

Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan

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

For Measurement Date as of December 31, 2019





April 1, 2020

Board of Trustees
Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan

Dear Board Members:

This report provides information required by the Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan (WRS) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 and 68 for the Wyoming Retirement System ("WRS"). These calculations have been made on a basis that is consistent with our understanding of these Statements.

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

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement Nos. 67 and 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan ("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 Volunteer Firefighter, EMT, and Search and Rescue Pension Plan. 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.

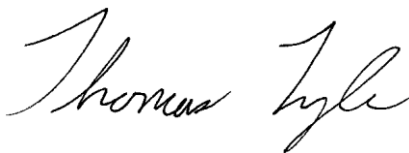
Paul T. Wood and Thomas A. Lyle are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



By _____
Paul T. Wood, ASA, FCA, MAAA



By _____
Thomas A. Lyle, ASA, EA, MAAA



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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2019

	2019
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	1,495
- Inactive, Nonretired Members	1,896
- Active Members	2,347
- Total	5,738
Covered Payroll	N/A

Net Pension Liability

Total Pension Liability	\$ 114,898,938
Plan Fiduciary Net Position	86,913,518
Net Pension Liability	\$ 27,985,420
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	75.64 %
Net Pension Liability as a Percentage of Covered Payroll	N/A

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

Total Pension Expense	\$ 4,040,945
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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	\$ 332,252	\$ 1,734,977
Changes in assumptions	1,591,631	0
Net difference between projected and actual earnings on pension plan investments	5,148,282	8,746,476
Total	\$ 7,072,165	\$ 10,481,453

*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 is expected decrease for several years before stabilizing to a level dollar amount.
2. The unfunded liability is expected to be fully amortized during the lifetimes of current members.
3. The funded status of the plan is expected to increase gradually towards a 100% funded ratio.

This funding policy results in no expected crossover date and a GASB single discount rate of 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

FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan. 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	\$	1,432,649
2. Interest on the Total Pension Liability		7,685,536
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(437,255)
5. Projected Earnings on Plan Investments (made negative for addition here)		(5,233,176)
6. Pension Plan Administrative Expense		89,451
7. Other Changes in Plan Fiduciary Net Position		3,455
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		133,474
9. Recognition of Outflow (Inflow) of Resources due to Assets		366,811
10. Total Pension Expense	\$	4,040,945 *

* 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	\$	441,209
2. Assumption Changes (gains) or losses	\$	0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		4.0494
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	\$	108,957
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	\$	108,957
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	\$	332,252
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	\$	332,252

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(8,468,230)
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$	(1,693,646)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(6,774,584)



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	7.2249	3.7588	3.7634	4.2211	4.0727	4.0494		
	2014	2015	2016	2017	2018	2019	Total	Deferred Net (Inflows)/Outflows at Measurement Date
Total	\$ -	\$ (211,035)	\$ (479,308)	\$ (3,538,907)	\$ (1,397,503)	\$ 441,209		
2014	-	-	-	-	-	-	-	-
2015	-	(56,144)	-	-	-	-	(56,144)	-
2016	-	(56,144)	(127,360)	-	-	-	(183,504)	-
2017	-	(56,144)	(127,360)	(838,385)	-	-	(1,021,889)	-
2018	-	(42,603)	(127,360)	(838,385)	(343,139)	-	(1,351,487)	-
2019	-	-	(97,228)	(838,385)	(343,139)	108,957	(1,169,795)	-
2020	-	-	-	(838,385)	(343,139)	108,957	(1,072,567)	\$ (1,402,725)
2021	-	-	-	(185,367)	(343,139)	108,957	(419,549)	-
2022	-	-	-	-	(24,947)	108,957	84,010	-
2023	-	-	-	-	-	5,381	5,381	-
2024	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-
	\$ -	\$ (211,035)	\$ (479,308)	\$ (3,538,907)	\$ (1,397,503)	\$ 441,209	\$ (5,185,544)	

Assumption changes - Net (inflows)/outflows of resources

Recognition Period	7.2249	3.7588	3.7634	4.2211	4.0727	4.0494		
	2014	2015	2016	2017	2018	2019	Total	
Total	\$ 389,295	\$ (472,252)	\$ -	\$ 5,273,789	\$ -	\$ -		
2014	53,882	-	-	-	-	-	53,882	-
2015	53,882	(125,639)	-	-	-	-	(71,757)	-
2016	53,882	(125,639)	-	-	-	-	(71,757)	-
2017	53,882	(125,639)	-	1,249,387	-	-	1,177,630	-
2018	53,882	(95,335)	-	1,249,387	-	-	1,207,934	-
2019	53,882	-	-	1,249,387	-	-	1,303,269	-
2020	53,882	-	-	1,249,387	-	-	1,303,269	\$ 1,591,631
2021	12,121	-	-	276,241	-	-	288,362	-
2022	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-
2024	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-
	\$ 389,295	\$ (472,252)	\$ -	\$ 5,273,789	\$ -	\$ -	\$ 5,190,832	

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	
Total	\$ 2,065,788	\$ 6,323,926	\$ 491,432	\$ (4,929,730)	\$ 8,416,656	\$ (8,468,230)		
2014	413,158	-	-	-	-	-	413,158	-
2015	413,158	1,264,785	-	-	-	-	1,677,943	-
2016	413,158	1,264,785	98,286	-	-	-	1,776,229	-
2017	413,158	1,264,785	98,286	(985,946)	-	-	790,283	-
2018	413,156	1,264,785	98,286	(985,946)	1,683,331	-	2,473,612	-
2019	-	1,264,786	98,286	(985,946)	1,683,331	(1,693,646)	366,811	-
2020	-	-	98,288	(985,946)	1,683,331	(1,693,646)	(897,973)	\$ (3,598,194)
2021	-	-	-	(985,946)	1,683,331	(1,693,646)	(996,261)	-
2022	-	-	-	-	1,683,332	(1,693,646)	(10,314)	-
2023	-	-	-	-	-	(1,693,646)	(1,693,646)	-
2024	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-
	\$ 2,065,788	\$ 6,323,926	\$ 491,432	\$ (4,929,730)	\$ 8,416,656	\$ (8,468,230)	\$ 3,899,842	

