Arkansas Judicial Retirement System

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

June 30, 2018

GRS Retirement Consulting
800.521.0498 | P: 248.799.9000 | F: 248.799.9020 | www.grsconsulting.com

November 6, 2018

Board of Trustees
Arkansas Judicial Retirement System
Little Rock, Arkansas

Ladies and Gentlemen:

This report provides information required by the Retirement System 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. These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

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 Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. 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 Retirement System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not audited.

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

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

To the best of our knowledge, this report is complete, accurate, and in accordance with generally recognized actuarial methods. Mita D. Drazilov is a Member of the American Academy of Actuaries and meets 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

Mita D. Drazilov, ASA, FCA, MAAA

David L. Hoffman

David L. Hoffman

MDD/DLH:bd

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SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2018

Actuarial Valuation Date		June 30, 2018
Measurement Date of the Net Pension Liability		June 30, 2018
Employer's Fiscal Year Ending Date (Reporting Date)		June 30, 2018
Membership		
Number of		
- Retirees and Beneficiaries		147
- Inactive, Nonretired Members		5
- Active Members		139
- Total		291
Covered Payroll	$	23,434,639
Net Pension Liability		
Total Pension Liability	$	279,174,680
Plan Fiduciary Net Position		256,508,130
Net Pension Liability	$	22,666,550
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		91.88%
Net Pension Liability as a Percentage of Covered Payroll		96.72%
Development of the Single Discount Rate		
Single Discount Rate		5.75%
Long-Term Expected Rate of Investment Return		5.75%
Long-Term Municipal Bond Rate*		3.62%
Last year ending June 30 in the 2019 to 2118 projection period for which projected benefit payments are fully funded		2118
Total Pension Expense	$	11,338,011

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	$ -	$ 2,788,338
Changes in assumptions	942,976	-
Net difference between projected and actual earnings on pension plan investments	7,333,160	13,123,391
Total	**$ 8,276,136**	**$ 15,911,729**

**Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2018. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.*

Discussion

Accounting Standard

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

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

Financial Statements

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

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

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

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

Notes to Financial Statements

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

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

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

Required Supplementary Information

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

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

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2018 and a measurement date of June 30, 2018.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 5.75%; the municipal bond rate is 3.62% (based on the weekly rate closest to but not later than the measurement date of the "20-Year Municipal GO AA Index" rate from Fidelity; and the resulting Single Discount Rate is 5.75%.

SECTION B

FINANCIAL STATEMENTS

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

A. Expense

1. Service Cost	$ 6,927,257
2. Interest on the Total Pension Liability	15,378,982
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(1,016,180)
5. Projected Earnings on Plan Investments (made negative for addition here)	(13,747,249)
6. Pension Plan Administrative Expense	142,311
7. Other Changes in Plan Fiduciary Net Position (made negative for addition here)	(12)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	3,436,084
9. Recognition of Outflow (Inflow) of Resources due to Assets	216,818
10. Total Pension Expense	**$ 11,338,011**

Statement of Outflows and Inflows Arising from Current Reporting Period

Fiscal Year Ended June 30, 2018

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	(743,902)
2. Assumption Changes (gains) or losses	$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		5.0513
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	$	(147,269)
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.	$	(147,269)
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.	$	(596,633)
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.	$	(596,633)
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	(5,415,354)
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	(1,083,071)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets: 1. - 3.	$	(4,332,283)

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

Fiscal Year Ended June 30, 2018

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 6,082,475	$ 2,646,391	$ 3,436,084
2. Due to Assets	4,230,259	4,013,441	216,818
3. Total	**$ 10,312,734**	**$ 6,659,832**	**$ 3,652,902**

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	$ 1,869,013	$ 2,646,391	$ (777,378)
2. Assumption Changes	4,213,462	-	4,213,462
3. Net Difference between projected and actual earnings on pension plan investments	4,230,259	4,013,441	216,818
4. Total	**$ 10,312,734**	**$ 6,659,832**	**$ 3,652,902**

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	$ -	$ 2,788,338	$ (2,788,338)
2. Assumption Changes	942,976	-	942,976
3. Net Difference between projected and actual earnings on pension plan investments	7,333,160	13,123,391	(5,790,231)
4. Total	**$ 8,276,136**	**$ 15,911,729**	**$ (7,635,593)**

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

Year Ending June 30	Net Deferred Outflows of Resources
2019	$ (1,073,095)
2020	(1,163,894)
2021	(4,160,708)
2022	(1,230,339)
2023	(7,557)
Thereafter	0
Total	**$ (7,635,593)**

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

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2015	$ 12,969,853	3.5051	$ 1,869,013	$ -	0.0000
2016	(5,184,045)	3.5584	(1,456,847)	(813,504)	0.5584
2017	(3,462,751)	3.3223	(1,042,275)	(1,378,201)	1.3223
2018	(743,902)	5.0513	(147,269)	(596,633)	4.0513
Total			**$ (777,378)**	**$ (2,788,338)**	
Deferred Outflow (Inflow) due to Assumption Changes					
2015	$ 24,290,229	3.5051	$ 3,500,328	$ -	0.0000
2016	-	3.5584	-	-	0.5584
2017	2,369,244	3.3223	713,134	942,976	1.3223
2018	-	5.0513	-	-	4.0513
Total			**$ 4,213,462**	**$ 942,976**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2015	$ 5,636,791	5.0000	$ 1,127,358	$ 1,127,359	1.0000
2016	15,514,504	5.0000	3,102,901	6,205,801	2.0000
2017	(14,651,848)	5.0000	(2,930,370)	(8,791,108)	3.0000
2018	(5,415,354)	5.0000	(1,083,071)	(4,332,283)	4.0000
Total			**$ 216,818**	**$ (5,790,231)**	

