

Arkansas Public Employees Retirement System (Including District Judges)

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

June 30, 2017





October 18, 2017

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 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 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, 2017 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, AAA



Heidi G. Barry, ASA, FCA, MAAA



David L. Hoffman

MDD/HGB/DLH:dks:bd



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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2017

Actuarial Valuation Date June 30, 2017
 Measurement Date of the Net Pension Liability and Pension Expense June 30, 2017

Membership

Number of	
- Retirees and Beneficiaries	36,434
- Inactive, Nonretired Members	14,974
- Active Members	46,121
- Total	97,529
Covered Payroll	\$ 1,788,074,570

Net Pension Liability

Total Pension Liability	\$ 10,612,937,270
Plan Fiduciary Net Position	8,028,796,790
Net Pension Liability	\$ 2,584,140,480
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	75.65%
Net Pension Liability as a Percentage of Covered Payroll	144.52%

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*	3.56%
Last year ending June 30 in the 2018 to 2117 projection period for which projected benefit payments are fully funded	2117

Total Pension Expense \$ 448,027,419

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	\$ 50,094,772	\$ 50,824,302
Changes in assumptions	415,784,241	-
Net difference between projected and actual earnings on pension plan investments	501,951,875	393,668,604
Total	\$ 967,830,888	\$ 444,492,906

* 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, 2017. 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, 2017.

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, 2017 and a measurement date of June 30, 2017.

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 3.56% (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, 2017

1. Service Cost	\$ 174,663,657
2. Interest on the Total Pension Liability	719,134,258
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(57,711,427)
5. Projected Earnings on Plan Investments (made negative for addition here)	(545,127,384)
6. Pension Plan Administrative Expense	9,495,869
7. Other Changes in Plan Fiduciary Net Position	(7,626,374)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	163,668,841
9. Recognition of Outflow (Inflow) of Resources due to Assets	<u>(8,470,021)</u>
10. Total Pension Expense	\$ 448,027,419

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2017

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 62,849,281
2. Assumption Changes (gains) or losses	\$ 416,146,405
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.3774
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	\$ 14,357,674
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 95,067,027
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities: 4. + 5.	\$ 109,424,701
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.	\$ 48,491,607
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes: 2. - 5.	\$ 321,079,378
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities: 7. + 8.	\$ 369,570,985

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (317,697,317)
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	\$ (63,539,463)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets: 1. - 3.	\$ (254,157,854)

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods

Fiscal Year Ended June 30, 2017

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	\$ 198,627,287	\$ 34,958,446	\$ 163,668,841
2. Due to Assets	194,580,193	203,050,214	(8,470,021)
3. Total	\$ 393,207,480	\$ 238,008,660	\$ 155,198,820

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	\$ 34,958,446	\$ (19,946,072)
2. Assumption Changes	183,614,913	-	183,614,913
3. Net Difference between projected and actual earnings on pension plan investments	194,580,193	203,050,214	(8,470,021)
4. Total	\$ 393,207,480	\$ 238,008,660	\$ 155,198,820

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	\$ 50,094,772	\$ 50,824,302	\$ (729,530)
2. Assumption Changes	415,784,241	-	415,784,241
3. Net Difference between projected and actual earnings on pension plan investments	501,951,875	393,668,604	108,283,271
4. Total	\$ 967,830,888	\$ 444,492,906	\$ 523,337,982

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
2018	\$ 138,397,028
2019	248,213,045
2020	158,970,492
2021	(22,242,583)
2022	0
Thereafter	0
Total	\$ 523,337,982

Statement of Fiduciary Net Position as of June 30, 2017

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		\$ 8,028,796,790
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Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2017

Additions

Contributions	
Employer	\$ 261,334,560
Employee	57,711,427
Other	<u>7,626,374</u>
Total Contributions	<u>\$ 326,672,361</u>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 898,929,803
Interest and Dividends	-
Less Investment Expense	<u>(36,105,102)</u>
Net Investment Income	<u>\$ 862,824,701</u>
Other	-
Total Additions	<u>\$ 1,189,497,062</u>

Deductions

Benefit Payments, Including Refunds of Employee Contributions	\$ 521,962,553
Pension Plan Administrative Expense	9,495,869
Other	-
Total Deductions	<u>\$ 531,458,422</u>
Net Increase in Net Position	\$ 658,038,640

Net Position Restricted for Pensions

Beginning of Year	<u>\$ 7,370,758,150</u>
End of Year	<u>\$ 8,028,796,790</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, 2017

