

APERS June 30, 2020 GASB 6768

GASB Statement Nos. 67 and 68 Accounting and Financial
Reporting for Pensions
June 30, 2020





October 30, 2020

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.

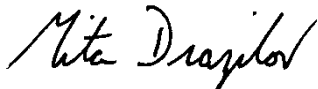
This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

Please see the actuarial valuation report as of June 30, 2020 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

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:rmn



Table of Contents

Page

Section A	Executive Summary	
	Executive Summary.....	1
	Discussion.....	2-4
Section B	Financial Statements	
	Statement of Pension Expense Under GASB Statement No. 68.....	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, 2020

Actuarial Valuation Date June 30, 2020
 Measurement Date of the Net Pension Liability and Pension Expense June 30, 2020

Membership

Number of	
- Retirees and Beneficiaries	39,977
- Inactive, Nonretired Members	14,804
- Active Members	44,395
- Total	99,176
Covered Payroll	\$ 1,929,343,374

Net Pension Liability

Total Pension Liability	\$ 11,632,595,177
Plan Fiduciary Net Position	8,769,010,690
Net Pension Liability	\$ 2,863,584,487
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	75.38%
Net Pension Liability as a Percentage of Covered Payroll	148.42%

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*	2.45%
Last year ending June 30 in the 2020 to 2119 projection period for which projected benefit payments are fully funded	2119

Total Pension Expense \$ 505,992,326

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	\$ 38,014,885	\$ 1,896,257
Changes in assumptions	35,878,297	49,063,598
Net difference between projected and actual earnings on pension plan investments	452,829,967	149,826,294
Total	\$ 526,723,149	\$ 200,786,149

* 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, 2020. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.



Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the Retirement System and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 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, 2020.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- The pension plan's fiduciary net position, 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, 2020 and a measurement date of June 30, 2020.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating 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 2.45% (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, 2020

1. Service Cost	\$ 198,416,559
2. Interest on the Total Pension Liability	789,604,504
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(70,923,737)
5. Projected Earnings on Plan Investments (made negative for addition here)	(623,043,013)
6. Pension Plan Administrative Expense	11,681,604
7. Other Changes in Plan Fiduciary Net Position	(6,249,379)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	79,352,603
9. Recognition of Outflow (Inflow) of Resources due to Assets	<u>127,153,185</u>
10. Total Pension Expense	\$ 505,992,326

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2020

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 2,007,866
2. Assumption Changes (gains) or losses	\$ -
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.0486
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	\$ 495,941
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: 4. + 5.	\$ 495,941
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability: 1. - 4.	\$ 1,511,925
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes: 2. - 5.	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities: 7. + 8.	\$ 1,511,925

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 448,481,240
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	\$ 89,696,248
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets: 1. - 3.	\$ 358,784,992

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2020

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 124,718,805	\$ 45,366,202	\$ 79,352,603
2. Due to Assets	233,836,063	106,682,878	127,153,185
3. Total	\$ 358,554,868	\$ 152,049,080	\$ 206,505,788

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	\$ 29,651,778	\$ 1,688,112	\$ 27,963,666
2. Assumption Changes	95,067,027	43,678,090	51,388,937
3. Net Difference between projected and actual earnings on pension plan investments	233,836,063	106,682,878	127,153,185
4. Total	\$ 358,554,868	\$ 152,049,080	\$ 206,505,788

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	\$ 38,014,885	\$ 1,896,257	\$ 36,118,628
2. Assumption Changes	35,878,297	49,063,598	(13,185,301)
3. Net Difference between projected and actual earnings on pension plan investments	452,829,967	149,826,294	303,003,673
4. Total	\$ 526,723,149	\$ 200,786,149	\$ 325,937,000

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
2021	\$ 25,292,711
2022	87,307,844
2023	123,616,095
2024	89,720,350
2025	-
Thereafter	-
Total	\$ 325,937,000



Statement of Outflows and Inflows Arising from the Current and Prior Reporting Periods Fiscal Year Ended June 30, 2020