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

	2014	2015	2016	2017	2018	2019	Total	
Total	\$ 2,455,083	\$ 5,640,639	\$ 12,124	\$ (3,194,848)	\$ 7,019,153	\$ (8,027,021)		
2014	467,040	-	-	-	-	-	467,040	-
2015	467,040	1,083,002	-	-	-	-	1,550,042	-
2016	467,040	1,083,002	(29,074)	-	-	-	1,520,968	-
2017	467,040	1,083,002	(29,074)	(574,944)	-	-	946,024	-
2018	467,038	1,126,847	(29,074)	(574,944)	1,340,192	-	2,330,059	-
2019	53,882	1,264,786	1,058	(574,944)	1,340,192	(1,584,689)	500,285	-
2020	53,882	-	98,288	(574,944)	1,340,192	(1,584,689)	(667,271)	\$ (3,409,288)
2021	12,121	-	-	(895,072)	1,340,192	(1,584,689)	(1,127,448)	-
2022	-	-	-	-	1,658,385	(1,584,689)	73,696	-
2023	-	-	-	-	-	(1,688,265)	(1,688,265)	-
2024	-	-	-	-	-	-	-	-
Thereafter	-	-	-	-	-	-	-	-
	\$ 2,455,083	\$ 5,640,639	\$ 12,124	\$ (3,194,848)	\$ 7,019,153	\$ (8,027,021)	\$ 3,905,130	



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	\$ 1,412,226	\$ 1,278,752	\$ 133,474
2. Due to Assets	3,046,403	2,679,592	366,811
3. Total	\$ 4,458,629	\$ 3,958,344	\$ 500,285

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	\$ 108,957	\$ 1,278,752	\$ (1,169,795)
2. Assumption Changes	1,303,269	0	1,303,269
3. Net Difference between projected and actual earnings on pension plan investments	3,046,403	2,679,592	366,811
4. Total	\$ 4,458,629	\$ 3,958,344	\$ 500,285

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	\$ 332,252	\$ 1,734,977	\$ (1,402,725)
2. Assumption Changes	1,591,631	0	1,591,631
3. Net Difference between projected and actual earnings on pension plan investments	5,148,282	8,746,476	(3,598,194)
4. Total	\$ 7,072,165	\$ 10,481,453	\$ (3,409,288)

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	\$ (667,271)
2021	(1,127,448)
2022	73,696
2023	(1,688,265)
2024	0
Thereafter	0
Total	\$ (3,409,288)



Statement of Fiduciary Net Position as of December 31, 2019

	2019
Assets	
Cash and Deposits	\$ 3,375,827
Receivables	
Accounts Receivable - Sale of Investments	\$ 311,006
Accrued Interest and Other Dividends	182,556
Contributions	38,310
Accounts Receivable - Other	3,032,616
Total Receivables	\$ 3,564,488
Investments	
Fixed Income	\$ 14,499,837
Equities	39,948,932
Private Markets	13,832,864
Marketable Alternatives	14,340,583
Other	3,888,252
Total Investments	\$ 86,510,468
Total Assets	\$ 93,450,783
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 6,214,402
Accrued Expenses	322,863
Accounts Payable - Other	0
Total Liabilities	\$ 6,537,265
Net Position Restricted for Pensions	\$ 86,913,518



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

	2019
Additions	
Contributions	
Employer	\$ 0
Employee	431,659
Other Employer Contributions	3,118,824
Other Employee Contributions	5,596
Total Contributions	\$ 3,556,079
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 13,007,018
Interest and Dividends	1,341,113
Less Investment Expense	(646,725)
Net Investment Income	\$ 13,701,406
Other	\$ 0
Total Additions	\$ 17,257,485
 Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 6,506,775
Pension Plan Administrative Expense	89,451
Other	3,455
Total Deductions	\$ 6,599,681
Net Increase in Net Position	\$ 10,657,804
 Net Position Restricted for Pensions	
Beginning of Year	\$ 76,255,714
End of Year	\$ 86,913,518

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Volunteer Firefighter, EMT, and Search and Rescue Pension Plan. 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

A. Total pension liability		
1. Service cost	\$	1,432,649
2. Interest on the total pension liability		7,685,536
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the total pension liability		441,209
5. Changes of assumptions		0
6. Benefit payments, including refunds of employee contributions		(6,506,775)
7. Net change in total pension liability		<u>3,052,619</u>
8. Total pension liability – beginning		<u>111,846,319</u>
9. Total pension liability – ending	<u>\$</u>	<u>114,898,938</u>
B. Plan fiduciary net position		
1. Contributions – employer	\$	3,118,824
2. Contributions – employee		437,255
3. Net investment income		13,701,406
4. Benefit payments, including refunds of employee contributions		(6,506,775)
5. Pension plan administrative expense		(89,451)
6. Other		(3,455)
7. Net change in plan fiduciary net position		<u>10,657,804</u>
8. Plan fiduciary net position – beginning		<u>76,255,714</u>
9. Plan fiduciary net position – ending	<u>\$</u>	<u>86,913,518</u>
C. Net pension liability	<u>\$</u>	<u>27,985,420</u>
D. Plan fiduciary net position as a percentage of the total pension liability		75.64 %
E. Covered-employee payroll		N/A
F. Net pension liability as a percentage of covered-employee payroll		N/A



Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Fiscal year ending December 31,	2019	2018	2017	2016	2015
Total pension liability					
Service cost	\$ 1,432,649	\$ 1,426,154	\$ 1,412,440	\$ 1,285,552	\$ 1,253,883
Interest on the total pension liability	7,685,536	7,474,042	7,372,254	7,761,646	7,520,888
Changes of benefit terms	0	0	0	0	21,809,884
Difference between expected and actual experience	441,209	(1,397,503)	(3,538,907)	(479,308)	(211,035)
Changes of assumptions	0	0	5,273,789	0	(472,252)
Benefit payments, including refunds of employee contributions	(6,506,775)	(6,145,822)	(5,813,888)	(5,541,861)	(4,867,630)
Net change in total pension liability	3,052,619	1,356,871	4,705,688	3,026,029	25,033,738
Total pension liability - beginning	111,846,319	110,489,448	105,783,760	102,757,731	77,723,993
Total pension liability - ending (a)	\$ 114,898,938	\$ 111,846,319	\$ 110,489,448	\$ 105,783,760	\$ 102,757,731
Plan fiduciary net position					
Employer contributions	\$ 3,118,824	\$ 2,959,943	\$ 3,290,994	\$ 3,198,930	\$ 2,238,612
Employee contributions	437,255	434,522	425,592	459,363	417,406
Pension plan net investment income	13,701,406	(2,782,682)	10,035,753	4,939,925	(675,297)
Benefit payments, including refunds of employee contributions	(6,506,775)	(6,145,822)	(5,813,888)	(5,541,861)	(4,867,630)
Pension plan administrative expense	(89,451)	(91,195)	(88,835)	(80,904)	(73,412)
Other	(3,455)	(3,201)	(3,453)	(3,453)	(3,470)
Net change in plan fiduciary net position	10,657,804	(5,628,435)	7,846,163	2,972,000	(2,963,791)
Plan fiduciary net position - beginning	76,255,714	81,884,149	74,037,986	71,065,986	74,029,777
Plan fiduciary net position - ending (b)	\$ 86,913,518	\$ 76,255,714	\$ 81,884,149	\$ 74,037,986	\$ 71,065,986
Net pension liability - ending (a) - (b)	\$ 27,985,420	\$ 35,590,605	\$ 28,605,299	\$ 31,745,774	\$ 31,691,745
Plan fiduciary net position as a percentage of total pension liability					
Covered-employee payroll	N/A	N/A	N/A	N/A	N/A
Net pension liability as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A

Notes to Schedule:

For 2019, 2018, 2017, 2016 and 2015, "Other" changes to Plan Fiduciary Net Position includes other funding sources and depreciation expenses.



Schedules of Required Supplementary Information

Schedule of Net Pension Liability Multiyear

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
2015	\$ 102,757,731	\$ 71,065,986	\$ 31,691,745	69.16 %	N/A	N/A
2016	105,783,760	74,037,986	31,745,774	69.99 %	N/A	N/A
2017	110,489,448	81,884,149	28,605,299	74.11 %	N/A	N/A
2018	111,846,319	76,255,714	35,590,605	68.18 %	N/A	N/A
2019	114,898,938	86,913,518	27,985,420	75.64 %	N/A	N/A

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
2015	\$ 1,139,454	\$ 2,238,612	\$ (1,099,158)	N/A	N/A
2016	3,128,272	3,198,930	(70,658)	N/A	N/A
2017	2,923,585	3,290,994	(367,409)	N/A	N/A
2018	3,275,465	2,959,943	315,522	N/A	N/A
2019	3,543,372	3,118,824	424,548	N/A	N/A

* The Volunteer Firefighter, EMT, and Search and Rescue Retirement System is a new plan with new benefit provisions formed as of July 1, 2015 from the discontinued prior Volunteer Firemen's Pension Plan and the Volunteer EMT Pension Plan. The Actuarially Determined Contribution for 2015 is the sum of the amounts for the prior plans determined as of their respective January 1, 2015 actuarial valuations.

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



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 Dollar, Closed
Remaining Amortization Period	29 years
Asset Valuation Method	5-Year smoothed market
Inflation	2.25%
Salary Increases	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 The Volunteer Firefighter, EMT, and Search and Rescue Retirement System is a new plan with new benefit provisions formed as of July 1, 2015 from the discontinued prior Volunteer Firemen's Pension Plan and the Volunteer EMT Pension Plan. 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>
2015	(0.26)%
2016	7.60 %
2017	14.20 %
2018	(3.52)%
2019	18.72 %

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 Volunteer Firefighter, EMT, and Search and Rescue Pension Plan. 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 estimated fire tax rates, projected with inflation. 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 Result

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

1% Decrease	Current Single Discount Rate Assumption	1% Increase
6.00%	7.00%	8.00%
\$ 42,032,167	\$ 27,985,420	\$ 16,374,901

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,495
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1,896
Active Plan Members	<u>2,347</u>
Total Plan Members	5,738

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

Covered Members Any volunteer firefighter or volunteer EMT for whom payments are received by the Volunteer Firefighter and EMT pension account as prescribed in W.S. 35-9-621(e).

Service Retirement

Eligibility Age 60 with 5 years of service.

Monthly Benefit \$16 per month for each of the first 10 years of service and \$19 per month for each year of service over 10.

Normal Form of Payment is a 66% Joint & Survivor Annuity for married retirees and life annuity for unmarried retirees.

Any contributing member of the discontinued Volunteer Firefighter Pension Plan and the Volunteer Emergency Medical Technician Pension Plan on June 30, 2015 is grandfathered in certain provisions of the discontinued plans, including receiving the greater of the benefit under the previous plan and the service retirement benefit under this plan.

Vesting

Any member with five or more years of service who has left employment, 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. In addition, a member with at least ten years of service may gain extra years of service by continuing to contribute, up to a maximum number of months served as an active member. A member who terminates with less than five years of service is only eligible for the lump-sum benefit.

Pre-retirement Death Benefit

Eligibility No age or service requirements.

Monthly Benefit Upon the death of any participating member, the board shall authorize a monthly payment to the surviving spouse of the member during the spouse's remaining lifetime of an amount equal to 66% of the amount calculated above based on actual years of service, or five years of service if greater. Benefits are also payable to children under age 21, equal to 33% of the amount calculated above, upon death of the member and spouse.