A. Total pension liability

1. Service cost	\$ 174,663,657
2. Interest on the total pension liability	719,134,258
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	62,849,281
5. Changes of assumptions	416,146,405
6. Benefit payments, including refunds of employee contributions	<u>(521,962,553)</u>
7. Net change in total pension liability	\$ 850,831,048
8. Total pension liability – beginning	<u>9,762,106,222</u>
9. Total pension liability – ending	<u><u>\$ 10,612,937,270</u></u>

B. Plan fiduciary net position

1. Contributions – employer	\$ 261,334,560
2. Contributions – employee	57,711,427
3. Net investment income	862,824,701
4. Benefit payments, including refunds of employee contributions	(521,962,553)
5. Pension plan administrative expense	(9,495,869)
6. Other	<u>7,626,374</u>
7. Net change in plan fiduciary net position	\$ 658,038,640
8. Plan fiduciary net position – beginning	<u>7,370,758,150</u>
9. Plan fiduciary net position – ending	<u><u>\$ 8,028,796,790</u></u>

C. Net pension liability

\$ 2,584,140,480

D. Plan fiduciary net position as a percentage of the total pension liability

75.65%

E. Covered-employee payroll

\$ 1,788,074,570

F. Net pension liability as a percentage of covered-employee payroll

144.52%

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>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total Pension Liability				
Service Cost	\$ 174,663,657	\$ 169,112,934	\$ 168,811,990	\$ 160,924,334
Interest on the Total Pension Liability	719,134,258	692,210,941	682,217,546	658,535,986
Benefit Changes	-	-	-	-
Difference between Expected and Actual Experience	62,849,281	2,912,566	(137,672,890)	(23,038,076)
Assumption Changes	416,146,405	-	192,273,597	214,798,742
Benefit Payments	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
Net Change in Total Pension Liability	\$ 850,831,048	\$ 370,130,510	\$ 441,519,056	\$ 587,216,994
Total Pension Liability - Beginning	\$ 9,762,106,222	\$ 9,391,975,712	\$ 8,950,456,656	\$ 8,363,239,662
Total Pension Liability - Ending (a)	\$ 10,612,937,270	\$ 9,762,106,222	\$ 9,391,975,712	\$ 8,950,456,656
Plan Fiduciary Net Position				
Employer Contributions	\$ 261,334,560	\$ 264,216,252	\$ 263,332,831	\$ 264,050,160
Employee Contributions	57,711,427	55,000,117	50,750,458	47,215,843
Pension Plan Net Investment Income	862,824,701	(4,260,175)	168,929,698	1,207,897,156
Benefit Payments	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
Pension Plan Administrative Expense	(9,495,869)	(6,929,103)	(6,949,282)	(6,854,975)
Other	7,626,374	6,594,649	6,745,403	8,302,355
Net Change in Plan Fiduciary Net Position	\$ 658,038,640	\$ (179,484,191)	\$ 18,697,921	\$ 1,096,606,547
Plan Fiduciary Net Position - Beginning	\$ 7,370,758,150	\$ 7,550,242,341	\$ 7,531,544,420	\$ 6,434,937,873
Plan Fiduciary Net Position - Ending (b)	\$ 8,028,796,790	\$ 7,370,758,150	\$ 7,550,242,341	\$ 7,531,544,420
Net Pension Liability - Ending (a) - (b)	\$ 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	75.65 %	75.50 %	80.39 %	84.15 %
Covered-Employee Payroll	\$ 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	144.52 %	133.21 %	104.82 %	81.16 %
Notes to Schedule:	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%

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%

* 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, 2015 (excluding District Judges)
June 30, 2016 (District Judges)

Methods and Assumptions used to Determine Fiscal Year 2017 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	25 years (10.6 years for District Judges New Plan/Paid Off Old Plan and 19 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	7.50%
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

Schedule of Investment Returns (Multiyear)

To be provided by System

<u>FY Ending June 30,</u>	<u>Annual Return¹</u>
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	
2017	

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 2017 to 2026 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, 2017, 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%	6.54%
Real Assets	16%	4.59%
Absolute Return	5%	3.15%
Domestic Fixed	18%	0.83%
Total	100%	
Total Real Rate of Return		4.82%
Plus: Price Inflation - Actuary's Assumption		2.50%
Less: Investment Expenses (Passive)		0.00%
Net Expected Return		7.32%

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 Rate Assumption 7.15%	1% Increase 8.15%
Total Pension Liability	\$ 11,964,109,787	\$ 10,612,937,270	\$ 9,490,997,081
Plan Fiduciary Net Position	8,028,796,790	8,028,796,790	8,028,796,790
Net Pension Liability	\$ 3,935,312,997	\$ 2,584,140,480	\$ 1,462,200,291