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					
2016	\$ 2,912,566	4.4487	\$ 293,766	\$ -	0.0000
2017	62,849,281	4.3774	14,357,674	5,418,585	0.3774
2018	(6,960,593)	4.1233	(1,688,112)	(1,896,257)	1.1233
2019	60,093,169	4.1431	14,504,397	31,084,375	2.1431
2020	2,007,866	4.0486	495,941	1,511,925	3.0486
Total			\$ 27,963,666	\$ 36,118,628	
Deferred Outflow (Inflow) due to Assumption Changes					
2016	\$ -	4.4487	\$ -	\$ -	0.0000
2017	416,146,405	4.3774	95,067,027	35,878,297	0.3774
2018	(180,097,868)	4.1233	(43,678,090)	(49,063,598)	1.1233
2019	-	4.1431	-	-	2.1431
2020	-	4.0486	-	-	3.0486
Total			\$ 51,388,937	\$ (13,185,301)	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2016	\$ 563,957,450	5.0000	\$ 112,791,490	\$ -	0.0000
2017	(317,697,317)	5.0000	(63,539,463)	(63,539,465)	1.0000
2018	(215,717,074)	5.0000	(43,143,415)	(86,286,829)	2.0000
2019	156,741,625	5.0000	31,348,325	94,044,975	3.0000
2020	448,481,240	5.0000	89,696,248	358,784,992	4.0000
Total			\$ 127,153,185	\$ 303,003,673	

Statement of Fiduciary Net Position as of June 30, 2020

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		\$ 8,769,010,690
---	--	-------------------------

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2020

Additions

Contributions		
Employer	\$	298,919,954
Employee		70,923,737
Other		6,249,379
Total Contributions	\$	376,093,070
Investment Income		
Net Appreciation in Fair Value of Investments	\$	219,913,643
Interest and Dividends		-
Less Investment Expense		(45,351,870)
Net Investment Income	\$	174,561,773
Other		-
Total Additions	\$	550,654,843

Deductions

Benefit Payments, Including Refunds of Employee Contributions	\$	603,290,209
Pension Plan Administrative Expense		11,681,604
Other		-
Total Deductions	\$	614,971,813
Net Increase in Net Position	\$	(64,316,970)

Net Position Restricted for Pensions

Beginning of Year	\$	8,833,327,660
End of Year	\$	8,769,010,690

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, 2020

A. Total Pension Liability

1. Service cost	\$ 198,416,559
2. Interest on the Total Pension Liability	789,604,504
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	2,007,866
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	<u>(603,290,209)</u>
7. Net change in Total Pension Liability	\$ 386,738,720
8. Total Pension Liability – Beginning	<u>11,245,856,457</u>
9. Total Pension Liability – Ending	<u><u>\$ 11,632,595,177</u></u>

B. Plan Fiduciary Net Position

1. Contributions – employer	\$ 298,919,954
2. Contributions – employee	70,923,737
3. Net investment income	174,561,773
4. Benefit payments, including refunds of employee contributions	(603,290,209)
5. Pension plan administrative expense	(11,681,604)
6. Other	<u>6,249,379</u>
7. Net change in Plan Fiduciary Net Position	\$ (64,316,970)
8. Plan Fiduciary Net Position – Beginning	<u>8,833,327,660</u>
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 8,769,010,690</u></u>

C. Net Pension Liability

\$ 2,863,584,487

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

75.38%

E. Covered-employee payroll

\$ 1,929,343,374

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

148.42%



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,	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability							
Service Cost	\$ 198,416,559	\$ 189,567,873	\$ 181,557,602	\$ 174,663,657	\$ 169,112,934	\$ 168,811,990	\$ 160,924,334
Interest on the Total Pension Liability	789,604,504	759,163,751	745,846,405	719,134,258	692,210,941	682,217,546	658,535,986
Benefit Changes	-	(62,984)	-	-	-	-	-
Difference between Expected and Actual Experience	2,007,866	60,093,169	(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	(587,453,797)	(555,352,597)	(530,861,312)	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(15,836,412)	(16,239,928)	(13,734,331)	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
Net Change in Total Pension Liability	\$ 386,738,720	\$ 437,169,284	\$ 195,749,903	\$ 850,831,048	\$ 370,130,510	\$ 441,519,056	\$ 587,216,994
Total Pension Liability - Beginning	\$ 11,245,856,457	\$ 10,808,687,173	\$ 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)	\$ 11,632,595,177	\$ 11,245,856,457	\$ 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	\$ 298,919,954	\$ 292,951,695	\$ 276,282,425	\$ 261,334,560	\$ 264,216,252	\$ 263,332,831	\$ 264,050,160
Employee Contributions	70,923,737	67,221,706	63,430,545	57,711,427	55,000,117	50,750,458	47,215,843
Pension Plan Net Investment Income	174,561,773	450,493,099	782,326,766	862,824,701	(4,260,175)	168,929,698	1,207,897,156
Benefit Payments	(587,453,797)	(555,352,597)	(530,861,312)	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(15,836,412)	(16,239,928)	(13,734,331)	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
Pension Plan Administrative Expense	(11,681,604)	(14,739,700)	(11,497,216)	(9,495,869)	(6,929,103)	(6,949,282)	(6,854,975)
Other	6,249,379	6,241,253	8,008,465	7,626,374	6,594,649	6,745,403	8,302,355
Net Change in Plan Fiduciary Net Position	\$ (64,316,970)	\$ 230,575,528	\$ 573,955,342	\$ 658,038,640	\$ (179,484,191)	\$ 18,697,921	\$ 1,096,606,547
Plan Fiduciary Net Position - Beginning	\$ 8,833,327,660	\$ 8,602,752,132	\$ 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)	\$ 8,769,010,690	\$ 8,833,327,660	\$ 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)	\$ 2,863,584,487	\$ 2,412,528,797	\$ 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	75.38 %	78.55 %	79.59 %	75.65 %	75.50 %	80.39 %	84.15 %
Covered-Employee Payroll	\$ 1,929,343,374	\$ 1,936,042,263	\$ 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	148.42 %	124.61 %	119.29 %	144.52 %	133.21 %	104.82 %	81.16 %
Notes to Schedule:	N/A	N/A	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%
2019	11,245,856,457	8,833,327,660	2,412,528,797	78.55%	1,936,042,263	124.61%
2020	11,632,595,177	8,769,010,690	2,863,584,487	75.38%	1,929,343,374	148.42%