Post-retirement Death Benefit

Monthly Benefit 66% of the member's benefit payable prior to the member's death. Benefits are also payable to children under age 21, equal to 33% of the amount calculated above, upon death of the member and spouse.

Lump Sum Death Benefit

Benefit A lump sum payment of \$5,000, or \$2,500 for members who contributed \$5.00 per month before July 1, 1989, less the amount of the monthly benefits paid to the estate upon the spouse's death. For a deceased member without an eligible survivor, the greater of the deceased member's account or \$5,000 (\$2,500 for certain members) is payable to the estate of the deceased member.

Contributions

Employee \$15.00 per month.

State Up to 100% of gross fire insurance premium taxes paid on fire insurance policies in Wyoming. Once the funded ratio rises to 107%, contributions may drop to a level no less than 60% of the gross fire insurance premium taxes paid on fire insurance policies in Wyoming.

Interest 3.0% 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, 2019 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 dollar amount. Under this method, the employer contribution amount is the sum of (i) the employer normal cost amount, and (ii) the amount 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, and sex. 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, or survivor's benefit. 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 employer contribution amount which, if applied to 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 29 years from the valuation date. The Board's policy consists of amortizing the unfunded liability as of January 1, 2018, over a closed 30 year period with each subsequent amortization base created as a result of year to year experience changes over individual 20 year closed periods. The current year amortization base is determined by taking the current unfunded liability less the outstanding amounts of prior year bases.



3. Actuarial Value of Assets

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

4. Economic Assumptions

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.

5. Demographic Assumptions

a. Rates Before Retirement

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%

Age	Pre-Retirement		Post-Retirement	
	Projected to 2019 using Scale MP-2017			
	Male	Female	Male	Female
20	0.04%	0.02%	0.04%	0.01%
25	0.05%	0.02%	0.06%	0.03%
30	0.05%	0.02%	0.09%	0.06%
35	0.06%	0.03%	0.13%	0.09%
40	0.07%	0.04%	0.19%	0.14%
45	0.09%	0.06%	0.27%	0.18%
50	0.16%	0.11%	0.38%	0.24%
55	0.27%	0.17%	0.55%	0.32%
60	0.47%	0.25%	0.78%	0.47%
65	0.83%	0.36%	1.11%	0.70%
70	1.35%	0.60%	1.63%	1.08%
75			2.56%	1.76%
80			4.27%	2.96%
85			7.44%	5.18%
90			13.11%	9.20%
95			21.02%	15.32%
100			30.49%	23.34%

b. Withdrawal Rates

Age	Withdrawal	
	Ultimate	
	Male	Female
20	20.00%	20.00%
25	11.00%	11.00%
30	8.00%	8.00%
35	5.00%	5.00%
40	5.00%	5.00%
45	3.00%	3.00%
50	2.00%	2.00%
55	2.00%	2.00%
60	2.00%	2.00%

Service	Withdrawal	
	First five years	
	Male	Female
1	16.0%	16.0%
2	15.5%	15.5%
3	15.0%	15.0%
4	13.0%	13.0%
5	10.0%	10.0%

c. Retirement Rates

Age	Rates
<60	0.0%
60	70.0%
61	15.0%
62	15.0%
63	20.0%
64	25.0%
65	25.0%
66	30.0%
67	40.0%
68	40.0%
69	75.0%
70	100.0%

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. Administrative expenses: Average of actual expenses for the prior two years, with each year projected at 2.50% to the valuation date.
- e. Decrement timing: Decrements of all types are assumed to occur mid-year.
- f. 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.
- g. Incidence of contributions: Contributions are assumed to be received continuously throughout the year.
- h. Benefit service: All members are assumed to accrue one year of service each year.
- i. Premium tax allocation: Provided by staff and based on booked total premium taxes.
- j. Percent of eligible deferred vested members electing a refund: 25% of all future deferred vested members are assumed to leave their contributions in the fund and elect a deferred vested annuity payable commencing at age 60.
- k. No benefit data is available for members entitled to deferred benefits. The benefit is estimated using the final average compensation and service provided by WRS.