Statement of Fiduciary Net Position
as of June 30, 2018

Assets		
Cash and Deposits	$	6,979,395
Receivables		
Accounts Receivable - Sale of Investments	$	1,486,249
Accrued Interest and Other Dividends		-
Contributions		-
Accounts Receivable - Other		-
Total Receivables	$	1,486,249
Investments		
Fixed Income	$	47,812,995
Domestic Equities		136,599,769
International Equities		41,072,775
Real Estate		22,772,116
Other		5,011,107
Total Investments	$	253,268,762
Total Assets	$	261,734,406
Liabilities		
Payables		
Accounts Payable - Purchase of Investments	$	-
Accrued Expenses		327,764
Accounts Payable - Other		4,898,512
Total Liabilities	$	5,226,276
Net Position Restricted for Pensions	**$**	**256,508,130**

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

Additions		
Contributions		
Employer	$	8,421,173
Employee		1,016,180
Other		12
Total Contributions	$	9,437,365
Investment Income		
Net Appreciation in Fair Value of Investments	$	20,431,380
Interest and Dividends		-
Less Investment Expense		(1,268,777)
Net Investment Income	$	19,162,603
Other	$	-
Total Additions	$	28,599,968
Deductions		
Benefit payments, including refunds of employee contributions	$	12,769,175
Pension Plan Administrative Expense		142,311
Other		-
Total Deductions	$	12,911,486
Net Increase in Net Position	$	15,688,482
Net Position Restricted for Pensions		
Beginning of Year	**$**	**240,819,648**
End of Year	**$**	**256,508,130**

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedules of Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
Current Period
Fiscal Year Ended June 30, 2018

A. Total pension liability	
1. Service Cost	$ 6,927,257
2. Interest on the Total Pension Liability	15,378,982
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	(743,902)
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(12,769,175)
7. Net change in total pension liability	$ 8,793,162
8. Total pension liability – beginning	270,381,518
9. Total pension liability – ending	**$ 279,174,680**
B. Plan fiduciary net position	
1. Contributions – employer	$ 8,421,173
2. Contributions – employee	1,016,180
3. Net investment income	19,162,603
4. Benefit payments, including refunds of employee contributions	(12,769,175)
5. Pension Plan Administrative Expense	(142,311)
6. Other	12
7. Net change in plan fiduciary net position	$ 15,688,482
8. Plan fiduciary net position – beginning	240,819,648
9. Plan fiduciary net position – ending	**$ 256,508,130**
C. Net pension liability	**$ 22,666,550**
D. Plan fiduciary net position as a percentage of the total pension liability	**91.88%**
E. Covered-employee payroll	**$ 23,434,639**
F. Net pension liability as a percentage of covered-employee payroll	**96.72%**

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,	2018	2017	2016	2015	2014
Total Pension Liability					
Service Cost	$ 6,927,257	$ 7,221,153	$ 7,230,267	$ 5,342,168	$ 5,319,836
Interest on the Total Pension Liability	15,378,982	16,121,127	15,770,309	14,883,382	14,607,426
Benefit Changes	-	-	-	-	-
Difference between Expected and Actual Experience	(743,902)	(3,462,751)	(5,184,045)	12,969,853	(5,751,106)
Assumption Changes	-	2,369,244	-	24,290,229	-
Benefit Payments	(12,769,175)	(12,310,422)	(12,007,538)	(10,762,871)	(9,966,020)
Refunds	-	(79,011)	(800)	(14,320)	(18,836)
Net Change in Total Pension Liability	8,793,162	9,859,340	5,808,193	46,708,441	4,191,300
Total Pension Liability - Beginning	**$ 270,381,518**	**$ 260,522,178**	**$ 254,713,985**	**$ 208,005,544**	**$ 203,814,244**
Total Pension Liability - Ending (a)	**$ 279,174,680**	**$ 270,381,518**	**$ 260,522,178**	**$ 254,713,985**	**$ 208,005,544**
Plan Fiduciary Net Position					
Employer Contributions	$ 8,421,173	$ 8,485,361	$ 5,561,289	$ 5,690,381	$ 6,117,327
Employee Contributions	1,016,180	1,016,646	1,011,372	946,149	925,324
Pension Plan Net Investment Income	19,162,603	28,044,374	(1,744,085)	9,971,823	29,793,113
Benefit Payments	(12,769,175)	(12,310,422)	(12,007,538)	(10,762,871)	(9,966,020)
Refunds	-	(79,011)	(800)	(14,320)	(18,836)
Pension Plan Administrative Expense	(142,311)	(168,701)	(158,420)	(137,951)	(130,529)
Other	12	45,832	-	-	-
Net Change in Plan Fiduciary Net Position	**$ 15,688,482**	**$ 25,034,079**	**$ (7,338,182)**	**$ 5,693,211**	**$ 26,720,379**
Plan Fiduciary Net Position - Beginning	**$ 240,819,648**	**$ 215,785,569**	**$ 223,123,751**	**$ 217,430,540**	**$ 190,710,161**
Plan Fiduciary Net Position - Ending (b)	**$ 256,508,130**	**$ 240,819,648**	**$ 215,785,569**	**$ 223,123,751**	**$ 217,430,540**
Net Pension Liability - Ending (a) - (b)	**$ 22,666,550**	**$ 29,561,870**	**$ 44,736,609**	**$ 31,590,234**	**$ (9,424,996)**
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	91.88 %	89.07 %	82.83 %	87.60 %	104.53 %
Covered-Employee Payroll	$ 23,434,639	$ 22,917,870	$ 22,308,000	$ 22,308,000	$ 19,781,628
Net Pension Liability as a Percentage of Covered-Employee Payroll	96.72 %	128.99 %	200.54 %	141.61 %	(47.65)%