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
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%
2019	293.0	293.0	-	1,936	15.13%
2020	298.9	298.9	-	1,929	15.49%

* 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, 2018 (excluding District Judges)
June 30, 2019 (District Judges)

Methods and Assumptions used to Determine Fiscal Year 2020 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	26 years (7.6 years for District Judges New Plan/Paid Off Old Plan and 16 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	7.15%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	Based on the RP-2006 Healthy Annuitant benefit weighted generational mortality tables for males and females. Mortality rates are multiplied by 135% for males and 125% for females and are adjusted for fully generational mortality improvements using Scale MP-2017.
Other Information:	
Notes	None

Schedule of Investment Returns (Multiyear)

To be provided by the System

FY Ending June 30,	Annual Return¹
2011	
2012	
2013	
2014	
2015	
2016	
2017	
2018	
2019	
2020	

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 2020 to 2029 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, 2020, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	37%	6.22%
International Equity	24%	6.69%
Real Estate	16%	4.81%
Absolute Return	5%	3.05%
Domestic Fixed	18%	0.57%
Total	100%	
Total Real Rate of Return		4.93%
Plus: Price Inflation - Actuary's Assumption		2.50%
Less: Investment Expenses (Passive)		0.00%
Net Expected Return		7.43%

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	\$ 13,130,461,723	\$ 11,632,595,177	\$ 10,396,516,146
Plan Fiduciary Net Position	8,769,010,690	8,769,010,690	8,769,010,690
Net Pension Liability	\$ 4,361,451,033	\$ 2,863,584,487	\$ 1,627,505,456

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	39,977
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	14,804
Active Plan Members	<u>44,395</u>
Total Plan Members	99,176

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-2006 Healthy Annuitant benefit weighted generational mortality tables for males and females. The disability post-retirement mortality tables used were the RP-2006 Disabled Retiree benefit weighted generational mortality tables for males and females. The death-in-service mortality tables used were the RP-2006 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-2006 Healthy Annuitant
Generational Mortality Tables
And 7.15% Interest
June 30, 2020**

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) 2020 *	
	Men	Women	Men	Women	Men	Women
40	\$ 156.04	\$ 159.90	\$ 229.33	\$ 239.04	41.05	44.75
45	150.92	155.90	216.34	227.64	36.15	39.77
50	144.42	150.52	201.40	214.01	31.39	34.85
55	136.40	143.37	184.56	197.93	26.82	30.01
60	126.59	134.42	165.79	179.69	22.45	25.36
65	114.88	123.53	145.33	159.53	18.36	20.96
70	101.09	110.25	123.32	137.25	14.55	16.80
75	85.16	94.51	100.11	113.27	11.06	12.94
80	67.86	76.97	76.92	88.85	8.00	9.52
85	50.77	59.12	55.66	65.87	5.48	6.66

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 2020. 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, 2020

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, 2020**

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, 2020**

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

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.