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 2.75%; 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 (a)	Payroll for Future Employees (b)=max(0,(c)-(a))	Total Employee Payroll (c)	Contributions from Current Employees (d)	Total Employer Contributions (e)	Employer Portion of New Entrant's Normal Cost (f)	Total Contributions (g)=(d)+(e)-(f)
2019	N/A	N/A	N/A	\$ 437,255	\$ 3,118,824	\$ -	\$ 3,556,079
2020	-	-	-	356,312	3,153,911	103,327	3,406,896
2021	-	-	-	320,824	3,189,392	190,527	3,319,690
2022	-	-	-	291,378	3,225,273	260,470	3,256,180
2023	-	-	-	265,603	3,261,557	322,144	3,205,016
2024	-	-	-	242,509	3,298,250	376,664	3,164,095
2025	-	-	-	221,283	3,335,355	426,867	3,129,771
2026	-	-	-	202,878	3,372,878	473,174	3,102,581
2027	-	-	-	187,419	3,410,823	510,296	3,087,945
2028	-	-	-	173,088	3,449,194	543,072	3,079,211
2029	-	-	-	159,125	3,487,998	574,821	3,072,302
2030	-	-	-	146,507	3,527,238	605,482	3,068,262
2031	-	-	-	134,683	3,566,919	630,435	3,071,167
2032	-	-	-	123,348	3,607,047	656,898	3,073,497
2033	-	-	-	112,987	3,647,626	678,842	3,081,772
2034	-	-	-	103,505	3,688,662	700,071	3,092,097
2035	-	-	-	95,074	3,730,160	717,092	3,108,142
2036	-	-	-	86,894	3,772,124	732,960	3,126,058
2037	-	-	-	78,188	3,814,560	748,114	3,144,634
2038	-	-	-	69,809	3,857,474	765,442	3,161,840
2039	-	-	-	62,403	3,900,871	778,156	3,185,118
2040	-	-	-	55,710	3,944,756	790,523	3,209,943
2041	-	-	-	49,334	3,989,134	799,482	3,238,987
2042	-	-	-	42,606	4,034,012	810,152	3,266,467
2043	-	-	-	36,268	4,079,394	820,226	3,295,436
2044	-	-	-	31,026	4,125,288	828,826	3,327,488
2045	-	-	-	26,415	4,171,697	833,991	3,364,121
2046	-	-	-	21,996	4,218,629	840,026	3,400,599
2047	-	-	-	18,429	4,266,088	844,506	3,440,011
2048	-	-	-	15,365	4,314,082	847,122	3,482,324
2049	-	-	-	12,427	4,362,615	849,779	3,525,263
2050	-	-	-	10,025	4,411,695	852,291	3,569,428
2051	-	-	-	8,114	4,461,326	853,332	3,616,108
2052	-	-	-	6,414	4,511,516	854,486	3,663,445
2053	-	-	-	4,984	4,562,271	855,345	3,711,909
2054	-	-	-	3,797	4,613,596	856,149	3,761,244
2055	-	-	-	2,870	4,665,499	856,709	3,811,660
2056	-	-	-	2,185	4,717,986	857,177	3,862,994
2057	-	-	-	1,612	4,771,063	857,413	3,915,263
2058	-	-	-	1,084	4,824,738	858,030	3,967,792
2059	-	-	-	719	4,879,016	858,604	4,021,130
2060	-	-	-	487	4,933,905	858,927	4,075,465
2061	-	-	-	322	4,989,411	859,255	4,130,478
2062	-	-	-	213	5,045,542	859,524	4,186,232
2063	-	-	-	139	5,102,305	859,718	4,242,726
2064	-	-	-	87	5,159,706	859,881	4,299,912
2065	-	-	-	52	5,217,752	860,011	4,357,793
2066	-	-	-	29	5,276,452	860,091	4,416,390
2067	-	-	-	13	5,335,812	860,140	4,475,685
2068	-	-	-	5	5,395,840	860,174	4,535,671
2069	-	-	-	2	5,456,543	860,182	4,596,363



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

Year	Payroll for Current	Payroll for Future	Total Employee	Contributions from	Total Employer	Employer Portion	Total Contributions
	Employees	Employees	Payroll	Current Employees	Contributions	of New Entrant's Normal Cost	
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)	(f)	(g)=(d)+(e)-(f)
2069	\$ -	\$ -	\$ -	\$ 2	\$ 5,456,543	\$ 860,182	\$ 4,596,363
2070	-	-	-	0	5,517,929	860,174	4,657,755
2071	-	-	-	0	5,580,006	860,157	4,719,849
2072	-	-	-	-	5,642,781	860,123	4,782,658
2073	-	-	-	-	5,706,262	860,088	4,846,174
2074	-	-	-	-	5,770,458	860,056	4,910,402
2075	-	-	-	-	5,835,375	860,020	4,975,355
2076	-	-	-	-	5,901,023	859,984	5,041,039
2077	-	-	-	-	5,967,410	859,952	5,107,458
2078	-	-	-	-	6,034,543	859,923	5,174,620
2079	-	-	-	-	6,102,432	859,896	5,242,536
2080	-	-	-	-	6,171,084	859,874	5,311,210
2081	-	-	-	-	6,240,509	859,851	5,380,658
2082	-	-	-	-	6,310,715	859,830	5,450,884
2083	-	-	-	-	6,381,710	859,812	5,521,898
2084	-	-	-	-	6,453,505	859,796	5,593,709
2085	-	-	-	-	6,526,106	859,780	5,666,326
2086	-	-	-	-	6,599,525	859,767	5,739,758
2087	-	-	-	-	6,673,770	859,756	5,814,013
2088	-	-	-	-	6,748,850	859,748	5,889,101
2089	-	-	-	-	6,824,774	859,743	5,965,031
2090	-	-	-	-	6,901,553	859,741	6,041,812
2091	-	-	-	-	6,979,195	859,742	6,119,453
2092	-	-	-	-	7,057,711	859,746	6,197,966
2093	-	-	-	-	7,137,111	859,751	6,277,360
2094	-	-	-	-	7,217,403	859,759	6,357,644
2095	-	-	-	-	7,298,599	859,768	6,438,831
2096	-	-	-	-	7,380,708	859,777	6,520,931
2097	-	-	-	-	7,463,741	859,787	6,603,954
2098	-	-	-	-	7,547,708	859,796	6,687,912
2099	-	-	-	-	7,632,620	859,805	6,772,815
2100	-	-	-	-	7,718,487	859,813	6,858,674
2101	-	-	-	-	7,805,320	859,819	6,945,501
2102	-	-	-	-	7,893,130	859,825	7,033,305
2103	-	-	-	-	7,981,927	859,829	7,122,099
2104	-	-	-	-	8,071,724	859,832	7,211,892
2105	-	-	-	-	8,162,531	859,834	7,302,697
2106	-	-	-	-	8,254,359	859,835	7,394,525
2107	-	-	-	-	8,347,221	859,835	7,487,386
2108	-	-	-	-	8,441,127	859,834	7,581,293
2109	-	-	-	-	8,536,090	859,833	7,676,257
2110	-	-	-	-	8,632,121	859,831	7,772,290
2111	-	-	-	-	8,729,232	859,829	7,869,403
2112	-	-	-	-	8,827,436	859,827	7,967,609
2113	-	-	-	-	8,926,745	859,825	8,066,920
2114	-	-	-	-	9,027,171	859,823	8,167,348
2115	-	-	-	-	9,128,726	859,821	8,268,906
2116	-	-	-	-	9,231,425	859,819	8,371,606
2117	-	-	-	-	9,335,278	859,817	8,475,461



