

# Arkansas Public Employees Retirement System (Including District Judges)

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

June 30, 2023





October 31, 2023

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

Ladies and Gentlemen:

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

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

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

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

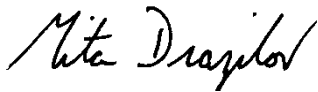
This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

Please see the actuarial valuation report as of June 30, 2023 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

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

Respectfully submitted,  
Gabriel, Roeder, Smith & Company



Mita D. Drazilov, ASA, FCA, MAAA



Heidi G. Barry, ASA, FCA, MAAA

MDD/HGB:dj

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## **SECTION A**

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### **EXECUTIVE SUMMARY**

# Executive Summary as of June 30, 2023

Actuarial Valuation Date June 30, 2023  
 Measurement Date of the Net Pension Liability and Pension Expense June 30, 2023

## Membership

Number of	
- Retirees and Beneficiaries	42,466
- Inactive, Nonretired Members	15,317
- Active Members	43,363
- Total	101,146
Covered Payroll	\$ 2,252,048,646

## Net Pension Liability

Total Pension Liability	\$ 13,209,490,955
Plan Fiduciary Net Position	10,295,304,391
Net Pension Liability	\$ 2,914,186,564
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	77.94%
Net Pension Liability as a Percentage of Covered Payroll	129.40%

## Development of the Single Discount Rate

Single Discount Rate	7.00%
Long-Term Expected Rate of Investment Return	7.00%
Long-Term Municipal Bond Rate*	3.86%
Last year ending June 30 in the 2023 to 2122 projection period for which projected benefit payments are fully funded	2122

**Total Pension Expense** \$ 510,126,695

## 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	\$ 164,499,768	\$ 16,009,308
Changes in assumptions	137,002,806	-
Net difference between projected and actual earnings on pension plan investments	1,279,734,907	917,023,264
<b>Total</b>	<b>\$ 1,581,237,481</b>	<b>\$ 933,032,572</b>

\* 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, 2023. 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, 2023.

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, 2023 and a measurement date of June 30, 2023.

## 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 7.00%; the municipal bond rate is 3.86% (based on the weekly rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 7.00%.

**SECTION B**

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**FINANCIAL STATEMENTS**

# Statement of Pension Expense under GASB Statement No. 68

## Fiscal Year Ended June 30, 2023

1. Service Cost	\$ 224,674,840
2. Interest on the Total Pension Liability	872,640,034
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(92,360,864)
5. Projected Earnings on Plan Investments (made negative for addition here)	(687,102,102)
6. Pension Plan Administrative Expense	10,465,349
7. Other Changes in Plan Fiduciary Net Position	(6,119,195)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	104,235,802
9. Recognition of Outflow (Inflow) of Resources due to Assets	<u>83,692,831</u>
<b>10. Total Pension Expense</b>	<b>\$ 510,126,695</b>

# Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2023

## A. Outflows (Inflows) of Resources Due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 170,265,906
2. Assumption Changes (gains) or losses	\$ 187,295,676
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	3.7241
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	\$ 45,720,015
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 50,292,870
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities: 4. + 5.	\$ 96,012,885
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.	\$ 124,545,891
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes: 2. - 5.	\$ 137,002,806
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities: 7. + 8.	\$ 261,548,697

## B. Outflows (Inflows) of Resources Due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (122,401,693)
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	\$ (24,480,339)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets: 1. - 3.	\$ (97,921,354)

# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2023

## 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	\$ 120,781,180	\$ 16,545,378	\$ 104,235,802
2. Due to Assets	517,724,126	434,031,295	83,692,831
<b>3. Total</b>	<b>\$ 638,505,306</b>	<b>\$ 450,576,673</b>	<b>\$ 187,928,633</b>

## 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	\$ 70,488,310	\$ 16,545,378	\$ 53,942,932
2. Assumption Changes	50,292,870	-	50,292,870
3. Net Difference between projected and actual earnings on pension plan investments	517,724,126	434,031,295	83,692,831
<b>4. Total</b>	<b>\$ 638,505,306</b>	<b>\$ 450,576,673</b>	<b>\$ 187,928,633</b>

