

Arkansas Public Employees Retirement System (Including District Judges)

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

June 30, 2018



November 6, 2018

Board of Trustees
Arkansas Public Employees Retirement System
Little Rock, Arkansas

Ladies and Gentlemen:

This report provides information required by the Arkansas Public Employees Retirement System (APERS) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Governmental Accounting Standards Board (GASB) Statement No. 68 "Accounting and Financial Reporting for Pensions."

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement Nos. 67 and 68. In accordance with the auditor's request, these calculations are made for all members of APERS (including all District Judges) as if APERS is one cost-sharing plan.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the System only in its entirety and only with the permission of the Retirement Board. GRS is not responsible for unauthorized use of this report.

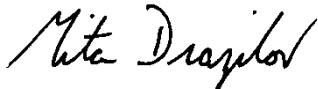
This report is based upon information, furnished to us by the Retirement System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not audited.

This information is presented in draft form for review by the plan's auditor. 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.

Please see the actuarial valuation report as of June 30, 2018 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, this report is complete, accurate, and in accordance with generally recognized actuarial methods. Mita D. Drazilov and Heidi G. Barry are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein. The signing individuals are independent of the plan sponsor.

Respectfully submitted,



Mita D. Drazilov, ASA, FCA, MAAA



Heidi G. Barry, ASA, FCA, MAAA



David L. Hoffman

MDD/HGB/DLH:dks:dj



Table of Contents

	<u>Page</u>
Section A	Executive Summary
	Executive Summary..... 1
	Discussion..... 2-4
Section B	Financial Statements
	Statement of Pension Expense 5
	Statement of Outflows and Inflows Arising from Current Reporting Period 6
	Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods ... 7-8
	Statement of Fiduciary Net Position 9
	Statement of Changes in Fiduciary Net Position 10
Section C	Required Supplementary Information
	Schedule of Changes in Net Pension Liability and Related Ratios Current Period 11
	Schedule of Changes in Net Pension Liability and Related Ratios (Multiyear) 12
	Schedule of the Net Pension Liability (Multiyear) 13
	Schedule of Contributions (Multiyear) 14
	Notes to Schedule of Contributions 15
	Schedule of Investment Returns (Multiyear) 16
Section D	Notes to Financial Statements
	Long-Term Expected Return on Plan Assets 17
	Sensitivity of Net Pension Liability to the Single Discount Rate Assumption 18
	Reconciliation of DROP Accounts 19
	Summary of Population Statistics 20
Section E	Summary of Benefits 21-26
Section F	Actuarial Cost Method and Actuarial Assumptions
	Valuation Methods, Entry Age Normal 27-28
	Actuarial Assumptions, Input to Discount Rates, Mortality Assumptions and Experience Studies 29-36
	Miscellaneous and Technical Assumptions 37-38
Section G	Calculation of the Single Discount Rate
	Calculation of the Single Discount Rate 39
	Projection of Contributions 40
	Projection of Plan Fiduciary Net Position 41
	Present Values of Projected Benefits 42-43
	Projection of Plan Net Position and Benefit Payments 44
Section H	Glossary of Terms 45-48

SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2018

Actuarial Valuation Date June 30, 2018
 Measurement Date of the Net Pension Liability and Pension Expense June 30, 2018

Membership

Number of	
- Retirees and Beneficiaries	37,565
- Inactive, Nonretired Members	13,957
- Active Members	46,231
- Total	97,753
Covered Payroll	\$ 1,849,202,619

Net Pension Liability

Total Pension Liability	\$ 10,808,687,173
Plan Fiduciary Net Position	8,602,752,132
Net Pension Liability	\$ 2,205,935,041
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	79.59%
Net Pension Liability as a Percentage of Covered Payroll	119.29%

Development of the Single Discount Rate

Single Discount Rate	7.15%
Long-Term Expected Rate of Investment Return	7.15%
Long-Term Municipal Bond Rate*	3.62%
Last year ending June 30 in the 2019 to 2118 projection period for which projected benefit payments are fully funded	2118

Total Pension Expense \$ 350,739,934

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 35,082,399	\$ 23,156,899
Changes in assumptions	250,989,684	136,419,778
Net difference between projected and actual earnings on pension plan investments	307,371,681	363,192,050
Total	\$ 593,443,764	\$ 522,768,727

* 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 June 30, 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).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the Arkansas Public Employees Retirement System subsequent to the measurement date of June 30, 2018.

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; and a description of the terms of the plan's deferred retirement option program (DROP) and the total DROP balance for those members currently participating in the DROP.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- a comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

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 June 30, 2018 and a measurement date of June 30, 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 contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.15%; the municipal bond rate is 3.62% (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 7.15%.

SECTION B

FINANCIAL STATEMENTS

Pension Expense Under GASB Statement No. 68 Fiscal Year Ended June 30, 2018

1. Service Cost	\$ 181,557,602
2. Interest on the Total Pension Liability	745,846,405
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(63,430,545)
5. Projected Earnings on Plan Investments (made negative for addition here)	(566,609,692)
6. Pension Plan Administrative Expense	11,497,216
7. Other Changes in Plan Fiduciary Net Position	(8,008,465)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	101,500,849
9. Recognition of Outflow (Inflow) of Resources due to Assets	<u>(51,613,436)</u>
10. Total Pension Expense	\$ 350,739,934

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2018

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (6,960,593)
2. Assumption Changes (gains) or losses	\$ (180,097,868)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.1233
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	\$ (1,688,112)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ (43,678,090)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities: 4. + 5.	<u>\$ (45,366,202)</u>
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for difference between expected and actual experience of the Total Pension Liability: 1. - 4.	\$ (5,272,481)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes: 2. - 5.	\$ (136,419,778)
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities: 7. + 8.	<u>\$ (141,692,259)</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (215,717,074)
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ (43,143,415)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets: 1. - 3.	\$ (172,573,659)

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 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	\$ 179,806,933	\$ 78,306,084	\$ 101,500,849
2. Due to Assets	194,580,193	246,193,629	(51,613,436)
3. Total	\$ 374,387,126	\$ 324,499,713	\$ 49,887,413

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	\$ 15,012,374	\$ 34,627,994	\$ (19,615,620)
2. Assumption Changes	164,794,559	43,678,090	121,116,469
3. Net Difference between projected and actual earnings on pension plan investments	194,580,193	246,193,629	(51,613,436)
4. Total	\$ 374,387,126	\$ 324,499,713	\$ 49,887,413

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	\$ 35,082,399	\$ 23,156,899	\$ 11,925,500
2. Assumption Changes	250,989,684	136,419,778	114,569,906
3. Net Difference between projected and actual earnings on pension plan investments	307,371,681	363,192,050	(55,820,369)
4. Total	\$ 593,443,764	\$ 522,768,727	\$ 70,675,037

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

Year Ending June 30	Net Deferred Outflows of Resources
2019	\$ 159,703,427
2020	70,460,877
2021	(110,752,200)
2022	(48,737,067)
2023	0
Thereafter	0
Total	\$ 70,675,037

Statement of Outflows and Inflows Arising from the Current and Prior Reporting Periods Fiscal Year Ended June 30, 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	\$ (23,038,076)	4.5972	\$ (2,992,764)	\$ -	0.0000
2015	(137,672,890)	4.5972	(29,947,118)	(17,884,418)	0.5972
2016	2,912,566	4.4487	654,700	948,466	1.4487
2017	62,849,281	4.3774	14,357,674	34,133,933	2.3774
2018	(6,960,593)	4.1233	(1,688,112)	(5,272,481)	3.1233
Total			\$ (19,615,620)	\$ 11,925,500	
Deferred Outflow (Inflow) due to Assumption Changes					
2014	\$ 214,798,742	4.5972	\$ 27,903,466	\$ -	0.0000
2015	192,273,597	4.5972	41,824,066	24,977,333	0.5972
2016	-	4.4487	-	-	1.4487
2017	416,146,405	4.3774	95,067,027	226,012,351	2.3774
2018	(180,097,868)	4.1233	(43,678,090)	(136,419,778)	3.1233
Total			\$ 121,116,469	\$ 114,569,906	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2014	\$ (697,553,751)	5.0000	\$ (139,510,751)	\$ -	0.0000
2015	408,943,513	5.0000	81,788,703	81,788,701	1.0000
2016	563,957,450	5.0000	112,791,490	225,582,980	2.0000
2017	(317,697,317)	5.0000	(63,539,463)	(190,618,391)	3.0000
2018	(215,717,074)	5.0000	(43,143,415)	(172,573,659)	4.0000
Total			\$ (51,613,436)	\$ (55,820,369)	