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	\$ 76,255,714	\$ 3,556,079	\$ 6,736,228	\$ 96,900	\$ 5,225,143	\$ 78,203,808
2020	78,203,808	3,406,896	7,070,539	99,080	5,344,799	79,785,884
2021	79,785,884	3,319,690	7,400,299	101,309	5,441,120	81,045,086
2022	81,045,086	3,256,180	7,668,511	103,588	5,517,772	82,046,939
2023	82,046,939	3,205,016	7,950,055	105,919	5,576,374	82,772,355
2024	82,772,355	3,164,095	8,223,576	108,302	5,616,252	83,220,824
2025	83,220,824	3,129,771	8,495,358	110,739	5,637,028	83,381,526
2026	83,381,526	3,102,581	8,721,743	113,231	5,639,466	83,288,600
2027	83,288,600	3,087,945	8,875,045	115,779	5,627,095	83,012,816
2028	83,012,816	3,079,211	9,011,714	118,384	5,602,698	82,564,626
2029	82,564,626	3,072,302	9,156,086	121,048	5,566,028	81,925,822
2030	81,925,822	3,068,262	9,275,728	123,772	5,516,962	81,111,547
2031	81,111,547	3,071,167	9,379,237	126,557	5,456,405	80,133,325
2032	80,133,325	3,073,497	9,470,687	129,405	5,384,765	78,991,496
2033	78,991,496	3,081,772	9,534,572	132,317	5,302,824	77,709,202
2034	77,709,202	3,092,097	9,582,704	135,294	5,211,660	76,294,961
2035	76,294,961	3,108,142	9,593,740	138,338	5,112,731	74,783,756
2036	74,783,756	3,126,058	9,590,827	141,451	5,007,556	73,185,091
2037	73,185,091	3,144,634	9,624,729	144,634	4,895,012	71,455,375
2038	71,455,375	3,161,840	9,648,621	147,888	4,773,590	69,594,297
2039	69,594,297	3,185,118	9,636,628	151,215	4,644,414	67,635,985
2040	67,635,985	3,209,943	9,600,179	154,617	4,509,323	65,600,456
2041	65,600,456	3,238,987	9,560,300	158,096	4,369,088	63,490,135
2042	63,490,135	3,266,467	9,528,661	161,653	4,223,277	61,289,566
2043	61,289,566	3,295,436	9,482,649	165,290	4,071,692	59,008,755
2044	59,008,755	3,327,488	9,388,808	169,009	3,916,239	56,694,665
2045	56,694,665	3,364,121	9,261,350	172,812	3,759,768	54,384,392
2046	54,384,392	3,400,599	9,128,877	176,700	3,603,729	52,083,143
2047	52,083,143	3,440,011	8,958,379	180,676	3,449,727	49,833,826
2048	49,833,826	3,482,324	8,767,071	184,741	3,300,173	47,664,512
2049	47,664,512	3,525,263	8,572,614	188,898	3,156,347	45,584,610
2050	45,584,610	3,569,428	8,353,916	193,148	3,019,652	43,626,626
2051	43,626,626	3,616,108	8,113,825	197,494	2,892,311	41,823,725
2052	41,823,725	3,663,445	7,869,594	201,938	2,775,987	40,191,625
2053	40,191,625	3,711,909	7,613,755	206,482	2,672,054	38,755,352
2054	38,755,352	3,761,244	7,352,410	211,128	2,582,045	37,535,103
2055	37,535,103	3,811,660	7,081,688	215,878	2,507,514	36,556,711
2056	36,556,711	3,862,994	6,803,008	220,735	2,450,215	35,846,177
2057	35,846,177	3,915,263	6,525,713	225,702	2,411,646	35,421,671
2058	35,421,671	3,967,792	6,254,177	230,780	2,392,906	35,297,412
2059	35,297,412	4,021,130	5,979,102	235,973	2,395,330	35,498,797
2060	35,498,797	4,075,465	5,702,736	241,282	2,420,623	36,050,866
2061	36,050,866	4,130,478	5,429,872	246,711	2,470,362	36,975,124
2062	36,975,124	4,186,232	5,160,953	252,262	2,546,041	38,294,182
2063	38,294,182	4,242,726	4,897,712	257,938	2,649,181	40,030,439
2064	40,030,439	4,299,912	4,640,984	263,742	2,781,320	42,206,945
2065	42,206,945	4,357,793	4,390,947	269,676	2,944,066	44,848,182
2066	44,848,182	4,416,390	4,147,721	275,744	3,139,129	47,980,236
2067	47,980,236	4,475,685	3,911,367	281,948	3,368,332	51,630,939
2068	51,630,939	4,535,671	3,681,749	288,292	3,633,628	55,830,197