District Judges Division Age-Based Retirement June 30, 2020

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, 2020

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	0.66	0.34	0.85	0.85	0.42	3.25	3.67

* Applicable to calendar year 2020. 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, 2020

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	0.66	0.34	1.13	1.13

* Applicable to calendar year 2020. 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, 2020

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, 2020

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 four 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, 2020

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, 2019 valuation the reported payroll for these members was approximately \$131 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 2.45% 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	\$ 1,857,270,075	\$ 69,346,130	\$ 136,076,689	\$ 7,429,080	\$ 159,301,692	\$ 372,153,591
2	1,711,346,042	64,012,122	125,143,426	6,845,384	171,395,657	367,396,590
3	1,609,407,799	60,653,544	117,258,184	6,437,631	188,607,598	372,956,958
4	1,527,024,799	58,200,259	110,734,757	6,108,099	204,393,855	379,436,971
5	1,455,832,722	56,230,236	105,002,627	5,823,331	210,980,428	378,036,623
6	1,388,689,106	54,459,508	99,531,682	5,554,756	217,781,064	377,327,009
7	1,322,944,522	52,721,116	94,149,658	5,291,778	224,802,724	376,965,276
8	1,261,065,425	50,984,195	89,080,825	5,044,262	230,917,924	376,027,207
9	1,203,338,423	49,268,689	84,360,414	4,813,354	238,403,407	376,845,864
10	1,147,840,688	47,580,006	79,832,243	4,591,363	246,132,166	378,135,778
11	1,093,498,131	45,927,274	75,409,573	4,373,993	254,112,111	379,822,951
12	1,040,066,757	44,309,538	71,095,227	4,160,267	262,351,405	381,916,437
13	987,154,791	42,707,043	66,860,707	3,948,619	270,858,475	384,374,844
14	934,385,609	41,061,752	62,698,098	3,737,542	279,642,024	387,139,416
15	882,127,774	39,331,475	58,667,962	3,528,511	288,711,039	390,238,987
16	831,017,940	37,546,985	54,806,641	3,324,072	298,074,799	393,752,496
17	780,858,543	35,729,511	51,084,836	3,123,434	307,147,480	397,085,261
18	731,640,703	33,897,182	47,479,695	2,926,563	317,129,772	401,433,213
19	683,753,616	32,061,492	44,030,307	2,735,014	327,436,490	406,263,303
20	636,701,533	30,206,743	40,683,353	2,546,806	338,078,175	411,515,077
21	590,277,366	28,322,003	37,435,613	2,361,109	349,065,718	417,184,442
22	544,683,595	26,399,951	34,303,858	2,178,734	360,410,353	423,292,896
23	499,387,929	24,429,590	31,241,184	1,997,552	372,123,688	429,792,015
24	454,124,373	22,411,163	28,226,221	1,816,497	80,264,184	132,718,065
25	408,939,739	20,348,168	25,259,924	1,635,759	0	47,243,851
26	364,041,731	18,194,372	22,384,706	1,456,167	0	42,035,245
27	319,719,037	15,983,330	19,606,700	1,278,876	0	36,868,906
28	276,235,997	13,810,643	16,907,659	1,104,944	0	31,823,246
29	235,884,922	11,793,754	14,424,457	943,540	0	27,161,751
30	201,158,432	10,057,584	12,292,862	804,634	0	23,155,080
31	170,786,878	8,539,082	10,427,527	683,148	0	19,649,757
32	143,306,863	7,165,147	8,736,101	573,227	0	16,474,475
33	118,390,014	5,919,326	7,201,650	473,560	0	13,594,536
34	95,299,366	4,764,812	5,778,613	381,197	0	10,924,622
35	73,935,337	3,696,631	4,466,449	295,741	0	8,458,821
36	54,943,228	2,747,047	3,305,010	219,773	0	6,271,831
37	38,387,798	1,919,294	2,291,026	153,551	0	4,363,871
38	24,279,114	1,213,876	1,428,465	97,116	0	2,739,457
39	12,695,696	634,720	727,142	50,783	0	1,412,645
40	3,732,637	186,602	205,901	14,931	0	407,434
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	\$ 8,769,010,690	\$ 372,153,591	\$ 850,814,641	\$ 7,429,080	\$ 609,906,537	\$ 8,892,827,097
