

Arkansas Local Police and Fire Retirement System

GASB Statement Nos. 67 and 68 Accounting and
Financial Reporting for Pensions
December 31, 2018





April 4, 2019

Board of Trustees
Arkansas Local Police and Fire Retirement System

Dear Trustees:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 for the Arkansas Local Police and Fire Retirement System ("LOPFI"). These calculations have been made on a basis that is consistent with our understanding of these Statements. This report does not include Pension and Relief Funds under LOPFI Administration. Calculations required for compliance with GASB Statement No. 68 for Pension and Relief Funds under LOPFI Administration will be issued in separate reports.

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 LOPFI only in its entirety and only with the permission of LOPFI. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by LOPFI, 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. We are not responsible for the accuracy or completeness of the data provided by LOPFI staff.

This report complements the actuarial valuation report that was provided to LOPFI and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2018 for additional discussion of the nature of actuarial calculations and more information related to participant data, demographic assumptions, and benefit provisions. The economic assumptions for purposes of the GASB disclosures were selected by the actuary based on the results of an experience study covering the period from January 1, 2012 through December 31, 2016.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the Arkansas Local Police and Fire 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.

It is our understanding that this information, which was previously issued in draft form, has been reviewed and approved by the plan's auditor. This information is intended to assist in preparation of the financial statements of the Arkansas Local Police and Fire Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

The signing individuals are independent of the plan sponsor.

Heidi G. Barry is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



David L. Hoffman



Heidi G. Barry, ASA, FCA, MAAA



Casey T. Ahlbrandt-Rains, ASA

DLH/HGB/CAR:rmn



TABLE OF CONTENTS

	<u>Page</u>
Section A	Executive Summary
	Executive Summary..... 1
	Discussion..... 2
Section B	Financial Statements
	Statement of Pension Expense 7
	Statement of Outflows and Inflows Arising from Current Reporting Period..... 8
	Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods..... 9
	Statement of Fiduciary Net Position 13
	Statement of Changes in Fiduciary Net Position..... 14
Section C	Required Supplementary Information
	Schedule of Changes in Net Pension Liability and Related Ratios Current Period 16
	Schedule of Changes in Net Pension Liability and Related Ratios Multiyear..... 17
	Schedule of Net Pension Liability Multiyear 19
	Schedule of Contributions Multiyear 20
	Notes to Schedule of Contributions..... 21
	Schedule of Investment Returns Multiyear 23
Section D	Notes to Financial Statements
	Asset Allocation..... 25
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption 26
	Summary of Population Statistics 27
Section E	Summary of Benefits..... 29
Section F	Summary of Actuarial Assumptions and Methods
	Summary of Assumptions Used for Actuarial Reports..... 36
Section G	Calculation of the Single Discount Rate
	Calculation of the Single Discount Rate 46
	Paid Service
	Projection of Contributions..... 47
	Projection of Plan Fiduciary Net Position..... 49
	Present Values of Projected Benefits..... 51
	Projection of Plan Net Position and Benefit Payments..... 53
	Volunteer Service
	Projection of Contributions..... 54
	Projection of Plan Fiduciary Net Position..... 56
	Present Values of Projected Benefits..... 58
	Projection of Plan Net Position and Benefit Payments..... 60
Section H	Glossary of Terms..... 62

SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2018

	2018
Actuarial Valuation Date	December 31, 2018
Measurement Date of the Net Pension Liability	December 31, 2018
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2018

	Paid	Volunteer
Membership		
Number of		
- Retirees and Beneficiaries (Including DROP)	3,180	2,888
- Inactive, Nonretired Members	5,685	6,268
- Active Members	6,362	7,461
- Total	15,227	16,617
Covered Payroll	\$ 356,127,157	N/A

Net Pension Liability		
Total Pension Liability	\$ 2,661,241,999	\$ 128,257,221
Plan Fiduciary Net Position	1,758,861,454	77,674,300
Net Pension Liability	\$ 902,380,545	\$ 50,582,921
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	66.09%	60.56%
Net Pension Liability as a Percentage of Covered Payroll	253.39%	N/A

Development of the Single Discount Rate		
Single Discount Rate	7.00%	7.00%
Long-Term Expected Rate of Investment Return	7.00%	7.00%
Long-Term Municipal Bond Rate*	3.71%	3.71%
Last year ending December 31 in the 2019 to 2118 projection period for which projected benefit payments are fully funded	2118	2118

Total Pension Expense	\$ 184,248,397	\$ 9,809,493
------------------------------	----------------	--------------

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Paid		Volunteer	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 47,940,712	\$ -	\$ -	\$ 532,115
Changes in assumptions	123,512,021	-	4,782,141	-
Net difference between projected and actual earnings on pension plan investments	174,023,066	58,567,585	7,625,825	2,573,087
Total	\$ 345,475,799	\$ 58,567,585	\$ 12,407,966	\$ 3,105,202

**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, 2018. 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).

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, net pension liability, and the pension plan's fiduciary net position as a percentage of the total 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; and
- 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
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

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 December 31, 2018 and a measurement date of December 31, 2018.

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 as of the measurement date (to the extent that the plan's projected fiduciary net position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 3.71% (based on the weekly 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%.

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), it is expected that:

- (1) The unfunded liability may decrease in dollar amount each year in the future.
- (2) The unfunded liability will be paid off in approximately 16 years for paid and 17 years for volunteer, which is the number of years remaining in the closed amortization schedule of the unfunded liability beginning January 1, 2020.
- (3) The funded status of the plan will increase gradually towards a 100% funded ratio.

This funding policy results in the projected plan fiduciary net position being sufficient to pay benefits for all future years and a discount rate of 7.00%. The projections in this report are strictly for the purposes of determining the GASB discount rate and are different from a funding projection for the ongoing plan.

Limitations of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability. Unless otherwise indicated, with regard to any such measurements presented in this report:

- (1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.
- (2) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

Limitation of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

SECTION B

FINANCIAL STATEMENTS

Statement of Pension Expense Under GASB Statement No. 68

Fiscal Year Ended December 31, 2018

	Paid	Volunteer	Total
A. Expense			
1. Service Cost	\$ 58,728,968	\$ 2,328,231	\$ 61,057,199
2. Interest on the Total Pension Liability	174,000,936	8,427,795	182,428,731
3. Current-Period Benefit Changes	(24,831,215)	-	(24,831,215)
4. Employee Contributions (made negative for addition here)	(24,456,628)	-	(24,456,628)
5. Projected Earnings on Plan Investments (made negative for addition here)	(125,697,860)	(5,535,724)	(131,233,584)
6. Pension Plan Administrative Expense	3,403,120	150,511	3,553,631
7. Other Changes in Plan Fiduciary Net Position	-	-	-
8. Recognition of Outflow (Inflow) of Resources Due to Liabilities	78,118,337	2,497,222	80,615,559
9. Recognition of Outflow (Inflow) of Resources Due to Assets	44,982,739	1,941,458	46,924,197
10. Total Pension Expense	\$184,248,397	\$ 9,809,493	\$194,057,890

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended December 31, 2018

	Paid Service	Volunteer Service
A. Outflows (Inflows) of Resources Due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 32,386,236	\$ (86,526)
2. Assumption Changes (gains) or losses	\$ -	\$ -
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.1228	3.5331
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	\$ 7,855,398	\$ (24,490)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ -	\$ -
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 7,855,398	\$ (24,490)
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	\$ 24,530,838	\$ (62,036)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ -	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 24,530,838	\$ (62,036)
B. Outflows (Inflows) of Resources Due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 177,031,822	\$ 7,806,083
2. Recognition period for Assets {in years}	5.0000	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ 35,406,364	\$ 1,561,217
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 141,625,458	\$ 6,244,866

Paid Service

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 2018*

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Due to liabilities	\$ 78,179,828	\$ 61,491	\$ 78,118,337
2. Due to assets	64,505,267	19,522,528	44,982,739
3. Total	\$ 142,685,095	\$ 19,584,019	\$ 123,101,076

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	<u>Outflows of Resources</u>	<u>Inflows of Resources</u>	<u>Net Outflows of Resources</u>
1. Differences between expected and actual experience	\$ 20,020,886	\$ 61,491	\$ 19,959,395
2. Assumption changes	58,158,942	-	58,158,942
3. Net difference between projected and actual earnings on pension plan investments	64,505,267	19,522,528	44,982,739
4. Total	\$ 142,685,095	\$ 19,584,019	\$ 123,101,076

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>	<u>Net Deferred Outflows of Resources</u>
1. Differences between expected and actual experience	\$ 47,940,712	\$ -	\$ 47,940,712
2. Assumption changes	123,512,021	-	123,512,021
3. Net difference between projected and actual earnings on pension plan investments	174,023,066	58,567,585	115,455,481
4. Total	\$ 345,475,799	\$ 58,567,585	\$ 286,908,214

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

<u>Year Ending December 31</u>	<u>Net Deferred Outflows of Resources</u>
2019	\$ 119,691,993
2020	85,392,060
2021	45,453,151
2022	36,371,010
2023	-
Thereafter	-
Total	\$ 286,908,214

* Totals may not add due to rounding.

Paid Service
Statement of Outflows and Inflows Arising from
Current and Prior Reporting Periods
Fiscal Year Ended December 31, 2018

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2014	\$ (352,391)	4.8455	\$ (61,491)	\$ -	0.0000
2015	6,985,822	4.8701	1,434,431	1,248,098	0.8701
2016	20,160,705	4.5797	4,402,189	6,954,138	1.5797
2017	27,865,374	4.4029	6,328,868	15,207,638	2.4029
2018	32,386,236	4.1228	7,855,398	24,530,838	3.1228
Total			\$ 19,959,395	\$ 47,940,712	
Deferred Outflow (Inflow) due to Assumption Changes					
2014	\$ -	4.8455	\$ -	\$ -	0.0000
2015	51,592,627	4.8701	10,593,751	9,217,623	0.8701
2016	-	4.5797	-	-	1.5797
2017	209,424,780	4.4029	47,565,191	114,294,398	2.4029
2018	-	4.1228	-	-	3.1228
Total			\$ 58,158,942	\$ 123,512,021	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2014	\$ 9,540,547	5.0000	\$ 1,908,111	\$ -	0.0000
2015	109,919,873	5.0000	21,983,975	21,983,973	1.0000
2016	26,034,086	5.0000	5,206,817	10,413,635	2.0000
2017	(97,612,641)	5.0000	(19,522,528)	(58,567,585)	3.0000
2018	177,031,822	5.0000	35,406,364	141,625,458	4.0000
Total			\$ 44,982,739	\$ 115,455,481	

Volunteer Service

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 2018*

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to liabilities	\$ 3,370,061	\$ 872,839	\$ 2,497,222
2. Due to assets	2,799,154	857,696	1,941,458
3. Total	\$ 6,169,215	\$ 1,730,535	\$ 4,438,680

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	\$ -	\$ 872,839	\$ (872,839)
2. Assumption changes	3,370,061	-	3,370,061
3. Net difference between projected and actual earnings on pension plan investments	2,799,154	857,696	1,941,458
4. Total	\$ 6,169,215	\$ 1,730,535	\$ 4,438,680

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	\$ -	\$ 532,115	\$ (532,115)
2. Assumption changes	4,782,141	-	4,782,141
3. Net difference between projected and actual earnings on pension plan investments	7,625,825	2,573,087	5,052,738
4. Total	\$ 12,407,966	\$ 3,105,202	\$ 9,302,764

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
2019	\$ 4,339,375
2020	2,711,708
2021	690,466
2022	1,561,215
2023	-
Thereafter	-
Total	\$ 9,302,764

* Totals may not add due to rounding.