Notes to Schedule:

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	$ 208,005,544	$ 217,430,540	$ (9,424,996)	104.53%	$ 19,781,628	(47.65)%
2015	254,713,985	223,123,751	31,590,234	87.60%	22,308,000	141.61%
2016	260,522,178	215,785,569	44,736,609	82.83%	22,308,000	200.54%
2017	270,381,518	240,819,648	29,561,870	89.07%	22,917,870	128.99%
2018	279,174,680	256,508,130	22,666,550	91.88%	23,434,639	96.72%

Schedule of Contributions

Last 10 Fiscal Years

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll*
2008	$ 5,144,958	$ 5,144,958	$ -	$ 18,074,314	29.36%
2009	4,466,571	4,466,571	-	18,874,986	24.20%
2010	4,667,612	4,667,612	-	18,629,861	24.59%
2011	5,220,623	5,220,623	-	19,337,991	27.43%
2012	5,465,079	5,465,079	-	19,201,734	29.08%
2013	5,672,291	5,672,291	-	19,585,755	29.93%
2014	6,117,327	6,117,327	-	19,781,628	31.46%
2015	5,690,381	5,690,381	-	22,308,000	29.12%
2016	5,561,289	5,561,289	-	22,308,000	25.09%
2017	8,485,361	8,485,361	-	22,917,870	37.99%
2018	8,421,173	8,421,173	-	23,434,639	37.37%

* *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.*

Notes to Schedule of Contributions

Valuation Date:	June 30, 2016

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year Ending June 30, 2018:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	27 years beginning July 1, 2017
Asset Valuation Method	4-Year smoothed market; 25% corridor
Inflation	2.50% price inflation
Salary Increases	3.25%
Investment Rate of Return	6.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 mortality tables projected to 2020 using projection scale BB.

Other Information:

Notes	There were no benefit changes reflected in the June 30, 2016 valuation.

Schedule of Investment Returns Multiyear

To be provided by System

Last 10 Fiscal Years

FY Ending June 30,	Annual Return[1]
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	
2017	
2018	

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

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

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

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	37%	5.97%
International Equity	15%	6.07%
Real Estate	8%	4.59%
Cash Equivalents	0%	0.02%
Domestic Fixed	40%	0.83%
Total	100%	
Total Real Rate of Return		3.82%
Plus: Price Inflation - Actuary's Assumption		2.50%
Less: Investment Expenses		0.00%
Net Expected Return		6.32%

Single Discount Rate

A single discount rate of 5.75% 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 5.75%. 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 5.75%, 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 4.75%	Current Single Rate Assumption 5.75%	1% Increase 6.75%
Total Pension Liability (TPL)	$ 313,433,581	$ 279,174,680	$ 250,233,918
Net Position Restricted for Pensions	256,508,130	256,508,130	256,508,130
Net Pension Liability (NPL)	**$ 56,925,451**	**$ 22,666,550**	**$ (6,274,212)**

Summary of Population Statistics
As of June 30, 2018

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	147
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	5
Active Plan Members	139
Total Plan Members	291

SECTION E

SUMMARY OF BENEFITS

Summary of Provisions Considered
(July 1, 2018)

Tier One	Tier Two
Description	
Elected or appointed prior to the effective date of Act 399 of 1999 and who do not elect to participate in Tier Two.	Elected or appointed after the effective date of Act 399 of 1999 or elected to participate in Tier Two.
Regular Retirement	
An active member may retire at age 65 with 10 or more years of credited service, or after 20 years of credited service regardless of age. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or Chancery Courts or the Court of Appeals.	An active member or former member may retire at age 65 with 8 or more years of credited service, or after 20 years of credited service regardless of age.
Compulsory Retirement	
Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits.	Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits.
Final Salary	
The annual salary for the last judicial office held.	The annual salary for the last judicial office held.
Age & Service Annuity	
60% of the judge's final salary, for life. Each year of additional service after twenty (20) years of judicial service, the benefit shall be increased by two and one-half percent (2.5%) with a maximum benefit payable of seventy-five percent (75%) of the judge's final salary.	3.2% of the salary of the last judicial office held multiplied by the number of years of service not to exceed 80% of the salary of the last judicial office held.

Summary of Provisions Considered (Continued)

Tier One	Tier Two

Deferred Retirement

Tier One: An inactive member who has 14 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or Chancery Courts or the Court of Appeals.

Tier Two: An inactive member who has 8 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65.

Disability Retirement

Tier One: An active member with 3 or more consecutive years of credited 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. The 3 years of service is not required for persons who were members before July 1, 1983.

Tier Two: An active member with 3 or more consecutive years of credited 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, except that the benefit shall not be less than 25.6% of final salary.

Early Retirement

Tier One: A member who became a member before July 1, 1983 and who has 18 but less than 20 years credited service may retire, regardless of age, and receive an immediate annuity. The amount is the full age and service amount reduced proportionately for service less than 20 years.

