911,598
Net Increase in Net Position	\$ 3,557,847
 Net Position Restricted for Pensions	
Beginning of Year	\$ 33,911,571
End of Year	\$ 37,469,418

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

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

Schedule of Changes in Net Pension Liability and Related Ratios

Current Reporting Period

Fiscal Year Ended December 31, 2020

A. Total pension liability	
1. Service cost	\$ 1,713,172
2. Interest on the total pension liability	2,393,270
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	1,225,009
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(1,878,084)
7. Net change in total pension liability	3,453,367
8. Total pension liability – beginning	33,045,612
9. Total pension liability – ending	\$ 36,498,979
B. Plan fiduciary net position	
1. Contributions – employer	\$ 1,135,182
2. Contributions – employee	721,821
3. Net investment income	3,612,442
4. Benefit payments, including refunds of employee contributions	(1,878,084)
5. Pension plan administrative expense	(32,231)
6. Other	(1,283)
7. Net change in plan fiduciary net position	3,557,847
8. Plan fiduciary net position – beginning	33,911,571
9. Plan fiduciary net position – ending	\$ 37,469,418
C. Net pension liability	\$ (970,439)
D. Plan fiduciary net position as a percentage of the total pension liability	102.66 %
E. Covered-employee payroll	\$ 7,410,536
F. Net pension liability as a percentage of covered-employee payroll	(13.10)%

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,	2020	2019	2018	2017	2016	2015	2014
Total pension liability							
Service cost	\$ 1,713,172	\$ 1,529,896	\$ 1,509,964	\$ 1,470,668	\$ 1,263,270	\$ 1,263,278	\$ 1,186,595
Interest on the total pension liability	2,393,270	2,168,200	2,037,989	1,880,909	1,793,779	1,659,184	1,539,910
Changes of benefit terms	0	0	0	0	0	0	0
Difference between expected and actual experience	1,225,009	(112,158)	183,937	(620,955)	(229,282)	(372,108)	0
Changes of assumptions	0	0	0	2,258,668	0	0	0
Benefit payments, including refunds of employee contributions	(1,878,084)	(1,720,417)	(1,454,953)	(1,166,423)	(981,321)	(931,621)	(775,805)
Net change in total pension liability	3,453,367	1,865,521	2,276,937	3,822,867	1,846,446	1,618,733	1,950,700
Total pension liability - beginning	33,045,612	31,180,091	28,903,154	25,080,287	23,233,841	21,615,108	19,664,408
Total pension liability - ending (a)	\$ 36,498,979	\$ 33,045,612	\$ 31,180,091	\$ 28,903,154	\$ 25,080,287	\$ 23,233,841	\$ 21,615,108
Plan fiduciary net position							
Employer contributions	\$ 1,135,182	\$ 1,060,477	\$ 960,478	\$ 949,300	\$ 925,971	\$ 920,867	\$ 916,598
Employee contributions	721,821	1,028,339	610,818	603,602	588,791	585,545	582,831
Pension plan net investment income	3,612,442	5,224,148	(1,038,644)	3,549,526	1,679,033	(228,304)	1,038,134
Benefit payments, including refunds of employee contributions	(1,878,084)	(1,720,417)	(1,454,953)	(1,166,423)	(981,321)	(931,621)	(775,805)
Pension plan administrative expense	(32,231)	(27,764)	(28,405)	(25,315)	(22,090)	(17,833)	(17,117)
Other	(1,283)	(1,284)	(1,146)	(2,313)	(1,128)	(1,072)	(244)
Net change in plan fiduciary net position	3,557,847	5,563,499	(951,852)	3,908,377	2,189,256	327,582	1,744,397
Plan fiduciary net position - beginning	33,911,571	28,348,072	29,299,924	25,391,547	23,202,291	22,874,709	21,130,312
Plan fiduciary net position - ending (b)	\$ 37,469,418	\$ 33,911,571	\$ 28,348,072	\$ 29,299,924	\$ 25,391,547	\$ 23,202,291	\$ 22,874,709
Net pension liability - ending (a) - (b)	\$ (970,439)	\$ (865,959)	\$ 2,832,019	\$ (396,770)	\$ (311,260)	\$ 31,550	\$ (1,259,601)
Plan fiduciary net position as a percentage of total pension liability	102.66 %	102.62 %	90.92 %	101.37 %	101.24 %	99.86 %	105.83 %
Covered-employee payroll	\$ 7,410,536	\$ 6,602,303	\$ 6,558,029	\$ 6,386,001	\$ 6,384,628	\$ 6,363,028	\$ 5,989,181
Projected Valuation Payroll	\$ 7,706,958	\$ 6,866,395	\$ 6,820,351	\$ 6,641,441	\$ 6,624,052	\$ 6,601,641	\$ 6,213,775
Net pension liability as a percentage of covered-employee payroll	(13.10)%	(13.12)%	43.18 %	(6.21)%	(4.88)%	0.50 %	(21.03)%

Notes to Schedule:

For 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

Last 10 Fiscal Years (which may be built prospectively)