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	\$ 55,830,197	\$ 4,596,363	\$ 3,458,769	\$ 294,779	\$ 3,937,113	\$ 60,610,125
2070	60,610,125	4,657,755	3,242,374	301,412	4,281,038	66,005,132
2071	66,005,132	4,719,849	3,032,477	308,194	4,667,814	72,052,125
2072	72,052,125	4,782,658	2,829,009	315,128	5,100,027	78,790,673
2073	78,790,673	4,846,174	2,631,917	322,218	5,580,448	86,263,161
2074	86,263,161	4,910,402	2,441,193	329,468	6,112,046	94,514,947
2075	94,514,947	4,975,355	2,256,905	336,881	6,697,991	103,594,508
2076	103,594,508	5,041,039	2,079,182	344,461	7,341,675	113,553,579
2077	113,553,579	5,107,458	1,908,207	352,211	8,046,712	124,447,329
2078	124,447,329	5,174,620	1,744,197	360,136	8,816,956	136,334,572
2079	136,334,572	5,242,536	1,587,389	368,239	9,656,516	149,277,996
2080	149,277,996	5,311,210	1,438,062	376,524	10,569,772	163,344,393
2081	163,344,393	5,380,658	1,296,498	384,996	11,561,388	178,604,945
2082	178,604,945	5,450,884	1,162,953	393,658	12,636,341	195,135,560
2083	195,135,560	5,521,898	1,037,644	402,515	13,799,934	213,017,232
2084	213,017,232	5,593,709	920,753	411,572	15,057,832	232,336,448
2085	232,336,448	5,666,326	812,386	420,832	16,416,086	253,185,642
2086	253,185,642	5,739,758	712,571	430,301	17,881,165	275,663,693
2087	275,663,693	5,814,013	621,249	439,983	19,459,992	299,876,467
2088	299,876,467	5,889,101	538,269	449,883	21,159,985	325,937,401
2089	325,937,401	5,965,031	463,402	460,005	22,989,090	353,968,116
2090	353,968,116	6,041,812	396,344	470,355	24,955,834	384,099,062
2091	384,099,062	6,119,453	336,709	480,938	27,069,359	416,470,228
2092	416,470,228	6,197,966	284,060	491,759	29,339,481	451,231,856
2093	451,231,856	6,277,360	237,927	502,824	31,776,734	488,545,198
2094	488,545,198	6,357,644	197,808	514,138	34,392,421	528,583,317
2095	528,583,317	6,438,831	163,181	525,706	37,198,677	571,531,938
2096	571,531,938	6,520,931	133,526	537,534	40,208,518	617,590,327
2097	617,590,327	6,603,954	108,331	549,629	43,435,913	666,972,234
2098	666,972,234	6,687,912	87,105	561,996	46,895,840	719,906,885
2099	719,906,885	6,772,815	69,377	574,641	50,604,362	776,640,045
2100	776,640,045	6,858,674	54,705	587,570	54,578,697	837,435,141
2101	837,435,141	6,945,501	42,683	600,790	58,837,300	902,574,469
2102	902,574,469	7,033,305	32,936	614,308	63,399,945	972,360,475
2103	972,360,475	7,122,099	25,120	628,130	68,287,814	1,047,117,137
2104	1,047,117,137	7,211,892	18,925	642,263	73,523,597	1,127,191,438
2105	1,127,191,438	7,302,697	14,075	656,714	79,131,592	1,212,954,938
2106	1,212,954,938	7,394,525	10,328	671,490	85,137,817	1,304,805,462
2107	1,304,805,462	7,487,386	7,475	686,599	91,570,127	1,403,168,901
2108	1,403,168,901	7,581,293	5,332	702,047	98,458,341	1,508,501,156
2109	1,508,501,156	7,676,257	3,747	717,843	105,834,377	1,621,290,201
2110	1,621,290,201	7,772,290	2,593	733,994	113,732,399	1,742,058,303
2111	1,742,058,303	7,869,403	1,768	750,509	122,188,968	1,871,364,397
2112	1,871,364,397	7,967,609	1,185	767,395	131,243,212	2,009,806,638
2113	2,009,806,638	8,066,920	782	784,661	140,937,006	2,158,025,122
2114	2,158,025,122	8,167,348	508	802,316	151,315,157	2,316,704,804
2115	2,316,704,804	8,268,906	324	820,368	162,425,615	2,486,578,633
2116	2,486,578,633	8,371,606	203	838,826	174,319,686	2,668,430,895
2117	2,668,430,895	8,475,461	125	857,700	187,052,271	2,863,100,801
2118	2,863,100,801	8,580,485	102	876,998	200,682,114	3,071,486,300



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31 for 2019 to 2068

Year	Projected Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{((a)-.5)}	(g)=(e)*vf ^{((a)-.5)}	(h)=((c)/((1+SDR) ^{((a)-.5)}
2019	\$ 76,255,714	\$ 6,736,228	\$ 6,736,228	\$ 0	\$ 6,512,157	\$ 0	\$ 6,512,157
2020	78,203,808	7,070,539	7,070,539	0	6,388,176	0	6,388,176
2021	79,785,884	7,400,299	7,400,299	0	6,248,702	0	6,248,702
2022	81,045,086	7,668,511	7,668,511	0	6,051,567	0	6,051,567
2023	82,046,939	7,950,055	7,950,055	0	5,863,313	0	5,863,313
2024	82,772,355	8,223,576	8,223,576	0	5,668,263	0	5,668,263
2025	83,220,824	8,495,358	8,495,358	0	5,472,517	0	5,472,517
2026	83,381,526	8,721,743	8,721,743	0	5,250,794	0	5,250,794
2027	83,288,600	8,875,045	8,875,045	0	4,993,539	0	4,993,539
2028	83,012,816	9,011,714	9,011,714	0	4,738,725	0	4,738,725
2029	82,564,626	9,156,086	9,156,086	0	4,499,665	0	4,499,665
2030	81,925,822	9,275,728	9,275,728	0	4,260,245	0	4,260,245
2031	81,111,547	9,379,237	9,379,237	0	4,025,968	0	4,025,968
2032	80,133,325	9,470,687	9,470,687	0	3,799,273	0	3,799,273
2033	78,991,496	9,534,572	9,534,572	0	3,574,674	0	3,574,674
2034	77,709,202	9,582,704	9,582,704	0	3,357,682	0	3,357,682
2035	76,294,961	9,593,740	9,593,740	0	3,141,634	0	3,141,634
2036	74,783,756	9,590,827	9,590,827	0	2,935,215	0	2,935,215
2037	73,185,091	9,624,729	9,624,729	0	2,752,888	0	2,752,888
2038	71,455,375	9,648,621	9,648,621	0	2,579,180	0	2,579,180
2039	69,594,297	9,636,628	9,636,628	0	2,407,452	0	2,407,452
2040	67,635,985	9,600,179	9,600,179	0	2,241,445	0	2,241,445
2041	65,600,456	9,560,300	9,560,300	0	2,086,107	0	2,086,107
2042	63,490,135	9,528,661	9,528,661	0	1,943,180	0	1,943,180
2043	61,289,566	9,482,649	9,482,649	0	1,807,287	0	1,807,287
2044	59,008,755	9,388,808	9,388,808	0	1,672,338	0	1,672,338
2045	56,694,665	9,261,350	9,261,350	0	1,541,715	0	1,541,715
2046	54,384,392	9,128,877	9,128,877	0	1,420,246	0	1,420,246
2047	52,083,143	8,958,379	8,958,379	0	1,302,542	0	1,302,542
2048	49,833,826	8,767,071	8,767,071	0	1,191,333	0	1,191,333
2049	47,664,512	8,572,614	8,572,614	0	1,088,700	0	1,088,700
2050	45,584,610	8,353,916	8,353,916	0	991,519	0	991,519
2051	43,626,626	8,113,825	8,113,825	0	900,021	0	900,021
2052	41,823,725	7,869,594	7,869,594	0	815,823	0	815,823
2053	40,191,625	7,613,755	7,613,755	0	737,664	0	737,664
2054	38,755,352	7,352,410	7,352,410	0	665,741	0	665,741
2055	37,535,103	7,081,688	7,081,688	0	599,279	0	599,279
2056	36,556,711	6,803,008	6,803,008	0	538,033	0	538,033
2057	35,846,177	6,525,713	6,525,713	0	482,339	0	482,339
2058	35,421,671	6,254,177	6,254,177	0	432,027	0	432,027
2059	35,297,412	5,979,102	5,979,102	0	386,005	0	386,005
2060	35,498,797	5,702,736	5,702,736	0	344,078	0	344,078
2061	36,050,866	5,429,872	5,429,872	0	306,182	0	306,182
2062	36,975,124	5,160,953	5,160,953	0	271,979	0	271,979
2063	38,294,182	4,897,712	4,897,712	0	241,221	0	241,221
2064	40,030,439	4,640,984	4,640,984	0	213,623	0	213,623
2065	42,206,945	4,390,947	4,390,947	0	188,892	0	188,892
2066	44,848,182	4,147,721	4,147,721	0	166,755	0	166,755
2067	47,980,236	3,911,367	3,911,367	0	146,965	0	146,965
2068	51,630,939	3,681,749	3,681,749	0	129,288	0	129,288