Statement of Fiduciary Net Position as of June 30, 2018

To be provided by System

Assets

Cash and Deposits	\$	-
Receivables		
Accounts Receivable - Sale of Investments	\$	-
Accrued Interest and Other Dividends		-
Contributions		-
Accounts Receivable - Other		-
Total Receivables	\$	-
Investments		
Fixed Income	\$	-
Domestic Equities		-
International Equities		-
Real Estate		-
Other		-
Total Investments	\$	-
Total Assets	\$	-

Liabilities

Payables		
Accounts Payable - Purchase of Investments	\$	-
Accrued Expenses		-
Accounts Payable - Other		-
Total Liabilities	\$	-

Net Position Restricted for Pensions		\$ 8,602,752,132
---	--	-------------------------

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2018

Additions

Contributions	
Employer	\$ 276,282,425
Employee	63,430,545
Other	<u>8,008,465</u>
Total Contributions	<u>\$ 347,721,435</u>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 825,365,397
Interest and Dividends	-
Less Investment Expense	<u>(43,038,631)</u>
Net Investment Income	<u>\$ 782,326,766</u>
Other	-
Total Additions	<u>\$ 1,130,048,201</u>

Deductions

Benefit Payments, Including Refunds of Employee Contributions	\$ 544,595,643
Pension Plan Administrative Expense	11,497,216
Other	-
Total Deductions	<u>\$ 556,092,859</u>
Net Increase in Net Position	\$ 573,955,342

Net Position Restricted for Pensions

Beginning of Year	<u>\$ 8,028,796,790</u>
End of Year	<u>\$ 8,602,752,132</u>

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios

Current Period

Fiscal Year Ended June 30, 2018

A. Total Pension Liability

1. Service cost	\$ 181,557,602
2. Interest on the Total Pension Liability	745,846,405
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	(6,960,593)
5. Changes of assumptions	(180,097,868)
6. Benefit payments, including refunds of employee contributions	<u>(544,595,643)</u>
7. Net change in Total Pension Liability	\$ 195,749,903
8. Total Pension Liability – Beginning	<u>10,612,937,270</u>
9. Total Pension Liability – Ending	<u><u>\$ 10,808,687,173</u></u>

B. Plan Fiduciary Net Position

1. Contributions – employer	\$ 276,282,425
2. Contributions – employee	63,430,545
3. Net investment income	782,326,766
4. Benefit payments, including refunds of employee contributions	(544,595,643)
5. Pension plan administrative expense	(11,497,216)
6. Other	<u>8,008,465</u>
7. Net change in Plan Fiduciary Net Position	\$ 573,955,342
8. Plan Fiduciary Net Position – Beginning	<u>8,028,796,790</u>
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 8,602,752,132</u></u>

C. Net Pension Liability

\$ 2,205,935,041

D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability

79.59%

E. Covered-employee payroll

\$ 1,849,202,619

F. Net Pension Liability as a percentage of covered-employee payroll

119.29%

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios

Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total Pension Liability					
Service Cost	\$ 181,557,602	\$ 174,663,657	\$ 169,112,934	\$ 168,811,990	\$ 160,924,334
Interest on the Total Pension Liability	745,846,405	719,134,258	692,210,941	682,217,546	658,535,986
Benefit Changes	-	-	-	-	-
Difference between Expected and Actual Experience	(6,960,593)	62,849,281	2,912,566	(137,672,890)	(23,038,076)
Assumption Changes	(180,097,868)	416,146,405	-	192,273,597	214,798,742
Benefit Payments	(530,861,312)	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(13,734,331)	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
Net Change in Total Pension Liability	\$ 195,749,903	\$ 850,831,048	\$ 370,130,510	\$ 441,519,056	\$ 587,216,994
Total Pension Liability - Beginning	\$ 10,612,937,270	\$ 9,762,106,222	\$ 9,391,975,712	\$ 8,950,456,656	\$ 8,363,239,662
Total Pension Liability - Ending (a)	\$ 10,808,687,173	\$ 10,612,937,270	\$ 9,762,106,222	\$ 9,391,975,712	\$ 8,950,456,656
Plan Fiduciary Net Position					
Employer Contributions	\$ 276,282,425	\$ 261,334,560	\$ 264,216,252	\$ 263,332,831	\$ 264,050,160
Employee Contributions	63,430,545	57,711,427	55,000,117	50,750,458	47,215,843
Pension Plan Net Investment Income	782,326,766	862,824,701	(4,260,175)	168,929,698	1,207,897,156
Benefit Payments	(530,861,312)	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(13,734,331)	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
Pension Plan Administrative Expense	(11,497,216)	(9,495,869)	(6,929,103)	(6,949,282)	(6,854,975)
Other	8,008,465	7,626,374	6,594,649	6,745,403	8,302,355
Net Change in Plan Fiduciary Net Position	\$ 573,955,342	\$ 658,038,640	\$ (179,484,191)	\$ 18,697,921	\$ 1,096,606,547
Plan Fiduciary Net Position - Beginning	\$ 8,028,796,790	\$ 7,370,758,150	\$ 7,550,242,341	\$ 7,531,544,420	\$ 6,434,937,873
Plan Fiduciary Net Position - Ending (b)	\$ 8,602,752,132	\$ 8,028,796,790	\$ 7,370,758,150	\$ 7,550,242,341	\$ 7,531,544,420
Net Pension Liability - Ending (a) - (b)	\$ 2,205,935,041	\$ 2,584,140,480	\$ 2,391,348,072	\$ 1,841,733,371	\$ 1,418,912,236
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	79.59 %	75.65 %	75.50 %	80.39 %	84.15 %
Covered-Employee Payroll	\$ 1,849,202,619	\$ 1,788,074,570	\$ 1,795,174,463	\$ 1,757,056,813	\$ 1,748,350,136
Net Pension Liability as a Percentage of Covered-Employee Payroll	119.29 %	144.52 %	133.21 %	104.82 %	81.16 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A

Schedules of Required Supplementary Information

Schedule of the Net Pension Liability

Ultimately 10 Fiscal Years will be Displayed

FY Ending June 30,	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	\$ 8,950,456,656	\$7,531,544,420	\$ 1,418,912,236	84.15%	\$1,748,350,136	81.16%
2015	9,391,975,712	7,550,242,341	1,841,733,371	80.39%	1,757,056,813	104.82%
2016	9,762,106,222	7,370,758,150	2,391,348,072	75.50%	1,795,174,463	133.21%
2017	10,612,937,270	8,028,796,790	2,584,140,480	75.65%	1,788,074,570	144.52%
2018	10,808,687,173	8,602,752,132	2,205,935,041	79.59%	1,849,202,619	119.29%

Schedule of Contributions (\$ in millions)

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution*	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2008	\$ 175.0	\$ 175.0	\$ -	\$ 1,384	12.65%
2009	160.8	160.8	-	1,437	11.19%
2010	171.5	171.5	-	1,527	11.24%
2011	197.6	197.6	-	1,626	12.15%
2012	231.4	231.4	-	1,689	13.70%
2013	251.4	251.4	-	1,696	14.82%
2014	264.1	264.1	-	1,748	15.11%
2015	263.3	263.3	-	1,757	14.98%
2016	264.2	264.2	-	1,795	14.72%
2017	261.3	261.3	-	1,788	14.61%
2018	276.3	276.3	-	1,849	14.94%

* Actual contributions are based on covered payroll at the time of the contribution. This payroll is not reported to the actuary. The covered payroll shown on this page is the valuation payroll. Based upon the limitations of this schedule, the final column cannot be compared to the contribution rates actually charged to APERS participating employers.