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	36,434
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	14,974
Active Plan Members	<u>46,121</u>
Total Plan Members	97,529

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, 2007 through June 30, 2012 (please see report dated February 13, 2013) and updated in conjunction with an Economic Assumption Review dated May 17, 2017. 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 33 and 35. 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, 2015 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 table used to measure retired life mortality was the RP-2000 Combined Healthy mortality table, projected to 2020 using Projection Scale BB, set-forward 2 years for males and 1 year for females. Related values are shown on page 28. Based upon the experience observed during the most recent experience study, it appears that at the time of the study the current table provides for an approximate 15% margin for future mortality improvement. This assumption was first used for the June 30, 2013 valuation.

The probabilities of retirement for members eligible to retire are shown on pages 29 through 32. These probabilities were first used for the June 30, 2013 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 33 through 35. These probabilities were first used for the June 30, 2013 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. For calculating actuarially determined contributions, for members who are assumed to enter the DROP, normal costs are assumed to be collected until the ultimate date of retirement. For GASB Statement No. 67 purposes for members who are assumed to enter the DROP, the date of entry into the DROP was considered to be the plan member's retirement date.

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.

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. 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 RP-2000 Combined, Projected to 2020
7.15% Interest
June 30, 2017

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)	
	Men	Women	Men	Women	Men	Women
40	\$ 158.58	\$ 161.65	\$ 232.12	\$ 240.73	40.56	44.21
45	153.51	157.47	219.05	229.05	35.81	39.39
50	146.83	151.96	203.71	215.32	31.13	34.64
55	138.32	144.76	186.13	199.31	26.58	29.98
60	127.88	135.57	166.56	180.97	22.23	25.44
65	115.48	124.43	145.34	160.75	18.14	21.14
70	100.98	111.52	122.67	139.27	14.35	17.16
75	84.94	97.06	99.59	117.12	10.95	13.56
80	68.15	81.29	77.21	94.80	8.02	10.35
85	51.64	64.96	56.70	73.37	5.60	7.59

Sample Attained Ages	Benefit Increasing 3.0% Yearly	Portion of Age 60 Lives Still Alive	
		Men	Women
60	\$100	100 %	100 %
65	116	96	97
70	134	90	92
75	155	80	84
80	180	66	72

The mortality table was set forward 10 years for disabilities.

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.

State and Local Government Division Age-Based Retirement June 30, 2017

Retirement Ages (with less than 28 years of service)	Percent of Eligible Active Members Retiring Within Next Year	
	Unreduced	Reduced
55		2 %
56		2
57		3
58		3
59		4
60		5
61		5
62		18
63		17
64		13
65	23 %	
66	23	
67	23	
68	15	
69	15	
70	17	
71	17	
72	17	
73	17	
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. These rates represent the point at which members ultimately terminate employment (after participating in the DROP, for those that do).

**State and Local Government Division
Service Based Retirement
June 30, 2017**

Service	Percent of Eligible Active Members Retiring Within Next Year
28	15 %
29	13
30	11
31	11
32	12
33	12
34	12
35	20
36	25
37	25
38	30
39	30
40 & Over	100

**General Assembly Division
Probabilities of Retirement
for Members Eligible to Retire
June 30, 2017**

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, 2017

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, 2017

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+	10.0	10.0	0.02 %	0.01 %	0.01 %	0.01 %	6.60 %	3.25 %	9.85 %
25		10.0	10.0	0.02	0.01	0.05	0.05	5.10	3.25	8.35
30		8.8	8.8	0.03	0.01	0.08	0.08	3.20	3.25	6.45
35		6.2	6.2	0.04	0.02	0.10	0.10	2.30	3.25	5.55
40		4.4	4.4	0.06	0.03	0.15	0.15	1.90	3.25	5.15
45		3.4	3.4	0.08	0.05	0.20	0.20	1.50	3.25	4.75
50		2.7	2.7	0.13	0.08	0.40	0.40	1.10	3.25	4.35
55		1.9	1.9	0.22	0.12	0.70	0.70	0.80	3.25	4.05
60		1.2	1.2	0.37	0.21	1.00	1.00	0.70	3.25	3.95

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

General Assembly Division
Separations From Active Employment Before
Service Retirement
June 30, 2017

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	0.02 %	0.01 %	0.06 %	0.06 %
25		8.3	8.3	0.02	0.01	0.06	0.06
30		5.3	5.3	0.03	0.01	0.06	0.06
35		3.0	3.0	0.04	0.02	0.06	0.06
40		2.6	2.6	0.06	0.04	0.16	0.16
45		2.4	2.4	0.08	0.06	0.22	0.22
50		1.1	1.1	0.13	0.09	0.39	0.39
55		0.8	0.8	0.22	0.14	0.71	0.71
60		0.8	0.8	0.37	0.23	1.13	1.13

District Judges

Separations From Active Employment Before Service Retirement

June 30, 2017

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, 2017

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 partially mitigate the expected effect of mortality table changes in the upcoming 5-year Experience Study.

