

# Wyoming Judicial Retirement System

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

For Measurement Date as of December 31, 2019





March 29, 2020

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. This information was checked for internal consistency, but it was not audited.

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, 2018 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.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Wyoming Judicial Retirement System. 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.

The signing individuals are independent of the plan sponsor.

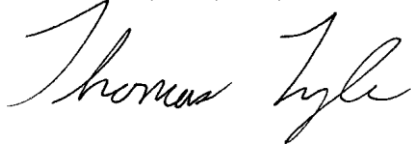
Paul T. Wood and Thomas A. Lyle are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

**Gabriel, Roeder, Smith & Company**



By \_\_\_\_\_  
Paul T. Wood, ASA, FCA, MAAA



By \_\_\_\_\_  
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# SECTION A

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## EXECUTIVE SUMMARY

# Executive Summary as of December 31, 2019

	<b>2019</b>
Actuarial Valuation Date	January 1, 2019
Measurement Date of the Net Pension Liability	December 31, 2019
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2019

## Membership

Number of	
- Retirees and Beneficiaries	26
- Inactive, Nonretired Members	0
- Active Members	47
- Total	73
Covered Payroll	\$ 6,602,303

## Net Pension Liability

Total Pension Liability	\$ 33,045,612
Plan Fiduciary Net Position	33,911,571
Net Pension Liability	\$ (865,959)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	102.62 %
Net Pension Liability as a Percentage of Covered Payroll	(13.12)%

## 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*	2.75 %
Last year ending December 31 in the 2019 to 2118 projection period for which projected benefit payments are fully funded	2118

<b>Total Pension Expense</b>	<b>\$ 929,531</b>
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## 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	\$ 129,635	\$ 679,098
Changes in assumptions	1,257,235	0
Net difference between projected and actual earnings on pension plan investments	1,883,359	3,286,308
Total	\$ 3,270,229	\$ 3,965,406

\*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, 2019. 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, 2019.

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 no addition unfunded liability as of the measurement date.
3. The funded status of the plan is above 100% funded ratio.

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 2118. 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, 2019 and a measurement date of December 31, 2019.

## 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 2.75% (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

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### 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, 2019

### A. Expense

1. Service Cost	\$	1,529,896
2. Interest on the Total Pension Liability		2,168,200
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(1,028,339)
5. Projected Earnings on Plan Investments (made negative for addition here)		(1,996,041)
6. Pension Plan Administrative Expense		27,764
7. Other Changes in Plan Fiduciary Net Position		1,284
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		173,465
9. Recognition of Outflow (Inflow) of Resources due to Assets		53,302
<b>10. Total Pension Expense</b>	<b>\$</b>	<b>929,531</b> *

\* 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, 2019

## A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	(112,158)
2. Assumption Changes (gains) or losses	\$	0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		6.6532
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	\$	(16,858)
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	\$	(16,858)
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	\$	(95,300)
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	\$	(95,300)

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

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(3,228,107)
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	\$	(645,621)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(2,582,486)

# History of Deferred Outflows and Inflows of Resources by Source

## Fiscal Year Ended December 31, 2019

### 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		Deferred Net (Inflows)/Outflows at Measurement Date
	2014	2015	2016	2017	2018	2019	Total	
<b>Total</b>	\$ -	\$ (372,108)	\$ (229,282)	\$ (620,955)	\$ 183,937	\$ (112,158)	\$ -	
2014	-	-	-	-	-	-	-	
2015	-	(47,763)	-	-	-	-	(47,763)	
2016	-	(47,763)	(31,104)	-	-	-	(78,867)	
2017	-	(47,763)	(31,104)	(91,772)	-	-	(170,639)	
2018	-	(47,763)	(31,104)	(91,772)	27,151	-	(143,488)	
2019	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	(160,346)	
2020	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	(160,346)	\$ (549,463)
2021	-	(47,763)	(31,104)	(91,772)	27,151	(16,858)	(160,346)	
2022	-	(37,767)	(31,104)	(91,772)	27,151	(16,858)	(150,350)	
2023	-	-	(11,554)	(70,323)	27,151	(16,858)	(71,584)	
2024	-	-	-	-	21,031	(16,858)	4,173	
Thereafter	-	-	-	-	-	(11,010)	(11,010)	
	\$ -	\$ (372,108)	\$ (229,282)	\$ (620,955)	\$ 183,937	\$ (112,158)	\$ (1,150,566)	