Notes to Schedule of Contributions

Valuation Date: June 30, 2016 (excluding District Judges)
June 30, 2017 (District Judges)

Methods and Assumptions used to Determine Fiscal Year 2018 Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed (Level Dollar, Closed for District Judges New Plan and Paid Off Old Plan and District Judges Still Paying Old Plan)
Remaining Amortization Period	21 years (9.6 years for District Judges New Plan/Paid Off Old Plan and 18 years for District Judges Still Paying Old Plan)
Asset Valuation Method	4-Year smoothed market; 25% corridor (Market Value for Still Paying Old Plan)
Inflation	3.25% wage inflation, 2.50% price inflation
Salary Increases	3.25% to 9.85% including inflation (3.25% to 6.96% including inflation for District Judges)
Investment Rate of Return	7.5% (7.15% for District Judges)
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	Based on RP-2000 Combined Healthy mortality table, projected to 2020 using Projection Scale BB, set-forward 2 years for males and 1-year for females

Other Information:

Notes There were no benefit changes during the year (7.50% to 7.15% investment rate of return assumption change)

Schedule of Investment Returns (Multiyear)

To be provided by System

FY Ending June 30,	Annual Return¹
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	
2017	
2018	

¹ Annual money-weighted rate of return, net of investment expenses.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the current asset allocation percentage and by adding expected price inflation. Best estimates of arithmetic real rates of return for the 10-year period from 2018 to 2027 were based upon capital market assumptions provided by plan's investment consultant(s). For each major asset class that is included in the pension plan's current asset allocation as of June 30, 2018, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	37%	5.97%
International Equity	24%	6.07%
Real Assets	16%	4.59%
Absolute Return	5%	3.15%
Domestic Fixed	18%	0.83%
Total	100%	
Total Real Rate of Return		4.71%
Plus: Price Inflation - Actuary's Assumption		2.50%
Less: Investment Expenses (Passive)		0.00%
Net Expected Return		7.21%

Single Discount Rate

A single discount rate of 7.15% 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 7.15%. 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 7.15%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 6.15%	Current Single Discount Rate Assumption 7.15%	1% Increase 8.15%
Total Pension Liability	\$ 12,209,345,643	\$ 10,808,687,173	\$ 9,653,256,043
Plan Fiduciary Net Position	8,602,752,132	8,602,752,132	8,602,752,132
Net Pension Liability	\$ 3,606,593,511	\$ 2,205,935,041	\$ 1,050,503,911

Disclosure Regarding the Deferred Retirement Option Program

To be Provided by the System

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	37,565
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	13,957
Active Plan Members	<u>46,231</u>
Total Plan Members	97,753

SECTION E

SUMMARY OF BENEFITS

Summary of Provisions Evaluated (Excludes Special Provisions for General Assembly) (Last Changed as of 7/1/2009)

The Old Contributory Plan is available to persons who became members of APERS before January 1, 1978. The Non-Contributory Plan applies to all persons first hired after January 1, 1978 and before July 1, 2005 in APERS-covered employment. The New Contributory Plan applies to all persons hired after July 1, 2005 in APERS-covered employment or Non-Contributory members who elected to participate in the New Contributory Plan.

New Contributory Plan

Non-Contributory Plan

Voluntary Retirement

With a full benefit, after either (a) age 65 with 5 years of service, or (b) 28 years of actual service, regardless of age. For sheriff and public safety members, the age 65 requirement is reduced 1 month for each 2 months of actual service, but not below age 55 (age 52 for sheriff members with a minimum of 10 years of actual service).

With a full benefit, after either (a) age 65 with 5 years of service, or (b) 28 years of actual service, regardless of age. For sheriff and public safety members, the age 65 requirement is reduced 1 month for each 2 months of actual service, but not below age 55 (age 52 for sheriff members with a minimum of 10 years of actual service).

With a reduced benefit, after age 55 with 5 years of service or any age with 25 years of service. The reduction is equal to $\frac{1}{2}$ of 1% for each month retirement proceeds normal retirement age or 1% for each month below 28 years of actual service, whichever is less.

With a reduced benefit, after age 55 with 5 years of service or any age with 25 years of service. The reduction is equal to $\frac{1}{2}$ of 1% for each month retirement proceeds normal retirement age or 1% for each month below 28 years of actual service, whichever is less.

Final Average Compensation (FAC)

Average of highest 36 calendar months of covered compensation.

Average of highest 36 calendar months of covered compensation.

Full Age & Service Retirement Benefit

2.00% of FAC times years of service (2.03% for service prior to July 1, 2007), plus .5% of FAC times years of service over 28 years for service after July 1, 2009. The minimum monthly benefit is \$150 minus any age and beneficiary option reductions.

1.72% of FAC times years and months of credited service (1.75% for service prior to July 1, 2007), plus .5% of FAC times years of service over 28 years for service after July 1, 2009. If retirement is prior to age 62, an additional .33% of FAC times years of service will be paid until age 62. The portion of the APERS benefit based on service before 1978 cannot be less than the amount provided by contributory provisions in effect at the time of retirement. The minimum monthly benefit is \$150 minus any age and beneficiary option reductions.

Summary of Provisions Evaluated

New Contributory Plan

Non-Contributory Plan

Benefit Increases After Retirement

Annually, there will be a cost-of-living adjustment equal to 3% of the current benefit.

Annually, there will be a cost-of-living adjustment equal to 3% of the current benefit.

Member Contribution Rates

5% of covered compensation (pre-tax). Member contributions are refundable if APERS-covered employment terminates before a monthly benefit is payable. Members will earn interest on the contributions at a rate of 4% annually.

No employee contributions for service after January 1, 1978. If there is service before January 1, 1978, contributions for that period are refundable later in the same manner as under the Contributory Plan.

Vested Retirement Benefits

5 years service, and leaving APERS-covered employment before full retirement age. Deferred full retirement benefit, based on service and pay at termination, begins at age 65. A death benefit is payable to surviving spouse of member who dies before benefit commencement.

5 years service and leaving APERS-covered employment before full retirement age. Deferred full retirement benefit, based on service and pay at termination, begins at age 65. A death benefit is payable to surviving spouse of member who dies before benefit commencement.

In place of deferred full benefit, at age 55 or older, a qualifying member can elect an immediate reduced benefit.

In place of deferred full benefit, at age 55 or older, a qualifying member can elect an immediate reduced benefit.

Total and Permanent Disability

Disabled after 5 years of service, including credit for 18 of the 24 months preceding disability.

Disabled after 5 years of service, including credit for 18 of the 24 months preceding disability.

Amount is computed as an age & service benefit, based on service and pay at disability.

Amount is computed as an age & service benefit, based on service and compensation at disability.

Summary of Provisions Evaluated

New Contributory Plan

Non-Contributory Plan

Death After Retirement

If death occurs before total monthly benefit payments equal member's accumulated contributions, the difference is refunded.

Member contributions before 1978 are protected in the same manner as under the Contributory Plan.

A retiring member can also elect an optional form of benefit, which provides beneficiary protection paid for by reducing the retired member's benefit amount. Should the member elect a straight life benefit and decease within 12 months of the date of retirement, a benefit may be payable to the surviving spouse under certain conditions.

A retiring member can also elect an optional form of benefit, which provides beneficiary protection paid for by reducing the retired member's benefit amount. Should the member elect a straight life benefit and decease within 12 months of the date of retirement, a benefit may be payable to the surviving spouse under certain conditions.

Death While in APERS-Covered Employment

Member's accumulated contributions are refundable.

Member's accumulated contributions before 1978 are refundable.

If the member had 5 years service, monthly benefits are payable instead. Surviving spouse receives a benefit computed as if member had retired and elected the Joint & 75% Survivor Option. Payment begins immediately.

If the member had 5 years service, monthly benefits are payable instead. Surviving spouse receives a benefit computed as if member had retired and elected the Joint & 75% Survivor Option. Payment begins immediately.