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.

Summary of Assumptions Used

June 30, 2017

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. We estimated payroll subject to this provision. For the June 30, 2017 valuation, the reported payroll for these members was approximately \$117,000,000.

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 3.56%; 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	\$ 1,649,046,839	\$ 56,869,890	\$ 129,138,867	\$ 6,596,187	\$ 132,934,387	\$ 325,539,332
2	1,537,552,625	52,346,244	120,613,454	6,150,210	147,080,995	326,190,903
3	1,463,836,083	49,790,736	114,637,147	5,855,344	156,420,061	326,703,287
4	1,406,740,419	48,082,463	109,811,423	5,626,962	156,395,657	319,916,505
5	1,358,372,638	46,811,133	105,583,499	5,433,491	161,431,483	319,259,607
6	1,313,118,197	45,709,404	101,568,097	5,252,473	166,630,977	319,160,951
7	1,267,594,618	44,619,420	97,509,552	5,070,378	171,999,453	319,198,803
8	1,221,064,123	43,507,816	93,366,069	4,884,256	177,542,402	319,300,542
9	1,173,374,653	42,370,032	89,118,188	4,693,499	183,265,498	319,447,217
10	1,124,841,757	41,207,124	84,813,738	4,499,367	188,928,134	319,448,364
11	1,076,205,309	40,048,957	80,509,276	4,304,821	194,639,535	319,502,588
12	1,027,931,681	38,909,782	76,259,511	4,111,727	200,938,965	320,219,984
13	980,062,887	37,784,611	72,074,522	3,920,252	207,443,127	321,222,511
14	932,947,716	36,661,975	67,985,934	3,731,791	214,158,674	322,538,373
15	886,458,895	35,522,053	63,994,000	3,545,836	221,092,476	324,154,365
16	840,040,013	34,351,942	60,054,136	3,360,160	228,251,626	326,017,864
17	793,172,374	33,085,755	56,156,140	3,172,689	235,643,450	328,058,034
18	745,956,279	31,697,864	52,314,294	2,983,825	243,275,507	330,271,490
19	699,008,838	30,242,576	48,566,406	2,796,035	250,344,694	331,949,711
20	652,456,272	28,739,766	44,908,940	2,609,825	258,480,895	334,739,426
21	606,554,811	27,206,481	41,354,496	2,426,219	266,881,526	337,868,723
22	561,476,840	25,641,328	37,915,943	2,245,907	275,555,174	341,358,352
23	516,657,038	24,023,421	34,553,320	2,066,628	284,510,718	345,154,087
24	471,912,242	22,329,622	31,262,138	1,887,649	293,757,317	349,236,727
25	427,605,764	20,545,349	28,080,732	1,710,423	303,304,428	353,640,932
26	383,415,919	18,663,734	24,982,132	1,533,664	313,161,823	358,341,353
27	339,126,363	16,695,812	21,939,413	1,356,505	323,339,582	363,331,312
28	295,349,052	14,681,280	18,989,528	1,181,396	333,848,119	368,700,323
29	254,773,379	12,728,439	16,320,674	1,019,094	344,698,183	374,766,390
30	218,776,000	10,933,789	13,993,679	875,104	355,900,872	381,703,444
31	185,640,245	9,278,726	11,850,994	742,561	0	21,872,282
32	154,822,344	7,738,912	9,865,803	619,289	0	18,224,004
33	126,378,217	6,317,639	8,034,756	505,513	0	14,857,908
34	99,986,121	4,998,687	6,341,469	399,944	0	11,740,099
35	75,300,668	3,764,573	4,762,803	301,203	0	8,828,580
36	53,336,538	2,666,579	3,362,416	213,346	0	6,242,342
37	35,398,556	1,769,844	2,223,011	141,594	0	4,134,449
38	21,331,689	1,066,525	1,332,430	85,327	0	2,484,282
39	10,604,858	530,217	653,662	42,419	0	1,226,298
40	3,061,902	153,095	188,305	12,248	0	353,648
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	\$ 8,028,796,790	\$ 325,539,332	\$ 684,126,200	\$ 6,596,187	\$ 561,229,052	\$ 8,224,842,787
2	8,224,842,787	326,190,903	597,836,625	6,150,210	578,316,499	8,525,363,354
3	8,525,363,354	326,703,287	620,472,641	5,855,344	599,036,813	8,824,775,468