Volunteer Service

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 2018

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2014	\$ (1,426,660)	3.9982	\$ -	\$ -	0.0000
2015	(1,813,451)	3.9248	(427,304)	-	0.0000
2016	(996,748)	3.7857	(263,293)	(206,869)	0.7857
2017	(578,714)	3.6685	(157,752)	(263,210)	1.6685
2018	(86,526)	3.5331	(24,490)	(62,036)	2.5331
Total			\$ (872,839)	\$ (532,115)	
Deferred Outflow (Inflow) due to Assumption Changes					
2014	\$ -	3.9982	\$ -	\$ -	0.0000
2015	2,138,654	3.9248	503,930	-	0.0000
2016	-	3.7857	-	-	0.7857
2017	10,514,403	3.6685	2,866,131	4,782,141	1.6685
2018	-	3.5331	-	-	2.5331
Total			\$ 3,370,061	\$ 4,782,141	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2014	\$ 395,517	5.0000	\$ 79,105	\$ -	0.0000
2015	4,683,542	5.0000	936,708	936,710	1.0000
2016	1,110,621	5.0000	222,124	444,249	2.0000
2017	(4,288,479)	5.0000	(857,696)	(2,573,087)	3.0000
2018	7,806,083	5.0000	1,561,217	6,244,866	4.0000
Total			\$ 1,941,458	\$ 5,052,738	

Statement of Fiduciary Net Position as of December 31, 2018

	2018		
	Paid	Volunteer	Total
Assets			
Cash and Short Term Investments	\$ 155,993,314	\$ 6,888,929	\$ 162,882,243
Receivables			
Accrued Interest and Other Dividends	\$ -	\$ -	\$ -
Contributions Receivable	6,839,855	302,060	7,141,915
Accounts Receivable - Other	-	-	-
Total Receivables	\$ 6,839,855	\$ 302,060	\$ 7,141,915
Prepaid Expense	\$ 8,650,540	\$ 382,022	\$ 9,032,562
Investments			
U.S. Treasury Securities	\$ 62,097,730	\$ 2,742,341	\$ 64,840,071
Corporate Bonds	35,489,373	1,567,271	37,056,644
Mortgage-backed Securities	7,939,520	350,623	8,290,143
Alternative Investments	190,316,315	8,404,691	198,721,006
Equity Securities	307,210,127	13,566,919	320,777,046
Mutual Funds	981,322,582	43,336,867	1,024,659,449
Real Estate Investment Trusts	2,284,323	100,878	2,385,201
Total Investments	\$ 1,586,659,970	\$ 70,069,590	\$ 1,656,729,560
Land, Building, Furniture and Equipment	\$ 1,964,299	\$ 86,747	\$ 2,051,046
Other Assets	\$ 172,671	\$ 7,625	\$ 180,296
Total Assets	\$ 1,760,280,649	\$ 77,736,973	\$ 1,838,017,622
Liabilities			
Payables			
Accounts Payable and Accrued Expenses	\$ 813,200	\$ 35,912	\$ 849,112
Refunds Payable	134,584	5,943	140,527
Due to Pension Review Board	471,411	20,818	492,229
Total Liabilities	\$ 1,419,195	\$ 62,673	\$ 1,481,868
Net Position Restricted for Pensions	\$ 1,758,861,454	\$ 77,674,300	\$ 1,836,535,754

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2018

		2018		
		Paid	Volunteer	Total
Additions				
Contributions				
Employer		\$ 78,694,349	\$ 5,166,749	\$ 83,861,098
Employee		24,456,628	-	24,456,628
Other		87,756	-	87,756
Total Contributions		\$ 103,238,733	\$ 5,166,749	\$ 108,405,482
Investment Income				
Net Appreciation in Fair Value of Investments		\$ (66,713,023)	\$ (2,950,532)	\$ (69,663,555)
Interest and Dividends		20,820,986	920,854	21,741,840
Less Investment Expense		(5,441,925)	(240,681)	(5,682,606)
Net Investment Income		\$ (51,333,962)	\$ (2,270,359)	\$ (53,604,321)
Other		\$ -	\$ -	\$ -
Total Additions		\$ 51,904,771	\$ 2,896,390	\$ 54,801,161
Deductions				
Benefit Payments, including Refunds of Employee Contributions and DROP Distributions		\$ 70,812,207	\$ 3,290,465	\$ 74,102,672
Pension Plan Administrative Expense		3,403,120	150,511	3,553,631
Other		-	-	-
Total Deductions		\$ 74,215,327	\$ 3,440,976	\$ 77,656,303
Net Increase in Net Position		\$ (22,310,556)	\$ (544,586)	\$ (22,855,142)
Amount to Reconcile Beginning and End of Year Assets		\$ 3	\$ -	\$ 3
Net Position Restricted for Pensions				
Beginning of Year		\$ 1,781,172,007	\$ 78,218,886	\$ 1,859,390,893
End of Year		\$ 1,758,861,454	\$ 77,674,300	\$ 1,836,535,754

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios Current Period Fiscal Year Ended December 31, 2018

	Paid	Volunteer	Total
A. Total Pension Liability			
1. Service Cost	\$ 58,728,968	\$ 2,328,231	\$ 61,057,199
2. Interest on the Total Pension Liability	174,000,936	8,427,795	182,428,731
3. Changes of benefit terms	(24,831,215)	-	(24,831,215)
4. Difference between expected and actual experience of the Total Pension Liability	32,386,236	(86,526)	32,299,710
5. Changes of assumptions	-	-	-
6. Benefit payments, including refunds of employee contributions & DROP distributions	(70,812,207)	(3,290,465)	(74,102,672)
7. Net change in Total Pension Liability	\$ 169,472,718	\$ 7,379,035	\$ 176,851,753
8. Total Pension Liability – beginning	2,491,769,281	120,878,186	2,612,647,467
9. Total Pension Liability – ending	\$2,661,241,999	\$ 128,257,221	\$2,789,499,220
B. Plan Fiduciary Net Position			
1. Employer contributions	\$ 78,694,349	\$ 5,166,749	\$ 83,861,098
2. Employee contributions	24,456,628	-	24,456,628
3. Other contributions	87,759	-	87,759
4. Pension plan net investment income	(51,333,962)	(2,270,359)	(53,604,321)
5. Benefit payments, including refunds of employee contributions & DROP distributions	(70,812,207)	(3,290,465)	(74,102,672)
6. Pension plan administrative expense	(3,403,120)	(150,511)	(3,553,631)
7. Net change in Plan Fiduciary Net Position	\$ (22,310,553)	\$ (544,586)	\$ (22,855,139)
8. Plan Fiduciary Net Position – beginning	1,781,172,007	78,218,886	1,859,390,893
9. Plan Fiduciary Net Position – ending	\$1,758,861,454	\$ 77,674,300	\$1,836,535,754
C. Net Pension Liability	\$ 902,380,545	\$ 50,582,921	\$ 952,963,466
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	66.09%	60.56%	65.84%
E. Covered Payroll	\$ 356,127,157	N/A	N/A
F. Net Pension Liability as a percentage of Covered Payroll	253.39%	N/A	N/A

Paid Service

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios

Multiyear

Ultimately 10 Fiscal Years Will Be Displayed

Fiscal year ending December 31,	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 58,728,968	\$ 50,862,406	\$ 50,307,455	\$ 48,365,128	\$ 49,060,513
Interest on the Total Pension Liability	174,000,936	162,537,756	149,980,786	139,022,240	127,980,919
Benefit Changes	(24,831,215)	-	-	-	50,330
Difference between Expected and Actual Experience	32,386,236	27,865,374	20,160,705	6,985,822	(352,391)
Assumption Changes	-	209,424,780	-	51,592,627	-
Benefit Payments, DROP Distributions and Refunds	(70,812,207)	(61,502,387)	(55,899,631)	(43,058,437)	(33,691,888)
Net Change in Total Pension Liability	169,472,718	389,187,929	164,549,315	202,907,380	143,047,483
Total Pension Liability - Beginning	2,491,769,281	2,102,581,352	1,938,032,037	1,735,124,657	1,592,077,174
Total Pension Liability - Ending (a)	<u>\$ 2,661,241,999</u>	<u>\$ 2,491,769,281</u>	<u>\$ 2,102,581,352</u>	<u>\$ 1,938,032,037</u>	<u>\$ 1,735,124,657</u>
Plan Fiduciary Net Position					
Employer Contributions	\$ 78,694,349	\$ 72,369,349	\$ 70,486,795	\$ 62,792,095	\$ 58,994,602
Employee Contributions	24,456,628	23,351,970	21,816,086	21,187,024	21,844,747
Other Contributions	87,759	54,467	38,872	34,066	56,744
Pension Plan Net Investment Income	(51,333,962)	217,674,675	84,905,505	1,567,555	91,210,386
Benefit Payments, DROP Distributions and Refunds	(70,812,207)	(61,502,387)	(55,899,631)	(43,058,437)	(33,691,888)
Pension Plan Administrative Expense	(3,403,120)	(2,826,897)	(2,554,334)	(2,380,241)	(2,167,353)
Net Change in Plan Fiduciary Net Position	(22,310,553)	249,121,177	118,793,293	40,142,062	136,247,238
Plan Fiduciary Net Position - Beginning	1,781,172,007	1,532,050,830	1,413,257,537	1,373,115,475	1,236,868,237
Plan Fiduciary Net Position - Ending (b)	<u>\$ 1,758,861,454</u>	<u>\$ 1,781,172,007</u>	<u>\$ 1,532,050,830</u>	<u>\$ 1,413,257,537</u>	<u>\$ 1,373,115,475</u>
Net Pension Liability - Ending (a) - (b)	902,380,545	710,597,274	570,530,522	524,774,500	362,009,182
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	66.09 %	71.48 %	72.87 %	72.92 %	79.14 %
Covered Payroll	\$ 356,127,157	\$ 339,098,676	\$ 329,344,355	\$ 320,487,331	\$ 310,870,608
Net Pension Liability as a Percentage of Covered Payroll	253.39 %	209.55 %	173.23 %	163.74 %	116.45 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A

Volunteer Service

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios

Multiyear

Ultimately 10 Fiscal Years Will Be Displayed

Fiscal year ending December 31,	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	\$ 2,328,231	\$ 2,137,477	\$ 2,103,552	\$ 2,100,948	\$ 2,087,131
Interest on the Total Pension Liability	8,427,795	8,007,679	7,542,093	7,204,736	6,767,758
Benefit Changes	-	-	-	-	222,045
Difference between Expected and Actual Experience	(86,526)	(578,714)	(996,748)	(1,813,451)	(1,426,660)
Assumption Changes	-	10,514,403	-	2,138,654	-
Benefit Payments	(3,290,465)	(2,917,621)	(2,398,981)	(2,349,142)	(2,040,757)
Refunds	-	-	-	-	-
Net Change in Total Pension Liability	7,379,035	17,163,224	6,249,916	7,281,745	5,609,517
Total Pension Liability - Beginning	120,878,186	103,714,962	97,465,046	90,183,301	84,573,784
Total Pension Liability - Ending (a)	\$ 128,257,221	\$ 120,878,186	\$ 103,714,962	\$ 97,465,046	\$ 90,183,301
Plan Fiduciary Net Position					
Employer Contributions	\$ 5,166,749	\$ 5,040,672	\$ 4,811,421	\$ 4,832,505	\$ 4,969,527
Employee Contributions	-	-	-	-	-
Pension Plan Net Investment Income	(2,270,359)	9,538,538	3,686,585	74,751	3,842,540
Benefit Payments	(3,290,465)	(2,917,621)	(2,398,981)	(2,349,142)	(2,040,757)
Refunds	-	-	-	-	-
Pension Plan Administrative Expense	(150,511)	(123,875)	(111,065)	(101,882)	(91,307)
Reconciliation Adjustment	-	-	-	-	-
Net Change in Plan Fiduciary Net Position	(544,586)	11,537,714	5,987,960	2,456,232	6,680,003
Plan Fiduciary Net Position - Beginning	78,218,886	66,681,172	60,693,212	58,236,980	51,556,977
Plan Fiduciary Net Position - Ending (b)	\$ 77,674,300	\$ 78,218,886	\$ 66,681,172	\$ 60,693,212	\$ 58,236,980
Net Pension Liability - Ending (a) - (b)	50,582,921	42,659,300	37,033,790	36,771,834	31,946,321
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	60.56 %	64.71 %	64.29 %	62.27 %	64.58 %
Covered Payroll	N/A	N/A	N/A	N/A	N/A
Net Pension Liability as a Percentage of Covered Payroll	N/A	N/A	N/A	N/A	N/A
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A

Schedules of Required Supplementary Information

Schedule of the Net Pension Liability Multiyear

LOPFI Paid Service Employers

Ultimately 10 Fiscal Years Will Be Displayed

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	\$ 1,735,124,657	\$ 1,373,115,475	\$ 362,009,182	79.14%	\$ 310,870,608	116.45%
2015	1,938,032,037	1,413,257,537	524,774,500	72.92%	320,487,331	163.74%
2016	2,102,581,352	1,532,050,830	570,530,522	72.87%	329,344,355	173.23%
2017	2,491,769,281	1,781,172,007	710,597,274	71.48%	339,098,676	209.55%
2018	2,661,241,999	1,758,861,454	902,380,545	66.09%	356,127,157	253.39%

* Actual payroll reported for years beginning December 31, 2014 and thereafter. Census payroll reported for valuation at year end for years prior to December 31, 2014. Contributions are made on actual payroll during the year.

LOPFI Volunteer Service Employers

Ultimately 10 Fiscal Years Will Be Displayed

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	\$ 90,183,301	\$ 58,236,980	\$ 31,946,321	64.58%	N/A	N/A
2015	97,465,046	60,693,212	36,771,834	62.27%	N/A	N/A
2016	103,714,962	66,681,172	37,033,790	64.29%	N/A	N/A
2017	120,878,186	78,218,886	42,659,300	64.71%	N/A	N/A
2018	128,257,221	77,674,300	50,582,921	60.56%	N/A	N/A

Schedule of Contributions Multiyear

LOPFI Paid Service Employers

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
2009	\$ 38,927,727	\$ 38,927,727	\$ -	\$ 261,756,026	14.87%
2010	39,299,629	39,299,629	-	265,628,662	14.79%
2011	46,312,346	46,312,346	-	274,656,592	16.86%
2012	48,370,995	48,370,995	-	282,170,105	17.14%
2013	54,034,420	54,034,420	-	296,617,370	18.22%
2014	58,994,602	58,994,602	-	310,870,608	18.98%
2015	62,792,095	62,792,095	-	320,487,331	19.59%
2016	70,486,795	70,486,795	-	329,344,355	21.40%
2017	72,369,349	72,369,349	-	339,098,676	21.34%
2018	78,694,349	78,694,349	-	356,127,157	22.10%

* Actual payroll reported for years beginning December 31, 2014 and thereafter. Census payroll reported for valuation at year end for years prior to December 31, 2014. Contributions are made on actual payroll during the year.

We do not compute a dollar amount for the Actuarially Determined Contribution. It is our understanding that employers contribute the Actuarially Determined Contribution. The amount shown in this column, therefore, matches the actual contributions.