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 ^{(a)-5}	(g)=(e)*vf ^{(a)-5}	(h)=((c)/(1+SDR)) ^{(a)-5}
2069	\$ 55,830,197	\$ 3,458,769	\$ 3,458,769	\$ 0	\$ 113,512	\$ 0	\$ 113,512
2070	60,610,125	3,242,374	3,242,374	0	99,449	0	99,449
2071	66,005,132	3,032,477	3,032,477	0	86,926	0	86,926
2072	72,052,125	2,829,009	2,829,009	0	75,788	0	75,788
2073	78,790,673	2,631,917	2,631,917	0	65,896	0	65,896
2074	86,263,161	2,441,193	2,441,193	0	57,122	0	57,122
2075	94,514,947	2,256,905	2,256,905	0	49,355	0	49,355
2076	103,594,508	2,079,182	2,079,182	0	42,494	0	42,494
2077	113,553,579	1,908,207	1,908,207	0	36,448	0	36,448
2078	124,447,329	1,744,197	1,744,197	0	31,136	0	31,136
2079	136,334,572	1,587,389	1,587,389	0	26,483	0	26,483
2080	149,277,996	1,438,062	1,438,062	0	22,422	0	22,422
2081	163,344,393	1,296,498	1,296,498	0	18,892	0	18,892
2082	178,604,945	1,162,953	1,162,953	0	15,838	0	15,838
2083	195,135,560	1,037,644	1,037,644	0	13,207	0	13,207
2084	213,017,232	920,753	920,753	0	10,952	0	10,952
2085	232,336,448	812,386	812,386	0	9,031	0	9,031
2086	253,185,642	712,571	712,571	0	7,403	0	7,403
2087	275,663,693	621,249	621,249	0	6,032	0	6,032
2088	299,876,467	538,269	538,269	0	4,885	0	4,885
2089	325,937,401	463,402	463,402	0	3,930	0	3,930
2090	353,968,116	396,344	396,344	0	3,141	0	3,141
2091	384,099,062	336,709	336,709	0	2,494	0	2,494
2092	416,470,228	284,060	284,060	0	1,967	0	1,967
2093	451,231,856	237,927	237,927	0	1,539	0	1,539
2094	488,545,198	197,808	197,808	0	1,196	0	1,196
2095	528,583,317	163,181	163,181	0	922	0	922
2096	571,531,938	133,526	133,526	0	705	0	705
2097	617,590,327	108,331	108,331	0	535	0	535
2098	666,972,234	87,105	87,105	0	402	0	402
2099	719,906,885	69,377	69,377	0	299	0	299
2100	776,640,045	54,705	54,705	0	220	0	220
2101	837,435,141	42,683	42,683	0	161	0	161
2102	902,574,469	32,936	32,936	0	116	0	116
2103	972,360,475	25,120	25,120	0	83	0	83
2104	1,047,117,137	18,925	18,925	0	58	0	58
2105	1,127,191,438	14,075	14,075	0	40	0	40
2106	1,212,954,938	10,328	10,328	0	28	0	28
2107	1,304,805,462	7,475	7,475	0	19	0	19
2108	1,403,168,901	5,332	5,332	0	13	0	13
2109	1,508,501,156	3,747	3,747	0	8	0	8
2110	1,621,290,201	2,593	2,593	0	5	0	5
2111	1,742,058,303	1,768	1,768	0	3	0	3
2112	1,871,364,397	1,185	1,185	0	2	0	2
2113	2,009,806,638	782	782	0	1	0	1
2114	2,158,025,122	508	508	0	1	0	1
2115	2,316,704,804	324	324	0	0	0	0
2116	2,486,578,633	203	203	0	0	0	0
2117	2,668,430,895	125	125	0	0	0	0
2118	2,863,100,801	102	102	0	0	0	0
Totals					\$ 120,185,116	\$ 0	\$ 120,185,116



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.