2	8,892,827,097	367,396,590	675,370,801	6,845,384	624,776,630	9,202,784,132
3	9,202,784,132	372,956,958	701,857,657	6,437,631	646,217,677	9,513,663,479
4	9,513,663,479	379,436,971	726,625,630	6,108,099	667,814,620	9,828,181,341
5	9,828,181,341	378,036,623	752,615,137	5,823,331	689,350,368	10,137,129,863
6	10,137,129,863	377,327,009	788,437,954	5,554,756	710,166,135	10,430,630,298
7	10,430,630,298	376,965,276	812,126,983	5,291,778	730,315,684	10,720,492,496
8	10,720,492,496	376,027,207	829,850,819	5,044,262	750,393,881	11,012,018,503
9	11,012,018,503	376,845,864	850,150,819	4,813,354	770,561,668	11,304,461,861
10	11,304,461,861	378,135,778	876,346,982	4,591,363	790,604,140	11,592,263,434
11	11,592,263,434	379,822,951	904,456,058	4,373,993	810,261,313	11,873,517,648
12	11,873,517,648	381,916,437	931,843,762	4,160,267	829,489,840	12,148,919,896
13	12,148,919,896	384,374,844	959,641,577	3,948,619	848,298,291	12,418,002,835
14	12,418,002,835	387,139,416	987,068,245	3,737,542	866,678,688	12,681,015,152
15	12,681,015,152	390,238,987	1,012,806,910	3,528,511	884,696,036	12,939,614,754
16	12,939,614,754	393,752,496	1,036,546,105	3,324,072	902,482,505	13,195,979,577
17	13,195,979,577	397,085,261	1,060,786,471	3,123,434	920,085,095	13,449,240,028
18	13,449,240,028	401,433,213	1,083,884,630	2,926,563	937,541,386	13,701,403,433
19	13,701,403,433	406,263,303	1,102,419,265	2,735,014	955,096,319	13,957,608,777
20	13,957,608,777	411,515,077	1,123,235,360	2,546,806	972,874,795	14,216,216,483
21	14,216,216,483	417,184,442	1,140,726,717	2,361,109	990,956,430	14,481,269,530
22	14,481,269,530	423,292,896	1,156,464,617	2,178,734	1,009,575,820	14,755,494,895
23	14,755,494,895	429,792,015	1,173,646,972	1,997,552	1,028,813,967	15,038,456,353
24	15,038,456,353	432,718,065	1,190,316,001	1,816,497	1,038,029,390	15,017,071,309
25	15,017,071,309	47,243,851	1,206,948,335	1,635,759	1,032,919,416	14,888,650,481
26	14,888,650,481	42,035,245	1,222,927,376	1,456,167	1,022,999,254	14,729,301,437
27	14,729,301,437	36,868,906	1,238,497,984	1,278,876	1,010,883,478	14,537,276,961
28	14,537,276,961	31,823,246	1,252,439,764	1,104,944	996,492,756	14,312,048,255
29	14,312,048,255	27,161,751	1,261,325,888	943,540	979,918,608	14,056,859,185
30	14,056,859,185	23,155,080	1,266,212,984	804,634	961,365,006	13,774,361,654
31	13,774,361,654	19,649,757	1,270,265,927	683,148	940,905,157	13,463,967,493
32	13,463,967,493	16,474,475	1,269,333,231	573,227	918,637,048	13,129,172,559
33	13,129,172,559	13,594,536	1,266,396,690	473,560	894,704,701	12,770,601,546
34	12,770,601,546	10,924,622	1,260,985,704	381,197	869,166,420	12,389,325,687
35	12,389,325,687	8,458,821	1,251,947,492	295,741	842,139,106	11,987,680,380
36	11,987,680,380	6,271,831	1,236,580,186	219,773	813,887,197	11,571,039,449
37	11,571,039,449	4,363,871	1,220,898,607	153,551	784,583,604	11,138,934,765
38	11,138,934,765	2,739,457	1,196,861,243	97,116	754,477,532	10,699,193,395
39	10,699,193,395	1,412,645	1,173,307,099	50,783	723,818,561	10,251,066,719
40	10,251,066,719	407,434	1,140,584,515	14,931	692,893,085	9,803,767,792
41	9,803,767,792	-	1,094,076,719	-	662,531,373	9,372,222,446
42	9,372,222,446	-	1,066,281,612	-	632,652,402	8,938,593,236
43	8,938,593,236	-	1,037,168,560	-	602,670,738	8,504,095,414
44	8,504,095,414	-	1,006,846,976	-	572,669,427	8,069,917,864
45	8,069,917,864	-	975,425,479	-	542,729,658	7,637,222,044
46	7,637,222,044	-	942,848,837	-	512,936,417	7,207,309,624
47	7,207,309,624	-	908,926,520	-	483,389,467	6,781,772,571
48	6,781,772,571	-	873,855,948	-	454,195,696	6,362,112,318
49	6,362,112,318	-	838,033,913	-	425,448,518	5,949,526,924
50	5,949,526,924	-	801,613,018	-	397,228,232	5,545,142,137