FY Ending December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	\$ 21,615,108	\$ 22,874,709	\$ (1,259,601)	105.83 %	\$ 5,989,181	(21.03)%
2015	23,233,841	23,202,291	31,550	99.86 %	6,363,028	0.50 %
2016	25,080,287	25,391,547	(311,260)	101.24 %	6,384,628	(4.88)%
2017	28,903,154	29,299,924	(396,770)	101.37 %	6,386,001	(6.21)%
2018	31,180,091	28,348,072	2,832,019	90.92 %	6,558,029	43.18 %
2019	33,045,612	33,911,571	(865,959)	102.62 %	6,602,303	(13.12)%
2020	36,498,979	37,469,418	(970,439)	102.66 %	7,410,536	(13.10)%

* 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

FY Ending December 31,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	\$ 596,723	\$ 916,598	\$ (319,875)	\$ 5,989,181	15.30 %
2015	589,177	920,867	(331,690)	6,363,028	14.47 %
2016	579,926	925,971	(346,045)	6,384,628	14.50 %
2017	543,468	949,263	(405,795)	6,386,001	14.86 %
2018	909,557	960,478	(50,921)	6,558,029	14.65 %
2019	986,724	1,060,477	(73,753)	6,602,303	16.06 %
2020	1,176,110	1,135,182	40,928	7,410,536	15.32 %

* 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, 2020
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	15 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	4.75% to 8.75% including inflation
Payroll Growth Rate	4.00%
Cost-of-Living Increase	0.00%
Investment Rate of Return	7.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2018 valuation pursuant to an experience study of the period 2012 - 2016.
Post-Retirement Mortality	RP-2014 Healthy Annuitant Mortality Table, fully generational, projected with Scale MP-2017 Males: No set back with a multiplier of 100% Females: No set back with a multiplier of 88%
Pre-Retirement Mortality	RP-2014 Employee Mortality Table, fully generational, projected with Scale MP-2017 Males: No set back with a multiplier of 100% Females: No set back with a multiplier of 100%

Other Information:

Notes There were no benefit changes during the year.
The employer is currently contributing at the rate of 14.50% of salary.
Employees are currently contributing at the rate of 9.22% of salary.
The roll-forward methodology employed for purposes of the GASB disclosures is based on generally accepted actuarial methods.

Schedule of Investment Returns Multiyear Last 10 Fiscal Years

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

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 Judicial Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Single Discount Rate

A Single Discount Rate of 7.00% 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 7.00%. 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 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 7.00%, 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
6.00%	7.00%	8.00%
\$ 2,802,274	\$ (970,439)	\$ (4,217,866)

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	30
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	0
Active Plan Members	<u>50</u>
Total Plan Members	80

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

Covered Members	Any justice of the supreme court, district judge appointed or circuit court judge appointed to any of those offices on or after July 1, 1998, or who elects to participate in the judicial retirement program under this act in accordance with W.S. 9-3-713.
Final Average Salary	Employee's average annual salary for the highest paid three continuous years of service.
Form of Payment	Monthly benefit for life. Upon death, 50% of the benefit continues to be paid to the beneficiary.
Service Retirement	
Eligibility	Age 70 with continuous service from appointment, age 65 with four or more years of service, or age 60 with 20 or more years of service.
Monthly Benefit	Highest Average Salary times the sum of the following: <ul style="list-style-type: none">• 4% for each of the first five years of service,• 3% for each year from and including the sixth year through the fifteenth year of service,• 2% for each year from and including the sixteenth year through the twentieth year of service,• 1% for each year thereafter.
Vesting	Any employee who has left employment with four or more years of service, and who has not withdrawn accumulated contributions, is eligible to receive the above benefit or can elect to receive a lump-sum refund of contributions with interest. An employee who terminates with less than four years of service and has not served continuously from the date of appointment to the age of 70 is only eligible for the lump-sum benefit.
Early Retirement	A member who is at least age 55 with four or more years of service may retire with the benefits described above reduced five percent for each year of retirement prior to age 65.
Disability Retirement	
Eligibility	Retirement by reason of permanent disability after completion of at least 10 years of service.
Monthly Benefit	Service retirement benefit determined as of the disability retirement date.

Pre-Retirement Death

Eligibility No age or service requirements.

Benefit A lump sum equal to two times the employee contributions with interest. If the employee is vested, the beneficiary can elect, in lieu of this lump sum, to receive a monthly benefit equal to the actuarial equivalent of the retirement benefit that would be due the employee as if the member had terminated on the date of death.

Contributions

Employee 9.22% of salary.

Employer 14.50% of salary.

Interest 3.00% annually.

Cost-of-Living Improvements

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

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, 2020 actuarial valuation report.

1. Valuation Date

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

2. Actuarial Cost Method

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

- a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 7.00%), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable for the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Fund on account of the present group of participants and beneficiaries.
- b. The employer contributions required to support the benefits of the Fund are determined using a level funding approach, and consist of a normal cost contribution and a unfunded accrued liability contribution.
- c. The normal cost contribution is determined using the "entry age normal" actuarial cost method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his/her anticipated covered service, would be required to meet the cost of all benefits payable on his/her behalf based on the benefits provisions applicable for the individual member.