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

Recognition Period	7.9046	7.7907	7.3715	6.7663	6.7746	6.6532		
	2014	2015	2016	2017	2018	2019	Total	
<b>Total</b>	\$ -	\$ -	\$ -	\$ 2,258,668	\$ -	\$ -	\$ -	
2014	-	-	-	-	-	-	-	
2015	-	-	-	-	-	-	-	
2016	-	-	-	-	-	-	-	
2017	-	-	-	333,811	-	-	333,811	
2018	-	-	-	333,811	-	-	333,811	
2019	-	-	-	333,811	-	-	333,811	
2020	-	-	-	333,811	-	-	333,811	\$ 1,257,235
2021	-	-	-	333,811	-	-	333,811	
2022	-	-	-	333,811	-	-	333,811	
2023	-	-	-	255,802	-	-	255,802	
2024	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	
	\$ -	\$ -	\$ -	\$ 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		
	2014	2015	2016	2017	2018	2019	Total	
<b>Total</b>	\$ 626,833	\$ 2,022,635	\$ 138,916	\$ (1,759,558)	\$ 3,092,625	\$ (3,228,107)	\$ 893,344	
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)	(351,224)	\$ (1,402,949)
2021	-	-	-	(351,910)	618,525	(645,621)	(379,006)	
2022	-	-	-	-	618,525	(645,621)	(27,096)	
2023	-	-	-	-	-	(645,623)	(645,623)	
2024	-	-	-	-	-	-	-	
Thereafter	-	-	-	-	-	-	-	
	\$ 626,833	\$ 2,022,635	\$ 138,916	\$ (1,759,558)	\$ 3,092,625	\$ (3,228,107)	\$ 893,344	

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

	2014	2015	2016	2017	2018	2019	Total	
<b>Total</b>	\$ 626,833	\$ 1,650,527	\$ (90,366)	\$ (121,845)	\$ 3,276,562	\$ (3,340,265)	\$ 2,001,446	
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)	(177,759)	\$ (695,177)
2021	-	(47,763)	(31,104)	(109,871)	645,676	(662,479)	(205,541)	
2022	-	(37,767)	(31,104)	242,039	645,676	(662,479)	156,365	
2023	-	-	(11,554)	185,479	27,151	(662,481)	(461,405)	
2024	-	-	-	-	21,031	(16,858)	4,173	
Thereafter	-	-	-	-	-	(11,010)	(11,010)	
	\$ 626,833	\$ 1,650,527	\$ (90,366)	\$ (121,845)	\$ 3,276,562	\$ (3,340,265)	\$ 2,001,446	



# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 2019

## 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	\$ 360,962	\$ 187,497	\$ 173,465
2. Due to Assets	1,050,835	997,533	53,302
<b>3. Total</b>	<b>\$ 1,411,797</b>	<b>\$ 1,185,030</b>	<b>\$ 226,767</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	\$ 27,151	\$ 187,497	\$ (160,346)
2. Assumption Changes	333,811	0	333,811
3. Net Difference between projected and actual earnings on pension plan investments	1,050,835	997,533	53,302
<b>4. Total</b>	<b>\$ 1,411,797</b>	<b>\$ 1,185,030</b>	<b>\$ 226,767</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	\$ 129,635	\$ 679,098	\$ (549,463)
2. Assumption Changes	1,257,235	0	1,257,235
3. Net Difference between projected and actual earnings on pension plan investments	1,883,359	3,286,308	(1,402,949)
<b>4. Total</b>	<b>\$ 3,270,229</b>	<b>\$ 3,965,406</b>	<b>\$ (695,177)</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
2020	\$ (177,759)
2021	(205,541)
2022	156,365
2023	(461,405)
2024	4,173
Thereafter	(11,010)
<b>Total</b>	<b>\$ (695,177)</b>



## Statement of Fiduciary Net Position as of December 31, 2019

	<b>2019</b>
<b>Assets</b>	
Cash and Deposits	\$ 1,939,542
Receivables	
Accounts Receivable - Sale of Investments	\$ 120,631
Accrued Interest and Other Dividends	74,878
Contributions	0
Accounts Receivable - Other	749,611
Total Receivables	\$ 945,120
Investments	
Fixed Income	\$ 5,624,106
Equities	15,495,143
Private Markets	5,365,405
Marketable Alternatives	5,562,336
Other	1,502,810
Total Investments	\$ 33,549,800
<b>Total Assets</b>	<b>\$ 36,434,462</b>
<b>Liabilities</b>	
Payables	
Accounts Payable - Purchase of Investments	\$ 2,410,404
Accrued Expenses	112,487
Accounts Payable - Other	0
Total Liabilities	\$ 2,522,891
<b>Net Position Restricted for Pensions</b>	<b>\$ 33,911,571</b>



## Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2019

	2019
<b>Additions</b>	
Contributions	
Employer	\$ 1,060,445
Employee	674,477
Other - Employer	32
Other - Employee	353,862
<b>Total Contributions</b>	<b>\$ 2,088,816</b>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 4,954,171
Interest and Dividends	519,128
Less Investment Expense	(249,151)
<b>Net Investment Income</b>	<b>\$ 5,224,148</b>
Other	\$ 0
<b>Total Additions</b>	<b>\$ 7,312,964</b>
 <b>Deductions</b>	
Benefit Payments, including Refunds of Employee Contributions	\$ 1,720,417
Pension Plan Administrative Expense	27,764
Other	1,284
<b>Total Deductions</b>	<b>\$ 1,749,465</b>
<b>Net Increase in Net Position</b>	<b>\$ 5,563,499</b>
 <b>Net Position Restricted for Pensions</b>	
Beginning of Year	\$ 28,348,072
End of Year	<b>\$ 33,911,571</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 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, 2019