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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/(1+sdr) ^a ((a)-.5)
1	\$ 8,769,010,690	\$ 850,814,641	\$ 850,814,641	\$ -	\$ 821,937,636	\$ -	\$ 821,937,636
2	8,892,827,097	675,370,801	675,370,801	-	608,911,277	-	608,911,277
3	9,202,784,132	701,857,657	701,857,657	-	590,566,222	-	590,566,222
4	9,513,663,479	726,625,630	726,625,630	-	570,608,319	-	570,608,319
5	9,828,181,341	752,615,137	752,615,137	-	551,579,555	-	551,579,555
6	10,137,129,863	788,437,954	788,437,954	-	539,275,335	-	539,275,335
7	10,430,630,298	812,126,983	812,126,983	-	518,411,707	-	518,411,707
8	10,720,492,496	829,850,819	829,850,819	-	494,377,517	-	494,377,517
9	11,012,018,503	850,150,819	850,150,819	-	472,674,841	-	472,674,841
10	11,304,461,861	876,346,982	876,346,982	-	454,726,673	-	454,726,673
11	11,592,263,434	904,456,058	904,456,058	-	437,995,482	-	437,995,482
12	11,873,517,648	931,843,762	931,843,762	-	421,146,393	-	421,146,393
13	12,148,919,896	959,641,577	959,641,577	-	404,768,646	-	404,768,646
14	12,418,002,835	987,068,245	987,068,245	-	388,555,278	-	388,555,278
15	12,681,015,152	1,012,806,910	1,012,806,910	-	372,083,244	-	372,083,244
16	12,939,614,754	1,036,546,105	1,036,546,105	-	355,393,848	-	355,393,848
17	13,195,979,577	1,060,786,471	1,060,786,471	-	339,435,357	-	339,435,357
18	13,449,240,028	1,083,884,630	1,083,884,630	-	323,683,073	-	323,683,073
19	13,701,403,433	1,102,419,265	1,102,419,265	-	307,249,758	-	307,249,758
20	13,957,608,777	1,123,235,360	1,123,235,360	-	292,161,743	-	292,161,743
21	14,216,216,483	1,140,726,717	1,140,726,717	-	276,912,154	-	276,912,154
22	14,481,269,530	1,156,464,617	1,156,464,617	-	261,999,570	-	261,999,570
23	14,755,494,895	1,173,646,972	1,173,646,972	-	248,149,575	-	248,149,575
24	15,038,456,353	1,190,316,001	1,190,316,001	-	234,880,061	-	234,880,061
25	15,017,071,309	1,206,948,335	1,206,948,335	-	222,269,761	-	222,269,761
26	14,888,650,481	1,222,927,376	1,222,927,376	-	210,184,262	-	210,184,262
27	14,729,301,437	1,238,497,984	1,238,497,984	-	198,656,444	-	198,656,444
28	14,537,276,961	1,252,439,764	1,252,439,764	-	187,487,373	-	187,487,373
29	14,312,048,255	1,261,325,888	1,261,325,888	-	176,218,018	-	176,218,018
30	14,056,859,185	1,266,212,984	1,266,212,984	-	165,096,394	-	165,096,394
31	13,774,361,654	1,270,265,927	1,270,265,927	-	154,572,880	-	154,572,880
32	13,463,967,493	1,269,333,231	1,269,333,231	-	144,152,482	-	144,152,482
33	13,129,172,559	1,266,396,690	1,266,396,690	-	134,222,112	-	134,222,112
34	12,770,601,546	1,260,985,704	1,260,985,704	-	124,730,392	-	124,730,392
35	12,389,325,687	1,251,947,492	1,251,947,492	-	115,572,914	-	115,572,914
36	11,987,680,380	1,236,580,186	1,236,580,186	-	106,536,901	-	106,536,901
37	11,571,039,449	1,220,898,607	1,220,898,607	-	98,166,927	-	98,166,927
38	11,138,934,765	1,196,861,243	1,196,861,243	-	89,812,591	-	89,812,591
39	10,699,193,395	1,173,307,099	1,173,307,099	-	82,169,936	-	82,169,936
40	10,251,066,719	1,140,584,515	1,140,584,515	-	74,548,094	-	74,548,094
41	9,803,767,792	1,094,076,719	1,094,076,719	-	66,736,692	-	66,736,692
42	9,372,222,446	1,066,281,612	1,066,281,612	-	60,701,111	-	60,701,111
43	8,938,593,236	1,037,168,560	1,037,168,560	-	55,103,843	-	55,103,843
44	8,504,095,414	1,006,846,976	1,006,846,976	-	49,923,364	-	49,923,364
45	8,069,917,864	975,425,479	975,425,479	-	45,137,998	-	45,137,998
46	7,637,222,044	942,848,837	942,848,837	-	40,719,092	-	40,719,092
47	7,207,309,624	908,926,520	908,926,520	-	36,634,698	-	36,634,698
48	6,781,772,571	873,855,948	873,855,948	-	32,870,894	-	32,870,894
49	6,362,112,318	838,033,913	838,033,913	-	29,419,893	-	29,419,893
50	5,949,526,924	801,613,018	801,613,018	-	26,263,468	-	26,263,468