A member with 14 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced 1/2 of 1% for each month that retirement age is younger than age 65. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit Court or Chancery Courts or the Court of Appeals.

Tier Two: A member with 8 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced 1/2 of 1% for each month retirement age is younger than age 65.

Summary of Provisions Considered (Concluded)

Tier One	Tier Two

Survivor Benefits

Tier One: Upon the death of a member with 3 or more years of service, before or after retirement, an annuity of 67% of the judge's benefit is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- A minor child of the judge.

The 3-year service requirement is not required of those who became members prior to July 1, 1983.

Tier Two: Upon the death of a member with 3 or more years of service, before or after retirement, an annuity of 67% of the judge's benefit, but not less than 17.152% of final salary, is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- A minor child of the judge.

The 3-year service requirement is not required of those who became members prior to July 1, 1983.

Increases After Retirement

Tier One: For any person who was a member on or before June 30, 1983, the retirement benefits are increased or decreased from time to time as the salary for the particular judicial office is increased or decreased. For all judges or justices first elected after June 30, 1983, and who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3%.

Tier Two: For all judges or justices who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3%.

Member Contributions

Tier One: Active members contribute 6% of their salaries. Members with 20 or more years of service and members age 65 or older with 10 or more years of service do not contribute to the Retirement System. At any time a member is accruing the additional 2.5% of final salary benefit, member contributions would be required. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.

Tier Two: Active members contribute 5% of their salaries. Members with 25 or more years of service do not contribute to the Retirement System. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Assumptions Used for Arkansas Judicial Actuarial Valuations Assumptions Adopted by Board of Trustees After Consulting with the Actuary

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, 2006 through June 30, 2011 (please see report dated April 30, 2012) and updated in conjunction with an Economic Assumption Review dated August 6, 2015. The actuarial assumptions represent estimates of future experience.

Economic Assumptions

The investment return rate used in making the valuation was 5.75% per year, compounded annually (net after investment expenses). The investment return assumption was revised for the June 30, 2017 valuation.

Pay increase assumptions for individual active members are shown on page 25. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation. This wage inflation assumption consists of 2.50% for price inflation and 0.75% for real wage growth. The wage inflation assumption was revised for the June 30, 2015 valuation and re-adopted in 2017.

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

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

Non-Economic Assumptions

The healthy mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 Healthy Annuitant table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The disabled retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 disabled mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The pre-retirement mortality tables used were the RP-2014 employees mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. It was assumed that 100% of pre-retirement deaths would be non-duty related. Mortality rates for a particular calendar year are determined by applying the MP- 2016 improvement scale to the above described tables. Related values are shown on pages 25 and 27. Adopted 2017.

(Concluded on the following page.)

Summary of Assumptions Used for Arkansas Judicial Actuarial Valuations Assumptions Adopted by Board of Trustees After Consulting with the Actuary (Concluded)

The probabilities of retirement for members eligible to retire are shown on page 26. Adopted 2012.

The probabilities of withdrawal from service, death-in-service and disability are shown for sample ages on page 25. Adopted 2017.

Normal Cost. Normal Cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age actuarial cost method having the following characteristics.

- The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and

- Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

The normal cost, the present value of future normal cost and the present value of benefits are based on the benefit levels available to each member. The accrued liability is the difference between the present value of benefits and the present value of future normal cost.

Funding value of assets (cash & investments) was determined by phasing-in differences between actual market return and the assumed rate of return over a four-year period.

The data about persons now covered and about present assets was 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).

Decrement and Pay Increase Assumptions for Active Members June 30, 2018

2018 Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year					Pay Increase Assumptions for Individual Member		
		Male		Female			Merit &	Base	Increase
		Death	Disability	Death	Disability	Withdrawal	Seniority	(Economic)	Next Year
	0					6.00%			
	1					6.00%			
	2					6.00%			
	3					6.00%			
	4					6.00%			
30	5+	0.05%	0.04%	0.02%	0.05%	1.00%	0.00%	3.25%	3.25%
35		0.06%	0.04%	0.03%	0.05%	1.00%	0.00%	3.25%	3.25%
40		0.06%	0.10%	0.04%	0.18%	1.00%	0.00%	3.25%	3.25%
45		0.10%	0.13%	0.07%	0.20%	1.00%	0.00%	3.25%	3.25%
50		0.16%	0.25%	0.11%	0.28%	1.00%	0.00%	3.25%	3.25%
55		0.28%	0.45%	0.17%	0.38%	1.00%	0.00%	3.25%	3.25%
60		0.48%	0.71%	0.26%	0.51%	1.00%	0.00%	3.25%	3.25%
65		0.86%	0.83%	0.38%	0.62%	1.00%	0.00%	3.25%	3.25%

The pay increase assumptions are age based only, and not service based.

Probabilities of death are for calendar year 2018.

Probabilities of Retirement for Members Eligible to Retire
June 30, 2018

Retirement Ages	Percent of Eligible Active Members Electing Early Retirement Within Next Year
62	2%
63	2%
64	2%

Normal Retirement

1) For ages under 70, a 4% probability of retirement is used.
2) For ages 70 and over
    a. If the future year of consideration is an odd year, then a 4% probability of retirement is used.
    b. If the future year of consideration is an even year,
        i. For members under the age of 76, a 33% probability of retirement is used.
        ii. For members ages 76 or older, a 100% probability of retirement is used.

For Tier One, a member was assumed eligible to retire at age 50 with 20 years of service, or at age 65 with 10 years of service. A member was assumed eligible to retire early at age 62 with 14 years of service.