## 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	\$ 164,499,768	\$ 16,009,308	\$ 148,490,460
2. Assumption Changes	137,002,806	-	137,002,806
3. Net Difference between projected and actual earnings on pension plan investments	1,279,734,907	917,023,264	362,711,643
<b>4. Total</b>	<b>\$ 1,581,237,481</b>	<b>\$ 933,032,572</b>	<b>\$ 648,204,909</b>

## 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
2024	\$ 154,568,958
2025	76,394,147
2026	441,722,141
2027	(24,480,337)
2028	-
Thereafter	-
<b>Total</b>	<b>\$ 648,204,909</b>

# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2023

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
<b>Deferred Outflow (Inflow) Due to Differences between Expected and Actual Experience on Liabilities</b>					
2019	\$ 60,093,169	4.1431	\$ 2,075,581	\$ -	0.0000
2020	2,007,866	4.0486	495,941	24,102	0.0486
2021	(65,645,442)	3.9676	(16,545,378)	(16,009,308)	0.9676
2022	84,323,321	3.7989	22,196,773	39,929,775	1.7989
2023	170,265,906	3.7241	45,720,015	124,545,891	2.7241
<b>Total</b>			<b>\$ 53,942,932</b>	<b>\$ 148,490,460</b>	
<b>Deferred Outflow (Inflow) Due to Assumption Changes</b>					
2019	\$ -	4.1431	\$ -	\$ -	0.0000
2020	-	4.0486	-	-	0.0486
2021	-	3.9676	-	-	0.9676
2022	-	3.7989	-	-	1.7989
2023	187,295,676	3.7241	50,292,870	137,002,806	2.7241
<b>Total</b>			<b>\$ 50,292,870</b>	<b>\$ 137,002,806</b>	
<b>Deferred Outflow (Inflow) Due to Differences between Projected and Actual Earnings on Plan Investments</b>					
2019	\$ 156,741,625	5.0000	\$ 31,348,325	\$ -	0.0000
2020	448,481,240	5.0000	89,696,248	89,696,248	1.0000
2021	(2,047,754,778)	5.0000	(409,550,956)	(819,101,910)	2.0000
2022	1,983,397,765	5.0000	396,679,553	1,190,038,659	3.0000
2023	(122,401,693)	5.0000	(24,480,339)	(97,921,354)	4.0000
<b>Total</b>			<b>\$ 83,692,831</b>	<b>\$ 362,711,643</b>	

# Statement of Fiduciary Net Position as of June 30, 2023

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	\$	-
<b>Total Assets</b>	\$	-

## Liabilities

Payables		
Accounts Payable - Purchase of Investments	\$	-
Accrued Expenses		-
Accounts Payable - Other		-
<b>Total Liabilities</b>	\$	-

<b>Net Position Restricted for Pensions</b>		<b>\$ 10,295,304,391</b>
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## Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2023

### Additions

Contributions	
Employer	\$ 339,554,854
Employee	92,360,864
Other	6,119,195
Total Contributions	\$ 438,034,913
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 872,853,136
Interest and Dividends	-
Less Investment Expense	(63,349,341)
Net Investment Income	\$ 809,503,795
Other	-
<b>Total Additions</b>	<b>\$ 1,247,538,708</b>

### Deductions

Benefit Payments, Including Refunds of Employee Contributions	\$ 675,607,600
Pension Plan Administrative Expense	10,465,349
Other	-
<b>Total Deductions</b>	<b>\$ 686,072,949</b>
<b>Net Increase in Net Position</b>	<b>\$ 561,465,759</b>

### Net Position Restricted for Pensions

Beginning of Year	\$ 9,733,838,632
<b>End of Year</b>	<b>\$ 10,295,304,391</b>



## SECTION C

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### 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, 2023