LOPFI Volunteer Service Employers

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
2009	\$ 3,031,862	\$ 3,031,862	\$ -	N/A	N/A
2010	3,610,187	3,610,187	-	N/A	N/A
2011	3,960,764	3,960,764	-	N/A	N/A
2012	4,195,779	4,195,779	-	N/A	N/A
2013	4,359,914	4,359,914	-	N/A	N/A
2014	4,969,527	4,969,527	-	N/A	N/A
2015	4,832,505	4,832,505	-	N/A	N/A
2016	4,811,421	4,811,421	-	N/A	N/A
2017	5,040,672	5,040,672	-	N/A	N/A
2018	5,166,749	5,166,749	-	N/A	N/A

We do not compute a dollar amount for the Actuarially Determined Contribution. It is our understanding that employers contribute the Actuarially Determined Contribution. The amount shown in this column, therefore, matches the actual contributions.

Paid Service

Notes to Schedule of Contributions

Valuation Date: December 31, 2016
Notes Actuarially determined contribution rates are calculated as of December 31, which is one year prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year 2018:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	16.8 years beginning January 1, 2018
Asset Valuation Method	5-Year smoothed market; 20% corridor
Wage Inflation	3.75%
Price Inflation	2.75%
Salary Increases	4.25% to 18.75%, including inflation
Investment Rate of Return	7.75%, as adopted by the Board
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2008 - 2011.
Mortality	RP-2000 Combined Healthy Mortality Table Projected to 2017 Table, set forward two years for men. Disability post-retirement mortality was assumed to be the same as standard post-retirement mortality set forward an additional 10 years.

Other Information:

Notes There were no changes in benefit provisions, assumptions or methods in the December 31, 2016 actuarial valuation.

Volunteer Service

Notes to Schedule of Contributions

Valuation Date: December 31, 2016
Notes Actuarially determined contribution rates are calculated as of December 31, which is one year prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year 2018:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Increasing Dollar, Closed
Remaining Amortization Period	18.5 years beginning January 1, 2018
Asset Valuation Method	5-Year smoothed market; 20% corridor
Price Inflation	2.75%
Investment Rate of Return	7.75%, as adopted by the Board
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2008 - 2011.
Mortality	RP-2000 Combined Healthy Mortality Table Projected to 2017 Table, set forward two years for men. Disability post-retirement mortality was assumed to be the same as standard post-retirement mortality set forward an additional 10 years.

Other Information:

Notes There were no changes in benefit provisions, assumptions or methods in the December 31, 2016 actuarial valuation.

Schedule of Investment Returns Multiyear Last 10 Fiscal Years

<u>FY Ending December 31,</u>	<u>Annual Return¹</u>
2009	17.75 %
2010	9.57 %
2011	0.20 %
2012	11.17 %
2013	17.33 %
2014	6.80 %
2015	(0.05)%
2016	5.76 %
2017	13.91 %
2018	(3.06)%

¹ Money-weighted annual return determined by GRS. Monthly money-weighted returns are not available.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

Information about the assumed rate of investment return is included in the 2012-2016 five-year experience study. The assumed rate of investment return falls within a reasonable range of the long-term expected rate of return.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real returns for the 10-year period from 2018 to 2027 were based on capital market assumptions collected from a dozen national investment consultants. For each major asset class that is included in the pension plan's target asset allocation as of December 31, 2018, these best estimates are summarized in the following table:

Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>	<u>Allocation-Weighted Long-Term Expected Real Rate of Return</u>
Fixed Income	28%	0.9%	0.25%
Domestic Equity	42%	5.3%	2.23%
Foreign Equity	20%	7.0%	1.40%
Alternative Investments	10%	6.2%	0.62%
Total	<u>100%</u>		<u>4.50%</u>
Expected Inflation			<u>2.50%</u>
Total Return			<u>7.00%</u>

Gabriel, Roeder, Smith & Company does not provide investment advice.

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 difference between actuarially determined contribution rates and the member rate. 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.

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 6.00%	Current Single Discount Rate Assumption 7.00%	1% Increase 8.00%
Paid Service	\$1,331,799,789	\$902,380,545	\$556,351,554
Volunteer Service	72,665,605	50,582,921	33,003,891
Total	\$1,404,465,394	\$952,963,466	\$589,355,445

Summary of Population Statistics

	Paid Service	Volunteer Service
Inactive Plan Members or Beneficiaries Currently Receiving Benefits (Including DROP)	3,180	2,888
Inactive Plan Members Entitled to But Not Yet Receiving Benefits #	5,685	6,268
Active Plan Members	6,362	7,461
Total Plan Members	15,227	16,617

These counts include 1,748 and 2,394 inactive linked records for paid service and volunteer service, respectively. These records will generate separate checks at retirement as well as separate counts.

SECTION E

SUMMARY OF BENEFITS

Arkansas Local Police and Fire Retirement System
Brief Summary as of December 31, 2018 of LOPFI Coverage for
BENEFIT PROGRAM 1 PAID SERVICE
Benefits and Conditions Evaluated and/or Considered
(Section references are to Arkansas Code of 1987, including
amendments from 2019 General Assembly Session)

Voluntary Retirement. Section 24-10-604. A member may retire with an age & service annuity after both (i) completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, and (ii) attaining his normal retirement age. The normal retirement age is age 60 for a member with less than 20 years credited service, age 55 for a member with at least 20 years credited service or any age for a member with 28 or more years of credited service.

Compulsory Retirement. Section 24-10-605. Established by each employer.

Paid Service. Section 24-10-102(13). Covered employment which is half-time employment or more, and for which a minimum dollar amount is paid. For each calendar month in 1981, the minimum is \$500 for the month. For each later calendar year, the \$500 is indexed for inflation (Consumer Price Index). Accordingly, the monthly minimum during 2018 was \$1,410.

Volunteer Service. Section 24-10-102(14). Covered employment which cannot be classified as Paid Service.

Final Average Pay. Section 24-10-102(16)(A). The average of a member's monthly pay during the period of 36 consecutive months of credited Paid Service producing the highest monthly average, which period is contained within the 120 consecutive months of credited Paid Service immediately preceding retirement. Not applicable to Volunteer Service.

Age & Service Annuity. Section 24-10-602. The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

- A. **Paid Service Not Covered by Social Security.** For each year of such service, 2.94% of the member's final average pay.
- B. **Paid Service Also Covered by Social Security.** For each year of such service, 1.94% of the member's final average pay. In addition, there is a temporary annuity equal to 1.0% of the member's final average pay for each year of service, payable to normal Social Security retirement age.
- C. At time of retirement, the total of A plus B cannot exceed 100% of final average pay.

Early Annuity. Section 24-10-606. A member may retire with an early annuity after both (i) completing 20 years of credited service, and (ii) attaining age 50 or (iii) after completing 25 years of credited paid service. The early annuity amount, payable monthly for life, is computed in the same manner as an age & service annuity, based upon his service and pay record to time of early retirement, but reduced to reflect the fact that his age when payments begin is younger than his normal retirement age. The amount of the reduction is 1/2 of 1% (.005) for each month his age at early retirement is younger than his normal retirement age (age 55 for members with 25 years of credited paid service).

Vested Termination Annuity. Section 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he becomes eligible for a vested termination annuity; provided he lives to his normal retirement age and does not withdraw his accumulated contributions. The vested annuity amount, payable monthly for life from his normal retirement age, is computed in the same manner as an age & service annuity, based upon his service and pay record to time of leaving LOPFI coverage.

Non-Duty Disability Annuity. Section 24-10-607(a)(1)(A). A member with 5 or more years (10 or more years for members hired on or after July 1, 2013) of credited service who becomes totally and permanently disabled from other than duty-connected causes receives a non-duty disability annuity computed in the same manner as an age & service annuity, based upon his service and pay record to time of disability.

Duty Disability Annuity. Section 24-10-607(c)(1)(A). A member who becomes totally and permanently disabled from duty-connected causes receives a duty disability annuity computed in the same manner as an age & service annuity, based upon his service and pay record to time of disability. The minimum annuity payable is 65% of the member's final average pay.

Non-Duty Death-in-Service. Paid Member. Section 24-10-608(a)(1). Upon the death, from other than duty-connected causes, of a Paid Service member who had completed 5 years (10 years for members hired on or after July 1, 2013) of paid service, his eligible surviving dependents receive the following benefits:

- (a) The surviving spouse receives an annuity equal to the Option B50 annuity (joint and 50% survivor benefit) computed based upon the deceased member's service (and pay) record to time of death. Minimum of 20% of member's final average pay, or \$125 monthly if greater.
- (b) While a spouse benefit is payable, each dependent child under age 18 (age 23 if full time student) receives 10% of member's final average pay, or \$25 monthly if greater. The totals for 4 or more children cannot exceed 30% of final average pay, or \$125 monthly if greater.
- (c) While no spouse benefit is payable, each dependent child under age 18 (age 23 if full time student) receives 20% of member's final average pay, or \$25 monthly if greater. The total for 3 or more children cannot exceed 50% of final average pay, or \$125 monthly if greater.
- (d) If there is neither spouse nor child at time of member's death, each dependent parent receives 20% of final average pay.

Duty Death-in-Service. Section 24-10-608(b)(1). Upon the death of a Paid Service member from duty-connected causes, regardless of length of service, his eligible surviving dependents receive the same benefits as for Non-Duty Death, except that if credited service at time of death is less than 25 years, credited service is increased to 25 years.

Benefit Changes After Retirement. Section 24-10-612. There is an annual redetermination of monthly benefit amount, beginning the July first following 12 months of retirement. The redetermined amount is 3.0% of the monthly benefit from the preceding July.

Member Contributions. Sections 24-10-404 and 24-10-613. Each member contributes 8.5% of his covered pay if his covered employment is resulting in Paid Service credit and is not covered by Social Security. For other covered employment conditions, each member contributes 2.5% of his covered pay. Individual member deposit accounts do not receive interest credit. If a member leaves LOPFI-covered employment before an annuity is payable on his behalf, the member may choose to have his accumulated contributions refunded to him. If he dies, his accumulated contributions are refunded to his designated beneficiary.

Employer Contributions. Section 24-10-405. Each employer contributes the remainder amounts necessary to finance its employees' participation in LOPFI. Contributions to LOPFI are determined based upon level-rate principles, so that contribution rates do not have to increase over decades of time.

DROP (Deferred Retirement Option Plan). Sections 24-10-701 through 24-10-708. Paid service members who have attained age 55 with at least 20 years of service or members with at least 28 years of service may participate. A participant with 28 years of service will receive 75% of his accrued benefit at time of DROP election while in the DROP, payable into the participant's DROP account (which will be credited with 6% interest annually). A participant with less than 28 years of service will receive 72% of his accrued benefit at time of DROP election while in the DROP, payable into the participant's DROP account (which will be credited with 6% interest annually). The duration of participation in the DROP shall not exceed 7 years. When a member has reached year 6 of participation in the DROP, the amount of the accrued benefit at the time of DROP election shall be redetermined. The redetermined amount shall be the amount of the benefit as of the immediately preceding July 1 increased by 3%. The redetermined amount shall be payable only when the member elects to cease employment and receive a service retirement and shall not be added to the plan account. Employer and employee contributions continue and are used to finance System benefits (i.e., they are not deposited to the participant's DROP account). For additional details please refer to Arkansas Code, Title 24, Chapter 10, Subchapter 7.

Arkansas Local Police and Fire Retirement System
Brief Summary as of December 31, 2018 of LOPFI Coverage for
BENEFIT PROGRAM 2 PAID SERVICE
Benefits and Conditions Evaluated and/or Considered
(Section references are to Arkansas Code of 1987, including
amendments from 2019 General Assembly Session)

The provisions for Benefit Program 2 employers are the same as those for Benefit Program 1 employers with the following exception:

Age & Service Annuity. Section 24-10-602. The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

A. ***Paid Service Not Covered by Social Security.***

- **Paid Service Before Adoption of Benefit Program 2.** For each year of such service, 2.94% of the member's final average pay.
- **Paid Service After Adoption of Benefit Program 2.** For each year of such service, 3.28% of the member's final average pay.
- At time of retirement, the total cannot exceed 100% of final average pay.

B. ***Paid Service Also Covered by Social Security.***

- **Paid Service Before Adoption of Benefit Program 2.** For each year of such service, 1.94% of the member's final average pay, plus a temporary annuity equal to 1.0% of the member's final average pay for each year of service, payable to normal Social Security retirement age.
- **Paid Service After Adoption of Benefit Program 2.** For each year of such service, 2.94% of the member's final average pay.
- At time of retirement, the total cannot exceed 100% of final average pay.

Arkansas Local Police and Fire Retirement System
Brief Summary as of December 31, 2018 of LOPFI Coverage for
VOLUNTEER SERVICE
Benefits and Conditions Evaluated and/or Considered
(Section references are to Arkansas Code of 1987, including
amendments from 2019 General Assembly Session)

Voluntary Retirement. Section 24-10-604. A member may retire with an age & service annuity after both (i) completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, and (ii) attaining his normal retirement age. The normal retirement age is age 60 for a member with less than 20 years credited service, age 55 for a member with at least 20 years credited service or any age for a member with 28 or more years of credited service.

Compulsory Retirement. Section 24-10-605. Established by each employer.