For Tier Two, a member was assumed eligible to retire at age 50 with 20 years of service, or at age 65 with 8 years of service. A member was assumed eligible to retire early at age 62 with 8 years of service.

Single Life Retirement Values
June 30, 2018

Attained Age in 2018	Percent Dying Next Year		Present Value of $1 Monthly for Life Increasing 3% Annually		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
50	0.3972%	0.2683%	$234.75	$244.92	34.58	37.18
55	0.5706%	0.3751%	216.59	227.48	29.83	32.24
60	0.7979%	0.5597%	196.08	207.45	25.26	27.47
65	1.1463%	0.8360%	173.31	184.97	20.93	22.92
70	1.7114%	1.2971%	148.49	159.97	16.85	18.59
75	2.7254%	2.1193%	122.10	133.06	13.07	14.55
80	4.5896%	3.6177%	95.55	105.58	9.70	10.91

Sample Attained Ages	$100 Benefit Increasing 3% Annually	Portion of Age 65 Lives in 2017 Still Alive	
		Men	Women
65	$100.00	100%	100%
70	115.93	93%	95%
75	134.39	85%	88%
80	155.80	73%	78%
85	180.61	56%	64%

Probabilities of death are for calendar year 2018.

Summary of Assumptions Used
June 30, 2018
Miscellaneous and Technical Assumptions

Marriage Assumption:	80% of males and 80% of females are assumed to be married for purposes of death-in-service benefits. 80% of members are assumed to be married at retirement. Male spouses are assumed to be six years older than female spouses for active member valuation purposes. Actual data is used for retired 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.
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.
Decrement Operation:	Disability and withdrawal do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is the 67% joint and survivor 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.
Tier 1 2.5% Benefit Multiplier Election:	For present value of future benefit purposes, it was assumed that all Tier 1 members will elect to accrue the additional 2.5% benefit multiplier (if they have not already done so). Member contribution rates are based upon those members that have elected to accrue the additional 2.5% benefit multiplier as of the valuation date.
Administrative Expenses:	The computed contribution rate was increased by 0.7% of payroll to fund for administrative expenses.
Additional Adjustments:	The actuarial accrued liabilities were increased by $3.9 million to reflect potential future salary/COLA increases in excess of the actuarial assumptions.

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 5.75%; the municipal bond rate is 3.62%; and the resulting single discount rate is 5.75%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (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	Contributions from Current Employees	Normal Cost and Expense Contributions	UAL Contributions	Total Contributions
0				
1	$ 915,612	$ 6,165,508	$ 2,601,466	$ 9,682,586
2	863,685	5,931,827	2,516,407	9,311,919
3	794,060	5,627,990	2,062,574	8,484,624
4	734,206	5,302,713	1,949,385	7,986,304
5	675,492	5,030,847	2,001,197	7,707,536
6	619,833	4,741,246	2,055,043	7,416,122
7	526,303	4,479,168	2,120,104	7,125,575
8	492,009	4,139,044	2,189,007	6,820,060
9	458,978	3,843,972	2,260,150	6,563,101
10	381,063	3,579,393	2,333,605	6,294,061
11	346,553	3,342,521	2,409,447	6,098,521
12	301,149	3,104,179	2,487,754	5,893,082
13	274,955	2,887,773	2,568,606	5,731,335
14	228,810	2,680,384	2,652,086	5,561,280
15	215,849	2,463,612	228,101	2,907,562
16	182,094	2,255,958	235,514	2,673,566
17	154,259	2,131,147	243,168	2,528,575
18	138,113	1,987,624	251,071	2,376,809
19	133,082	1,851,128	259,231	2,243,441
20	101,726	1,732,515	40,420	1,874,661
21	87,300	1,579,055	-	1,666,355
22	73,729	1,418,794	-	1,492,523
23	69,609	1,291,858	-	1,361,467
24	1,633	1,223,846	-	1,225,479
25	-	1,086,135	-	1,086,135
26	-	941,288	-	941,288
27	-	790,101	-	790,101
28	-	633,408	-	633,408
29	-	533,426	-	533,426
30	-	429,610	-	429,610
31	-	342,727	-	342,727
32	-	252,545	-	252,545
33	-	199,066	-	199,066
34	-	143,673	-	143,673
35	-	110,084	-	110,084
36	-	75,253	-	75,253
37	-	57,760	-	57,760
38	-	39,661	-	39,661
39	-	20,144	-	20,144
40	-	-	-	-
41	-	-	-	-
42	-	-	-	-
43	-	-	-	-
44	-	-	-	-
45	-	-	-	-
46	-	-	-	-
47	-	-	-	-
48	-	-	-	-
49	-	-	-	-
50	-	-	-	-