4	8,824,775,468	319,916,505	644,665,149	5,626,962	619,364,412	9,113,764,274
5	9,113,764,274	319,259,607	669,371,777	5,433,491	639,142,816	9,397,361,429
6	9,397,361,429	319,160,951	697,501,013	5,252,473	658,434,646	9,672,203,541
7	9,672,203,541	319,198,803	726,312,552	5,070,378	677,081,353	9,937,100,768
8	9,937,100,768	319,300,542	757,500,772	4,884,256	694,935,888	10,188,952,169
9	10,188,952,169	319,447,217	787,524,768	4,693,499	711,900,290	10,428,081,410
10	10,428,081,410	319,448,364	818,298,003	4,499,367	727,923,740	10,652,656,143
11	10,652,656,143	319,502,588	848,268,686	4,304,821	742,936,618	10,862,521,843
12	10,862,521,843	320,219,984	878,098,593	4,111,727	756,925,994	11,057,457,502
13	11,057,457,502	321,222,511	908,624,701	3,920,252	769,833,374	11,235,968,433
14	11,235,968,433	322,538,373	933,189,655	3,731,791	781,786,720	11,403,372,080
15	11,403,372,080	324,154,365	958,702,909	3,545,836	792,923,035	11,558,200,735
16	11,558,200,735	326,017,864	984,866,832	3,360,160	803,146,064	11,699,137,671
17	11,699,137,671	328,058,034	1,011,190,602	3,172,689	812,376,490	11,825,208,904
18	11,825,208,904	330,271,490	1,036,562,350	2,983,825	820,583,601	11,936,517,820
19	11,936,517,820	331,949,711	1,059,730,870	2,796,035	827,793,771	12,033,734,397
20	12,033,734,397	334,739,426	1,082,263,979	2,609,825	834,057,657	12,117,657,676
21	12,117,657,676	337,868,723	1,103,705,559	2,426,219	839,421,259	12,188,815,880
22	12,188,815,880	341,358,352	1,121,704,713	2,245,907	844,005,645	12,250,229,256
23	12,250,229,256	345,154,087	1,140,521,505	2,066,628	847,875,268	12,300,670,478
24	12,300,670,478	349,236,727	1,157,100,603	1,887,649	851,049,067	12,341,968,020
25	12,341,968,020	353,640,932	1,171,133,812	1,710,423	853,669,773	12,376,434,491
26	12,376,434,491	358,341,353	1,186,310,467	1,533,664	855,772,276	12,402,703,989
27	12,402,703,989	363,331,312	1,199,441,604	1,356,505	857,370,747	12,422,607,938
28	12,422,607,938	368,700,323	1,211,720,135	1,181,396	858,557,280	12,436,964,011
29	12,436,964,011	374,766,390	1,220,307,583	1,019,094	859,500,858	12,449,904,582
30	12,449,904,582	381,703,444	1,224,860,204	875,104	860,514,940	12,466,387,658
31	12,466,387,658	21,872,282	1,225,484,170	742,561	849,034,323	12,111,067,532
32	12,111,067,532	18,224,004	1,221,080,630	619,289	823,659,800	11,731,251,417
33	11,731,251,417	14,857,908	1,213,423,756	505,513	796,657,692	11,328,837,748
34	11,328,837,748	11,740,099	1,203,598,811	399,944	768,124,464	10,904,703,556
35	10,904,703,556	8,828,580	1,190,184,101	301,203	738,171,346	10,461,218,177
36	10,461,218,177	6,242,342	1,169,426,968	213,346	707,103,623	10,004,923,828
37	10,004,923,828	4,134,449	1,142,332,019	141,594	675,358,964	9,541,943,628
38	9,541,943,628	2,484,282	1,112,032,186	85,327	643,264,401	9,075,574,797
39	9,075,574,797	1,226,298	1,078,326,005	42,419	611,060,534	8,609,493,205
40	8,609,493,205	353,648	1,040,534,039	12,248	579,033,841	8,148,334,407
41	8,148,334,407	-	990,195,191	-	547,817,539	7,705,956,755
42	7,705,956,755	-	956,633,370	-	517,366,659	7,266,690,044
43	7,266,690,044	-	922,144,905	-	487,170,767	6,831,715,907
44	6,831,715,907	-	886,611,336	-	457,318,512	6,402,423,082
45	6,402,423,082	-	850,148,271	-	427,905,126	5,980,179,936
46	5,980,179,936	-	812,751,442	-	399,028,598	5,566,457,092
47	5,566,457,092	-	774,440,217	-	370,793,396	5,162,810,271
48	5,162,810,271	-	735,505,458	-	343,300,538	4,770,605,350
49	4,770,605,350	-	696,281,126	-	316,635,948	4,390,960,172
50	4,390,960,172	-	656,970,249	-	290,872,421	4,024,862,344