Paid Service. Section 24-10-102(13). Covered employment which is half-time employment or more, and for which a minimum dollar amount is paid. For each calendar month in 1981, the minimum is \$500 for the month. For each later calendar year, the \$500 is indexed for inflation (Consumer Price Index). Accordingly, the monthly minimum during 2018 was \$1,410.

Volunteer Service. Section 24-10-102(14). Covered employment which cannot be classified as Paid Service.

Age & Service Annuity. Section 24-10-102(16)(A). The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

Volunteer Service. For each year of Benefit Program 3 Volunteer Service, \$5.00 monthly, to a maximum of \$200 monthly for all volunteer service. Beginning in 2003, each July 1 these amounts are indexed for inflation by any percentage increase in the inflation index for the period from December 2003 to the December immediately preceding July 1, for members retiring in the next 12 months. Accordingly, the basic benefit factor reflected in the December 31, 2018 valuations was \$6.80 monthly. For each year of Benefit Program 4 Volunteer Service, \$10.00 monthly, to a maximum benefit of \$400 monthly for all volunteer service. Beginning in 2013, each July 1 these amounts are indexed for inflation by any percentage increase in the inflation index for the period from December 2011 to the December immediately preceding July 1, for members retiring in the next 12 months. Accordingly, the basic benefit factor reflected in the December 31, 2018 valuations was \$11.02 monthly.

Early Annuity. Section 24-10-606. A member may retire with an early annuity after both (i) completing 20 years of credited service, and (ii) attaining age 50. The early annuity amount, payable monthly for life, is computed in the same manner as an age & service annuity, based upon his service record to time of early retirement, but reduced to reflect the fact that his age when payments begin is younger than his normal retirement age. The amount of the reduction is 1/2 of 1% (.005) for each month his age at early retirement is younger than his normal retirement age.

Vested Termination Annuity. Section 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he becomes eligible for a vested termination annuity; provided he lives to his normal retirement age (and does not withdraw any accumulated contributions). The vested annuity amount, payable monthly for life from his normal retirement age, is computed in the same manner as an age & service annuity, based upon his service record to time of leaving LOPFI coverage.

Non-Duty Disability Annuity. Section 24-10-607(a)(1)(A). A member with 5 or more years (10 or more years for members hired on or after July 1, 2013) of credited service who becomes totally and permanently disabled from other than duty-connected causes receives a non-duty disability annuity computed in the same manner as an age & service annuity, based upon his service record to time of disability.

Duty Disability Annuity. Section 24-10-607(c)(1)(A). A member who becomes totally and permanently disabled from duty-connected causes receives a duty disability annuity computed in the same manner as an age & service annuity, based upon his service and pay record to time of disability. If the member had less than 25 years of service at time of disability, credited service is increased to 25 years.

Non-Duty Death-in-Service. Volunteer Member. Section 24-10-609. Upon the death, from other than duty-connected causes, of a Volunteer member who had completed 5 years (10 years for members hired on or after July 1, 2013) of volunteer service, or who was eligible for normal retirement, his eligible surviving dependents receive the following benefits:

- (a) The surviving spouse receives an annuity equal to the Option B50 annuity (joint and 50% survivor benefit) computed based upon the deceased member's service record to time of death.
- (b) Each dependent child under age 18 (age 23 if full time student) receives \$15 monthly. The totals for 3 or more children cannot exceed \$40 monthly.

Duty Death-in-Service. Section 24-10-608(b)(1). Upon the death of a Paid Service member from duty-connected causes, regardless of length of service, his eligible surviving dependents receive the same benefits as for Non-Duty Death, except that if credited service at the time of death is less than 25 years, credited service is increased to 25 years.

Benefit Changes After Retirement. Section 24-10-612. There is an annual redetermination of monthly benefit amount, beginning the July first following 12 months of retirement. The redetermined amount is 3.0% of the monthly benefit from the preceding July.

Member Contributions. For Volunteer Service credit, members do not contribute.

Employer Contributions. Section 24-10-405. Each employer contributes the amounts necessary to finance all employees participation in LOPFI. Contributions to LOPFI are determined based upon level-rate principles, so that contribution rates do not have to increase over decades of time.

SECTION F

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Summary of Assumptions Used for LOPFI GASB Accounting Reports

The actuarial assumptions used in the calculation of the Total Pension Liabilities are shown in this section of the report. The assumptions are established by the Board after consulting with the actuary as outlined in A.C.A. 24-10-205(a)(1) with the exception of the economic assumptions. The economic assumptions for purposes of the GASB Accounting reports were selected by the actuary based on the results of an experience study covering the period from January 1, 2012 through December 31, 2016.

ECONOMIC ASSUMPTIONS

The investment return rate used in this report was 7.00% per year, compounded annually (net after administrative expenses). This rate of return is not the assumed real rate of return. The real rate of return is defined to be the portion of investment return which is more than the wage inflation rate. With a 3.25% wage inflation assumption, the 7.00% investment return rate translates to an assumed real rate of return of 3.75%.

Price inflation was assumed to be 2.50% a year. This assumption was utilized to increase the basic benefit factor for volunteer members.

Pay increase assumptions for individual active members are summarized in Schedule A-5. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation.

Total active member payroll is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation.

The number of active members is assumed to continue at the present number for LOPFI plans.

NON-ECONOMIC ASSUMPTIONS

The mortality tables used to measure retired life mortality were the RP-2014 Healthy Annuitant benefit weighted generational mortality tables for males and females. The disability post-retirement mortality tables used were the RP-2014 Disabled Retiree benefit weighted generational mortality tables for males and females. The death-in-service mortality tables used were the RP-2014 Employee benefit weighted generational mortality tables for males and females. Fifty percent of deaths-in-service were assumed to be duty related. The tables applied credibility adjustments of 135% for males and 125% for females and were adjusted for fully generational mortality improvements using Scale MP-2016. Related retired life mortality values are shown in Schedule A-1.

The probabilities of retirement for members eligible to retire are shown in Schedule A-3.

The probabilities of withdrawal from service are summarized in Schedule A-4, and the **probabilities of disability** are summarized in Schedule A-2.

An individual entry age actuarial cost method of valuation was used in determining age & service allowance normal costs and the allocation of actuarial present values between service rendered before and after the valuation date. The entry-age actuarial cost method has the following characteristics:

- (i) the annual normal costs for each individual active member, payable from the member's actual date of employment to the member's projected date of retirement are sufficient to accumulate the actuarial present value of the member's benefit at the time of retirement; and
- (ii) each annual normal cost is: (a) a constant percentage of the member's year by year projected covered pay for paid service plans, or (b) an increasing dollar amount for volunteer service plans.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") are inevitable and become part of accrued liabilities. In LOPFI, cumulative actuarial losses and gains are the same as unfunded (or overfunded) accrued liabilities.

Unfunded accrued liabilities are amortized to produce contribution amounts (principal and interest) which are (a) level percent of payroll contributions over a period of future years for paid service plans, or (b) increasing dollar amounts for volunteer service plans.

For Benefit Program 3 volunteer service plans, the contribution rates from the December 31, 2002 valuation were developed based on a \$5.00 per month basic benefit factor. This factor is \$6.80 effective July 1, 2018 and is assumed to increase at the assumed rate of price inflation in future years. For Benefit Program 4 volunteer service plans, the contribution rates from the December 31, 2012 valuation were developed based on a \$10.00 per month basic benefit factor. This factor is \$11.02 effective July 1, 2018 and is assumed to increase at the assumed rate of price inflation in future years.

OTHER TECHNICAL ASSUMPTIONS -----

Decrements are assumed to occur at the middle of the valuation year.

The probability of being married, for death-in-service benefits, is assumed to be 90%.

Members who are eligible to participate in the DROP are assumed to participate in the DROP program in such a manner that is the most advantageous to them.

Future service credit is always assumed to accrue at the rate of 1 year of credit every 12 calendar months. Lower service accrual rates (service breaks or less-than-full-time employment) or higher service accrual rates (addition of military credit or reinstatement of prior service) are reflected as they are reported. Any lower or higher accrual rates may result in small financial gains or losses when reported.

The form of benefit payment assumed in the valuation for paid service and volunteer service plans is the Five Year Certain and Life Option. For local plans under LOPFI administration, the assumed form of benefit payment is 100% joint and survivor for police plans and the Life Option for fire plans. For local fire plans under LOPFI administration who have adopted Act 397, the assumed form of benefit payment is 100% joint and survivor.

Employer contribution dollars were assumed to be **paid in equal installments** throughout the employer fiscal year.

Present assets (cash & investments) were used based on a smoothed market value.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

Schedule A-1

Single Life Retirement Values

Based on the RP-2014 Healthy Annuitant Generational Mortality Tables and 7.00% Interest

Sample Attained Ages	Probability of Dying Next Year*		Value at Retirement \$1.00 Monthly for Life		Future Life Expectancy (years)*					
	Men	Women	Men	Women	2018		2023		2028	
					Men	Women	Men	Women	Men	Women
35	0.173%	0.136%	\$ 163.31	\$ 166.21	46.33	50.01	46.89	50.53	47.44	51.05
40	0.254%	0.208%	158.98	162.86	41.24	44.90	41.77	45.40	42.31	45.91
45	0.364%	0.264%	153.55	158.64	36.29	39.91	36.80	40.39	37.32	40.88
50	0.536%	0.335%	146.74	153.03	31.49	34.97	32.00	35.44	32.50	35.92
55	0.770%	0.469%	138.45	145.65	26.90	30.12	27.39	30.58	27.86	31.04
60	1.077%	0.700%	128.40	136.43	22.54	25.46	22.98	25.88	23.42	26.31
65	1.548%	1.045%	116.40	125.22	18.43	21.04	18.81	21.42	19.21	21.82
70	2.310%	1.621%	102.27	111.59	14.61	16.87	14.93	17.22	15.29	17.58
75	3.679%	2.649%	86.02	95.58	11.11	13.01	11.40	13.34	11.70	13.66
80	6.196%	4.522%	68.48	77.85	8.03	9.58	8.29	9.86	8.54	10.14

* Life expectancies in future years are determined by the fully generational MP-2016 projection scale.

Sample Attained Ages	Benefit Increasing 3.00% Yearly	Portion of Age 55 Lives Still Alive	Sample Attained Ages
55	\$100	100 %	55
60	116	95	60
65	134	89	65
70	156	81	70
75	181	69	75
80	209	53	80

Schedule A-2 Probabilities of Disability Retirement

Paid Service Members

Sample Ages	Percent Becoming Disabled within Next Year	
	Non-Duty	Duty
20	0.07 %	0.12 %
25	0.07	0.12
30	0.10	0.15
35	0.13	0.21
40	0.20	0.32
45	0.31	0.49
50	0.52	0.84
55	0.91	1.45
60	1.36	2.18

Volunteer Service Members

Sample Ages	Percent Becoming Disabled within Next Year	
	Non-Duty	Duty
20	0.04 %	0.00 %
25	0.04	0.00
30	0.04	0.00
35	0.04	0.00
40	0.09	0.01
45	0.12	0.01
50	0.23	0.02
55	0.41	0.04
60	0.65	0.06

Schedule A-3

Probabilities of Retirement for Members Eligible to Retire

Paid Service Members

Retirement Ages	Percents of Active Members Retiring within Next Year		Years of Service	Percents of Active Members Retiring within Next Year
	Early	Normal		
45-49	6 %			
50-54	6			
55		18 %	28	20 %
56		15	29	15
57		15	30	15
58		15	31	15
59		15	32	15
60		20	33	25
61		15	34	100
62		25		
63		25		
64		25		
65		50		
66		60		
67		70		
68		80		
69		90		
70+		100		

A member was assumed eligible for retirement after attaining age 55 with 20 years of service or age 60 with 5 years of service or any age with 28 or more years of service. A member was assumed to retire with 100% probability at 34 or more years of service credit.

A member was assumed eligible for a reduced benefit after attaining age 50 with 20 or more years of service or any age with 25 or more years of paid service credit.

The probabilities of retirement shown above represent ultimate termination of employment (whether or not the member participates in the DROP).

Schedule A-3

Probabilities of Retirement for Members Eligible to Retire (Concluded)

Volunteer Service Members

Retirement Ages	Percents of Active Members Retiring within Next Year	
	Early	Normal
Under 50		18 %
50-54	2.5 %	18
55-59		15
60-64		10
65-69		15
70-74		20
75+		100

A member was assumed to be eligible for retirement after 28 years of service, attaining age 55 with 20 years of service, or age 60 with 5 years of service.

A member was assumed eligible for a reduced benefit after attaining age 50 with 20 or more years of service.