Single Discount Rate Development
Projection of Plan Fiduciary Net Position

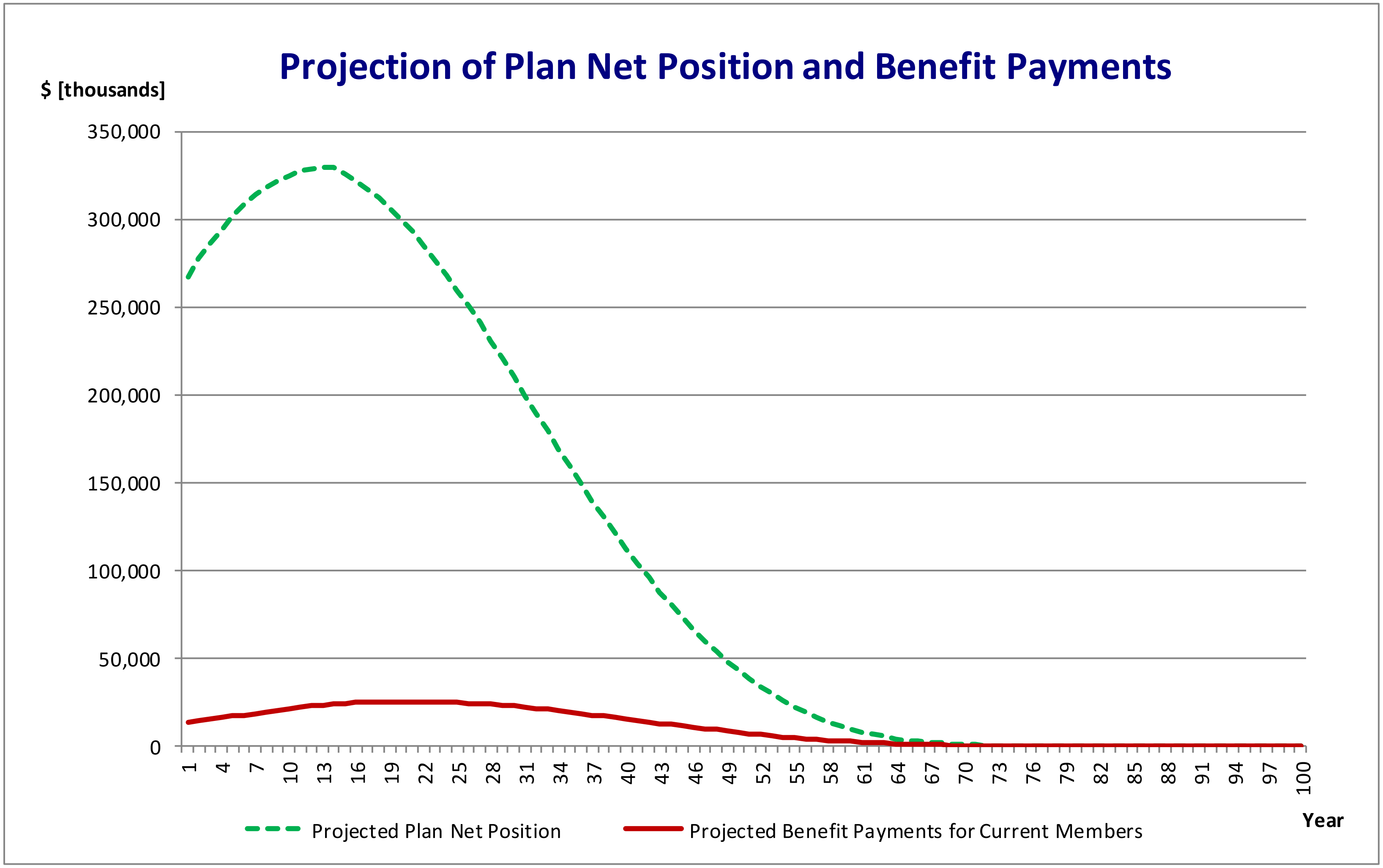
Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 5.75%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	$ 256,508,130	$ 9,682,586	$ 13,572,060	$ 161,719	$ 14,634,373	$ 267,091,310
2	267,091,310	9,311,919	14,271,366	155,669	15,212,746	277,188,941
3	277,188,941	8,484,624	15,181,129	147,883	15,744,338	286,088,891
4	286,088,891	7,986,304	16,023,310	139,876	16,218,311	294,130,320
5	294,130,320	7,707,536	16,904,220	132,614	16,648,025	301,449,046
6	301,449,046	7,416,122	17,781,395	125,008	17,035,940	307,994,705
7	307,994,705	7,125,575	18,733,276	117,082	17,377,319	313,647,241
8	313,647,241	6,820,060	19,663,638	108,737	17,667,542	318,362,468
9	318,362,468	6,563,101	20,574,979	101,399	17,905,756	322,154,947
10	322,154,947	6,294,061	21,417,827	93,739	18,092,521	325,029,962
11	325,029,962	6,098,521	22,099,993	87,693	18,233,124	327,173,922
12	327,173,922	5,893,082	22,800,187	81,360	18,330,908	328,516,365
13	328,516,365	5,731,335	23,393,278	75,780	18,386,859	329,165,500
14	329,165,500	5,561,280	23,922,917	69,944	18,404,514	329,138,434
15	329,138,434	2,907,562	24,375,340	64,655	18,315,054	325,921,055
16	325,921,055	2,673,566	24,785,921	59,101	18,111,940	321,861,539
17	321,861,539	2,528,575	25,008,930	55,469	17,868,189	317,193,904
18	317,193,904	2,376,809	25,163,493	51,669	17,591,224	311,946,774
19	311,946,774	2,243,441	25,239,626	48,314	17,283,670	306,185,945
20	306,185,945	1,874,661	25,272,377	44,757	16,941,140	299,684,612
21	299,684,612	1,666,355	25,316,804	40,783	16,560,262	292,553,642
22	292,553,642	1,492,523	25,287,823	36,670	16,146,241	284,867,914
23	284,867,914	1,361,467	25,134,526	33,449	15,705,034	276,766,439
24	276,766,439	1,225,479	24,922,548	30,109	15,241,448	268,280,708
25	268,280,708	1,086,135	24,676,810	26,732	14,756,630	259,419,931
26	259,419,931	941,288	24,381,801	23,221	14,251,492	250,207,689
27	250,207,689	790,101	24,089,298	19,569	13,725,897	240,614,820
28	240,614,820	633,408	23,751,881	15,783	13,179,538	230,660,102
29	230,660,102	533,426	23,249,438	13,296	12,618,621	220,549,415
30	220,549,415	429,610	22,712,021	10,712	12,049,622	210,305,914
31	210,305,914	342,727	22,118,760	8,579	11,475,036	199,996,338
32	199,996,338	252,545	21,507,577	6,366	10,897,067	189,632,007
33	189,632,007	199,066	20,799,865	5,028	10,319,703	179,345,883
34	179,345,883	143,673	20,084,656	3,641	9,746,994	169,148,255
35	169,148,255	110,084	19,315,007	2,800	9,181,520	159,122,052
36	159,122,052	75,253	18,546,611	1,928	8,625,834	149,274,599
37	149,274,599	57,760	17,740,540	1,484	8,081,973	139,672,307
38	139,672,307	39,661	16,942,223	1,026	7,551,972	130,320,691
39	130,320,691	20,144	16,162,620	521	7,035,815	121,213,510
40	121,213,510	-	15,393,582	-	6,533,397	112,353,324
41	112,353,324	-	14,579,075	-	6,047,026	103,821,275
42	103,821,275	-	13,776,039	-	5,579,198	95,624,433
43	95,624,433	-	12,984,401	-	5,130,321	87,770,352
44	87,770,352	-	12,204,767	-	4,700,812	80,266,397
45	80,266,397	-	11,438,140	-	4,291,067	73,119,325
46	73,119,325	-	10,685,551	-	3,901,445	66,335,219
47	66,335,219	-	9,947,823	-	3,532,272	59,919,669
48	59,919,669	-	9,225,646	-	3,183,851	53,877,873
49	53,877,873	-	8,520,351	-	2,856,441	48,213,964
50	48,213,964	-	7,834,104	-	2,550,220	42,930,080