- d. The unfunded actuarial accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 15 years from the valuation date. The Board's policy consists of amortizing the unfunded liability as of January 1, 2018, over a closed 15 year period with each subsequent amortization base created as a result of year to year experience changes over individual 15 year closed periods. The current year amortization base is determined by taking the current unfunded liability less the outstanding amounts of prior year bases.

3. Actuarial Value of Assets

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

4. Economic Assumptions

a. Investment return

7.00% per year, compounded annually, composed of an assumed 2.25% inflation rate and a 4.75% net real rate of return. This rate represents the assumed return, net of investment expenses.

b. Salary increase rate

4.00% per annum

c. Payroll growth rate

In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 4.00% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

d. Cost-of-Living adjustment

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

5. Demographic Assumptions

a. Mortality

Healthy Pre-Retirement Mortality:

RP-2014 Employee Mortality Table, fully generational, projected with Scale MP-2017

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 100%

Healthy 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%

Disabled Mortality

RP-2014 Disabled Mortality Table, fully generational, projected with Scale MP-2017

Males: No set back with a multiplier of 100%

Females: No set back with a multiplier of 100%

Age	Pre-Retirement		Post-Retirement		Disabled	
	Projected to 2020 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%	0.20%	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%	1.63%	0.90%
50	0.16%	0.11%	0.38%	0.23%	1.90%	1.14%
55	0.27%	0.17%	0.55%	0.32%	2.24%	1.44%
60	0.47%	0.25%	0.78%	0.47%	2.65%	1.73%
65	0.83%	0.36%	1.10%	0.70%	3.17%	2.05%
70	1.34%	0.60%	1.62%	1.07%	3.91%	2.67%
75			2.54%	1.74%	5.14%	3.87%
80			4.23%	2.93%	7.24%	5.83%
85			7.37%	5.14%	10.78%	8.73%
90			13.01%	9.14%	16.56%	12.86%
95			20.87%	15.23%	23.60%	18.94%
100			30.32%	23.24%	31.55%	27.12%

b. Disability and Withdrawal

Age	Disability		Withdrawal	
	Male	Female	Ultimate	
			Male	Female
20	0.01%	0.01%	5.60%	5.60%
25	0.01%	0.01%	4.20%	4.20%
30	0.01%	0.01%	2.90%	2.90%
35	0.01%	0.01%	2.00%	2.00%
40	0.01%	0.01%	1.50%	1.50%
45	0.01%	0.01%	1.10%	1.10%
50	0.03%	0.03%	0.80%	0.80%
55	0.05%	0.05%	0.60%	0.60%
60	0.07%	0.07%	0.40%	0.40%

c. Retirement Rates

Age	Rate	Age	Rate
55	2%	64	2%
56	2%	65	15%
57	2%	66	10%
58	2%	67	10%
59	2%	68	10%
60	2%	69	10%
61	2%	70	15%
62	2%	71	15%
63	2%	72	100%

6. Other Assumptions

- a. Percent married: 85.00% of employees are assumed to be married. (No beneficiaries other than the spouse assumed.)
- b. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- c. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
- d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit. It is assumed that 25% of active members who terminate with a deferred vested benefit will elect to have their contributions refunded.
- e. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available, which for this plan is age 65.
- 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. 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. Exact fractional service is used to determine the amount of benefit payable.

Experience Analysis

An experience study was conducted on behalf of all WRS' plans covering the five year period ending December 31, 2016. 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, 2016 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 7.00%; the municipal bond rate is 2.00%; and the resulting Single Discount Rate is 7.00%.