Schedule A-4

Rates of Separation (Excluding Deaths and Disability) from Active Employment Before Retirement

Paid Service Members

Sample Ages	Years of Service	% of Active Members Separating within Next Year
ALL	0	18.00 %
	1	16.00
	2	13.00
	3	11.00
	4	10.00
25	5 & Over	9.42
30		7.92
35		6.07
40		4.84
45		3.87
50		3.08
55		0.88
60		0.00

Volunteer Service Members

Sample Ages	Years of Service	% of Active Members Separating within Next Year
ALL	0	23.00 %
	1	21.00
	2	19.00
	3	17.00
	4	15.00
25	5 & Over	9.50
30		9.50
35		9.50
40		9.50
45		9.50
50		9.50
55		9.50
60		9.50

Schedule A-5

Pay Increase Assumptions for an Individual Paid Service Member

Pay Increase Assumptions for an Individual Member			
Service Years	Merit and Seniority	Base (Economic)	Increase Next Year
1	15.00%	3.25%	18.25%
2	9.00%	3.25%	12.25%
3	4.00%	3.25%	7.25%
4	3.00%	3.25%	6.25%
5	2.00%	3.25%	5.25%
6	1.50%	3.25%	4.75%
7	1.50%	3.25%	4.75%
8	1.50%	3.25%	4.75%
9	1.00%	3.25%	4.25%
10	1.00%	3.25%	4.25%
11	0.50%	3.25%	3.75%
12	0.50%	3.25%	3.75%
13	0.50%	3.25%	3.75%
14	0.50%	3.25%	3.75%
15	0.50%	3.25%	3.75%
16	0.50%	3.25%	3.75%
17	0.50%	3.25%	3.75%
18	0.50%	3.25%	3.75%
19	0.50%	3.25%	3.75%
20+	0.50%	3.25%	3.75%

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 “risk-free” 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 as of the measurement date (to the extent that the plan’s projected fiduciary net position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 3.71%; and the resulting SDR 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 Fiduciary 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. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

Paid Service
Single Discount Rate Development
Projection of Contributions Beginning January 1, 2019
(Years 1-50)

Year	Projected Payroll for Current Employees	Projected Contributions from Current Employees	Projected Service Cost and Expense Contributions	Projected UAL Contributions	Projected Total Contributions
0	\$ 356,127,157				
1	344,133,130	\$ 23,247,687	\$ 36,911,303	\$ 49,786,755	\$ 109,945,744
2	318,188,724	21,426,995	36,000,579	52,934,033	110,361,606
3	298,314,729	20,038,750	35,156,812	56,335,412	111,530,975
4	281,845,520	18,896,161	34,254,947	62,147,078	115,298,186
5	265,567,621	17,754,177	33,408,301	68,276,997	119,439,475
6	251,780,865	16,790,563	32,421,081	74,739,718	123,951,362
7	238,220,137	15,845,720	31,435,502	81,550,399	128,831,621
8	224,457,103	14,887,735	30,400,003	88,724,830	134,012,568
9	210,799,761	13,944,303	29,358,391	96,279,461	139,582,155
10	197,111,131	13,005,697	28,293,024	104,231,428	145,530,149
11	183,697,074	12,086,896	27,240,809	112,598,577	151,926,282
12	171,117,338	11,222,211	26,261,599	121,399,497	158,883,306
13	159,179,343	10,405,145	25,344,070	130,653,544	166,402,759
14	147,330,713	9,594,797	24,432,495	140,380,876	174,408,168
15	135,776,543	8,805,729	23,559,352	150,602,482	182,967,564
16	125,061,601	8,080,115	22,768,342	161,340,215	192,188,672
17	114,963,236	7,405,115	22,041,538	172,616,827	202,063,479
18	105,235,627	6,760,715	21,364,761	-	28,125,476
19	95,728,426	6,131,286	20,361,619	-	26,492,905
20	86,512,292	5,519,180	19,367,325	-	24,886,505
21	77,652,048	4,932,368	18,392,662	-	23,325,030
22	69,111,850	4,370,738	17,426,022	-	21,796,760
23	60,929,976	3,840,159	16,472,544	-	20,312,703
24	53,275,002	3,351,926	15,555,490	-	18,907,416
25	45,997,224	2,890,775	14,664,103	-	17,554,878
26	39,005,966	2,449,411	13,785,366	-	16,234,776
27	32,477,251	2,036,756	12,936,130	-	14,972,886
28	26,173,861	1,635,481	12,091,944	-	13,727,425
29	20,313,009	1,264,748	11,277,132	-	12,541,880
30	15,359,116	953,392	10,544,606	-	11,497,999
31	11,134,914	691,575	9,870,550	-	10,562,125
32	7,277,960	454,715	9,215,221	-	9,669,936
33	3,843,045	242,049	8,588,020	-	8,830,070
34	1,146,860	73,518	8,028,178	-	8,101,696
35	-	-	7,630,485	-	7,630,485
36	-	-	7,355,839	-	7,355,839
37	-	-	7,073,171	-	7,073,171
38	-	-	6,783,604	-	6,783,604
39	-	-	6,488,891	-	6,488,891
40	-	-	6,191,018	-	6,191,018
41	-	-	5,891,619	-	5,891,619
42	-	-	5,592,010	-	5,592,010
43	-	-	5,293,481	-	5,293,481
44	-	-	4,997,190	-	4,997,190
45	-	-	4,704,138	-	4,704,138
46	-	-	4,415,193	-	4,415,193
47	-	-	4,131,164	-	4,131,164
48	-	-	3,852,865	-	3,852,865
49	-	-	3,581,135	-	3,581,135
50	-	-	3,316,809	-	3,316,809

Paid Service
Single Discount Rate Development
Projection of Contributions Beginning January 1, 2019
(Years 51-100)

Year	Projected Payroll for Current Employees	Projected Contributions from Current Employees	Projected Service Cost and Expense Contributions	Projected UAL Contributions	Projected Total Contributions
51	\$ -	\$ -	\$ 3,060,645	\$ -	\$ 3,060,645
52	-	-	2,813,324	-	2,813,324
53	-	-	2,575,452	-	2,575,452
54	-	-	2,347,564	-	2,347,564
55	-	-	2,130,127	-	2,130,127
56	-	-	1,923,537	-	1,923,537
57	-	-	1,728,118	-	1,728,118
58	-	-	1,544,121	-	1,544,121
59	-	-	1,371,732	-	1,371,732
60	-	-	1,211,069	-	1,211,069
61	-	-	1,062,183	-	1,062,183
62	-	-	925,055	-	925,055
63	-	-	799,590	-	799,590
64	-	-	685,615	-	685,615
65	-	-	582,873	-	582,873
66	-	-	491,021	-	491,021
67	-	-	409,630	-	409,630
68	-	-	338,190	-	338,190
69	-	-	276,118	-	276,118
70	-	-	222,770	-	222,770
71	-	-	177,453	-	177,453
72	-	-	139,443	-	139,443
73	-	-	107,996	-	107,996
74	-	-	82,364	-	82,364
75	-	-	61,807	-	61,807
76	-	-	45,608	-	45,608
77	-	-	33,079	-	33,079
78	-	-	23,580	-	23,580
79	-	-	16,527	-	16,527
80	-	-	11,401	-	11,401
81	-	-	7,755	-	7,755
82	-	-	5,218	-	5,218
83	-	-	3,486	-	3,486
84	-	-	2,325	-	2,325
85	-	-	1,558	-	1,558
86	-	-	1,053	-	1,053
87	-	-	722	-	722
88	-	-	501	-	501
89	-	-	352	-	352
90	-	-	248	-	248
91	-	-	175	-	175
92	-	-	123	-	123
93	-	-	85	-	85
94	-	-	58	-	58
95	-	-	39	-	39
96	-	-	26	-	26
97	-	-	17	-	17
98	-	-	11	-	11
99	-	-	8	-	8
100	-	-	6	-	6

Paid Service
Single Discount Rate Development
Projection of Plan Fiduciary Net Position Beginning January 1, 2019
(Years 1-50)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 1,758,861,454	\$ 109,945,744	\$ 90,187,907	\$ 3,341,837	\$ 123,685,144	\$ 1,898,962,598
2	1,898,962,598	110,361,606	95,260,863	3,608,029	133,322,824	2,043,778,136
3	2,043,778,136	111,530,975	105,595,885	3,883,178	143,135,072	2,188,965,120
4	2,188,965,120	115,298,186	116,259,457	4,159,034	153,051,379	2,336,896,193
5	2,336,896,193	119,439,475	116,451,568	4,440,103	163,532,766	2,498,976,764
6	2,498,976,764	123,951,362	127,896,791	4,748,056	174,629,248	2,664,912,526
7	2,664,912,526	128,831,621	140,424,294	5,063,334	185,970,776	2,834,227,296
8	2,834,227,296	134,012,568	153,202,073	5,385,032	197,550,349	3,007,203,108
9	3,007,203,108	139,582,155	166,497,731	5,713,686	209,381,508	3,183,955,354
10	3,183,955,354	145,530,149	180,550,363	6,049,515	221,463,746	3,364,349,371
11	3,364,349,371	151,926,282	195,414,573	6,392,264	233,788,164	3,548,256,980
12	3,548,256,980	158,883,306	209,785,671	6,741,688	246,394,570	3,737,007,497
13	3,737,007,497	166,402,759	223,498,725	7,100,314	259,381,656	3,932,192,873
14	3,932,192,873	174,408,168	237,827,366	7,471,166	272,814,302	4,134,116,812
15	4,134,116,812	182,967,564	252,345,717	7,854,822	286,730,741	4,343,614,578
16	4,343,614,578	192,188,672	265,925,979	8,252,868	301,231,899	4,562,856,302
17	4,562,856,302	202,063,479	279,322,012	8,669,427	316,443,328	4,793,371,670
18	4,793,371,670	28,125,476	292,497,173	9,107,406	326,126,136	4,846,018,703
19	4,846,018,703	26,492,905	304,872,008	9,207,436	329,326,019	4,887,758,183
20	4,887,758,183	24,886,505	316,871,728	9,286,741	331,776,894	4,918,263,113
21	4,918,263,113	23,325,030	329,200,424	9,344,700	333,432,311	4,936,475,331
22	4,936,475,331	21,796,760	340,768,580	9,379,303	334,255,353	4,942,379,561
23	4,942,379,561	20,312,703	352,543,474	9,390,521	334,212,049	4,934,970,319
24	4,934,970,319	18,907,416	362,676,791	9,376,444	333,296,866	4,915,121,365
25	4,915,121,365	17,554,878	372,397,460	9,338,731	331,527,729	4,882,467,781
26	4,882,467,781	16,234,776	381,903,417	9,276,689	328,871,610	4,836,394,061
27	4,836,394,061	14,972,886	390,689,549	9,189,149	325,303,728	4,776,791,978
28	4,776,791,978	13,727,425	398,540,540	9,075,905	320,822,488	4,703,725,446
29	4,703,725,446	12,541,880	405,603,071	8,937,078	315,428,807	4,617,155,984
30	4,617,155,984	11,497,999	410,614,392	8,772,596	309,166,257	4,518,433,251
31	4,518,433,251	10,562,125	414,392,598	8,585,023	302,099,917	4,408,117,673
32	4,408,117,673	9,669,936	416,965,304	8,375,424	294,265,819	4,286,712,700
33	4,286,712,700	8,830,070	417,522,352	8,144,754	285,727,342	4,155,603,006
34	4,155,603,006	8,101,696	416,338,069	7,895,646	276,573,922	4,016,044,909
35	4,016,044,909	7,630,485	411,514,617	7,630,485	266,963,731	3,871,494,022
36	3,871,494,022	7,355,839	405,813,900	7,355,839	257,041,319	3,722,721,442
37	3,722,721,442	7,073,171	399,256,260	7,073,171	246,852,874	3,570,318,056
38	3,570,318,056	6,783,604	391,561,779	6,783,604	236,449,389	3,415,205,666
39	3,415,205,666	6,488,891	382,672,419	6,488,891	225,897,387	3,258,430,635
40	3,258,430,635	6,191,018	372,839,995	6,191,018	215,261,450	3,100,852,090
41	3,100,852,090	5,891,619	362,282,916	5,891,619	204,594,200	2,943,163,374
42	2,943,163,374	5,592,010	351,063,009	5,592,010	193,942,045	2,786,042,409
43	2,786,042,409	5,293,481	339,290,826	5,293,481	183,348,635	2,630,100,218
44	2,630,100,218	4,997,190	327,090,356	4,997,190	172,852,476	2,475,862,338
45	2,475,862,338	4,704,138	314,563,605	4,704,138	162,486,846	2,323,785,579
46	2,323,785,579	4,415,193	301,770,516	4,415,193	152,281,658	2,174,296,721
47	2,174,296,721	4,131,164	288,738,791	4,131,164	142,265,834	2,027,823,764
48	2,027,823,764	3,852,865	275,484,524	3,852,865	132,468,780	1,884,808,021
49	1,884,808,021	3,581,135	262,039,144	3,581,135	122,920,307	1,745,689,184
50	1,745,689,184	3,316,809	248,471,973	3,316,809	113,648,808	1,610,866,019