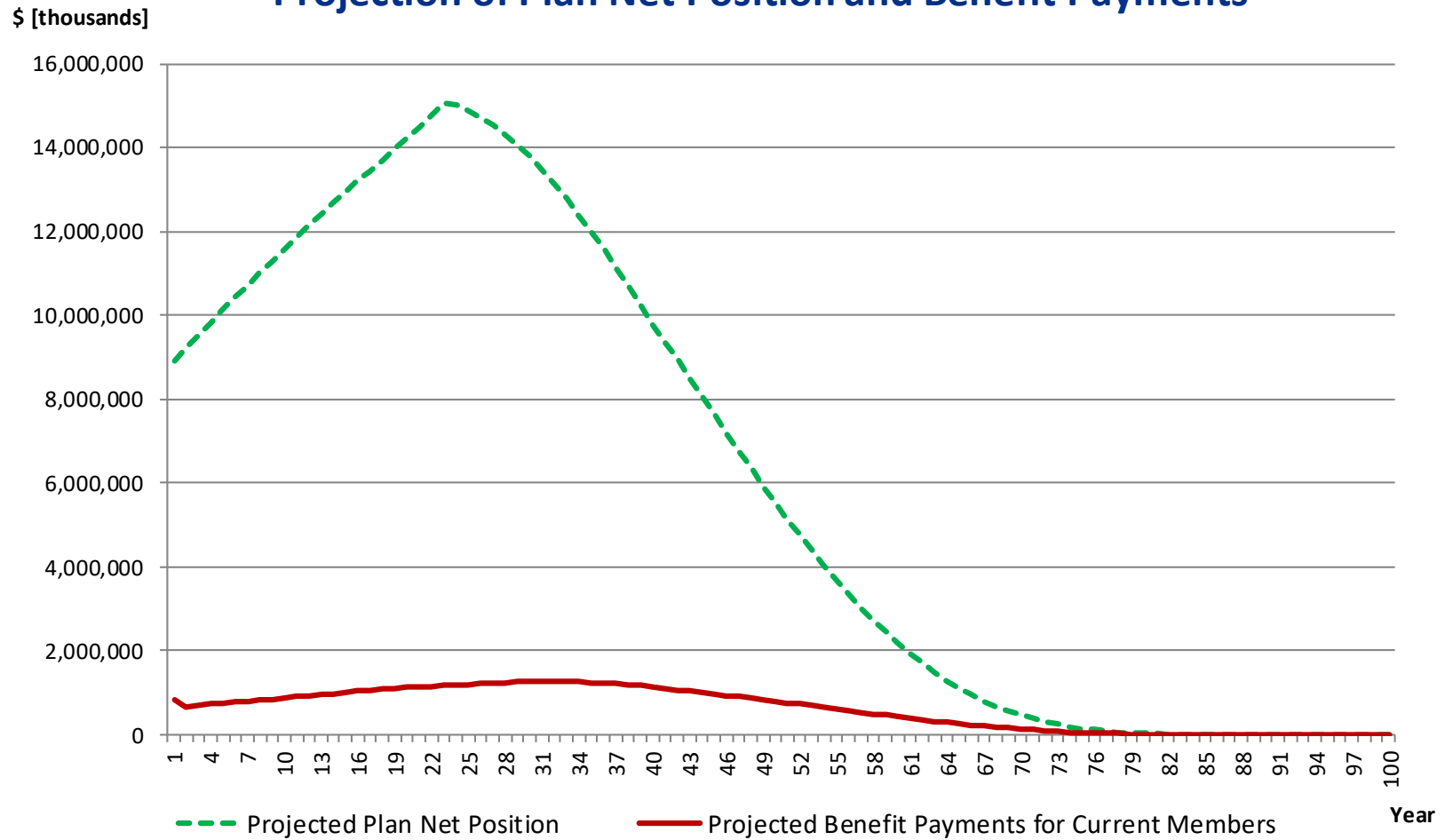
Single Discount Rate Development

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	\$ 5,545,142,137	\$ 764,687,135	\$ 764,687,135	\$ -	\$ 23,381,853	\$ -	\$ 23,381,853
52	5,150,067,033	727,329,265	727,329,265	-	20,755,540	-	20,755,540
53	4,765,414,417	689,634,008	689,634,008	-	18,366,629	-	18,366,629
54	4,392,278,736	651,713,096	651,713,096	-	16,198,510	-	16,198,510
55	4,031,717,037	613,693,879	613,693,879	-	14,235,681	-	14,235,681
56	3,684,730,117	575,715,629	575,715,629	-	12,463,565	-	12,463,565
57	3,352,246,165	537,925,342	537,925,342	-	10,868,362	-	10,868,362
58	3,035,107,577	500,476,079	500,476,079	-	9,436,984	-	9,436,984
59	2,734,058,543	463,526,561	463,526,561	-	8,157,036	-	8,157,036
60	2,449,732,163	427,241,295	427,241,295	-	7,016,795	-	7,016,795
61	2,182,636,517	391,788,337	391,788,337	-	6,005,164	-	6,005,164
62	1,933,142,053	357,335,376	357,335,376	-	5,111,604	-	5,111,604
63	1,701,472,127	324,046,196	324,046,196	-	4,326,094	-	4,326,094
64	1,487,696,524	292,075,369	292,075,369	-	3,639,082	-	3,639,082
65	1,291,730,019	261,563,611	261,563,611	-	3,041,459	-	3,041,459
66	1,113,335,631	232,634,968	232,634,968	-	2,524,571	-	2,524,571
67	952,131,033	205,396,247	205,396,247	-	2,080,237	-	2,080,237
68	807,596,001	179,937,010	179,937,010	-	1,700,782	-	1,700,782
69	679,080,407	156,328,817	156,328,817	-	1,379,034	-	1,379,034
70	565,813,564	134,623,299	134,623,299	-	1,108,317	-	1,108,317
71	466,916,236	114,847,827	114,847,827	-	882,418	-	882,418
72	381,417,990	97,003,668	97,003,668	-	695,581	-	695,581
73	308,277,694	81,066,967	81,066,967	-	542,514	-	542,514
74	246,404,469	66,989,267	66,989,267	-	418,389	-	418,389
75	194,679,598	54,698,924	54,698,924	-	318,832	-	318,832
76	151,978,537	44,103,019	44,103,019	-	239,916	-	239,916
77	117,192,519	35,089,122	35,089,122	-	178,144	-	178,144
78	89,249,881	27,530,068	27,530,068	-	130,441	-	130,441
79	67,133,971	21,289,024	21,289,024	-	94,139	-	94,139
80	49,897,081	16,222,239	16,222,239	-	66,947	-	66,947
81	36,672,550	12,181,577	12,181,577	-	46,917	-	46,917
82	26,685,087	9,018,245	9,018,245	-	32,416	-	32,416
83	19,257,989	6,588,183	6,588,183	-	22,101	-	22,101
84	13,815,291	4,756,992	4,756,992	-	14,893	-	14,893
85	9,878,965	3,403,179	3,403,179	-	9,944	-	9,944