Each dependent child receives benefit of 10% of compensation (maximum of 25% for all children).

Each dependent child receives benefit of 10% of compensation (maximum of 25% for all children).

Dependent parents benefits are payable if neither spouse nor children's benefits are payable.

Dependent parents benefits are payable if neither spouse nor children's benefits are payable.

Summary of Provisions Evaluated Credited Service

Membership Group	Service Credits
Public Safety Members (including State Capitol Police and Wildlife Sub-Division members) hired before July 1, 1997	1-1/2 times regular rate with 5 years actual service required to meet benefit eligibility rules.
Governor (hired before July 1, 1999)	3 times regular rate with 5 years actual service required to meet death-in-service eligibility and 4 years actual service required for other benefit eligibility.
Elected State Constitutional Officers (hired before July 1, 1999)	2-1/2 times regular rate with 5 years actual service required to meet benefit eligibility.
General Assembly	Regular crediting rate with 5 years of actual service required to meet death-in-service eligibility and 10 years of actual service required for other benefit eligibility.
Other Elected Public Officials (municipal and county officials)	2 times regular rate with 5 years actual service required to meet benefit eligibility.
All Other Members	Regular rate.

Arkansas Public Employees Deferred Retirement Option Plan

Members with 28 years of actual service in APERS or in combination with a reciprocal system are eligible to participate.

Members, for a maximum of 7 years, may continue employment and have 75% of their accrued benefit (at date of participation with 30 or more years of service) paid into the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The payments into the Deferred Retirement Option Plan accumulate with interest at a rate established by the Board. The interest is paid on the mean balance and is paid to the member at termination of active membership in either a lump sum or as an annuity.

Employer contributions continue for members participating in the DROP.

Summary of Provisions Evaluated

General Assembly Division

Additional Benefit Provisions

Voluntary Retirement Eligibility

Age 65 with 10 or more years of credited service, 28 years of actual service regardless of age, or age 55 with 12 or more years of actual service, 10 of which must be as a member of the General Assembly. In addition, a member of the General Assembly who was a member of the General Assembly on July 1, 1979, or holding any other Arkansas elective office on July 1, 1979, is eligible to retire with 17.5 years of actual service regardless of age.

Vesting

Termination of employment prior to normal retirement age after completing 10 or more years of credited service.

Retirement Benefit

\$35.00 per month times years of General Assembly service. The amount is \$40.00 per month per year of service for any member who served as Speaker of the House of Representatives or President Pro Tempore of the Senate.

Disability

Eligibility: 10 years of credited service.

Amount: Accrued retirement benefit.

Death-in-Service

Eligibility: 5 years of service.

Amount - Less than 10 years in General Assembly: Same as for regular members.

Amount - 10 or more years in General Assembly: 100% of the benefit the member would have been entitled to had he or she been at retirement age payable to an eligible surviving spouse.

Death-After-Retirement

100% of the benefit the member was receiving payable to an eligible surviving spouse.

Participation

A member of the General Assembly may, at any time, elect either (i) to be covered by regular benefit provisions, or (ii) to discontinue an APERS membership.

District Judges

Summary of Provisions Evaluated

Voluntary Retirement	With a full benefit, after either (a) age 50 with 20 years of eligibility service, (b) age 60 with 16 years of eligibility service, or (c) age 65 with 8 years of eligibility service.
Final Average Compensation (FAC)	Average of the final three calendar years of employment.
Benefit Service	Service performed on or after January 1, 2005.
Eligibility Service	Benefit service plus service in Old Local District Judges Plan.
Full Age & Service Retirement Benefit	2.50% of FAC times actual service.
Benefit Increases After Retirement	Annually, there will be a cost-of-living adjustment equal to 3% of the current benefit.
Member Contribution Rates	Active members contribute 5% of their salaries. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.
Vested Retirement Benefits	8 years of eligibility service. Deferred full retirement benefit, based on benefit service and pay at termination, begins when member would have been eligible for voluntary retirement.
Total and Permanent Disability	An active member with 3 or more consecutive years of eligibility service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity.
Death After Retirement	If the member was eligible for normal retirement at the time of death, an eligible beneficiary will begin receiving a 50% joint and survivor pension computed in the same manner as a service retirement pension as if the member had retired the last day of his life.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Assumptions Used for APERS Actuarial Valuations Assumptions Adopted by Board of Trustees After Consulting with Actuary

In accordance with Section 24-4-105 of the Arkansas Code, the Board of Trustees adopts the actuarial assumptions used for actuarial valuation purposes.

The actuarial assumptions used in the valuation are shown in this section. Assumptions were established based upon an Experience Study covering the period July 1, 2012 through June 30, 2017 (please see our report dated May 14, 2018). The actuarial assumptions represent estimates of future experience.

Economic Assumptions

The investment return rate used in making the valuation was 7.15% per year, compounded annually (net after investment expenses). This rate of return is not the assumed real rate of return. The real rate of return is the portion of investment return which is more than the wage inflation rate. Considering the assumed wage inflation rate of 3.25%, the 7.15% investment return rate translates to an assumed net real rate of return of 3.90%. The wage inflation assumption was first used for the June 30, 2015 valuation, including also the District Judges division. The investment return assumption was first used for the June 30, 2017 valuation, including also the District Judges division.

Pay increase assumptions for individual active members are shown on pages 34 and 36. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation. The wage inflation assumption consists of 2.50% for price inflation and 0.75% for real wage growth. These assumptions were first used for the June 30, 2018 valuation and for the District Judges division for the June 30, 2015 valuation.

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. This assumption was first used for the June 30, 2015 valuation and for the District Judges division for the June 30, 2015 valuation.

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

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. The tables applied credibility adjustments of 135% for males and 125% for females and were adjusted for fully generational mortality improvements using Scale MP-2017. This assumption was first used for the June 30, 2018 valuation.

Non-Economic Assumptions (Concluded)

The probabilities of retirement for members eligible to retire are shown on pages 30 through 33. These probabilities were first used for the June 30, 2018 valuation and for the June 30, 2007 valuation for the District Judges division.

The probabilities of withdrawal from service, death-in-service and disability are shown for sample ages on pages 34 through 36. These probabilities were first used for the June 30, 2018 valuation and for the District Judges division for the June 30, 2013 valuation.

The individual entry-age normal actuarial cost method of the valuation was used in determining liabilities and normal cost.

Differences in the past between assumed experience and actual experience (actuarial gains and losses) become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (principal and interest) which are level percent-of-payroll contributions. For the District Judges division, unfunded actuarial accrued liabilities are amortized as a level dollar contribution.

Recognizing the special circumstances of the General Assembly division, modifications of the above assumptions were made where appropriate.

Present assets (cash & investments) were valued on a market related basis in which differences between actual and assumed returns are phased-in over a four-year period (including District Judges New Plan and Paid Off Old Plan). The funding value of assets may not deviate from the market value of assets by more than 25%. District Judges Still Paying Old Plan present assets (cash & investments) were valued on a market value basis.

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.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

**Single Life Retirement Values
Based on the RP-2014 Healthy Annuitant
Generational Mortality Tables
And 7.15% Interest
June 30, 2018**

Sample Attained Ages	Present Value of \$1.00 Monthly for Life		Present Value of \$1.00 Monthly for Life Increasing 3% Annually		Future Life Expectancy (Years) 2018 *	
	Men	Women	Men	Women	Men	Women
40	\$ 155.86	\$ 159.76	\$ 228.83	\$ 238.62	40.85	44.56
45	150.67	155.71	215.75	227.14	35.96	39.59
50	144.07	150.25	200.67	213.41	31.19	34.66
55	135.97	143.05	183.75	197.25	26.62	29.83
60	126.16	134.08	165.01	179.03	22.29	25.20
65	114.46	123.16	144.61	158.86	18.22	20.82
70	100.62	109.76	122.59	136.46	14.43	16.66
75	84.59	93.92	99.31	112.42	10.95	12.82
80	67.26	76.39	76.15	88.07	7.90	9.42
85	50.25	58.64	55.03	65.27	5.41	6.59

Sample Attained Ages	Benefit Increasing 3.0% Yearly	Portion of Age 60 Lives Still Alive *	
		Men	Women
60	\$100	100 %	100 %
65	116	93	96
70	134	84	89
75	155	72	80
80	180	55	66

* Applicable to calendar year 2018. Life expectancies and rates in future years are determined by the fully generational MP-2017 projection scale.