#### A. Total Pension Liability

1. Service cost	\$ 224,674,840
2. Interest on the Total Pension Liability	872,640,034
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	170,265,906
5. Changes of assumptions	187,295,676
6. Benefit payments, including refunds of employee contributions	<u>(675,607,600)</u>
7. Net change in Total Pension Liability	\$ 779,268,856
8. Total Pension Liability – Beginning	<u>12,430,222,099</u>
9. Total Pension Liability – Ending	<u><u>\$ 13,209,490,955</u></u>

#### B. Plan Fiduciary Net Position

1. Contributions – employer	\$ 339,554,854
2. Contributions – employee	92,360,864
3. Net investment income	809,503,795
4. Benefit payments, including refunds of employee contributions	(675,607,600)
5. Pension plan administrative expense	(10,465,349)
6. Other	<u>6,119,195</u>
7. Net change in Plan Fiduciary Net Position	\$ 561,465,759
8. Plan Fiduciary Net Position – Beginning	<u>9,733,838,632</u>
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 10,295,304,391</u></u>

#### C. Net Pension Liability

\$ 2,914,186,564

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

77.94%

#### E. Covered-employee payroll

\$ 2,252,048,646

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

129.40%



# Schedules of Required Supplementary Information

## Schedule of Changes in Net Pension Liability and Related Ratios (Multiyear)

Fiscal year ending June 30,	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Total Pension Liability</b>										
Service Cost	\$ 224,674,840	\$ 205,730,312	\$ 200,169,558	\$ 198,416,559	\$ 189,567,873	\$ 181,557,602	\$ 174,663,657	\$ 169,112,934	\$ 168,811,990	\$ 160,924,334
Interest on the Total Pension Liability	872,640,034	838,746,422	816,578,389	789,604,504	759,163,751	745,846,405	719,134,258	692,210,941	682,217,546	658,535,986
Benefit Changes	-	-	(5,405,298)	-	(62,984)	-	-	-	-	-
Difference between Expected and Actual Experience	170,265,906	84,323,321	(65,645,442)	2,007,866	60,093,169	(6,960,593)	62,849,281	2,912,566	(137,672,890)	(23,038,076)
Assumption Changes	187,295,676	-	-	-	-	(180,097,868)	416,146,405	-	192,273,597	214,798,742
Benefit Payments	(659,133,497)	(635,176,766)	(608,207,117)	(587,453,797)	(555,352,597)	(530,861,312)	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(16,474,103)	(17,687,189)	(15,799,268)	(15,836,412)	(16,239,928)	(13,734,331)	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
<b>Net Change in Total Pension Liability</b>	<b>\$ 779,268,856</b>	<b>\$ 475,936,100</b>	<b>\$ 321,690,822</b>	<b>\$ 386,738,720</b>	<b>\$ 437,169,284</b>	<b>\$ 195,749,903</b>	<b>\$ 850,831,048</b>	<b>\$ 370,130,510</b>	<b>\$ 441,519,056</b>	<b>\$ 587,216,994</b>
<b>Total Pension Liability - Beginning</b>	<b>\$ 12,430,222,099</b>	<b>\$ 11,954,285,999</b>	<b>\$ 11,632,595,177</b>	<b>\$ 11,245,856,457</b>	<b>\$ 10,808,687,173</b>	<b>\$ 10,612,937,270</b>	<b>\$ 9,762,106,222</b>	<b>\$ 9,391,975,712</b>	<b>\$ 8,950,456,656</b>	<b>\$ 8,363,239,662</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 13,209,490,955</b>	<b>\$ 12,430,222,099</b>	<b>\$ 11,954,285,999</b>	<b>\$ 11,632,595,177</b>	<b>\$ 11,245,856,457</b>	<b>\$ 10,808,687,173</b>	<b>\$ 10,612,937,270</b>	<b>\$ 9,762,106,222</b>	<b>\$ 9,391,975,712</b>	<b>\$ 8,950,456,656</b>