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 2020 to 2069

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)
2020	\$ 7,540,228	\$ 166,729	\$ 7,706,958	\$ 721,821	\$ 1,135,182	\$ -	\$ 1,857,003
2021	7,498,579	516,657	8,015,236	691,369	1,087,294	6,576	1,785,239
2022	7,377,398	958,447	8,335,845	680,196	1,069,723	12,153	1,762,072
2023	7,222,054	1,447,225	8,669,279	665,873	1,047,198	18,304	1,731,375
2024	6,915,156	2,100,894	9,016,050	637,577	1,002,698	26,609	1,666,884
2025	6,553,870	2,822,822	9,376,692	604,267	950,311	36,043	1,590,621
2026	6,282,373	3,469,387	9,751,760	579,235	910,944	44,827	1,535,006
2027	5,892,231	4,249,599	10,141,830	543,264	854,374	55,887	1,453,525
2028	5,566,282	4,981,221	10,547,503	513,211	807,111	67,009	1,387,331
2029	5,300,749	5,668,654	10,969,403	488,729	768,609	78,529	1,335,867
2030	5,015,279	6,392,900	11,408,179	462,409	727,215	91,469	1,281,093
2031	4,673,953	7,190,553	11,864,506	430,938	677,723	106,909	1,215,570
2032	4,322,893	8,016,193	12,339,086	398,571	626,819	123,920	1,149,310
2033	4,133,726	8,698,923	12,832,649	381,130	599,390	140,588	1,121,108
2034	3,957,268	9,388,687	13,345,955	364,860	573,804	160,075	1,098,739
2035	3,724,685	10,155,108	13,879,793	343,416	540,079	181,908	1,065,403
2036	3,572,771	10,862,214	14,434,985	329,410	518,052	204,863	1,052,325
2037	3,349,381	11,663,003	15,012,384	308,813	485,660	231,677	1,026,150
2038	3,129,967	12,482,912	15,612,879	288,583	453,845	258,677	1,001,105
2039	2,981,938	13,255,456	16,237,394	274,935	432,381	287,540	994,856
2040	2,678,936	14,207,954	16,886,890	246,998	388,446	319,495	954,939
2041	2,257,088	15,305,278	17,562,366	208,104	327,278	353,496	888,878
2042	1,907,238	16,357,623	18,264,861	175,847	276,549	385,668	838,064
2043	1,681,557	17,313,898	18,995,455	155,040	243,826	417,724	816,590
2044	1,467,898	18,287,375	19,755,273	135,340	212,845	450,187	798,372
2045	1,306,043	19,239,441	20,545,484	120,417	189,376	481,156	790,949
2046	992,322	20,374,981	21,367,303	91,492	143,887	517,397	752,776
2047	674,323	21,547,672	22,221,995	62,173	97,777	547,018	706,968
2048	492,688	22,618,187	23,110,875	45,426	71,440	579,475	696,341
2049	268,211	23,767,099	24,035,310	24,729	38,891	609,968	673,588
2050	185,710	24,811,012	24,996,722	17,122	26,928	638,040	682,090
2051	167,497	25,829,094	25,996,591	15,443	24,287	666,592	706,322
2052	146,239	26,890,216	27,036,455	13,483	21,205	695,263	729,951
2053	70,465	28,047,448	28,117,913	6,497	10,217	726,183	742,897
2054	-	29,242,630	29,242,630	-	-	756,786	756,786
2055	-	30,412,335	30,412,335	-	-	787,826	787,826
2056	-	31,628,828	31,628,828	-	-	820,864	820,864
2057	-	32,893,981	32,893,981	-	-	855,586	855,586
2058	-	34,209,740	34,209,740	-	-	891,751	891,751
2059	-	35,578,130	35,578,130	-	-	929,804	929,804
2060	-	37,001,255	37,001,255	-	-	970,183	970,183
2061	-	38,481,305	38,481,305	-	-	1,011,749	1,011,749
2062	-	40,020,557	40,020,557	-	-	1,055,066	1,055,066
2063	-	41,621,379	41,621,379	-	-	1,100,276	1,100,276
2064	-	43,286,234	43,286,234	-	-	1,147,079	1,147,079
2065	-	45,017,683	45,017,683	-	-	1,194,988	1,194,988
2066	-	46,818,390	46,818,390	-	-	1,244,198	1,244,198
2067	-	48,691,126	48,691,126	-	-	1,295,060	1,295,060
2068	-	50,638,771	50,638,771	-	-	1,347,310	1,347,310
2069	-	52,664,322	52,664,322	-	-	1,400,958	1,400,958