State and Local Government Division Age-Based Retirement June 30, 2018

Retirement Ages (with less than 28 years of service)	Percent of Eligible Active Members Retiring Within Next Year	
	Unreduced	Reduced
55		3 %
56		3
57		3
58		4
59		4
60		5
61		6
62		20
63		20
64		15
65	22 %	
66	25	
67	23	
68	18	
69	18	
70	18	
71	18	
72	18	
73	18	
74-75	20	
76-78	15	
79-84	20	
85 & Over	100	

A member was assumed eligible for unreduced retirement after attaining age 65 with 5 years of service or 28 years regardless of age. A member was assumed eligible for reduced retirement after attaining age 55 with 10 or more years of service.

**State and Local Government Division
Service Based Retirement
June 30, 2018**

Service	Percent of Eligible Active Members Retiring Within Next Year
28	13 %
29	18
30	13
31	15
32	13
33	13
34	13
35	18
36	18
37	18
38	20
39	20
40 & Over	100

**General Assembly Division
Age-Based Retirement
June 30, 2018**

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	30 %
51	30
52	30
53	30
54	30
55	30
56	30
57	30
58	30
59	30
60	30
61	30
62	50
63	30
64	30
65	50
66	30
67-79	20
80 & Over	100

Member may retire at age 50 with 20 or more years of service, age 60 with 16 or more years of service, or age 65 with 8 or more years of service.

District Judges Division Age-Based Retirement June 30, 2018

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	10 %
51	10
52	10
53	10
54	10
55	12
56	12
57	14
58	14
59	14
60	18
61	18
62-73	30
74 & Over	100

Members may retire at age 50 with 20 or more years of service, age 60 with 16 or more years of service, or age 65 with 8 or more years of service.

State and Local Government Division

Separations From Active Employment Before Service Retirement

June 30, 2018

Sample Ages	Years of Service	Percent of Active Members Separating within the Next Year						Pay Increase Assumptions for an Individual Employee		
		Withdrawal		Death *		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0	40.0 %	40.0 %							
	1	25.0	25.0							
	2	20.0	20.0							
	3	15.0	15.0							
	4	12.0	12.0							
20	5+	11.0	11.0	0.05 %	0.02 %	0.01 %	0.01 %	6.60 %	3.25 %	9.85 %
25		11.0	11.0	0.07	0.02	0.04	0.04	5.16	3.25	8.41
30		9.7	9.7	0.07	0.03	0.07	0.07	3.30	3.25	6.55
35		6.8	6.8	0.08	0.04	0.09	0.09	2.28	3.25	5.53
40		4.8	4.8	0.09	0.06	0.13	0.13	1.70	3.25	4.95
45		3.7	3.7	0.13	0.08	0.17	0.17	1.38	3.25	4.63
50		3.0	3.0	0.23	0.14	0.34	0.34	1.00	3.25	4.25
55		2.1	2.1	0.38	0.22	0.60	0.60	0.68	3.25	3.93
60		1.3	1.3	0.67	0.34	0.85	0.85	0.42	3.25	3.67

* Applicable to calendar year . Rates in future years are determined by the above rates and the MP-2017 projection scale.

Pay increase rates are age based only, and not service based.

General Assembly Division

Separations From Active Employment Before Service Retirement

June 30, 2018

Sample Ages	Years of Service	Percent of Active Members Separating within the Next Year					
		Withdrawal		Death *		Disability	
		Men	Women	Men	Women	Men	Women
	0	30.0 %	30.0 %				
	1	25.0	25.0				
	2	20.0	20.0				
	3	15.0	15.0				
	4	12.0	12.0				
20	5+	9.0	9.0	0.05 %	0.02 %	0.06 %	0.06 %
25		8.3	8.3	0.07	0.02	0.06	0.06
30		5.3	5.3	0.07	0.03	0.06	0.06
35		3.0	3.0	0.08	0.04	0.06	0.06
40		2.6	2.6	0.09	0.06	0.16	0.16
45		2.4	2.4	0.13	0.08	0.22	0.22
50		1.1	1.1	0.23	0.14	0.39	0.39
55		0.8	0.8	0.38	0.22	0.71	0.71
60		0.8	0.8	0.67	0.34	1.13	1.13

* Applicable to calendar year 2018. Rates in future years are determined by the above rates and the MP-2017 projection scale.

District Judges

Separations From Active Employment Before Service Retirement

June 30, 2018

Sample Ages	Percent of Active Members Separating within the Next Year				Pay Increase Assumptions For An Individual Employee		
	Withdrawal		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
	Men	Women	Men	Women			
20	2.0 %	2.0 %	0.08 %	0.08 %	2.70 %	3.25 %	5.95 %
25	2.0	2.0	0.08	0.08	2.60	3.25	5.85
30	2.0	2.0	0.08	0.08	2.20	3.25	5.45
35	2.0	2.0	0.08	0.08	1.90	3.25	5.15
40	2.0	2.0	0.20	0.20	1.40	3.25	4.65
45	2.0	2.0	0.27	0.27	1.20	3.25	4.45
50	2.0	2.0	0.49	0.49	0.70	3.25	3.95
55	2.0	2.0	0.89	0.89	0.70	3.25	3.95
60	2.0	2.0	1.41	1.41	0.00	3.25	3.25

Summary of Assumptions Used

June 30, 2018

Miscellaneous and Technical Assumptions

Marriage Assumption. 80% of males and 80% of females are assumed to be married for purposes of death-in-service benefits. District Judges division - 100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. 80% of males and 80% of females are assumed to be married for purposes of death-after-retirement benefits for active member valuation purposes.

Pay Increase Timing. Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.

Decrement Timing. Decrements of all types are assumed to occur mid-year.

Other Liability Adjustments. Active member non-refund normal costs and actuarial accrued liabilities were increased by 1.5% to reflect non-reported reciprocal service. Also, a 0.2% load to the normal cost and actuarial accrued liabilities is being used to account for survivor benefits payable if a retiree dies within the first year of retirement. Actuarial accrued liabilities were also increased by \$130 million to account for revisions to the data submitted.

Eligibility Testing. Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Benefit Service. Exact fractional service is used to determine the amount of benefit payable.

Decrement Relativity. Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

Normal Form of Benefit. The assumed normal form of benefit is the straight life form.

District Judges Division Old Plan Deferred Members. For members that are eligible for a deferred benefit in the Old Plan and are currently active in the New Plan, it is assumed that the deferred benefit will commence at the first age at which the member is eligible to receive the benefit.

Incidence of Contributions. Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.

DROP Duration. We assume on average the total DROP duration is 4 years for those members currently participating in the DROP.

DROP Participation. It was assumed that members will participate in the forward DROP to the extent that participating in the forward DROP would provide the highest value of benefits.

Summary of Assumptions Used

June 30, 2018

Miscellaneous and Technical Assumptions (Concluded)

DROP Interest Credit. The current interest rate credit for DROP accounts is assumed to be 3.0%.

Payroll for DROP Participants and Retired Members Returned to Work. Employers now contribute on the pays of DROP participants and retired members returned to work. For the June 30, 2018 valuation the reported payroll for these members was approximately \$123 million.

Pre-Retirement Mortality. The weighting of duty and ordinary deaths-in-service is 0%/100%.

Administrative Expenses. The normal cost was increased by 0.40% of payroll to fund administrative expenses.

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 contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.15%; the municipal bond rate is 3.62%; and the resulting SDR is 7.15%.

The tables in this section provide background for the development of the SDR.