<b>A. Total pension liability</b>	
1. Service cost	\$ 1,529,896
2. Interest on the total pension liability	2,168,200
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	(112,158)
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(1,720,417)
<b>7. Net change in total pension liability</b>	<b>1,865,521</b>
<b>8. Total pension liability – beginning</b>	<b>31,180,091</b>
<b>9. Total pension liability – ending</b>	<b>\$ 33,045,612</b>
<b>B. Plan fiduciary net position</b>	
1. Contributions – employer	\$ 1,060,477
2. Contributions – employee	1,028,339
3. Net investment income	5,224,148
4. Benefit payments, including refunds of employee contributions	(1,720,417)
5. Pension plan administrative expense	(27,764)
6. Other	(1,284)
<b>7. Net change in plan fiduciary net position</b>	<b>5,563,499</b>
<b>8. Plan fiduciary net position – beginning</b>	<b>28,348,072</b>
<b>9. Plan fiduciary net position – ending</b>	<b>\$ 33,911,571</b>
<b>C. Net pension liability</b>	<b>\$ (865,959)</b>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	<b>102.62 %</b>
<b>E. Covered-employee payroll</b>	<b>\$ 6,602,303</b>
<b>F. Net pension liability as a percentage of covered-employee payroll</b>	<b>(13.12)%</b>

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

**Notes to Schedule:**

For 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)%

\* 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 %

\* 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, 2019  
**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 Return<sup>1</sup></u>
2014	4.70 %
2015	(0.26)%
2016	7.60 %
2017	14.20 %
2018	(3.52)%
2019	18.72 %

<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 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%
\$ 2,574,413	\$ (865,959)	\$ (3,829,426)

## Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	26
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	-
Active Plan Members	<u>47</u>
Total Plan Members	73

# SECTION E

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## SUMMARY OF BENEFITS

## Summary of Benefits

<b>Covered Members</b>	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.
<b>Final Average Salary</b>	Employee's average annual salary for the highest paid three continuous years of service.
<b>Form of Payment</b>	Monthly benefit for life. Upon death, 50% of the benefit continues to be paid to the beneficiary.
<b>Service Retirement</b>	
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"><li>• 4% for each of the first five years of service,</li><li>• 3% for each year from and including the sixth year through the fifteenth year of service,</li><li>• 2% for each year from and including the sixteenth year through the twentieth year of service,</li><li>• 1% for each year thereafter.</li></ul>
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.
<b>Disability Retirement</b>	
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**

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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, 2019 actuarial valuation report.

### 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 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 2019 using Scale MP-2017					
	Male	Female	Male	Female	Male	Female
20	0.04%	0.02%	0.04%	0.01%	0.05%	0.02%
25	0.05%	0.02%	0.06%	0.03%	0.20%	0.09%
30	0.05%	0.02%	0.09%	0.06%	0.51%	0.24%
35	0.06%	0.03%	0.13%	0.09%	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%	0.24%	1.92%	1.15%
55	0.27%	0.17%	0.55%	0.32%	2.26%	1.45%
60	0.47%	0.25%	0.78%	0.47%	2.67%	1.74%
65	0.83%	0.36%	1.11%	0.70%	3.18%	2.05%
70	1.35%	0.60%	1.63%	1.08%	3.92%	2.69%
75			2.56%	1.76%	5.18%	3.91%
80			4.27%	2.96%	7.31%	5.88%
85			7.44%	5.18%	10.87%	8.80%
90			13.11%	9.20%	16.69%	12.94%
95			21.02%	15.32%	23.77%	19.05%
100			30.49%	23.34%	31.73%	27.24%

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**

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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 7.00%; the municipal bond rate is 2.75%; 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 2019 to 2068