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

Single Discount Rate Development

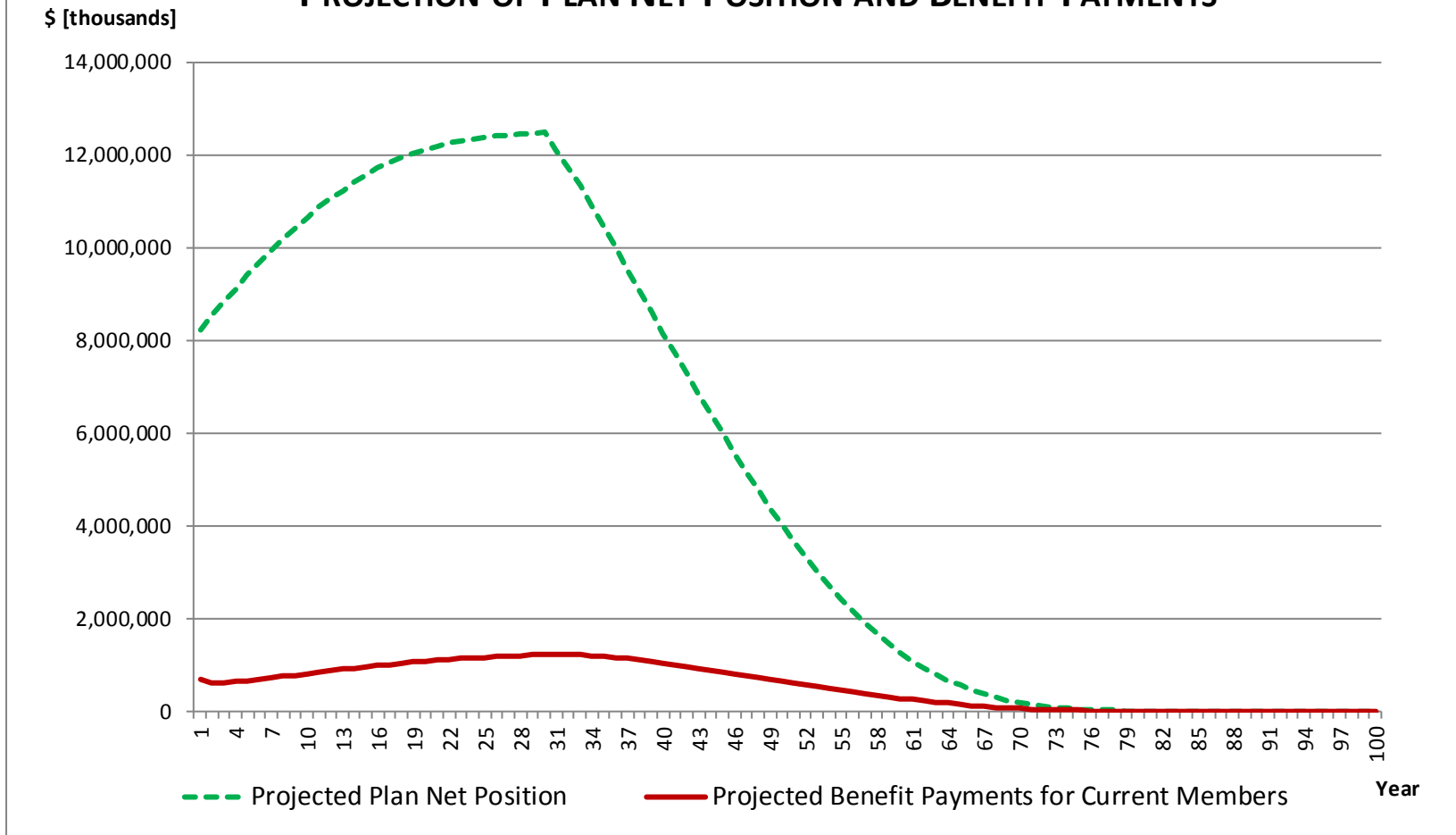
Present Values of Projected Benefits

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	\$ 8,028,796,790	\$ 684,126,200	\$ 684,126,200	\$ -	\$ 660,906,671	\$ -	\$ 660,906,671
2	8,224,842,787	597,836,625	597,836,625	-	539,006,813	-	539,006,813
3	8,525,363,354	620,472,641	620,472,641	-	522,086,181	-	522,086,181
4	8,824,775,468	644,665,149	644,665,149	-	506,245,970	-	506,245,970
5	9,113,764,274	669,371,777	669,371,777	-	490,571,832	-	490,571,832
6	9,397,361,429	697,501,013	697,501,013	-	477,076,339	-	477,076,339
7	9,672,203,541	726,312,552	726,312,552	-	463,633,074	-	463,633,074
8	9,937,100,768	757,500,772	757,500,772	-	451,275,509	-	451,275,509
9	10,188,952,169	787,524,768	787,524,768	-	437,855,421	-	437,855,421
10	10,428,081,410	818,298,003	818,298,003	-	424,605,705	-	424,605,705
11	10,652,656,143	848,268,686	848,268,686	-	410,785,962	-	410,785,962
12	10,862,521,843	878,098,593	878,098,593	-	396,856,287	-	396,856,287
13	11,057,457,502	908,624,701	908,624,701	-	383,250,162	-	383,250,162
14	11,235,968,433	933,189,655	933,189,655	-	367,346,197	-	367,346,197
15	11,403,372,080	958,702,909	958,702,909	-	352,206,610	-	352,206,610
16	11,558,200,735	984,866,832	984,866,832	-	337,674,910	-	337,674,910
17	11,699,137,671	1,011,190,602	1,011,190,602	-	323,565,442	-	323,565,442
18	11,825,208,904	1,036,562,350	1,036,562,350	-	309,551,107	-	309,551,107
19	11,936,517,820	1,059,730,870	1,059,730,870	-	295,352,289	-	295,352,289
20	12,033,734,397	1,082,263,979	1,082,263,979	-	281,504,787	-	281,504,787
21	12,117,657,676	1,103,705,559	1,103,705,559	-	267,925,244	-	267,925,244
22	12,188,815,880	1,121,704,713	1,121,704,713	-	254,124,639	-	254,124,639
23	12,250,229,256	1,140,521,505	1,140,521,505	-	241,145,706	-	241,145,706