Paid Service
Single Discount Rate Development
Projection of Plan Fiduciary Net Position Beginning January 1, 2019
(Years 51-100)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	\$ 1,610,866,019	\$ 3,060,645	\$ 234,848,866	\$ 3,060,645	\$ 104,679,931	\$ 1,480,697,085
52	1,480,697,085	2,813,324	221,232,520	2,813,324	96,036,618	1,355,501,183
53	1,355,501,183	2,575,452	207,680,244	2,575,452	87,739,212	1,235,560,151
54	1,235,560,151	2,347,564	194,246,106	2,347,564	79,805,582	1,121,119,627
55	1,121,119,627	2,130,127	180,982,689	2,130,127	72,251,114	1,012,388,052
56	1,012,388,052	1,923,537	167,941,102	1,923,537	65,088,639	909,535,589
57	909,535,589	1,728,118	155,168,932	1,728,118	58,328,432	812,695,089
58	812,695,089	1,544,121	142,709,337	1,544,121	51,978,307	721,964,059
59	721,964,059	1,371,732	130,602,941	1,371,732	46,043,692	637,404,810
60	637,404,810	1,211,069	118,888,595	1,211,069	40,527,613	559,043,828
61	559,043,828	1,062,183	107,603,541	1,062,183	35,430,641	486,870,928
62	486,870,928	925,055	96,784,899	925,055	30,750,786	420,836,814
63	420,836,814	799,590	86,470,043	799,590	26,483,312	360,850,083
64	360,850,083	685,615	76,695,323	685,615	22,620,570	306,775,330
65	306,775,330	582,873	67,495,091	582,873	19,151,899	258,432,139
66	258,432,139	491,021	58,900,861	491,021	16,063,586	215,594,864
67	215,594,864	409,630	50,938,854	409,630	13,338,934	177,994,944
68	177,994,944	338,190	43,627,963	338,190	10,958,493	145,325,475
69	145,325,475	276,118	36,978,666	276,118	8,900,420	117,247,228
70	117,247,228	222,770	30,992,037	222,770	7,140,931	93,396,122
71	93,396,122	177,453	25,660,125	177,453	5,654,814	73,390,811
72	73,390,811	139,443	20,966,917	139,443	4,415,926	56,839,820
73	56,839,820	107,996	16,888,260	107,996	3,397,695	43,349,256
74	43,349,256	82,364	13,392,842	82,364	2,573,626	32,530,040
75	32,530,040	61,807	10,443,809	61,807	1,917,752	24,003,983
76	24,003,983	45,608	7,998,989	45,608	1,405,049	17,410,043
77	17,410,043	33,079	6,011,155	33,079	1,011,871	12,410,759
78	12,410,759	23,580	4,428,654	23,580	716,372	8,698,476
79	8,698,476	16,527	3,196,941	16,527	498,893	6,000,428
80	6,000,428	11,401	2,260,953	11,401	342,235	4,081,711
81	4,081,711	7,755	1,567,443	7,755	231,787	2,746,055
82	2,746,055	5,218	1,066,802	5,218	155,517	1,834,770
83	1,834,770	3,486	714,725	3,486	103,842	1,223,887
84	1,223,887	2,325	473,442	2,325	69,382	819,826
85	819,826	1,558	312,063	1,558	46,650	554,413
86	554,413	1,053	206,301	1,053	31,711	379,823
87	379,823	722	137,903	722	21,843	263,762
88	263,762	501	93,812	501	15,235	185,186
89	185,186	352	65,132	352	10,722	130,776
90	130,776	248	46,075	248	7,569	92,270
91	92,270	175	32,984	175	5,324	64,610
92	64,610	123	23,654	123	3,709	44,665
93	44,665	85	16,826	85	2,548	30,386
94	30,386	58	11,777	58	1,722	20,331
95	20,331	39	8,047	39	1,146	13,430
96	13,430	26	5,324	26	757	8,864
97	8,864	17	3,391	17	504	5,977
98	5,977	11	2,072	11	347	4,252
99	4,252	8	1,208	8	256	3,300
100	3,300	6	667	6	208	2,841

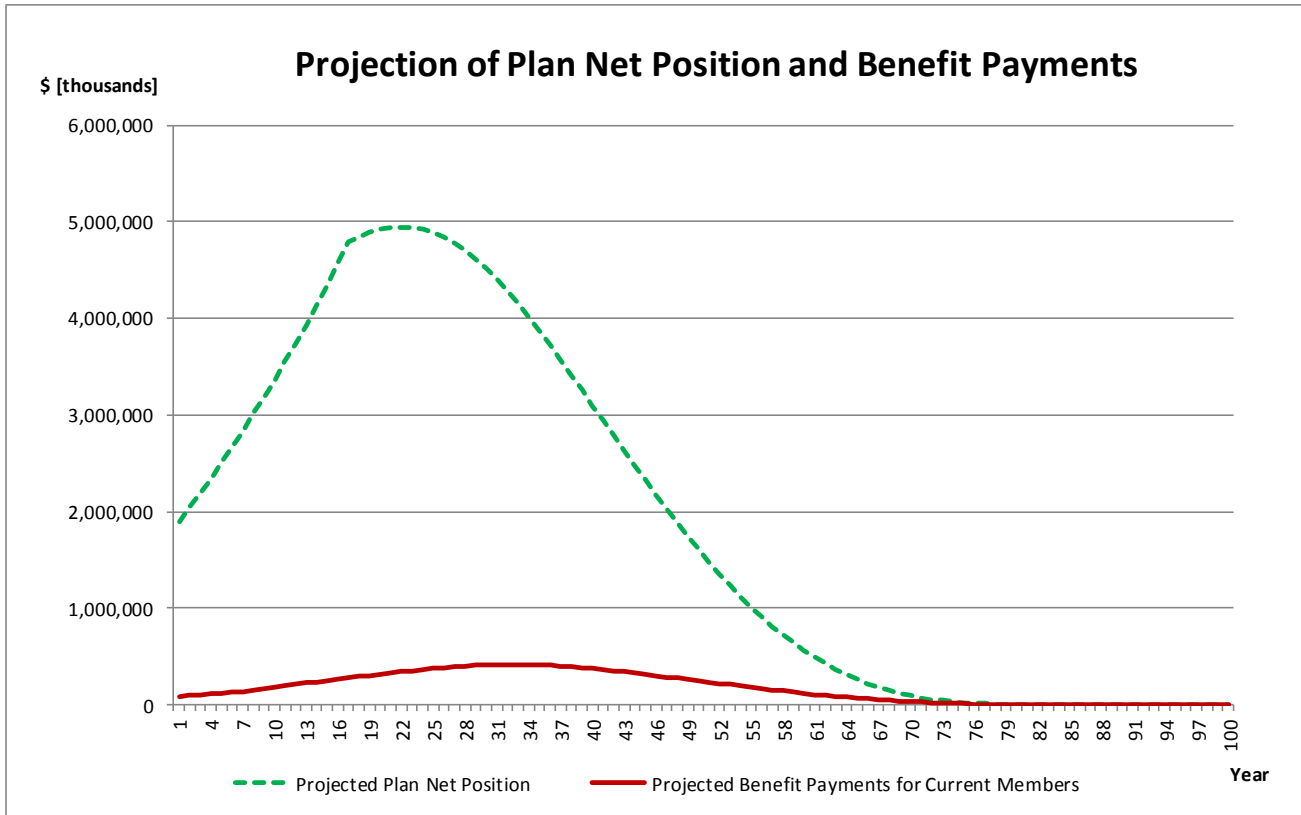
Paid Service
Single Discount Rate Development
Present Values of Projected Benefits Beginning January 1, 2019
(Years 1-50)

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})
1	\$ 1,758,861,454	\$ 90,187,907	\$ 90,187,907	\$ -	\$ 87,187,941	\$ -	\$ 87,187,941
2	1,898,962,598	95,260,863	95,260,863	-	86,067,432	-	86,067,432
3	2,043,778,136	105,595,885	105,595,885	-	89,163,591	-	89,163,591
4	2,188,965,120	116,259,457	116,259,457	-	91,745,563	-	91,745,563
5	2,336,896,193	116,451,568	116,451,568	-	85,885,202	-	85,885,202
6	2,498,976,764	127,896,791	127,896,791	-	88,155,390	-	88,155,390
7	2,664,912,526	140,424,294	140,424,294	-	90,458,148	-	90,458,148
8	2,834,227,296	153,202,073	153,202,073	-	92,232,995	-	92,232,995
9	3,007,203,108	166,497,731	166,497,731	-	93,679,855	-	93,679,855
10	3,183,955,354	180,550,363	180,550,363	-	94,940,710	-	94,940,710
11	3,364,349,371	195,414,573	195,414,573	-	96,034,501	-	96,034,501
12	3,548,256,980	209,785,671	209,785,671	-	96,352,365	-	96,352,365
13	3,737,007,497	223,498,725	223,498,725	-	95,935,165	-	95,935,165
14	3,932,192,873	237,827,366	237,827,366	-	95,407,129	-	95,407,129
15	4,134,116,812	252,345,717	252,345,717	-	94,608,719	-	94,608,719
16	4,343,614,578	265,925,979	265,925,979	-	93,177,749	-	93,177,749
17	4,562,856,302	279,322,012	279,322,012	-	91,468,768	-	91,468,768
18	4,793,371,670	292,497,173	292,497,173	-	89,517,009	-	89,517,009
19	4,846,018,703	304,872,008	304,872,008	-	87,200,237	-	87,200,237
20	4,887,758,183	316,871,728	316,871,728	-	84,703,202	-	84,703,202
21	4,918,263,113	329,200,424	329,200,424	-	82,241,864	-	82,241,864
22	4,936,475,331	340,768,580	340,768,580	-	79,562,482	-	79,562,482
23	4,942,379,561	352,543,474	352,543,474	-	76,926,803	-	76,926,803
24	4,934,970,319	362,676,791	362,676,791	-	73,960,696	-	73,960,696
25	4,915,121,365	372,397,460	372,397,460	-	70,974,797	-	70,974,797
26	4,882,467,781	381,903,417	381,903,417	-	68,024,790	-	68,024,790
27	4,836,394,061	390,689,549	390,689,549	-	65,037,178	-	65,037,178
28	4,776,791,978	398,540,540	398,540,540	-	62,003,844	-	62,003,844
29	4,703,725,446	405,603,071	405,603,071	-	58,974,405	-	58,974,405
30	4,617,155,984	410,614,392	410,614,392	-	55,797,241	-	55,797,241
31	4,518,433,251	414,392,598	414,392,598	-	52,626,777	-	52,626,777
32	4,408,117,673	416,965,304	416,965,304	-	49,489,256	-	49,489,256
33	4,286,712,700	417,522,352	417,522,352	-	46,313,431	-	46,313,431
34	4,155,603,006	416,338,069	416,338,069	-	43,160,808	-	43,160,808
35	4,016,044,909	411,514,617	411,514,617	-	39,869,881	-	39,869,881
36	3,871,494,022	405,813,900	405,813,900	-	36,745,386	-	36,745,386
37	3,722,721,442	399,256,260	399,256,260	-	33,786,550	-	33,786,550
38	3,570,318,056	391,561,779	391,561,779	-	30,967,677	-	30,967,677
39	3,415,205,666	382,672,419	382,672,419	-	28,284,709	-	28,284,709
40	3,258,430,635	372,839,995	372,839,995	-	25,755,102	-	25,755,102
41	3,100,852,090	362,282,916	362,282,916	-	23,388,634	-	23,388,634
42	2,943,163,374	351,063,009	351,063,009	-	21,181,577	-	21,181,577
43	2,786,042,409	339,290,826	339,290,826	-	19,132,053	-	19,132,053
44	2,630,100,218	327,090,356	327,090,356	-	17,237,466	-	17,237,466
45	2,475,862,338	314,563,605	314,563,605	-	15,492,816	-	15,492,816
46	2,323,785,579	301,770,516	301,770,516	-	13,890,405	-	13,890,405
47	2,174,296,721	288,738,791	288,738,791	-	12,421,083	-	12,421,083
48	2,027,823,764	275,484,524	275,484,524	-	11,075,613	-	11,075,613
49	1,884,808,021	262,039,144	262,039,144	-	9,845,844	-	9,845,844
50	1,745,689,184	248,471,973	248,471,973	-	8,725,301	-	8,725,301

Paid Service Single Discount Rate Development Present Values of Projected Benefits Beginning January 1, 2019 (Years 51-100)

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}	
51	\$ 1,610,866,019	\$ 234,848,866	\$ 234,848,866	\$ -	\$ 7,707,396	\$ -	\$ 7,707,396	
52	1,480,697,085	221,232,520	221,232,520	-	6,785,540	-	6,785,540	
53	1,355,501,183	207,680,244	207,680,244	-	5,953,150	-	5,953,150	
54	1,235,560,151	194,246,106	194,246,106	-	5,203,795	-	5,203,795	
55	1,121,119,627	180,982,689	180,982,689	-	4,531,283	-	4,531,283	
56	1,012,388,052	167,941,102	167,941,102	-	3,929,681	-	3,929,681	
57	909,535,589	155,168,932	155,168,932	-	3,393,293	-	3,393,293	
58	812,695,089	142,709,337	142,709,337	-	2,916,656	-	2,916,656	
59	721,964,059	130,602,941	130,602,941	-	2,494,606	-	2,494,606	
60	637,404,810	118,888,595	118,888,595	-	2,122,293	-	2,122,293	
61	559,043,828	107,603,541	107,603,541	-	1,795,180	-	1,795,180	
62	486,870,928	96,784,899	96,784,899	-	1,509,056	-	1,509,056	
63	420,836,814	86,470,043	86,470,043	-	1,260,026	-	1,260,026	
64	360,850,083	76,695,323	76,695,323	-	1,044,477	-	1,044,477	
65	306,775,330	67,495,091	67,495,091	-	859,050	-	859,050	
66	258,432,139	58,900,861	58,900,861	-	700,623	-	700,623	
67	215,594,864	50,938,854	50,938,854	-	566,276	-	566,276	
68	177,994,944	43,627,963	43,627,963	-	453,273	-	453,273	
69	145,325,475	36,978,666	36,978,666	-	359,056	-	359,056	
70	117,247,228	30,992,037	30,992,037	-	281,240	-	281,240	
71	93,396,122	25,660,125	25,660,125	-	217,622	-	217,622	
72	73,390,811	20,966,917	20,966,917	-	166,186	-	166,186	
73	56,839,820	16,888,260	16,888,260	-	125,101	-	125,101	
74	43,349,256	13,392,842	13,392,842	-	92,718	-	92,718	
75	32,530,040	10,443,809	10,443,809	-	67,572	-	67,572	
76	24,003,983	7,998,989	7,998,989	-	48,368	-	48,368	
77	17,410,043	6,011,155	6,011,155	-	33,970	-	33,970	
78	12,410,759	4,428,654	4,428,654	-	23,390	-	23,390	
79	8,698,476	3,196,941	3,196,941	-	15,780	-	15,780	
80	6,000,428	2,260,953	2,260,953	-	10,430	-	10,430	
81	4,081,711	1,567,443	1,567,443	-	6,758	-	6,758	
82	2,746,055	1,066,802	1,066,802	-	4,298	-	4,298	
83	1,834,770	714,725	714,725	-	2,691	-	2,691	
84	1,223,887	473,442	473,442	-	1,666	-	1,666	
85	819,826	312,063	312,063	-	1,026	-	1,026	
86	554,413	206,301	206,301	-	634	-	634	
87	379,823	137,903	137,903	-	396	-	396	
88	263,762	93,812	93,812	-	252	-	252	
89	185,186	65,132	65,132	-	163	-	163	
90	130,776	46,075	46,075	-	108	-	108	
91	92,270	32,984	32,984	-	72	-	72	
92	64,610	23,654	23,654	-	48	-	48	
93	44,665	16,826	16,826	-	32	-	32	
94	30,386	11,777	11,777	-	21	-	21	
95	20,331	8,047	8,047	-	13	-	13	
96	13,430	5,324	5,324	-	8	-	8	
97	8,864	3,391	3,391	-	5	-	5	
98	5,977	2,072	2,072	-	3	-	3	
99	4,252	1,208	1,208	-	2	-	2	
100	3,300	667	667	-	1	-	1	
Totals	\$	3,111,501,427	\$	-	\$	3,111,501,427	\$	3,111,501,427