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)
2019	\$ 6,712,943	\$ 153,452	\$ 6,866,395	\$ 674,477	\$ 1,414,307	\$ -	\$ 2,088,784
2020	6,636,773	504,278	7,141,051	611,910	962,332	7,779	1,582,021
2021	6,534,421	892,272	7,426,693	602,474	947,491	13,728	1,563,693
2022	6,322,987	1,400,774	7,723,761	582,979	916,833	21,493	1,521,305
2023	6,088,415	1,944,296	8,032,711	561,352	882,820	29,845	1,474,017
2024	5,739,314	2,614,705	8,354,019	529,165	832,201	40,261	1,401,627
2025	5,310,863	3,377,317	8,688,180	489,662	770,075	52,364	1,312,101
2026	4,976,173	4,059,534	9,035,707	458,803	721,545	63,561	1,243,909
2027	4,576,694	4,820,441	9,397,135	421,971	663,621	76,378	1,161,970
2028	4,280,705	5,492,315	9,773,020	394,681	620,702	88,347	1,103,730
2029	4,072,153	6,091,788	10,163,941	375,453	590,462	100,121	1,066,036
2030	3,836,541	6,733,958	10,570,499	353,729	556,298	113,561	1,023,588
2031	3,511,401	7,481,918	10,993,319	323,751	509,153	129,966	962,870
2032	3,178,971	8,254,081	11,433,052	293,101	460,951	147,906	901,958
2033	3,006,386	8,883,988	11,890,374	277,189	435,926	165,005	878,120
2034	2,888,821	9,477,168	12,365,989	266,349	418,879	183,379	868,607
2035	2,756,128	10,104,501	12,860,629	254,115	399,639	203,674	857,428
2036	2,652,422	10,722,632	13,375,054	244,553	384,601	226,113	855,267
2037	2,432,999	11,477,057	13,910,056	224,322	352,785	252,972	830,079
2038	2,216,992	12,249,466	14,466,458	204,407	321,464	279,644	805,515
2039	2,090,436	12,954,680	15,045,116	192,738	303,113	307,142	802,993
2040	1,825,462	13,821,459	15,646,921	168,308	264,692	338,173	771,173
2041	1,477,208	14,795,590	16,272,798	136,199	214,195	370,312	720,706
2042	1,208,630	15,715,080	16,923,710	111,436	175,251	400,898	687,585
2043	1,016,911	16,583,747	17,600,658	93,759	147,452	431,065	672,276
2044	832,347	17,472,337	18,304,684	76,742	120,690	461,044	658,476
2045	701,511	18,335,360	19,036,871	64,679	101,719	488,608	655,006
2046	488,351	19,309,995	19,798,346	45,026	70,811	519,173	635,010
2047	280,609	20,309,671	20,590,280	25,872	40,688	545,843	612,403
2048	135,728	21,278,163	21,413,891	12,514	19,681	574,821	607,016
2049	-	22,270,447	22,270,447	-	-	600,802	600,802
2050	-	23,161,265	23,161,265	-	-	625,421	625,421
2051	-	24,087,716	24,087,716	-	-	650,183	650,183
2052	-	25,051,225	25,051,225	-	-	675,784	675,784
2053	-	26,053,274	26,053,274	-	-	702,721	702,721
2054	-	27,095,405	27,095,405	-	-	731,123	731,123
2055	-	28,179,221	28,179,221	-	-	760,452	760,452
2056	-	29,306,390	29,306,390	-	-	791,807	791,807
2057	-	30,478,646	30,478,646	-	-	824,986	824,986
2058	-	31,697,792	31,697,792	-	-	859,685	859,685
2059	-	32,965,704	32,965,704	-	-	896,540	896,540
2060	-	34,284,332	34,284,332	-	-	935,179	935,179
2061	-	35,655,705	35,655,705	-	-	974,908	974,908
2062	-	37,081,933	37,081,933	-	-	1,016,373	1,016,373
2063	-	38,565,210	38,565,210	-	-	1,059,214	1,059,214
2064	-	40,107,818	40,107,818	-	-	1,103,847	1,103,847
2065	-	41,712,131	41,712,131	-	-	1,149,739	1,149,739
2066	-	43,380,616	43,380,616	-	-	1,196,700	1,196,700
2067	-	45,115,841	45,115,841	-	-	1,245,011	1,245,011
2068	-	46,920,475	46,920,475	-	-	1,294,532	1,294,532