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 SDR. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

Single Discount Rate Development Projection of Contributions

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	Expense Contributions	UAL Contributions	Total Contributions
1	\$ 1,779,833,827	\$ 61,985,599	\$ 132,866,709	\$ 7,119,335	\$ 131,061,611	\$ 333,033,255
2	1,639,349,447	\$ 57,025,603	122,163,916	6,557,398	136,410,278	322,157,195
3	1,539,772,709	\$ 53,961,644	114,325,057	6,159,091	132,615,655	307,061,447
4	1,460,141,747	\$ 51,768,767	107,907,828	5,840,567	133,093,777	298,610,938
5	1,390,896,986	\$ 50,021,704	102,236,574	5,563,588	137,373,684	295,195,551
6	1,326,303,678	\$ 48,454,396	96,908,782	5,305,215	141,792,688	292,461,081
7	1,264,087,064	\$ 46,933,929	91,758,801	5,056,348	146,355,310	290,104,389
8	1,204,929,175	\$ 45,425,089	86,851,334	4,819,717	151,066,217	288,162,356
9	1,149,443,428	\$ 43,918,686	82,253,574	4,597,774	155,635,059	286,405,093
10	1,095,762,473	\$ 42,417,131	77,811,584	4,383,050	160,190,391	284,802,156
11	1,042,652,548	\$ 40,950,464	73,434,604	4,170,610	165,375,701	283,931,379
12	990,770,991	\$ 39,530,353	69,178,114	3,963,084	170,729,534	283,401,085
13	939,964,411	\$ 38,140,226	65,041,786	3,759,858	176,257,365	283,199,235
14	889,927,080	\$ 36,757,944	60,994,820	3,559,708	181,964,852	283,277,325
15	840,846,440	\$ 35,370,194	57,077,013	3,363,386	187,857,832	283,668,426
16	791,951,216	\$ 33,922,034	53,233,194	3,167,805	193,942,333	284,265,366
17	743,123,378	\$ 32,369,256	49,489,426	2,972,494	200,224,582	285,055,758
18	695,135,659	\$ 30,749,284	45,888,752	2,780,543	206,711,003	286,129,582
19	648,086,507	\$ 29,091,043	42,423,850	2,592,346	212,765,845	286,873,083
20	602,098,268	\$ 27,414,863	39,086,403	2,408,393	219,680,735	288,590,394
21	557,427,601	\$ 25,737,376	35,893,376	2,229,710	226,820,358	290,680,819
22	513,552,269	\$ 24,042,251	32,800,755	2,054,209	234,192,020	293,089,236
23	470,175,249	\$ 22,311,561	29,791,456	1,880,701	241,803,261	295,786,978
24	427,656,538	\$ 20,545,262	26,895,178	1,710,626	249,661,867	298,812,932
25	385,595,830	\$ 18,736,538	24,079,572	1,542,383	257,775,877	302,134,370
26	343,605,510	\$ 16,882,109	21,309,411	1,374,422	266,153,593	305,719,536
27	301,734,523	\$ 14,985,361	18,586,089	1,206,938	274,803,585	309,581,973
28	260,455,506	\$ 13,013,797	15,977,138	1,041,822	283,734,702	313,767,458
29	221,911,468	\$ 11,091,738	13,603,089	887,646	292,956,079	318,538,552
30	188,179,675	\$ 9,406,312	11,527,678	752,719	0	21,686,709
31	158,857,876	\$ 7,940,847	9,724,052	635,432	0	18,300,331
32	133,116,685	\$ 6,654,472	8,140,054	532,467	0	15,326,993
33	110,168,377	\$ 5,507,704	6,727,667	440,674	0	12,676,044
34	88,995,899	\$ 4,449,383	5,425,317	355,984	0	10,230,684
35	69,410,648	\$ 3,470,189	4,220,649	277,643	0	7,968,481
36	51,931,085	\$ 2,596,314	3,148,965	207,724	0	5,953,002
37	36,818,365	\$ 1,840,765	2,222,670	147,273	0	4,210,709
38	23,681,760	\$ 1,183,991	1,417,822	94,727	0	2,696,540
39	12,350,222	\$ 617,462	728,492	49,401	0	1,395,355
40	3,582,127	\$ 179,084	208,335	14,329	0	401,748
41	-	\$ -	-	-	0	0
42	-	\$ -	-	-	0	0
43	-	\$ -	-	-	0	0
44	-	\$ -	-	-	0	0
45	-	\$ -	-	-	0	0
46	-	\$ -	-	-	0	0
47	-	\$ -	-	-	0	0
48	-	\$ -	-	-	0	0
49	-	\$ -	-	-	0	0
50	-	\$ -	-	-	0	0

Single Discount Rate Development Projection of Plan Fiduciary Net Position

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.15%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 8,602,752,132	\$ 333,033,255	\$ 777,304,981	\$ 7,119,335	\$ 599,238,127	\$ 8,750,599,197
2	8,750,599,197	322,157,195	621,475,674	6,557,398	614,921,554	9,059,644,874
3	9,059,644,874	307,061,447	643,972,581	6,159,091	635,711,577	9,352,286,224
4	9,352,286,224	298,610,938	666,929,238	5,840,567	655,543,201	9,633,670,559
5	9,633,670,559	295,195,551	693,488,968	5,563,588	674,618,801	9,904,432,354
6	9,904,432,354	292,461,081	723,214,952	5,305,215	692,846,918	10,161,220,187
7	10,161,220,187	290,104,389	747,394,544	5,056,348	710,283,697	10,409,157,380
8	10,409,157,380	288,162,356	767,960,954	4,819,717	727,228,734	10,651,767,800
9	10,651,767,800	286,405,093	786,315,648	4,597,774	743,876,586	10,891,136,058
10	10,891,136,058	284,802,156	814,758,952	4,383,050	759,943,351	11,116,739,562
11	11,116,739,562	283,931,379	843,141,278	4,170,610	775,053,720	11,328,412,774
12	11,328,412,774	283,401,085	869,205,682	3,963,084	789,261,299	11,527,906,392
13	11,527,906,392	283,199,235	897,087,463	3,759,858	802,545,575	11,712,803,880
14	11,712,803,880	283,277,325	920,884,470	3,559,708	814,939,464	11,886,576,491
15	11,886,576,491	283,668,426	945,093,792	3,363,386	826,534,301	12,048,322,040
16	12,048,322,040	284,265,366	970,591,838	3,167,805	837,231,133	12,196,058,896
17	12,196,058,896	285,055,758	994,922,170	2,972,494	846,974,155	12,330,194,144
18	12,330,194,144	286,129,582	1,017,612,295	2,780,543	855,812,127	12,451,743,014
19	12,451,743,014	286,873,083	1,039,267,915	2,592,346	863,774,780	12,560,530,617
20	12,560,530,617	288,590,394	1,060,383,479	2,408,393	870,878,041	12,657,207,180
21	12,657,207,180	290,680,819	1,077,845,207	2,229,710	877,256,656	12,745,069,738
22	12,745,069,738	293,089,236	1,096,839,568	2,054,209	882,962,283	12,822,227,480
23	12,822,227,480	295,786,978	1,112,999,402	1,880,701	888,012,196	12,891,146,551
24	12,891,146,551	298,812,932	1,126,273,860	1,710,626	892,585,825	12,954,560,822
25	12,954,560,822	302,134,370	1,142,068,426	1,542,383	896,687,640	13,009,772,023
26	13,009,772,023	305,719,536	1,156,322,241	1,374,422	900,266,322	13,058,061,218
27	13,058,061,218	309,581,973	1,170,743,340	1,206,938	903,353,928	13,099,046,841
28	13,099,046,841	313,767,458	1,183,958,584	1,041,822	905,972,960	13,133,786,853
29	13,133,786,853	318,538,552	1,194,868,742	887,646	908,246,605	13,164,815,621
30	13,164,815,621	21,686,709	1,200,877,741	752,719	899,829,540	12,884,701,410
31	12,884,701,410	18,300,331	1,200,864,495	635,432	879,686,987	12,581,188,801
32	12,581,188,801	15,326,993	1,197,143,251	532,467	858,015,729	12,256,855,805
33	12,256,855,805	12,676,044	1,192,794,777	440,674	834,888,783	11,911,185,182
34	11,911,185,182	10,230,684	1,185,409,906	355,984	810,349,848	11,545,999,824
35	11,545,999,824	7,968,481	1,175,873,805	277,643	784,497,400	11,162,314,257
36	11,162,314,257	5,953,002	1,160,154,223	207,724	757,547,803	10,765,453,115
37	10,765,453,115	4,210,709	1,142,851,899	147,273	729,721,023	10,356,385,674
38	10,356,385,674	2,696,540	1,122,100,971	94,727	701,150,389	9,938,036,906
39	9,938,036,906	1,395,355	1,099,945,542	49,401	671,972,713	9,511,410,031
40	9,511,410,031	401,748	1,067,369,664	14,329	642,579,699	9,087,007,484
41	9,087,007,484	-	1,021,096,030	-	613,847,030	8,679,758,485
42	8,679,758,485	-	994,010,155	-	585,680,330	8,271,428,660
43	8,271,428,660	-	965,805,312	-	557,475,664	7,863,099,011
44	7,863,099,011	-	936,564,482	-	529,307,408	7,455,841,937
45	7,455,841,937	-	906,408,364	-	501,247,997	7,050,681,570
46	7,050,681,570	-	875,129,318	-	473,377,952	6,648,930,204
47	6,648,930,204	-	842,739,670	-	445,790,670	6,251,981,205
48	6,251,981,205	-	809,495,727	-	418,576,771	5,861,062,249
49	5,861,062,249	-	775,673,634	-	391,814,332	5,477,202,947
50	5,477,202,947	-	741,399,906	-	365,572,525	5,101,375,567