Single Discount Rate Development
Present Values of Projected Benefits

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
1	$ 256,508,130	$ 13,572,060	$ 13,572,060	$ -	$ 13,197,923	$ -	$ 13,197,923
2	267,091,310	14,271,366	14,271,366	-	13,123,358	-	13,123,358
3	277,188,941	15,181,129	15,181,129	-	13,200,888	-	13,200,888
4	286,088,891	16,023,310	16,023,310	-	13,175,616	-	13,175,616
5	294,130,320	16,904,220	16,904,220	-	13,144,179	-	13,144,179
6	301,449,046	17,781,395	17,781,395	-	13,074,460	-	13,074,460
7	307,994,705	18,733,276	18,733,276	-	13,025,407	-	13,025,407
8	313,647,241	19,663,638	19,663,638	-	12,928,884	-	12,928,884
9	318,362,468	20,574,979	20,574,979	-	12,792,523	-	12,792,523
10	322,154,947	21,417,827	21,417,827	-	12,592,496	-	12,592,496
11	325,029,962	22,099,993	22,099,993	-	12,287,066	-	12,287,066
12	327,173,922	22,800,187	22,800,187	-	11,987,099	-	11,987,099
13	328,516,365	23,393,278	23,393,278	-	11,630,179	-	11,630,179
14	329,165,500	23,922,917	23,922,917	-	11,246,802	-	11,246,802
15	329,138,434	24,375,340	24,375,340	-	10,836,405	-	10,836,405
16	325,921,055	24,785,921	24,785,921	-	10,419,796	-	10,419,796
17	321,861,539	25,008,930	25,008,930	-	9,941,889	-	9,941,889
18	317,193,904	25,163,493	25,163,493	-	9,459,417	-	9,459,417
19	311,946,774	25,239,626	25,239,626	-	8,972,138	-	8,972,138
20	306,185,945	25,272,377	25,272,377	-	8,495,301	-	8,495,301
21	299,684,612	25,316,804	25,316,804	-	8,047,503	-	8,047,503
22	292,553,642	25,287,823	25,287,823	-	7,601,221	-	7,601,221
23	284,867,914	25,134,526	25,134,526	-	7,144,342	-	7,144,342
24	276,766,439	24,922,548	24,922,548	-	6,698,902	-	6,698,902
25	268,280,708	24,676,810	24,676,810	-	6,272,199	-	6,272,199
26	259,419,931	24,381,801	24,381,801	-	5,860,251	-	5,860,251
27	250,207,689	24,089,298	24,089,298	-	5,475,127	-	5,475,127
28	240,614,820	23,751,881	23,751,881	-	5,104,905	-	5,104,905
29	230,660,102	23,249,438	23,249,438	-	4,725,217	-	4,725,217
30	220,549,415	22,712,021	22,712,021	-	4,365,004	-	4,365,004
31	210,305,914	22,118,760	22,118,760	-	4,019,845	-	4,019,845
32	199,996,338	21,507,577	21,507,577	-	3,696,236	-	3,696,236
33	189,632,007	20,799,865	20,799,865	-	3,380,246	-	3,380,246
34	179,345,883	20,084,656	20,084,656	-	3,086,539	-	3,086,539
35	169,148,255	19,315,007	19,315,007	-	2,806,867	-	2,806,867
36	159,122,052	18,546,611	18,546,611	-	2,548,656	-	2,548,656
37	149,274,599	17,740,540	17,740,540	-	2,305,330	-	2,305,330
38	139,672,307	16,942,223	16,942,223	-	2,081,883	-	2,081,883
39	130,320,691	16,162,620	16,162,620	-	1,878,094	-	1,878,094
40	121,213,510	15,393,582	15,393,582	-	1,691,472	-	1,691,472
41	112,353,324	14,579,075	14,579,075	-	1,514,868	-	1,514,868
42	103,821,275	13,776,039	13,776,039	-	1,353,595	-	1,353,595
43	95,624,433	12,984,401	12,984,401	-	1,206,441	-	1,206,441
44	87,770,352	12,204,767	12,204,767	-	1,072,342	-	1,072,342
45	80,266,397	11,438,140	11,438,140	-	950,339	-	950,339
46	73,119,325	10,685,551	10,685,551	-	839,537	-	839,537
47	66,335,219	9,947,823	9,947,823	-	739,078	-	739,078
48	59,919,669	9,225,646	9,225,646	-	648,155	-	648,155
49	53,877,873	8,520,351	8,520,351	-	566,056	-	566,056
50	48,213,964	7,834,104	7,834,104	-	492,165	-	492,165