<b>Plan Fiduciary Net Position</b>										
Employer Contributions	\$ 339,554,854	\$ 320,231,614	\$ 305,922,769	\$ 298,919,954	\$ 292,951,695	\$ 276,282,425	\$ 261,334,560	\$ 264,216,252	\$ 263,332,831	\$ 264,050,160
Employee Contributions	92,360,864	80,317,012	74,358,836	70,923,737	67,221,706	63,430,545	57,711,427	55,000,117	50,750,458	47,215,843
Pension Plan Net Investment Income	809,503,795	(1,192,887,341)	2,665,823,683	174,561,773	450,493,099	782,326,766	862,824,701	(4,260,175)	168,929,698	1,207,897,156
Benefit Payments	(659,133,497)	(635,176,766)	(608,207,117)	(587,453,797)	(555,352,597)	(530,861,312)	(508,200,406)	(480,913,495)	(451,912,791)	(414,548,645)
Refunds	(16,474,103)	(17,687,189)	(15,799,268)	(15,836,412)	(16,239,928)	(13,734,331)	(13,762,147)	(13,192,436)	(12,198,396)	(9,455,347)
Pension Plan Administrative Expense	(10,465,349)	(11,794,785)	(11,644,328)	(11,681,604)	(14,739,700)	(11,497,216)	(9,495,869)	(6,929,103)	(6,949,282)	(6,854,975)
Other	6,119,195	5,382,381	5,988,441	6,249,379	6,241,253	8,008,465	7,626,374	6,594,649	6,745,403	8,302,355
<b>Net Change in Plan Fiduciary Net Position</b>	<b>\$ 561,465,759</b>	<b>\$ (1,451,615,074)</b>	<b>\$ 2,416,443,016</b>	<b>\$ (64,316,970)</b>	<b>\$ 230,575,528</b>	<b>\$ 573,955,342</b>	<b>\$ 658,038,640</b>	<b>\$ (179,484,191)</b>	<b>\$ 18,697,921</b>	<b>\$ 1,096,606,547</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 9,733,838,632</b>	<b>\$ 11,185,453,706</b>	<b>\$ 8,769,010,690</b>	<b>\$ 8,833,327,660</b>	<b>\$ 8,602,752,132</b>	<b>\$ 8,028,796,790</b>	<b>\$ 7,370,758,150</b>	<b>\$ 7,550,242,341</b>	<b>\$ 7,531,544,420</b>	<b>\$ 6,434,937,873</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 10,295,304,391</b>	<b>\$ 9,733,838,632</b>	<b>\$ 11,185,453,706</b>	<b>\$ 8,769,010,690</b>	<b>\$ 8,833,327,660</b>	<b>\$ 8,602,752,132</b>	<b>\$ 8,028,796,790</b>	<b>\$ 7,370,758,150</b>	<b>\$ 7,550,242,341</b>	<b>\$ 7,531,544,420</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 2,914,186,564</b>	<b>\$ 2,696,383,467</b>	<b>\$ 768,832,293</b>	<b>\$ 2,863,584,487</b>	<b>\$ 2,412,528,797</b>	<b>\$ 2,205,935,041</b>	<b>\$ 2,584,140,480</b>	<b>\$ 2,391,348,072</b>	<b>\$ 1,841,733,371</b>	<b>\$ 1,418,912,236</b>
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	77.94 %	78.31 %	93.57 %	75.38 %	78.55 %	79.59 %	75.65 %	75.50 %	80.39 %	84.15 %
<b>Covered-Employee Payroll</b>	\$ 2,252,048,646	\$ 2,054,188,304	\$ 1,907,642,349	\$ 1,929,343,374	\$ 1,936,042,263	\$ 1,849,202,619	\$ 1,788,074,570	\$ 1,795,174,463	\$ 1,757,056,813	\$ 1,748,350,136
<b>Net Pension Liability as a Percentage of Covered-Employee Payroll</b>	129.40 %	131.26 %	40.30 %	148.42 %	124.61 %	119.29 %	144.52 %	133.21 %	104.82 %	81.16 %
<b>Notes to Schedule:</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