Single Discount Rate Development Projection of Contributions Ending December 31 for 2070 to 2119 (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)
2070	\$ -	\$ 54,770,895	\$ 54,770,895	\$ -	\$ -	1,456,238	\$ 1,456,238
2071	-	56,961,731	56,961,731	-	-	1,513,252	1,513,252
2072	-	59,240,200	59,240,200	-	-	1,571,569	1,571,569
2073	-	61,609,808	61,609,808	-	-	1,632,520	1,632,520
2074	-	64,074,200	64,074,200	-	-	1,695,971	1,695,971
2075	-	66,637,168	66,637,168	-	-	1,761,910	1,761,910
2076	-	69,302,655	69,302,655	-	-	1,830,928	1,830,928
2077	-	72,074,761	72,074,761	-	-	1,902,419	1,902,419
2078	-	74,957,751	74,957,751	-	-	1,977,230	1,977,230
2079	-	77,956,061	77,956,061	-	-	2,055,064	2,055,064
2080	-	81,074,303	81,074,303	-	-	2,136,477	2,136,477
2081	-	84,317,275	84,317,275	-	-	2,222,097	2,222,097
2082	-	87,689,966	87,689,966	-	-	2,311,691	2,311,691
2083	-	91,197,565	91,197,565	-	-	2,404,961	2,404,961
2084	-	94,845,468	94,845,468	-	-	2,501,838	2,501,838
2085	-	98,639,287	98,639,287	-	-	2,602,754	2,602,754
2086	-	102,584,858	102,584,858	-	-	2,708,160	2,708,160
2087	-	106,688,252	106,688,252	-	-	2,817,577	2,817,577
2088	-	110,955,782	110,955,782	-	-	2,931,535	2,931,535
2089	-	115,394,013	115,394,013	-	-	3,050,097	3,050,097
2090	-	120,009,774	120,009,774	-	-	3,173,177	3,173,177
2091	-	124,810,165	124,810,165	-	-	3,300,774	3,300,774
2092	-	129,802,572	129,802,572	-	-	3,433,235	3,433,235
2093	-	134,994,675	134,994,675	-	-	3,570,873	3,570,873
2094	-	140,394,462	140,394,462	-	-	3,713,729	3,713,729
2095	-	146,010,240	146,010,240	-	-	3,862,061	3,862,061
2096	-	151,850,650	151,850,650	-	-	4,016,109	4,016,109
2097	-	157,924,676	157,924,676	-	-	4,176,143	4,176,143
2098	-	164,241,663	164,241,663	-	-	4,342,481	4,342,481
2099	-	170,811,330	170,811,330	-	-	4,515,382	4,515,382
2100	-	177,643,783	177,643,783	-	-	4,695,180	4,695,180
2101	-	184,749,534	184,749,534	-	-	4,882,227	4,882,227
2102	-	192,139,515	192,139,515	-	-	5,076,785	5,076,785
2103	-	199,825,096	199,825,096	-	-	5,279,254	5,279,254
2104	-	207,818,100	207,818,100	-	-	5,489,992	5,489,992
2105	-	216,130,824	216,130,824	-	-	5,709,295	5,709,295
2106	-	224,776,057	224,776,057	-	-	5,937,547	5,937,547
2107	-	233,767,099	233,767,099	-	-	6,175,092	6,175,092
2108	-	243,117,783	243,117,783	-	-	6,422,303	6,422,303
2109	-	252,842,494	252,842,494	-	-	6,679,490	6,679,490
2110	-	262,956,194	262,956,194	-	-	6,947,026	6,947,026
2111	-	273,474,442	273,474,442	-	-	7,225,385	7,225,385
2112	-	284,413,420	284,413,420	-	-	7,514,931	7,514,931
2113	-	295,789,957	295,789,957	-	-	7,816,041	7,816,041
2114	-	307,621,555	307,621,555	-	-	8,129,176	8,129,176
2115	-	319,926,417	319,926,417	-	-	8,454,771	8,454,771
2116	-	332,723,474	332,723,474	-	-	8,793,320	8,793,320
2117	-	346,032,413	346,032,413	-	-	9,145,294	9,145,294
2118	-	359,873,710	359,873,710	-	-	9,511,253	9,511,253
2119	-	374,268,658	374,268,658	-	-	9,891,772	9,891,772



Single Discount Rate Development Projection of Plan Net Position Ending December 31 for 2020 to 2069