# Single Discount Rate Development Projection of Contributions Ending December 31 for 2069 to 2118 (concluded)

Year	Payroll		Total Employee Payroll (c)	Contributions		Employer Contributions		Total Contributions (g)=(d)+(e)+(f)
	for Current Employees (a)	for Future Employees (b)=max(0,(c)-(a))		from Current Employees (d)	for Current Employees (e)=(a)*ER%	Related to Payroll of Future Employees (f) = (b)*netER%		
2069	\$ -	\$ 48,797,294	\$ 48,797,294	\$ -	\$ -	\$ 1,345,619	\$ 1,345,619	
2070	-	50,749,186	50,749,186	-	-	1,398,314	1,398,314	
2071	-	52,779,153	52,779,153	-	-	1,452,767	1,452,767	
2072	-	54,890,319	54,890,319	-	-	1,508,980	1,508,980	
2073	-	57,085,932	57,085,932	-	-	1,567,715	1,567,715	
2074	-	59,369,369	59,369,369	-	-	1,628,851	1,628,851	
2075	-	61,744,144	61,744,144	-	-	1,692,418	1,692,418	
2076	-	64,213,910	64,213,910	-	-	1,758,909	1,758,909	
2077	-	66,782,466	66,782,466	-	-	1,828,221	1,828,221	
2078	-	69,453,765	69,453,765	-	-	1,900,453	1,900,453	
2079	-	72,231,916	72,231,916	-	-	1,975,747	1,975,747	
2080	-	75,121,193	75,121,193	-	-	2,054,600	2,054,600	
2081	-	78,126,041	78,126,041	-	-	2,137,228	2,137,228	
2082	-	81,251,083	81,251,083	-	-	2,223,480	2,223,480	
2083	-	84,501,126	84,501,126	-	-	2,313,320	2,313,320	
2084	-	87,881,171	87,881,171	-	-	2,406,776	2,406,776	
2085	-	91,396,418	91,396,418	-	-	2,503,890	2,503,890	
2086	-	95,052,275	95,052,275	-	-	2,605,069	2,605,069	
2087	-	98,854,366	98,854,366	-	-	2,710,154	2,710,154	
2088	-	102,808,541	102,808,541	-	-	2,819,541	2,819,541	
2089	-	106,920,883	106,920,883	-	-	2,933,127	2,933,127	
2090	-	111,197,718	111,197,718	-	-	3,051,096	3,051,096	
2091	-	115,645,627	115,645,627	-	-	3,173,526	3,173,526	
2092	-	120,271,452	120,271,452	-	-	3,300,644	3,300,644	
2093	-	125,082,310	125,082,310	-	-	3,432,615	3,432,615	
2094	-	130,085,602	130,085,602	-	-	3,569,675	3,569,675	
2095	-	135,289,026	135,289,026	-	-	3,712,066	3,712,066	
2096	-	140,700,587	140,700,587	-	-	3,860,026	3,860,026	
2097	-	146,328,610	146,328,610	-	-	4,013,821	4,013,821	
2098	-	152,181,754	152,181,754	-	-	4,173,745	4,173,745	
2099	-	158,269,024	158,269,024	-	-	4,340,073	4,340,073	
2100	-	164,599,785	164,599,785	-	-	4,513,086	4,513,086	
2101	-	171,183,776	171,183,776	-	-	4,693,080	4,693,080	
2102	-	178,031,127	178,031,127	-	-	4,880,379	4,880,379	
2103	-	185,152,372	185,152,372	-	-	5,075,285	5,075,285	
2104	-	192,558,467	192,558,467	-	-	5,278,106	5,278,106	
2105	-	200,260,806	200,260,806	-	-	5,489,168	5,489,168	
2106	-	208,271,238	208,271,238	-	-	5,708,814	5,708,814	
2107	-	216,602,088	216,602,088	-	-	5,937,378	5,937,378	
2108	-	225,266,172	225,266,172	-	-	6,175,162	6,175,162	
2109	-	234,276,819	234,276,819	-	-	6,422,500	6,422,500	
2110	-	243,647,892	243,647,892	-	-	6,679,748	6,679,748	
2111	-	253,393,808	253,393,808	-	-	6,947,322	6,947,322	
2112	-	263,529,560	263,529,560	-	-	7,225,593	7,225,593	
2113	-	274,070,742	274,070,742	-	-	7,514,966	7,514,966	
2114	-	285,033,572	285,033,572	-	-	7,815,875	7,815,875	
2115	-	296,434,915	296,434,915	-	-	8,128,744	8,128,744	
2116	-	308,292,312	308,292,312	-	-	8,454,046	8,454,046	
2117	-	320,624,004	320,624,004	-	-	8,792,272	8,792,272	
2118	-	333,448,964	333,448,964	-	-	9,143,956	9,143,956	



# Single Discount Rate Development Projection of Plan Net Position Ending December 31 for 2019 to 2068

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)
2019	\$ 29,299,924	\$ 2,088,816	\$ 1,720,417	\$ 29,048	\$ 5,224,148	\$ 34,863,423
2020	33,911,571	1,582,021	1,761,476	29,992	2,366,603	36,068,728
2021	36,068,728	1,563,693	1,883,444	31,192	2,512,736	38,230,521
2022	38,230,521	1,521,305	2,065,038	32,440	2,656,311	40,310,660
2023	40,310,660	1,474,017	2,249,110	33,737	2,793,916	42,295,746
2024	42,295,746	1,401,627	2,477,991	35,087	2,922,459	44,106,754
2025	44,106,754	1,312,101	2,726,185	36,490	3,037,561	45,693,741
2026	45,693,741	1,243,909	2,934,977	37,950	3,139,070	47,103,793
2027	47,103,793	1,161,970	3,172,295	39,468	3,226,736	48,280,737
2028	48,280,737	1,103,730	3,332,312	41,047	3,301,558	49,312,666
2029	49,312,666	1,066,036	3,439,531	42,689	3,368,750	50,265,232
2030	50,265,232	1,023,588	3,556,476	44,396	3,429,887	51,117,835
2031	51,117,835	962,870	3,713,325	46,172	3,482,022	51,803,230
2032	51,803,230	901,958	3,853,591	48,019	3,523,014	52,326,592
2033	52,326,592	878,120	3,906,123	49,940	3,556,955	52,805,603
2034	52,805,603	868,607	3,942,982	51,937	3,588,822	53,268,114
2035	53,268,114	857,428	3,978,988	54,015	3,619,503	53,712,042
2036	53,712,042	855,267	3,989,402	56,175	3,650,071	54,171,802
2037	54,171,802	830,079	4,067,256	58,422	3,678,631	54,554,835
2038	54,554,835	805,515	4,128,021	60,759	3,702,427	54,873,997
2039	54,873,997	802,993	4,129,725	63,189	3,724,539	55,208,615
2040	55,208,615	771,173	4,208,307	65,717	3,744,077	55,449,840
2041	55,449,840	720,706	4,323,914	68,346	3,755,158	55,533,443
2042	55,533,443	687,585	4,371,279	71,080	3,758,147	55,536,816
2043	55,536,816	672,276	4,355,911	73,923	3,758,287	55,537,544
2044	55,537,544	658,476	4,331,285	76,880	3,758,609	55,546,464
2045	55,546,464	655,006	4,260,645	79,955	3,761,438	55,622,310
2046	55,622,310	635,010	4,235,864	83,153	3,766,802	55,705,104
2047	55,705,104	612,403	4,191,750	86,479	3,773,223	55,812,502
2048	55,812,502	607,016	4,106,184	89,938	3,783,381	56,006,777
2049	56,006,777	600,802	4,004,145	93,536	3,800,154	56,310,052
2050	56,310,052	625,421	3,813,357	97,277	3,828,666	56,853,505
2051	56,853,505	650,183	3,623,620	101,168	3,873,954	57,652,854
2052	57,652,854	675,784	3,435,931	105,215	3,937,108	58,724,600
2053	58,724,600	702,721	3,251,173	109,424	4,019,270	60,085,993
2054	60,085,993	731,123	3,070,049	113,801	4,121,626	61,754,892
2055	61,754,892	760,452	2,893,024	118,353	4,245,392	63,749,359
2056	63,749,359	791,807	2,720,360	123,087	4,391,862	66,089,581
2057	66,089,581	824,986	2,552,208	128,010	4,562,436	68,796,784
2058	68,796,784	859,685	2,388,598	133,131	4,758,587	71,893,327
2059	71,893,327	896,540	2,229,446	138,456	4,981,906	75,403,871
2060	75,403,871	935,179	2,074,640	143,994	5,234,110	79,354,526
2061	79,354,526	974,908	1,924,020	149,754	5,517,007	83,772,667
2062	83,772,667	1,016,373	1,777,418	155,744	5,832,542	88,688,420
2063	88,688,420	1,059,214	1,634,786	161,974	6,182,812	94,133,686
2064	94,133,686	1,103,847	1,496,139	168,453	6,570,064	100,143,005
2065	100,143,005	1,149,739	1,361,548	175,191	6,996,694	106,752,700
2066	106,752,700	1,196,700	1,231,224	182,199	7,465,232	114,001,209
2067	114,001,209	1,245,011	1,105,505	189,487	7,978,365	121,929,593
2068	121,929,593	1,294,532	984,844	197,066	8,538,947	130,581,161