24	12,300,670,478	1,157,100,603	1,157,100,603	-	228,325,806	-	228,325,806
25	12,341,968,020	1,171,133,812	1,171,133,812	-	215,674,214	-	215,674,214
26	12,376,434,491	1,186,310,467	1,186,310,467	-	203,890,922	-	203,890,922
27	12,402,703,989	1,199,441,604	1,199,441,604	-	192,391,757	-	192,391,757
28	12,422,607,938	1,211,720,135	1,211,720,135	-	181,391,738	-	181,391,738
29	12,436,964,011	1,220,307,583	1,220,307,583	-	170,487,409	-	170,487,409
30	12,449,904,582	1,224,860,204	1,224,860,204	-	159,704,573	-	159,704,573
31	12,466,387,658	1,225,484,170	1,225,484,170	-	149,123,592	-	149,123,592
32	12,111,067,532	1,221,080,630	1,221,080,630	-	138,672,651	-	138,672,651
33	11,731,251,417	1,213,423,756	1,213,423,756	-	128,607,647	-	128,607,647
34	11,328,837,748	1,203,598,811	1,203,598,811	-	119,053,968	-	119,053,968
35	10,904,703,556	1,190,184,101	1,190,184,101	-	109,871,257	-	109,871,257
36	10,461,218,177	1,169,426,968	1,169,426,968	-	100,751,351	-	100,751,351
37	10,004,923,828	1,142,332,019	1,142,332,019	-	91,849,744	-	91,849,744
38	9,541,943,628	1,112,032,186	1,112,032,186	-	83,447,010	-	83,447,010
39	9,075,574,797	1,078,326,005	1,078,326,005	-	75,518,147	-	75,518,147
40	8,609,493,205	1,040,534,039	1,040,534,039	-	68,008,840	-	68,008,840
41	8,148,334,407	990,195,191	990,195,191	-	60,400,107	-	60,400,107
42	7,705,956,755	956,633,370	956,633,370	-	54,459,073	-	54,459,073
43	7,266,690,044	922,144,905	922,144,905	-	48,992,739	-	48,992,739
44	6,831,715,907	886,611,336	886,611,336	-	43,961,616	-	43,961,616
45	6,402,423,082	850,148,271	850,148,271	-	39,340,771	-	39,340,771
46	5,980,179,936	812,751,442	812,751,442	-	35,100,538	-	35,100,538
47	5,566,457,092	774,440,217	774,440,217	-	31,214,167	-	31,214,167
48	5,162,810,271	735,505,458	735,505,458	-	27,666,713	-	27,666,713
49	4,770,605,350	696,281,126	696,281,126	-	24,443,541	-	24,443,541
50	4,390,960,172	656,970,249	656,970,249	-	21,524,498	-	21,524,498