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.000%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2020	\$ 33,911,571	\$ 1,857,003	\$ 1,878,084	\$ 33,514	\$ 3,612,442	\$ 37,469,418
2021	37,469,418	1,785,239	2,035,651	30,458	2,613,195	39,801,743
2022	39,801,743	1,762,072	2,178,004	31,676	2,770,721	42,124,856
2023	42,124,856	1,731,375	2,327,642	32,943	2,927,090	44,422,736
2024	44,422,736	1,666,884	2,549,735	34,261	3,078,036	46,583,660
2025	46,583,660	1,590,621	2,776,586	35,631	3,218,823	48,580,887
2026	48,580,887	1,535,006	2,966,415	37,057	3,350,135	50,462,557
2027	50,462,557	1,453,525	3,215,497	38,539	3,470,427	52,132,472
2028	52,132,472	1,387,331	3,403,710	40,081	3,578,514	53,654,526
2029	53,654,526	1,335,867	3,548,146	41,684	3,678,262	55,078,826
2030	55,078,826	1,281,093	3,701,558	43,351	3,770,743	56,385,752
2031	56,385,752	1,215,570	3,886,542	45,085	3,853,548	57,523,244
2032	57,523,244	1,149,310	4,053,450	46,889	3,925,088	58,497,302
2033	58,497,302	1,121,108	4,127,705	48,764	3,989,682	59,431,623
2034	59,431,623	1,098,739	4,207,815	50,715	4,051,491	60,323,324
2035	60,323,324	1,065,403	4,305,994	52,743	4,109,316	61,139,306
2036	61,139,306	1,052,325	4,352,003	54,853	4,164,329	61,949,102
2037	61,949,102	1,026,150	4,444,081	57,047	4,216,870	62,690,994
2038	62,690,994	1,001,105	4,519,209	59,329	4,265,277	63,378,837
2039	63,378,837	994,856	4,547,347	61,702	4,312,161	64,076,805
2040	64,076,805	954,939	4,661,261	64,170	4,355,641	64,661,954
2041	64,661,954	888,878	4,832,537	66,737	4,388,347	65,039,905
2042	65,039,905	838,064	4,938,139	69,406	4,409,330	65,279,754
2043	65,279,754	816,590	4,951,598	72,183	4,424,822	65,497,385
2044	65,497,385	798,372	4,950,368	75,070	4,439,372	65,709,690
2045	65,709,690	790,949	4,902,819	78,073	4,455,511	65,975,258
2046	65,975,258	752,776	4,947,741	81,196	4,471,134	66,170,232
2047	66,170,232	706,968	4,972,955	84,444	4,482,226	66,302,026
2048	66,302,026	696,341	4,905,461	87,821	4,493,293	66,498,377
2049	66,498,377	673,588	4,854,327	91,334	4,507,893	66,734,197
2050	66,734,197	682,090	4,704,076	94,988	4,529,737	67,146,961
2051	67,146,961	706,322	4,511,821	98,787	4,565,948	67,808,623
2052	67,808,623	729,951	4,321,850	102,739	4,619,478	68,733,464
2053	68,733,464	742,897	4,171,220	106,848	4,689,704	69,887,997
2054	69,887,997	756,786	4,014,497	111,122	4,776,245	71,295,409
2055	71,295,409	787,826	3,812,041	115,567	4,882,645	73,038,272
2056	73,038,272	820,864	3,612,704	120,190	5,012,482	75,138,723
2057	75,138,723	855,586	3,416,682	124,997	5,167,287	77,619,918
2058	77,619,918	891,751	3,224,060	129,997	5,348,671	80,506,282
2059	80,506,282	929,804	3,034,802	135,197	5,558,359	83,824,446
2060	83,824,446	970,183	2,848,853	140,605	5,798,232	87,603,403
2061	87,603,403	1,011,749	2,666,125	146,229	6,070,283	91,873,081
2062	91,873,081	1,055,066	2,486,537	152,078	6,376,629	96,666,162
2063	96,666,162	1,100,276	2,310,128	158,161	6,719,561	102,017,709
2064	102,017,709	1,147,079	2,137,004	164,488	7,101,519	107,964,814
2065	107,964,814	1,194,988	1,967,321	171,067	7,525,076	114,546,490
2066	114,546,490	1,244,198	1,801,399	177,910	7,992,961	121,804,340
2067	121,804,340	1,295,060	1,639,712	185,026	8,508,079	129,782,740
2068	129,782,740	1,347,310	1,482,867	192,427	9,073,507	138,528,263
2069	138,528,263	1,400,958	1,331,649	200,124	9,692,477	148,089,925



Single Discount Rate Development

Projection of Plan Net Position

Ending December 31 for 2070 to 2119 (concluded)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.000%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2070	\$ 148,089,925	\$ 1,456,238	\$ 1,186,817	\$ 208,129	\$ 10,368,404	\$ 158,519,621
2071	158,519,621	1,513,252	1,049,047	216,455	11,104,898	169,872,268
2072	169,872,268	1,571,569	919,047	225,113	11,905,765	182,205,442
2073	182,205,442	1,632,520	797,481	234,117	12,775,057	195,581,421
2074	195,581,421	1,695,971	684,972	243,482	13,717,108	210,066,047
2075	210,066,047	1,761,910	582,056	253,221	14,736,507	225,729,186
2076	225,729,186	1,830,928	489,118	263,350	15,838,151	242,645,797
2077	242,645,797	1,902,419	406,309	273,884	17,027,260	260,895,282
2078	260,895,282	1,977,230	333,520	284,839	18,309,426	280,563,579
2079	280,563,579	2,055,064	270,436	296,233	19,690,663	301,742,638
2080	301,742,638	2,136,477	216,536	308,082	21,177,446	324,531,942
2081	324,531,942	2,222,097	171,165	320,406	22,776,780	349,039,248
2082	349,039,248	2,311,691	133,550	333,222	24,496,227	375,380,395
2083	375,380,395	2,404,961	102,824	346,551	26,343,916	403,679,896
2084	403,679,896	2,501,838	78,106	360,413	28,328,587	434,071,802
2085	434,071,802	2,602,754	58,532	374,829	30,459,671	466,700,866
2086	466,700,866	2,708,160	43,275	389,822	32,747,341	501,723,270
2087	501,723,270	2,817,577	31,557	405,415	35,202,541	539,306,416
2088	539,306,416	2,931,535	22,684	421,632	37,837,029	579,630,664
2089	579,630,664	3,050,097	16,075	438,497	40,663,453	622,889,643
2090	622,889,643	3,173,177	11,235	456,037	43,695,380	669,290,928
2091	669,290,928	3,300,774	7,737	474,279	46,947,353	719,057,039
2092	719,057,039	3,433,235	5,240	493,250	50,434,972	772,426,756
2093	772,426,756	3,570,873	3,488	512,980	54,174,969	829,656,130
2094	829,656,130	3,713,729	2,264	533,499	58,185,277	891,019,372
2095	891,019,372	3,862,061	1,431	554,839	62,485,102	956,810,265
2096	956,810,265	4,016,109	878	577,032	67,095,020	1,027,343,484
2097	1,027,343,484	4,176,143	515	600,114	72,037,070	1,102,956,069
2098	1,102,956,069	4,342,481	297	624,118	77,334,856	1,184,008,991
2099	1,184,008,991	4,515,382	171	649,083	83,013,655	1,270,888,775
2100	1,270,888,775	4,695,180	96	675,046	89,100,536	1,364,009,349
2101	1,364,009,349	4,882,227	54	702,048	95,624,484	1,463,813,959
2102	1,463,813,959	5,076,785	30	730,130	102,616,536	1,570,777,120
2103	1,570,777,120	5,279,254	16	759,335	110,109,919	1,685,406,942
2104	1,685,406,942	5,489,992	6	789,709	118,140,213	1,808,247,433
2105	1,808,247,433	5,709,295	-	821,297	126,745,507	1,939,880,937
2106	1,939,880,937	5,937,547	-	854,149	135,966,575	2,080,930,911
2107	2,080,930,911	6,175,092	-	888,315	145,847,071	2,232,064,759
2108	2,232,064,759	6,422,303	-	923,848	156,433,724	2,393,996,938
2109	2,393,996,938	6,679,490	-	960,801	167,776,555	2,567,492,182
2110	2,567,492,182	6,947,026	-	999,234	179,929,105	2,753,369,078
2111	2,753,369,078	7,225,385	-	1,039,203	192,948,690	2,952,503,950
2112	2,952,503,950	7,514,931	-	1,080,771	206,896,663	3,165,834,774
2113	3,165,834,774	7,816,041	-	1,124,002	221,838,694	3,394,365,507
2114	3,394,365,507	8,129,176	-	1,168,962	237,845,073	3,639,170,794
2115	3,639,170,794	8,454,771	-	1,215,720	254,991,037	3,901,400,882
2116	3,901,400,882	8,793,320	-	1,264,349	273,357,119	4,182,286,972
2117	4,182,286,972	9,145,294	-	1,314,923	293,029,516	4,483,146,858
2118	4,483,146,858	9,511,253	-	1,367,520	314,100,490	4,805,391,081
2119	4,805,391,081	9,891,772	-	1,422,221	336,668,796	5,150,529,429

Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2020 to 2069

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}
2020	\$ 33,911,571	\$ 1,878,084	\$ 1,878,084	\$ 0	\$ 1,815,612	\$ 0	\$ 1,815,612
2021	37,469,418	2,035,651	2,035,651	0	1,839,194	0	1,839,194
2022	39,801,743	2,178,004	2,178,004	0	1,839,074	0	1,839,074
2023	42,124,856	2,327,642	2,327,642	0	1,836,847	0	1,836,847
2024	44,422,736	2,549,735	2,549,735	0	1,880,477	0	1,880,477
2025	46,583,660	2,776,586	2,776,586	0	1,913,817	0	1,913,817
2026	48,580,887	2,966,415	2,966,415	0	1,910,897	0	1,910,897
2027	50,462,557	3,215,497	3,215,497	0	1,935,842	0	1,935,842
2028	52,132,472	3,403,710	3,403,710	0	1,915,096	0	1,915,096
2029	53,654,526	3,548,146	3,548,146	0	1,865,759	0	1,865,759
2030	55,078,826	3,701,558	3,701,558	0	1,819,093	0	1,819,093
2031	56,385,752	3,886,542	3,886,542	0	1,785,048	0	1,785,048
2032	57,523,244	4,053,450	4,053,450	0	1,739,913	0	1,739,913
2033	58,497,302	4,127,705	4,127,705	0	1,655,875	0	1,655,875
2034	59,431,623	4,207,815	4,207,815	0	1,577,582	0	1,577,582
2035	60,323,324	4,305,994	4,305,994	0	1,508,776	0	1,508,776
2036	61,139,306	4,352,003	4,352,003	0	1,425,138	0	1,425,138
2037	61,949,102	4,444,081	4,444,081	0	1,360,085	0	1,360,085
2038	62,690,994	4,519,209	4,519,209	0	1,292,595	0	1,292,595
2039	63,378,837	4,547,347	4,547,347	0	1,215,555	0	1,215,555
2040	64,076,805	4,661,261	4,661,261	0	1,164,491	0	1,164,491
2041	64,661,954	4,832,537	4,832,537	0	1,128,298	0	1,128,298
2042	65,039,905	4,938,139	4,938,139	0	1,077,527	0	1,077,527
2043	65,279,754	4,951,598	4,951,598	0	1,009,780	0	1,009,780
2044	65,497,385	4,950,368	4,950,368	0	943,485	0	943,485
2045	65,709,690	4,902,819	4,902,819	0	873,292	0	873,292
2046	65,975,258	4,947,741	4,947,741	0	823,639	0	823,639
2047	66,170,232	4,972,955	4,972,955	0	773,679	0	773,679
2048	66,302,026	4,905,461	4,905,461	0	713,251	0	713,251
2049	66,498,377	4,854,327	4,854,327	0	659,641	0	659,641
2050	66,734,197	4,704,076	4,704,076	0	597,405	0	597,405
2051	67,146,961	4,511,821	4,511,821	0	535,504	0	535,504
2052	67,808,623	4,321,850	4,321,850	0	479,399	0	479,399
2053	68,733,464	4,171,220	4,171,220	0	432,421	0	432,421
2054	69,887,997	4,014,497	4,014,497	0	388,947	0	388,947
2055	71,295,409	3,812,041	3,812,041	0	345,170	0	345,170
2056	73,038,272	3,612,704	3,612,704	0	305,720	0	305,720
2057	75,138,723	3,416,682	3,416,682	0	270,217	0	270,217
2058	77,619,918	3,224,060	3,224,060	0	238,302	0	238,302
2059	80,506,282	3,034,802	3,034,802	0	209,639	0	209,639
2060	83,824,446	2,848,853	2,848,853	0	183,919	0	183,919
2061	87,603,403	2,666,125	2,666,125	0	160,862	0	160,862
2062	91,873,081	2,486,537	2,486,537	0	140,212	0	140,212
2063	96,666,162	2,310,128	2,310,128	0	121,742	0	121,742
2064	102,017,709	2,137,004	2,137,004	0	105,251	0	105,251
2065	107,964,814	1,967,321	1,967,321	0	90,555	0	90,555
2066	114,546,490	1,801,399	1,801,399	0	77,493	0	77,493
2067	121,804,340	1,639,712	1,639,712	0	65,923	0	65,923
2068	129,782,740	1,482,867	1,482,867	0	55,717	0	55,717
2069	138,528,263	1,331,649	1,331,649	0	46,762	0	46,762