# Single Discount Rate Development

## Projection of Plan Net Position

### Ending December 31 for 2069 to 2118 (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)
2069	\$ 130,581,161	\$ 1,345,619	\$ 869,832	\$ 204,949	\$ 9,150,000	\$ 140,002,000
2070	140,002,000	1,398,314	761,034	213,147	9,814,734	150,240,866
2071	150,240,866	1,452,767	658,964	221,672	10,536,547	161,349,544
2072	161,349,544	1,508,980	564,116	230,539	11,319,047	173,382,916
2073	173,382,916	1,567,715	476,924	239,761	12,166,086	186,400,032
2074	186,400,032	1,628,851	397,784	249,351	13,081,781	200,463,529
2075	200,463,529	1,692,418	326,984	259,325	14,070,506	215,640,144
2076	215,640,144	1,758,909	264,639	269,698	15,136,945	232,001,661
2077	232,001,661	1,828,221	210,656	280,486	16,286,123	249,624,863
2078	249,624,863	1,900,453	164,741	291,706	17,523,426	268,592,294
2079	268,592,294	1,975,747	126,433	303,374	18,854,653	288,992,888
2080	288,992,888	2,054,600	95,112	315,509	20,286,068	310,922,935
2081	310,922,935	2,137,228	70,051	328,129	21,824,443	334,486,426
2082	334,486,426	2,223,480	50,446	341,255	23,477,078	359,795,282
2083	359,795,282	2,313,320	35,475	354,905	25,251,834	386,970,057
2084	386,970,057	2,406,776	24,331	369,101	27,157,179	416,140,580
2085	416,140,580	2,503,890	16,250	383,865	29,202,227	447,446,582
2086	447,446,582	2,605,069	10,552	399,220	31,396,797	481,038,675
2087	481,038,675	2,710,154	6,655	415,188	33,751,444	517,078,430
2088	517,078,430	2,819,541	4,069	431,796	36,277,508	555,739,614
2089	555,739,614	2,933,127	2,414	449,068	38,987,161	597,208,420
2090	597,208,420	3,051,096	1,399	467,030	41,893,454	641,684,540
2091	641,684,540	3,173,526	795	485,712	45,010,373	689,381,932
2092	689,381,932	3,300,644	443	505,140	48,352,908	740,529,900
2093	740,529,900	3,432,615	245	525,346	51,937,118	795,374,042
2094	795,374,042	3,569,675	122	546,360	55,780,205	854,177,440
2095	854,177,440	3,712,066	53	568,214	59,900,593	917,221,832
2096	917,221,832	3,860,026	18	590,942	64,318,010	984,808,909
2097	984,808,909	4,013,821	-	614,580	69,053,585	1,057,261,735
2098	1,057,261,735	4,173,745	-	639,163	74,129,939	1,134,926,256
2099	1,134,926,256	4,340,073	-	664,730	79,571,299	1,218,172,899
2100	1,218,172,899	4,513,086	-	691,319	85,403,602	1,307,398,268
2101	1,307,398,268	4,693,080	-	718,972	91,654,620	1,403,026,996
2102	1,403,026,996	4,880,379	-	747,731	98,354,086	1,505,513,730
2103	1,505,513,730	5,075,285	-	777,640	105,533,835	1,615,345,210
2104	1,615,345,210	5,278,106	-	808,746	113,227,947	1,733,042,516
2105	1,733,042,516	5,489,168	-	841,095	121,472,907	1,859,163,497
2106	1,859,163,497	5,708,814	-	874,739	130,307,776	1,994,305,347
2107	1,994,305,347	5,937,378	-	909,729	139,774,366	2,139,107,362
2108	2,139,107,362	6,175,162	-	946,118	149,917,437	2,294,253,843
2109	2,294,253,843	6,422,500	-	983,963	160,784,898	2,460,477,278
2110	2,460,477,278	6,679,748	-	1,023,321	172,428,036	2,638,561,741
2111	2,638,561,741	6,947,322	-	1,064,254	184,901,747	2,829,346,556
2112	2,829,346,556	7,225,593	-	1,106,824	198,264,794	3,033,730,119
2113	3,033,730,119	7,514,966	-	1,151,097	212,580,077	3,252,674,064
2114	3,252,674,064	7,815,875	-	1,197,141	227,914,922	3,487,207,721
2115	3,487,207,721	8,128,744	-	1,245,027	244,341,396	3,738,432,833
2116	3,738,432,833	8,454,046	-	1,294,828	261,936,633	4,007,528,684
2117	4,007,528,684	8,792,272	-	1,346,621	280,783,198	4,295,757,533
2118	4,295,757,533	9,143,956	-	1,400,486	300,969,465	4,604,470,468