First year's benefit payments include distribution of the DROP reserve.

Single Discount Rate Development

Present Values of Projected Benefits

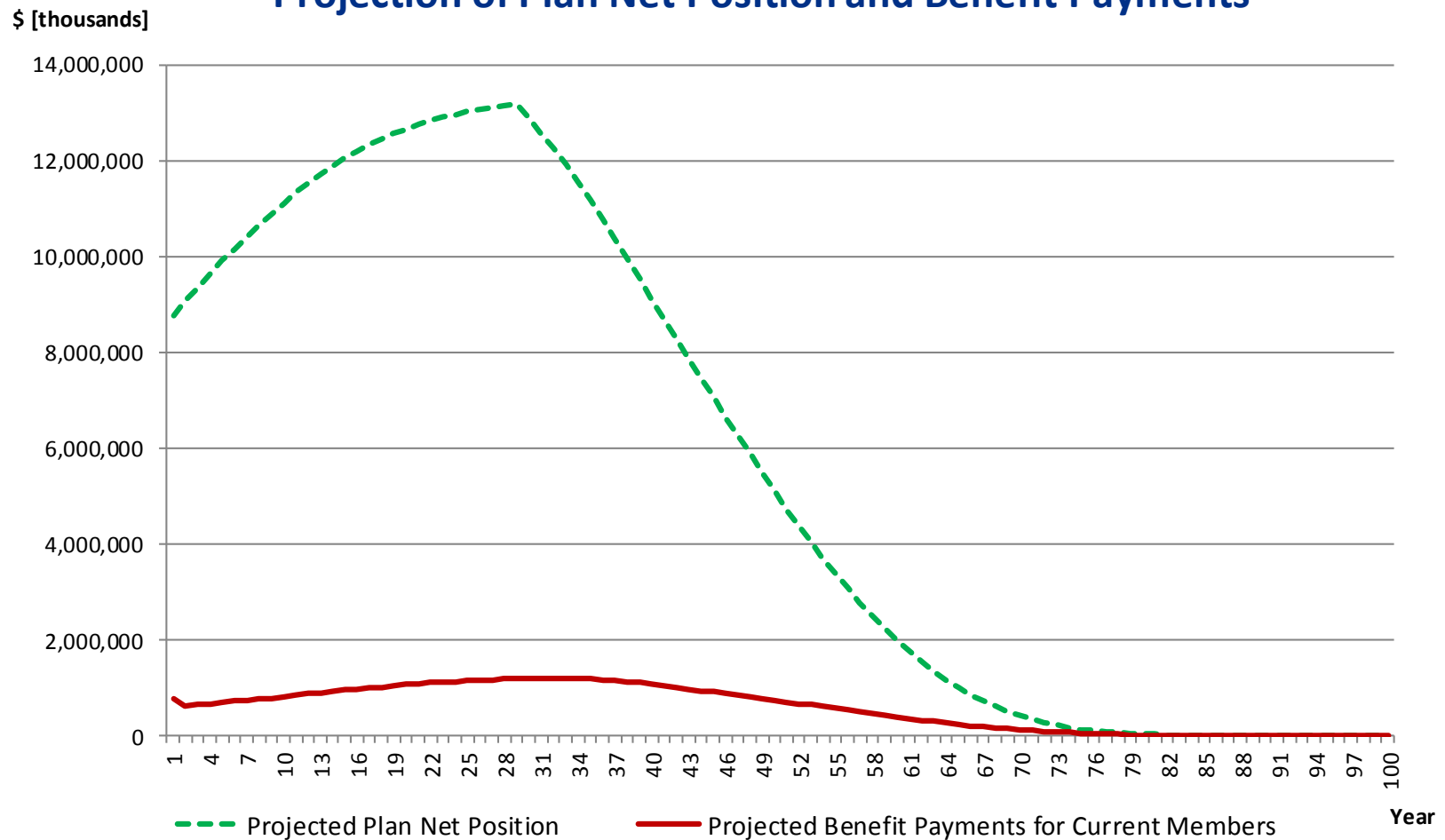
Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of 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	\$ 8,602,752,132	\$ 777,304,981	\$ 777,304,981	\$ -	\$ 750,922,925	\$ -	\$ 750,922,925
2	8,750,599,197	621,475,674	621,475,674	-	560,319,673	-	560,319,673
3	9,059,644,874	643,972,581	643,972,581	-	541,859,807	-	541,859,807
4	9,352,286,224	666,929,238	666,929,238	-	523,729,628	-	523,729,628
5	9,633,670,559	693,488,968	693,488,968	-	508,246,934	-	508,246,934
6	9,904,432,354	723,214,952	723,214,952	-	494,664,145	-	494,664,145
7	10,161,220,187	747,394,544	747,394,544	-	477,090,516	-	477,090,516
8	10,409,157,380	767,960,954	767,960,954	-	457,507,085	-	457,507,085
9	10,651,767,800	786,315,648	786,315,648	-	437,183,163	-	437,183,163
10	10,891,136,058	814,758,952	814,758,952	-	422,769,331	-	422,769,331
11	11,116,739,562	843,141,278	843,141,278	-	408,302,943	-	408,302,943
12	11,328,412,774	869,205,682	869,205,682	-	392,837,139	-	392,837,139
13	11,527,906,392	897,087,463	897,087,463	-	378,383,853	-	378,383,853
14	11,712,803,880	920,884,470	920,884,470	-	362,502,312	-	362,502,312
15	11,886,576,491	945,093,792	945,093,792	-	347,206,916	-	347,206,916
16	12,048,322,040	970,591,838	970,591,838	-	332,780,536	-	332,780,536
17	12,196,058,896	994,922,170	994,922,170	-	318,359,794	-	318,359,794
18	12,330,194,144	1,017,612,295	1,017,612,295	-	303,892,006	-	303,892,006
19	12,451,743,014	1,039,267,915	1,039,267,915	-	289,649,161	-	289,649,161
20	12,560,530,617	1,060,383,479	1,060,383,479	-	275,813,509	-	275,813,509
21	12,657,207,180	1,077,845,207	1,077,845,207	-	261,647,627	-	261,647,627
22	12,745,069,738	1,096,839,568	1,096,839,568	-	248,491,386	-	248,491,386
23	12,822,227,480	1,112,999,402	1,112,999,402	-	235,326,581	-	235,326,581
24	12,891,146,551	1,126,273,860	1,126,273,860	-	222,242,894	-	222,242,894
25	12,954,560,822	1,142,068,426	1,142,068,426	-	210,321,576	-	210,321,576
26	13,009,772,023	1,156,322,241	1,156,322,241	-	198,736,852	-	198,736,852
27	13,058,061,218	1,170,743,340	1,170,743,340	-	187,788,524	-	187,788,524
28	13,099,046,841	1,183,958,584	1,183,958,584	-	177,235,897	-	177,235,897
29	13,133,786,853	1,194,868,742	1,194,868,742	-	166,933,386	-	166,933,386
30	13,164,815,621	1,200,877,741	1,200,877,741	-	156,577,596	-	156,577,596
31	12,884,701,410	1,200,864,495	1,200,864,495	-	146,127,736	-	146,127,736
32	12,581,188,801	1,197,143,251	1,197,143,251	-	135,954,190	-	135,954,190
33	12,256,855,805	1,192,794,777	1,192,794,777	-	126,421,235	-	126,421,235
34	11,911,185,182	1,185,409,906	1,185,409,906	-	117,254,813	-	117,254,813
35	11,545,999,824	1,175,873,805	1,175,873,805	-	108,550,209	-	108,550,209
36	11,162,314,257	1,160,154,223	1,160,154,223	-	99,952,463	-	99,952,463
37	10,765,453,115	1,142,851,899	1,142,851,899	-	91,891,545	-	91,891,545
38	10,356,385,674	1,122,100,971	1,122,100,971	-	84,202,573	-	84,202,573
39	9,938,036,906	1,099,945,542	1,099,945,542	-	77,032,223	-	77,032,223
40	9,511,410,031	1,067,369,664	1,067,369,664	-	69,762,804	-	69,762,804
41	9,087,007,484	1,021,096,030	1,021,096,030	-	62,285,002	-	62,285,002
42	8,679,758,485	994,010,155	994,010,155	-	56,586,853	-	56,586,853
43	8,271,428,660	965,805,312	965,805,312	-	51,312,377	-	51,312,377
44	7,863,099,011	936,564,482	936,564,482	-	46,438,486	-	46,438,486
45	7,455,841,937	906,408,364	906,408,364	-	41,944,218	-	41,944,218
46	7,050,681,570	875,129,318	875,129,318	-	37,794,470	-	37,794,470
47	6,648,930,204	842,739,670	842,739,670	-	33,967,007	-	33,967,007
48	6,251,981,205	809,495,727	809,495,727	-	30,449,925	-	30,449,925
49	5,861,062,249	775,673,634	775,673,634	-	27,230,682	-	27,230,682
50	5,477,202,947	741,399,906	741,399,906	-	24,290,690	-	24,290,690