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	$ 42,930,080	$ 7,169,334	$ 7,169,334	$ -	$ 425,912	$ -	$ 425,912
52	38,025,988	6,528,339	6,528,339	-	366,744	-	366,744
53	33,499,077	5,913,354	5,913,354	-	314,133	-	314,133
54	29,344,287	5,326,762	5,326,762	-	267,586	-	267,586
55	25,553,817	4,771,140	4,771,140	-	226,643	-	226,643
56	22,116,768	4,248,886	4,248,886	-	190,860	-	190,860
57	19,019,147	3,761,621	3,761,621	-	159,784	-	159,784
58	16,244,492	3,309,812	3,309,812	-	132,948	-	132,948
59	13,774,911	2,893,080	2,893,080	-	109,890	-	109,890
60	11,591,875	2,510,953	2,510,953	-	90,190	-	90,190
61	9,676,274	2,163,026	2,163,026	-	73,468	-	73,468
62	8,008,315	1,848,858	1,848,858	-	59,383	-	59,383
63	6,567,524	1,567,652	1,567,652	-	47,613	-	47,613
64	5,333,064	1,317,964	1,317,964	-	37,853	-	37,853
65	4,284,390	1,097,752	1,097,752	-	29,814	-	29,814
66	3,401,871	904,867	904,867	-	23,239	-	23,239
67	2,666,960	737,341	737,341	-	17,907	-	17,907
68	2,062,067	593,276	593,276	-	13,625	-	13,625
69	1,570,542	470,794	470,794	-	10,224	-	10,224
70	1,176,707	367,950	367,950	-	7,556	-	7,556
71	865,987	282,735	282,735	-	5,491	-	5,491
72	625,031	213,217	213,217	-	3,915	-	3,915
73	441,709	157,556	157,556	-	2,736	-	2,736
74	305,084	113,867	113,867	-	1,870	-	1,870
75	205,532	80,282	80,282	-	1,247	-	1,247
76	134,792	55,091	55,091	-	809	-	809
77	85,890	36,722	36,722	-	510	-	510
78	53,066	23,717	23,717	-	311	-	311
79	31,728	14,797	14,797	-	184	-	184
80	18,335	8,893	8,893	-	104	-	104
81	10,244	5,144	5,144	-	57	-	57
82	5,543	2,870	2,870	-	30	-	30
83	2,911	1,544	1,544	-	15	-	15
84	1,491	811	811	-	8	-	8
85	743	418	418	-	4	-	4
86	356	215	215	-	2	-	2
87	155	107	107	-	1	-	1
88	54	45	45	-	-	-	-
89	11	12	11	-	-	-	-
90	-	-	-	-	-	-	-
91	-	-	-	-	-	-	-
92	-	-	-	-	-	-	-
93	-	-	-	-	-	-	-
94	-	-	-	-	-	-	-
95	-	-	-	-	-	-	-
96	-	-	-	-	-	-	-
97	-	-	-	-	-	-	-
98	-	-	-	-	-	-	-
99	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-
				Totals	**$ 336,326,904**	**$ -**	**$ 336,326,904**


Projection of Plan Net Position and Benefit Payments
$ [thousands]
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
1
4
7
10
13
16
19
22
25
28
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94
97
100
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Glossary of Terms

Amortization Method The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).

Amortization Payment The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.

Cost-of-Living Adjustments Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan) A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

Covered-Employee Payroll The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.

Deferred Retirement Option Program (DROP) A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.

Deferred Inflows and Outflows The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.

Discount Rate For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically:

1. The benefit payments to be made while the pension plan's fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and
2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contribution Entities	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

Glossary of Terms

Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
Total Pension Expense	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
Total Pension Liability (TPL)	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
Unfunded Actuarial Accrued Liability (UAAL)	The UAAL is the difference between actuarial accrued liability and valuation assets.
Valuation Assets	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.

GRS Retirement Consulting
800.521.0498 | P: 248.799.9000 | F: 248.799.9020 | www.grsconsulting.com

November 6, 2018

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

Dear Gail:

Please find enclosed fifteen copies of the June 30, 2018 GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pensions report of the Arkansas Judicial Retirement System.

Sincerely,

Mita Drazilov

Mita D. Drazilov, ASA, FCA, MAAA

MDD:bd
Enclosures

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723