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2070 to 2119 (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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=((c)/((1+SDR) ^a))^((a)-.5)
2070	\$ 148,089,925	\$ 1,186,817	\$ 1,186,817	\$ 0	\$ 38,950	\$ 0	\$ 38,950
2071	158,519,621	1,049,047	1,049,047	0	32,176	0	32,176
2072	169,872,268	919,047	919,047	0	26,344	0	26,344
2073	182,205,442	797,481	797,481	0	21,364	0	21,364
2074	195,581,421	684,972	684,972	0	17,150	0	17,150
2075	210,066,047	582,056	582,056	0	13,620	0	13,620
2076	225,729,186	489,118	489,118	0	10,696	0	10,696
2077	242,645,797	406,309	406,309	0	8,304	0	8,304
2078	260,895,282	333,520	333,520	0	6,370	0	6,370
2079	280,563,579	270,436	270,436	0	4,828	0	4,828
2080	301,742,638	216,536	216,536	0	3,613	0	3,613
2081	324,531,942	171,165	171,165	0	2,669	0	2,669
2082	349,039,248	133,550	133,550	0	1,946	0	1,946
2083	375,380,395	102,824	102,824	0	1,400	0	1,400
2084	403,679,896	78,106	78,106	0	994	0	994
2085	434,071,802	58,532	58,532	0	696	0	696
2086	466,700,866	43,275	43,275	0	481	0	481
2087	501,723,270	31,557	31,557	0	328	0	328
2088	539,306,416	22,684	22,684	0	220	0	220
2089	579,630,664	16,075	16,075	0	146	0	146
2090	622,889,643	11,235	11,235	0	95	0	95
2091	669,290,928	7,737	7,737	0	61	0	61
2092	719,057,039	5,240	5,240	0	39	0	39
2093	772,426,756	3,488	3,488	0	24	0	24
2094	829,656,130	2,264	2,264	0	15	0	15
2095	891,019,372	1,431	1,431	0	9	0	9
2096	956,810,265	878	878	0	5	0	5
2097	1,027,343,484	515	515	0	3	0	3
2098	1,102,956,069	297	297	0	1	0	1
2099	1,184,008,991	171	171	0	1	0	1
2100	1,270,888,775	96	96	0	0	0	0
2101	1,364,009,349	54	54	0	0	0	0
2102	1,463,813,959	30	30	0	0	0	0
2103	1,570,777,120	16	16	0	0	0	0
2104	1,685,406,942	6	6	0	0	0	0
2105	1,808,247,433	0	0	0	0	0	0
2106	1,939,880,937	0	0	0	0	0	0
2107	2,080,930,911	0	0	0	0	0	0
2108	2,232,064,759	0	0	0	0	0	0
2109	2,393,996,938	0	0	0	0	0	0
2110	2,567,492,182	0	0	0	0	0	0
2111	2,753,369,078	0	0	0	0	0	0
2112	2,952,503,950	0	0	0	0	0	0
2113	3,165,834,774	0	0	0	0	0	0
2114	3,394,365,507	0	0	0	0	0	0
2115	3,639,170,794	0	0	0	0	0	0
2116	3,901,400,882	0	0	0	0	0	0
2117	4,182,286,972	0	0	0	0	0	0
2118	4,483,146,858	0	0	0	0	0	0
2119	4,805,391,081	0	0	0	0	0	0
Totals	\$		\$	\$	\$ 48,343,068	\$ 0	\$ 48,343,068



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.