Paid Service



Volunteer Service Single Discount Rate Development Projection of Contributions Beginning January 1, 2019 (Years 1-50)

Year	Projected Number of Current Employees	Projected Contributions from Current Employees	Projected Service Cost and Expense Contributions	Projected UAL Contributions	Projected Total Contributions
0	7,461				
1	6,585	\$ -	\$ 2,541,937	\$ 3,667,126	\$ 6,209,063
2	5,905	-	2,290,260	3,758,804	6,049,065
3	5,338	-	2,084,536	5,537,387	7,621,923
4	4,855	-	1,921,057	5,751,630	7,672,686
5	4,426	-	1,780,209	5,976,535	7,756,743
6	4,034	-	1,659,765	6,212,740	7,872,505
7	3,671	-	1,544,971	4,252,742	5,797,713
8	3,339	-	1,442,448	4,359,061	5,801,509
9	3,032	-	1,345,943	4,468,037	5,813,980
10	2,747	-	1,255,878	4,579,738	5,835,617
11	2,489	-	1,177,833	4,694,232	5,872,064
12	2,251	-	1,108,142	4,811,587	5,919,729
13	2,033	-	1,047,214	4,931,877	5,979,092
14	1,832	-	989,318	5,055,174	6,044,492
15	1,649	-	936,354	5,181,553	6,117,907
16	1,483	-	893,627	5,311,092	6,204,720
17	1,328	-	853,312	5,443,870	6,297,181
18	1,188	-	817,543	3,931,077	4,748,620
19	1,062	-	784,391	-	784,391
20	945	-	748,877	-	748,877
21	837	-	712,957	-	712,957
22	740	-	679,719	-	679,719
23	651	-	648,155	-	648,155
24	571	-	620,251	-	620,251
25	497	-	594,164	-	594,164
26	431	-	570,274	-	570,274
27	368	-	545,631	-	545,631
28	313	-	520,930	-	520,930
29	266	-	498,812	-	498,812
30	226	-	480,145	-	480,145
31	192	-	459,925	-	459,925
32	163	-	444,308	-	444,308
33	138	-	425,431	-	425,431
34	117	-	409,017	-	409,017
35	98	-	394,666	-	394,666
36	83	-	377,584	-	377,584
37	69	-	361,625	-	361,625
38	57	-	343,557	-	343,557
39	47	-	328,960	-	328,960
40	38	-	313,267	-	313,267
41	31	-	298,666	-	298,666
42	25	-	283,748	-	283,748
43	19	-	268,864	-	268,864
44	15	-	254,310	-	254,310
45	12	-	240,415	-	240,415
46	9	-	225,493	-	225,493
47	6	-	211,616	-	211,616
48	5	-	199,562	-	199,562
49	3	-	186,402	-	186,402
50	2	-	173,185	-	173,185

Volunteer Service Single Discount Rate Development Projection of Contributions Beginning January 1, 2019 (Years 51-100)

Year	Projected Number of Current Employees	Projected Contributions from Current Employees	Projected Service Cost and Expense Contributions	Projected UAL Contributions	Projected Total Contributions
51	2	\$ -	\$ 160,837	\$ -	\$ 160,837
52	1	-	149,172	-	149,172
53	1	-	137,859	-	137,859
54	-	-	126,926	-	126,926
55	-	-	116,397	-	116,397
56	-	-	106,294	-	106,294
57	-	-	96,639	-	96,639
58	-	-	87,451	-	87,451
59	-	-	78,744	-	78,744
60	-	-	70,533	-	70,533
61	-	-	62,827	-	62,827
62	-	-	55,633	-	55,633
63	-	-	48,955	-	48,955
64	-	-	42,793	-	42,793
65	-	-	37,143	-	37,143
66	-	-	31,997	-	31,997
67	-	-	27,344	-	27,344
68	-	-	23,169	-	23,169
69	-	-	19,453	-	19,453
70	-	-	16,175	-	16,175
71	-	-	13,310	-	13,310
72	-	-	10,831	-	10,831
73	-	-	8,709	-	8,709
74	-	-	6,912	-	6,912
75	-	-	5,411	-	5,411
76	-	-	4,172	-	4,172
77	-	-	3,165	-	3,165
78	-	-	2,359	-	2,359
79	-	-	1,726	-	1,726
80	-	-	1,237	-	1,237
81	-	-	867	-	867
82	-	-	594	-	594
83	-	-	398	-	398
84	-	-	259	-	259
85	-	-	165	-	165
86	-	-	102	-	102
87	-	-	62	-	62
88	-	-	36	-	36
89	-	-	21	-	21
90	-	-	12	-	12
91	-	-	7	-	7
92	-	-	4	-	4
93	-	-	2	-	2
94	-	-	1	-	1
95	-	-	1	-	1
96	-	-	-	-	-
97	-	-	-	-	-
98	-	-	-	-	-
99	-	-	-	-	-
100	-	-	-	-	-

Volunteer Service
Single Discount Rate Development
Projection of Plan Fiduciary Net Position Beginning January 1, 2019
(Years 1-50)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 77,674,300	\$ 6,209,063	\$ 3,605,328	\$ 147,581	\$ 5,521,712	\$ 85,652,167
2	85,652,167	6,049,065	4,049,557	162,739	6,058,851	93,547,787
3	93,547,787	7,621,923	4,519,851	177,741	6,648,966	103,121,084
4	103,121,084	7,672,686	5,029,182	195,930	7,302,692	112,871,351
5	112,871,351	7,756,743	5,552,285	214,456	7,969,467	122,830,820
6	122,830,820	7,872,505	6,105,520	233,379	8,650,926	133,015,352
7	133,015,352	5,797,713	6,659,145	252,729	9,272,739	141,173,929
8	141,173,929	5,801,509	7,230,410	268,230	9,823,780	149,300,578
9	149,300,578	5,813,980	7,807,138	283,671	10,372,699	157,396,448
10	157,396,448	5,835,617	8,390,426	299,053	10,919,556	165,462,142
11	165,462,142	5,872,064	9,015,109	314,378	11,463,387	173,468,106
12	173,468,106	5,919,729	9,648,562	329,589	12,003,125	181,412,810
13	181,412,810	5,979,092	10,290,573	344,684	12,538,687	189,295,331
14	189,295,331	6,044,492	10,949,344	359,661	13,069,532	197,100,350
15	197,100,350	6,117,907	11,598,823	374,491	13,595,551	204,840,495
16	204,840,495	6,204,720	12,219,950	389,197	14,118,471	212,554,539
17	212,554,539	6,297,181	12,813,692	403,854	14,640,702	220,274,876
18	220,274,876	4,748,620	13,404,786	418,522	15,106,999	226,307,187
19	226,307,187	784,391	13,991,725	429,984	15,372,270	228,042,139
20	228,042,139	748,877	14,571,669	433,280	15,472,426	229,258,492
21	229,258,492	712,957	15,145,132	435,591	15,536,524	229,927,250
22	229,927,250	679,719	15,676,180	436,862	15,563,877	230,057,804
23	230,057,804	648,155	16,173,805	437,110	15,554,799	229,649,843
24	229,649,843	620,251	16,623,698	436,335	15,509,828	228,719,890
25	228,719,890	594,164	17,053,292	434,568	15,429,113	227,255,307
26	227,255,307	570,274	17,467,659	431,785	15,311,609	225,237,745
27	225,237,745	545,631	17,832,874	427,952	15,157,097	222,679,647
28	222,679,647	520,930	18,147,784	423,091	14,966,512	219,596,215
29	219,596,215	498,812	18,396,156	417,233	14,741,566	216,023,205
30	216,023,205	480,145	18,588,765	410,444	14,484,420	211,988,561
31	211,988,561	459,925	18,742,221	402,778	14,196,282	207,499,770
32	207,499,770	444,308	18,838,404	394,250	13,878,514	202,589,937
33	202,589,937	425,431	18,874,491	384,921	13,533,255	197,289,211
34	197,289,211	409,017	18,841,198	374,850	13,163,132	191,645,312
35	191,645,312	394,666	18,761,756	364,126	12,770,667	185,684,763
36	185,684,763	377,584	18,629,658	352,801	12,357,776	179,437,664
37	179,437,664	361,625	18,426,291	340,932	11,927,336	172,959,402
38	172,959,402	343,557	18,165,243	328,623	11,482,641	166,291,734
39	166,291,734	328,960	17,855,831	315,954	11,026,485	159,475,393
40	159,475,393	313,267	17,504,428	303,003	10,561,338	152,542,567
41	152,542,567	298,666	17,105,403	289,831	10,089,720	145,535,719
42	145,535,719	283,748	16,658,376	276,518	9,614,567	138,499,139
43	138,499,139	268,864	16,168,283	263,148	9,138,817	131,475,389
44	131,475,389	254,310	15,649,188	249,803	8,664,974	124,495,683
45	124,495,683	240,415	15,112,123	236,542	8,194,852	117,582,285
46	117,582,285	225,493	14,560,855	223,406	7,729,821	110,753,339
47	110,753,339	211,616	13,997,692	210,431	7,271,141	104,027,973
48	104,027,973	199,562	13,424,590	197,653	6,820,110	97,425,401
49	97,425,401	186,402	12,843,434	185,108	6,377,905	90,961,166
50	90,961,166	173,185	12,255,992	172,826	5,945,589	84,651,122

Volunteer Service
Single Discount Rate Development
Projection of Plan Fiduciary Net Position Beginning January 1, 2019
(Years 51-100)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	\$ 84,651,122	\$ 160,837	\$ 11,663,901	\$ 160,837	\$ 5,524,247	\$ 78,511,468
52	78,511,468	149,172	11,068,926	149,172	5,114,943	72,557,485
53	72,557,485	137,859	10,473,050	137,859	4,718,667	66,803,101
54	66,803,101	126,926	9,878,085	126,926	4,336,332	61,261,348
55	61,261,348	116,397	9,285,870	116,397	3,968,786	55,944,264
56	55,944,264	106,294	8,698,277	106,294	3,616,808	50,862,795
57	50,862,795	96,639	8,117,229	96,639	3,281,098	46,026,664
58	46,026,664	87,451	7,544,651	87,451	2,962,270	41,444,283
59	41,444,283	78,744	6,982,557	78,744	2,660,844	37,122,570
60	37,122,570	70,533	6,432,979	70,533	2,377,234	33,066,825
61	33,066,825	62,827	5,897,909	62,827	2,111,742	29,280,657
62	29,280,657	55,633	5,379,278	55,633	1,864,556	25,765,935
63	25,765,935	48,955	4,879,003	48,955	1,635,739	22,522,671
64	22,522,671	42,793	4,398,989	42,793	1,425,226	19,548,908
65	19,548,908	37,143	3,941,090	37,143	1,232,818	16,840,637
66	16,840,637	31,997	3,507,022	31,997	1,058,175	14,391,789
67	14,391,789	27,344	3,098,228	27,344	900,821	12,194,382
68	12,194,382	23,169	2,715,865	23,169	760,159	10,238,676
69	10,238,676	19,453	2,360,859	19,453	635,475	8,513,292
70	8,513,292	16,175	2,033,925	16,175	525,947	7,005,314
71	7,005,314	13,310	1,735,500	13,310	430,657	5,700,471
72	5,700,471	10,831	1,465,649	10,831	348,603	4,583,425
73	4,583,425	8,709	1,224,086	8,709	278,721	3,638,061
74	3,638,061	6,912	1,010,175	6,912	219,906	2,847,792
75	2,847,792	5,411	822,921	5,411	171,030	2,195,901
76	2,195,901	4,172	660,992	4,172	130,970	1,665,879
77	1,665,879	3,165	522,770	3,165	98,624	1,241,733
78	1,241,733	2,359	406,467	2,359	72,936	908,201
79	908,201	1,726	310,197	1,726	52,901	650,905
80	650,905	1,237	231,984	1,237	37,581	456,503
81	456,503	867	169,738	867	26,115	312,879
82	312,879	594	121,304	594	17,728	209,303
83	209,303	398	84,528	398	11,743	136,518
84	136,518	259	57,340	259	7,583	86,761
85	86,761	165	37,813	165	4,772	53,720
86	53,720	102	24,217	102	2,927	32,430
87	32,430	62	15,054	62	1,752	19,129
88	19,129	36	9,086	36	1,026	11,069
89	11,069	21	5,336	21	591	6,324
90	6,324	12	3,064	12	337	3,598
91	3,598	7	1,733	7	192	2,057
92	2,057	4	977	4	110	1,191
93	1,191	2	556	2	64	700
94	700	1	323	1	38	415
95	415	1	192	1	22	245
96	245	-	117	-	13	141
97	141	-	71	-	7	77
98	77	-	43	-	4	38
99	38	-	25	-	2	14
100	14	-	15	-	-	-