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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/(1+sdr) ^a ((a)-.5)
51	\$ 4,024,862,344	\$ 617,704,045	\$ 617,704,045	\$ -	\$ 18,887,548	\$ -	\$ 18,887,548
52	3,673,234,257	578,594,073	578,594,073	-	16,511,136	-	16,511,136
53	3,336,948,780	539,767,043	539,767,043	-	14,375,308	-	14,375,308
54	3,016,810,025	501,364,147	501,364,147	-	12,461,545	-	12,461,545
55	2,713,533,448	463,541,554	463,541,554	-	10,752,640	-	10,752,640
56	2,427,724,003	426,464,808	426,464,808	-	9,232,461	-	9,232,461
57	2,159,858,540	390,305,768	390,305,768	-	7,885,824	-	7,885,824
58	1,910,270,107	355,237,296	355,237,296	-	6,698,360	-	6,698,360
59	1,679,136,628	321,426,581	321,426,581	-	5,656,392	-	5,656,392
60	1,466,475,687	289,033,507	289,033,507	-	4,746,940	-	4,746,940
61	1,272,140,623	258,206,743	258,206,743	-	3,957,683	-	3,957,683
62	1,095,820,398	229,078,709	229,078,709	-	3,276,921	-	3,276,921
63	937,044,662	201,760,522	201,760,522	-	2,693,551	-	2,693,551
64	795,194,413	176,339,918	176,339,918	-	2,197,088	-	2,197,088
65	669,515,572	152,879,685	152,879,685	-	1,777,684	-	1,777,684
66	559,135,153	131,418,293	131,418,293	-	1,426,160	-	1,426,160
67	463,077,925	111,970,566	111,970,566	-	1,134,029	-	1,134,029
68	380,283,587	94,526,204	94,526,204	-	893,471	-	893,471
69	309,626,685	79,047,947	79,047,947	-	697,311	-	697,311
70	249,939,867	65,469,538	65,469,538	-	538,993	-	538,993
71	200,040,898	53,697,781	53,697,781	-	412,580	-	412,580
72	158,759,486	43,615,629	43,615,629	-	312,753	-	312,753
73	124,962,819	35,087,121	35,087,121	-	234,809	-	234,809
74	97,577,830	27,962,619	27,962,619	-	174,644	-	174,644
75	75,609,619	22,084,406	22,084,406	-	128,727	-	128,727
76	58,155,412	17,292,339	17,292,339	-	94,069	-	94,069
77	44,413,656	13,429,780	13,429,780	-	68,182	-	68,182
78	33,687,627	10,349,125	10,349,125	-	49,035	-	49,035
79	25,383,573	7,915,630	7,915,630	-	35,003	-	35,003
80	19,004,770	6,010,455	6,010,455	-	24,804	-	24,804
81	14,141,992	4,531,598	4,531,598	-	17,453	-	17,453
82	10,462,338	3,393,208	3,393,208	-	12,197	-	12,197
83	7,697,974	2,524,097	2,524,097	-	8,467	-	8,467
84	5,635,604	1,866,054	1,866,054	-	5,842	-	5,842
85	4,106,936	1,371,867	1,371,867	-	4,008	-	4,008
86	2,980,517	1,003,632	1,003,632	-	2,737	-	2,737
87	2,154,733	731,185	731,185	-	1,861	-	1,861
88	1,551,923	530,823	530,823	-	1,261	-	1,261
89	1,113,413	384,190	384,190	-	852	-	852
90	795,334	277,315	277,315	-	574	-	574
91	565,143	199,655	199,655	-	385	-	385
92	398,882	143,337	143,337	-	258	-	258
93	279,029	102,538	102,538	-	172	-	172
94	192,840	72,978	72,978	-	115	-	115
95	131,086	51,588	51,588	-	76	-	76
96	87,057	36,167	36,167	-	49	-	49
97	55,844	25,099	25,099	-	32	-	32
98	33,857	17,225	17,225	-	21	-	21
99	18,447	11,683	11,683	-	12	-	12
100	7,673	7,672	7,672	-	8	-	8
Totals	\$ 12,125,819,277	\$ -	\$ 12,125,819,277	\$ -	\$ -	\$ -	\$ 12,125,819,277

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.



October 26, 2017

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 copies of the June 30, 2017 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:bd

Enclosures