# Single Discount Rate Development

## Present Values of Projected Benefits

### Ending December 31 for 2019 to 2068

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> ))
2019	\$ 29,299,924	\$ 1,720,417	\$ 1,720,417	\$ 0	\$ 1,663,190	\$ 0	\$ 1,663,190
2020	33,911,571	1,761,476	1,761,476	0	1,591,479	0	1,591,479
2021	36,068,728	1,883,444	1,883,444	0	1,590,352	0	1,590,352
2022	38,230,521	2,065,038	2,065,038	0	1,629,614	0	1,629,614
2023	40,310,660	2,249,110	2,249,110	0	1,658,760	0	1,658,760
2024	42,295,746	2,477,991	2,477,991	0	1,708,004	0	1,708,004
2025	44,106,754	2,726,185	2,726,185	0	1,756,147	0	1,756,147
2026	45,693,741	2,934,977	2,934,977	0	1,766,959	0	1,766,959
2027	47,103,793	3,172,295	3,172,295	0	1,784,890	0	1,784,890
2028	48,280,737	3,332,312	3,332,312	0	1,752,265	0	1,752,265
2029	49,312,666	3,439,531	3,439,531	0	1,690,322	0	1,690,322
2030	50,265,232	3,556,476	3,556,476	0	1,633,452	0	1,633,452
2031	51,117,835	3,713,325	3,713,325	0	1,593,917	0	1,593,917
2032	51,803,230	3,853,591	3,853,591	0	1,545,912	0	1,545,912
2033	52,326,592	3,906,123	3,906,123	0	1,464,472	0	1,464,472
2034	52,805,603	3,942,982	3,942,982	0	1,381,581	0	1,381,581
2035	53,268,114	3,978,988	3,978,988	0	1,302,988	0	1,302,988
2036	53,712,042	3,989,402	3,989,402	0	1,220,933	0	1,220,933
2037	54,171,802	4,067,256	4,067,256	0	1,163,327	0	1,163,327
2038	54,554,835	4,128,021	4,128,021	0	1,103,464	0	1,103,464
2039	54,873,997	4,129,725	4,129,725	0	1,031,701	0	1,031,701
2040	55,208,615	4,208,307	4,208,307	0	982,553	0	982,553
2041	55,449,840	4,323,914	4,323,914	0	943,500	0	943,500
2042	55,533,443	4,371,279	4,371,279	0	891,435	0	891,435
2043	55,536,816	4,355,911	4,355,911	0	830,188	0	830,188
2044	55,537,544	4,331,285	4,331,285	0	771,490	0	771,490
2045	55,546,464	4,260,645	4,260,645	0	709,260	0	709,260
2046	55,622,310	4,235,864	4,235,864	0	659,004	0	659,004
2047	55,705,104	4,191,750	4,191,750	0	609,478	0	609,478
2048	55,812,502	4,106,184	4,106,184	0	557,978	0	557,978
2049	56,006,777	4,004,145	4,004,145	0	508,516	0	508,516
2050	56,310,052	3,813,357	3,813,357	0	452,604	0	452,604
2051	56,853,505	3,623,620	3,623,620	0	401,948	0	401,948
2052	57,652,854	3,435,931	3,435,931	0	356,195	0	356,195
2053	58,724,600	3,251,173	3,251,173	0	314,992	0	314,992
2054	60,085,993	3,070,049	3,070,049	0	277,985	0	277,985
2055	61,754,892	2,893,024	2,893,024	0	244,818	0	244,818
2056	63,749,359	2,720,360	2,720,360	0	215,147	0	215,147
2057	66,089,581	2,552,208	2,552,208	0	188,643	0	188,643
2058	68,796,784	2,388,598	2,388,598	0	165,000	0	165,000
2059	71,893,327	2,229,446	2,229,446	0	143,931	0	143,931
2060	75,403,871	2,074,640	2,074,640	0	125,175	0	125,175
2061	79,354,526	1,924,020	1,924,020	0	108,492	0	108,492
2062	83,772,667	1,777,418	1,777,418	0	93,669	0	93,669
2063	88,688,420	1,634,786	1,634,786	0	80,516	0	80,516
2064	94,133,686	1,496,139	1,496,139	0	68,867	0	68,867
2065	100,143,005	1,361,548	1,361,548	0	58,572	0	58,572
2066	106,752,700	1,231,224	1,231,224	0	49,500	0	49,500
2067	114,001,209	1,105,505	1,105,505	0	41,538	0	41,538
2068	121,929,593	984,844	984,844	0	34,584	0	34,584