Single Discount Rate Development

Present Values of Projected Benefits (Concluded)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of 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 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	\$ 5,101,375,567	\$ 706,724,144	\$ 706,724,144	\$ -	\$ 21,609,518	\$ -	\$ 21,609,518
52	4,734,570,549	671,722,873	671,722,873	-	19,168,720	-	19,168,720
53	4,377,769,936	636,472,317	636,472,317	-	16,950,804	-	16,950,804
54	4,031,947,088	601,066,528	601,066,528	-	14,939,675	-	14,939,675
55	3,698,047,602	565,614,451	565,614,451	-	13,120,396	-	13,120,396
56	3,376,971,911	530,237,621	530,237,621	-	11,479,020	-	11,479,020
57	3,069,559,028	495,068,858	495,068,858	-	10,002,480	-	10,002,480
58	2,776,570,464	460,249,440	460,249,440	-	8,678,470	-	8,678,470
59	2,498,675,942	425,924,527	425,924,527	-	7,495,324	-	7,495,324
60	2,236,442,805	392,241,285	392,241,285	-	6,441,973	-	6,441,973
61	1,990,326,630	359,349,570	359,349,570	-	5,507,957	-	5,507,957
62	1,760,660,442	327,401,878	327,401,878	-	4,683,412	-	4,683,412
63	1,547,643,228	296,549,406	296,549,406	-	3,959,005	-	3,959,005
64	1,351,331,689	266,937,509	266,937,509	-	3,325,879	-	3,325,879
65	1,171,636,123	238,701,856	238,701,856	-	2,775,623	-	2,775,623
66	1,008,319,975	211,963,790	211,963,790	-	2,300,245	-	2,300,245
67	861,004,173	186,827,363	186,827,363	-	1,892,173	-	1,892,173
68	729,174,832	163,377,594	163,377,594	-	1,544,261	-	1,544,261
69	612,193,320	141,678,832	141,678,832	-	1,249,801	-	1,249,801
70	509,308,730	121,773,181	121,773,181	-	1,002,526	-	1,002,526
71	419,672,885	103,679,968	103,679,968	-	796,611	-	796,611
72	342,356,956	87,395,116	87,395,116	-	626,681	-	626,681
73	276,369,923	72,889,953	72,889,953	-	487,792	-	487,792
74	220,679,589	60,112,649	60,112,649	-	375,440	-	375,440
75	174,233,603	48,990,031	48,990,031	-	285,556	-	285,556
76	135,980,116	39,428,948	39,428,948	-	214,489	-	214,489
77	104,888,495	31,319,922	31,319,922	-	159,008	-	159,008
78	79,967,743	24,541,601	24,541,601	-	116,281	-	116,281
79	60,281,620	18,963,867	18,963,867	-	83,857	-	83,857
80	44,961,635	14,450,503	14,450,503	-	59,636	-	59,636
81	33,218,202	10,862,413	10,862,413	-	41,837	-	41,837
82	24,349,263	8,061,685	8,061,685	-	28,978	-	28,978
83	17,745,321	5,915,941	5,915,941	-	19,846	-	19,846
84	12,890,327	4,302,104	4,302,104	-	13,469	-	13,469
85	9,358,736	3,109,528	3,109,528	-	9,086	-	9,086
86	6,809,111	2,242,062	2,242,062	-	6,114	-	6,114
87	4,975,130	1,619,177	1,619,177	-	4,121	-	4,121
88	3,654,789	1,175,879	1,175,879	-	2,793	-	2,793
89	2,698,915	861,342	861,342	-	1,909	-	1,909
90	2,000,285	637,185	637,185	-	1,318	-	1,318
91	1,483,734	475,636	475,636	-	918	-	918
92	1,097,474	357,398	357,398	-	644	-	644
93	805,989	269,379	269,379	-	453	-	453
94	584,774	202,835	202,835	-	318	-	318
95	416,624	151,931	151,931	-	223	-	223
96	289,143	112,787	112,787	-	154	-	154
97	193,068	82,733	82,733	-	106	-	106
98	121,232	59,823	59,823	-	71	-	71
99	67,976	42,569	42,569	-	47	-	47
100	28,772	28,772	28,772	-	30	-	30
Totals					\$ 12,280,238,244	\$ -	\$ 12,280,238,244

Projection of Plan Net Position and Benefit Payments



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 plan’s 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

<i>Entry Age Actuarial Cost Method (EAN)</i>	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.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Fiduciary Net Position</i>	The fiduciary net position is the value of the assets of the trust.
<i>Long-Term Expected Rate of Return</i>	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.
<i>Money-Weighted Rate of Return</i>	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.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	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.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contribution Entities</i>	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 statement plan members are not considered non-employer contribution entities.
<i>Normal Cost</i>	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 the GASB Statement No. 67, the valuation asset is equal to the market value of assets.

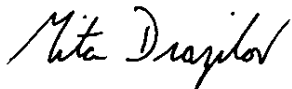
November 6, 2018

Ms. Gail H. Stone, Executive Director
Arkansas Public Employees Retirement System
One Union National Plaza
124 West Capitol, Suite 400
Little Rock, Arkansas 72201

Dear Gail:

Please find the enclosed 30 copies of the June 30, 2018 GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pensions report of the Arkansas Public Employees Retirement System (Including District Judges).

Sincerely,

A handwritten signature in black ink that reads "Mita Drazilov".

Mita D. Drazilov, ASA, FCA, MAAA

MDD:dks:dj
Enclosures