Volunteer Service Single Discount Rate Development

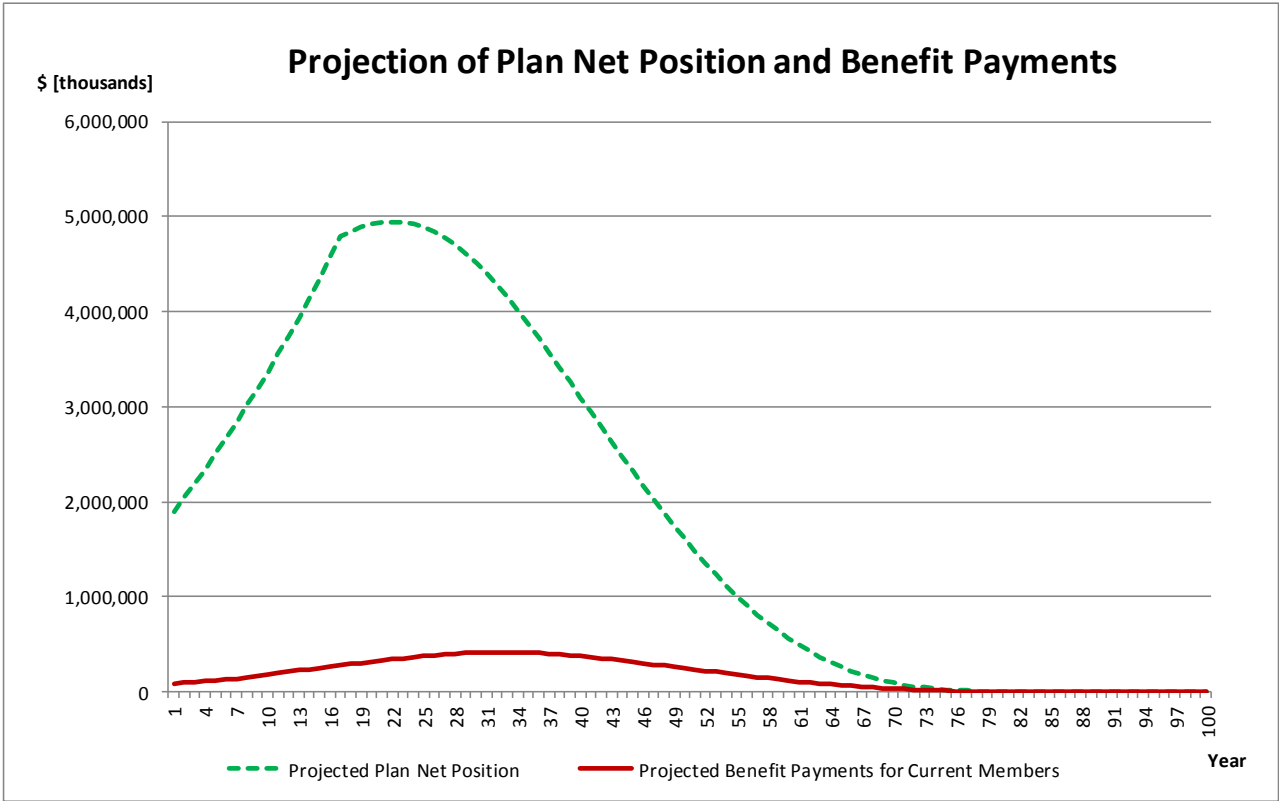
Present Values of Projected Benefits Beginning January 1, 2019 (Years 1-50)

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}
1	\$ 77,674,300	\$ 3,605,328	\$ 3,605,328	\$ -	\$ 3,485,402	\$ -	\$ 3,485,402
2	85,652,167	4,049,557	4,049,557	-	3,658,743	-	3,658,743
3	93,547,787	4,519,851	4,519,851	-	3,816,495	-	3,816,495
4	103,121,084	5,029,182	5,029,182	-	3,968,753	-	3,968,753
5	112,871,351	5,552,285	5,552,285	-	4,094,913	-	4,094,913
6	122,830,820	6,105,520	6,105,520	-	4,208,350	-	4,208,350
7	133,015,352	6,659,145	6,659,145	-	4,289,671	-	4,289,671
8	141,173,929	7,230,410	7,230,410	-	4,352,959	-	4,352,959
9	149,300,578	7,807,138	7,807,138	-	4,392,682	-	4,392,682
10	157,396,448	8,390,426	8,390,426	-	4,412,026	-	4,412,026
11	165,462,142	9,015,109	9,015,109	-	4,430,384	-	4,430,384
12	173,468,106	9,648,562	9,648,562	-	4,431,483	-	4,431,483
13	181,412,810	10,290,573	10,290,573	-	4,417,152	-	4,417,152
14	189,295,331	10,949,344	10,949,344	-	4,392,453	-	4,392,453
15	197,100,350	11,598,823	11,598,823	-	4,348,597	-	4,348,597
16	204,840,495	12,219,950	12,219,950	-	4,281,746	-	4,281,746
17	212,554,539	12,813,692	12,813,692	-	4,196,062	-	4,196,062
18	220,274,876	13,404,786	13,404,786	-	4,102,455	-	4,102,455
19	226,307,187	13,991,725	13,991,725	-	4,001,947	-	4,001,947
20	228,042,139	14,571,669	14,571,669	-	3,895,163	-	3,895,163
21	229,258,492	15,145,132	15,145,132	-	3,783,604	-	3,783,604
22	229,927,250	15,676,180	15,676,180	-	3,660,067	-	3,660,067
23	230,057,804	16,173,805	16,173,805	-	3,529,208	-	3,529,208
24	229,649,843	16,623,698	16,623,698	-	3,390,072	-	3,390,072
25	228,719,890	17,053,292	17,053,292	-	3,250,167	-	3,250,167
26	227,255,307	17,467,659	17,467,659	-	3,111,346	-	3,111,346
27	225,237,745	17,832,874	17,832,874	-	2,968,597	-	2,968,597
28	222,679,647	18,147,784	18,147,784	-	2,823,382	-	2,823,382
29	219,596,215	18,396,156	18,396,156	-	2,674,788	-	2,674,788
30	216,023,205	18,588,765	18,588,765	-	2,525,975	-	2,525,975
31	211,988,561	18,742,221	18,742,221	-	2,380,213	-	2,380,213
32	207,499,770	18,838,404	18,838,404	-	2,235,914	-	2,235,914
33	202,589,937	18,874,491	18,874,491	-	2,093,642	-	2,093,642
34	197,289,211	18,841,198	18,841,198	-	1,953,224	-	1,953,224
35	191,645,312	18,761,756	18,761,756	-	1,817,746	-	1,817,746
36	185,684,763	18,629,658	18,629,658	-	1,686,867	-	1,686,867
37	179,437,664	18,426,291	18,426,291	-	1,559,301	-	1,559,301
38	172,959,402	18,165,243	18,165,243	-	1,436,645	-	1,436,645
39	166,291,734	17,855,831	17,855,831	-	1,319,789	-	1,319,789
40	159,475,393	17,504,428	17,504,428	-	1,209,174	-	1,209,174
41	152,542,567	17,105,403	17,105,403	-	1,104,308	-	1,104,308
42	145,535,719	16,658,376	16,658,376	-	1,005,092	-	1,005,092
43	138,499,139	16,168,283	16,168,283	-	911,703	-	911,703
44	131,475,389	15,649,188	15,649,188	-	824,703	-	824,703
45	124,495,683	15,112,123	15,112,123	-	744,299	-	744,299
46	117,582,285	14,560,855	14,560,855	-	670,232	-	670,232
47	110,753,339	13,997,692	13,997,692	-	602,158	-	602,158
48	104,027,973	13,424,590	13,424,590	-	539,724	-	539,724
49	97,425,401	12,843,434	12,843,434	-	482,578	-	482,578
50	90,961,166	12,255,992	12,255,992	-	430,379	-	430,379

Volunteer Service Single Discount Rate Development Present Values of Projected Benefits Beginning January 1, 2019 (Years 51-100)

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
51	\$ 84,651,122	\$ 11,663,901	\$ 11,663,901	\$ -	\$ 382,792	\$ -	\$ 382,792
52	78,511,468	11,068,926	11,068,926	-	339,501	-	339,501
53	72,557,485	10,473,050	10,473,050	-	300,210	-	300,210
54	66,803,101	9,878,085	9,878,085	-	264,631	-	264,631
55	61,261,348	9,285,870	9,285,870	-	232,491	-	232,491
56	55,944,264	8,698,277	8,698,277	-	203,532	-	203,532
57	50,862,795	8,117,229	8,117,229	-	177,511	-	177,511
58	46,026,664	7,544,651	7,544,651	-	154,196	-	154,196
59	41,444,283	6,982,557	6,982,557	-	133,372	-	133,372
60	37,122,570	6,432,979	6,432,979	-	114,836	-	114,836
61	33,066,825	5,897,909	5,897,909	-	98,396	-	98,396
62	29,280,657	5,379,278	5,379,278	-	83,873	-	83,873
63	25,765,935	4,879,003	4,879,003	-	71,096	-	71,096
64	22,522,671	4,398,989	4,398,989	-	59,908	-	59,908
65	19,548,908	3,941,090	3,941,090	-	50,161	-	50,161
66	16,840,637	3,507,022	3,507,022	-	41,716	-	41,716
67	14,391,789	3,098,228	3,098,228	-	34,442	-	34,442
68	12,194,382	2,715,865	2,715,865	-	28,217	-	28,217
69	10,238,676	2,360,859	2,360,859	-	22,924	-	22,924
70	8,513,292	2,033,925	2,033,925	-	18,457	-	18,457
71	7,005,314	1,735,500	1,735,500	-	14,719	-	14,719
72	5,700,471	1,465,649	1,465,649	-	11,617	-	11,617
73	4,583,425	1,224,086	1,224,086	-	9,068	-	9,068
74	3,638,061	1,010,175	1,010,175	-	6,993	-	6,993
75	2,847,792	822,921	822,921	-	5,324	-	5,324
76	2,195,901	660,992	660,992	-	3,997	-	3,997
77	1,665,879	522,770	522,770	-	2,954	-	2,954
78	1,241,733	406,467	406,467	-	2,147	-	2,147
79	908,201	310,197	310,197	-	1,531	-	1,531
80	650,905	231,984	231,984	-	1,070	-	1,070
81	456,503	169,738	169,738	-	732	-	732
82	312,879	121,304	121,304	-	489	-	489
83	209,303	84,528	84,528	-	318	-	318
84	136,518	57,340	57,340	-	202	-	202
85	86,761	37,813	37,813	-	124	-	124
86	53,720	24,217	24,217	-	74	-	74
87	32,430	15,054	15,054	-	43	-	43
88	19,129	9,086	9,086	-	24	-	24
89	11,069	5,336	5,336	-	13	-	13
90	6,324	3,064	3,064	-	7	-	7
91	3,598	1,733	1,733	-	4	-	4
92	2,057	977	977	-	2	-	2
93	1,191	556	556	-	1	-	1
94	700	323	323	-	1	-	1
95	415	192	192	-	-	-	-
96	245	117	117	-	-	-	-
97	141	71	71	-	-	-	-
98	77	43	43	-	-	-	-
99	38	25	25	-	-	-	-
100	14	15	15	-	-	-	-
Totals					\$ 142,776,049	\$ -	\$ 142,776,049

Volunteer Service



SECTION H

GLOSSARY OF TERMS

Glossary of Terms

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

<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Amortization Method</i>	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).
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	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.
<i>Covered-Employee Payroll</i>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<i>Deferred Retirement Option Program (DROP)</i>	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.
<i>Deferred Inflows and Outflows</i>	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.
<i>Discount Rate</i>	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: <ol style="list-style-type: none">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; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)

The EAN is a funding 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.

GASB

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

Fiduciary Net Position

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

Long-Term Expected Rate of Return

The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

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 contribution entities to plan members for benefits provided through a defined benefit pension plan.

Non-Employer Contribution Entities

Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contribution entities.

Normal Cost

The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

Glossary of Terms

<i>Other Postemployment Benefits (OPEB)</i>	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.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year: <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
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	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.