# Single Discount Rate Development

## Present Values of Projected Benefits

### Ending December 31 for 2069 to 2118 (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-5)</sup>	(g)=(e)*vf <sup>(a-5)</sup>	(h)=((c)/(1+SDR)) <sup>(a-5)</sup>
2069	\$ 130,581,161	\$ 869,832	\$ 869,832	\$ 0	\$ 28,547	\$ 0	\$ 28,547
2070	140,002,000	761,034	761,034	0	23,342	0	23,342
2071	150,240,866	658,964	658,964	0	18,889	0	18,889
2072	161,349,544	564,116	564,116	0	15,112	0	15,112
2073	173,382,916	476,924	476,924	0	11,941	0	11,941
2074	186,400,032	397,784	397,784	0	9,308	0	9,308
2075	200,463,529	326,984	326,984	0	7,151	0	7,151
2076	215,640,144	264,639	264,639	0	5,409	0	5,409
2077	232,001,661	210,656	210,656	0	4,024	0	4,024
2078	249,624,863	164,741	164,741	0	2,941	0	2,941
2079	268,592,294	126,433	126,433	0	2,109	0	2,109
2080	288,992,888	95,112	95,112	0	1,483	0	1,483
2081	310,922,935	70,051	70,051	0	1,021	0	1,021
2082	334,486,426	50,446	50,446	0	687	0	687
2083	359,795,282	35,475	35,475	0	452	0	452
2084	386,970,057	24,331	24,331	0	289	0	289
2085	416,140,580	16,250	16,250	0	181	0	181
2086	447,446,582	10,552	10,552	0	110	0	110
2087	481,038,675	6,655	6,655	0	65	0	65
2088	517,078,430	4,069	4,069	0	37	0	37
2089	555,739,614	2,414	2,414	0	20	0	20
2090	597,208,420	1,399	1,399	0	11	0	11
2091	641,684,540	795	795	0	6	0	6
2092	689,381,932	443	443	0	3	0	3
2093	740,529,900	245	245	0	2	0	2
2094	795,374,042	122	122	0	1	0	1
2095	854,177,440	53	53	0	0	0	0
2096	917,221,832	18	18	0	0	0	0
2097	984,808,909	0	0	0	0	0	0
2098	1,057,261,735	0	0	0	0	0	0
2099	1,134,926,256	0	0	0	0	0	0
2100	1,218,172,899	0	0	0	0	0	0
2101	1,307,398,268	0	0	0	0	0	0
2102	1,403,026,996	0	0	0	0	0	0
2103	1,505,513,730	0	0	0	0	0	0
2104	1,615,345,210	0	0	0	0	0	0
2105	1,733,042,516	0	0	0	0	0	0
2106	1,859,163,497	0	0	0	0	0	0
2107	1,994,305,347	0	0	0	0	0	0
2108	2,139,107,362	0	0	0	0	0	0
2109	2,294,253,843	0	0	0	0	0	0
2110	2,460,477,278	0	0	0	0	0	0
2111	2,638,561,741	0	0	0	0	0	0
2112	2,829,346,556	0	0	0	0	0	0
2113	3,033,730,119	0	0	0	0	0	0
2114	3,252,674,064	0	0	0	0	0	0
2115	3,487,207,721	0	0	0	0	0	0
2116	3,738,432,833	0	0	0	0	0	0
2117	4,007,528,684	0	0	0	0	0	0
2118	4,295,757,533	0	0	0	0	0	0
<b>Totals</b>	\$		\$		\$ 43,052,444	\$ 0	\$ 43,052,444



# 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

<b>Discount Rate</b>	<p>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:</p> <ol style="list-style-type: none"><li>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</li><li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li></ol>
<b>Entry Age Actuarial Cost Method (EAN)</b>	<p>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.</p>
<b>Fiduciary Net Position</b>	<p>The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.</p>
<b>GASB</b>	<p>The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.</p>
<b>Money-Weighted Rate of Return</b>	<p>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.</p>
<b>Multiple-Employer Defined Benefit Pension Plan</b>	<p>A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.</p>
<b>Municipal Bond Rate</b>	<p>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.</p>
<b>Net Pension Liability (NPL)</b>	<p>The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.</p>

## 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.