86	7,062,568	2,420,137	2,420,137	-	6,599	-	6,599
87	5,062,379	1,717,459	1,717,459	-	4,371	-	4,371
88	3,646,541	1,221,415	1,221,415	-	2,901	-	2,901
89	2,642,942	874,055	874,055	-	1,937	-	1,937
90	1,927,150	631,369	631,369	-	1,306	-	1,306
91	1,411,390	461,063	461,063	-	890	-	890
92	1,035,043	340,261	340,261	-	613	-	613
93	756,833	253,174	253,174	-	426	-	426
94	548,878	189,237	189,237	-	297	-	297
95	392,238	141,510	141,510	-	207	-	207
96	273,801	105,420	105,420	-	144	-	144
97	184,254	77,954	77,954	-	99	-	99
98	116,736	57,031	57,031	-	68	-	68
99	66,048	41,137	41,137	-	46	-	46
100	28,188	28,188	28,188	-	29	-	29
Totals					\$ 13,190,902,622	\$ -	\$ 13,190,902,622



Projection of Plan Net Position and Benefit Payments



SECTION H

GLOSSARY OF TERMS

Glossary of Terms

<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<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>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 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 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 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>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>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 age(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>Fiduciary Net Position</i>	The fiduciary net position is the value of the assets of the trust.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<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 postemployment 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>	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year:</p> <ol style="list-style-type: none">1. Service Cost2. Interest on the Total Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
<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.



October 30, 2020

Mr. Duncan Baird, Executive Director
Arkansas Public Employees Retirement System
One Union National Plaza
124 West Capitol, Suite 400
Little Rock, Arkansas 72201

Dear Duncan:

Please find the enclosed 30 copies of the June 30, 2020 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 blue ink that reads "Mita Drazilov". The signature is written in a cursive, flowing style.

Mita D. Drazilov, ASA, FCA, MAAA

MDD:dks:sc
Enclosures