## Schedules of Required Supplementary Information Schedule of the Net Pension Liability (Multiyear)

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	\$ 8,950,456,656	\$ 7,531,544,420	\$ 1,418,912,236	84.15%	\$1,748,350,136	81.16%
2015	9,391,975,712	7,550,242,341	1,841,733,371	80.39%	1,757,056,813	104.82%
2016	9,762,106,222	7,370,758,150	2,391,348,072	75.50%	1,795,174,463	133.21%
2017	10,612,937,270	8,028,796,790	2,584,140,480	75.65%	1,788,074,570	144.52%
2018	10,808,687,173	8,602,752,132	2,205,935,041	79.59%	1,849,202,619	119.29%
2019	11,245,856,457	8,833,327,660	2,412,528,797	78.55%	1,936,042,263	124.61%
2020	11,632,595,177	8,769,010,690	2,863,584,487	75.38%	1,929,343,374	148.42%
2021	11,954,285,999	11,185,453,706	768,832,293	93.57%	1,907,642,349	40.30%
2022	12,430,222,099	9,733,838,632	2,696,383,467	78.31%	2,054,188,304	131.26%
2023	13,209,490,955	10,295,304,391	2,914,186,564	77.94%	2,252,048,646	129.40%

## Schedule of Contributions (Multiyear) (\$ in Millions)

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution*	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2014	\$ 264.1	\$ 264.1	\$ -	\$ 1,748	15.11%
2015	263.3	263.3	-	1,757	14.98%
2016	264.2	264.2	-	1,795	14.72%
2017	261.3	261.3	-	1,788	14.61%
2018	276.3	276.3	-	1,849	14.94%
2019	293.0	293.0	-	1,936	15.13%
2020	298.9	298.9	-	1,929	15.49%
2021	305.9	305.9	-	1,908	16.04%
2022	320.2	320.2	-	2,054	15.59%
2023	339.6	339.6	-	2,252	15.08%

\* 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, 2020 (excluding District Judges)  
June 30, 2020 (District Judges)

**Methods and Assumptions used to Determine Fiscal Year 2023 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	23 years (6.6 years for District Judges New Plan/Paid Off Old Plan and 15 years for District Judges Still Paying Old Plan)
Asset Valuation Method	4-Year smoothed market; 25% corridor (Market Value for Still Paying Old Plan)
Inflation	3.25% wage inflation, 2.50% price inflation
Salary Increases	3.25% to 9.85% including inflation (3.25% to 6.96% including inflation for District Judges)
Investment Rate of Return	7.15%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	Based on the RP-2006 Healthy Annuitant benefit weighted generational mortality tables for males and females. Mortality rates are multiplied by 135% for males and 125% for females and are adjusted for fully generational mortality improvements using Scale MP-2017.
<b>Other Information:</b>	
Notes	None

## Schedule of Investment Returns (Multiyear)

To be provided by the System

<b>FY Ending June 30,</b>	<b>Annual Return<sup>1</sup></b>
2014	
2015	
2016	
2017	
2018	
2019	
2020	
2021	
2022	
2023	

<sup>1</sup> Annual money-weighted rate of return, net of investment expenses.

## **SECTION D**

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### **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 2023 to 2032 were based upon capital market assumptions provided by the 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, 2023, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	37%	6.19%
International Equity	24%	6.77%
Real Estate	16%	3.34%
Absolute Return	5%	3.36%
Domestic Fixed	18%	1.79%
Total	100%	
Total Real Rate of Return		4.94%
Plus: Price Inflation - Actuary's Assumption		2.50%
Less: Investment Expenses (Passive)		0.00%
Net Expected Return		7.44%

## Single Discount Rate

A single discount rate of 7.00% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.00%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 7.00%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

### Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	Current Single Discount		
	1% Decrease	Rate Assumption	1% Increase
	6.00%	7.00%	8.00%
Total Pension Liability	\$ 14,940,255,542	\$ 13,209,490,955	\$ 11,783,504,778
Plan Fiduciary Net Position	10,295,304,391	10,295,304,391	10,295,304,391
<b>Net Pension Liability</b>	<b>\$ 4,644,951,151</b>	<b>\$ 2,914,186,564</b>	<b>\$ 1,488,200,387</b>

# 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	42,466
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	15,317
Active Plan Members	<u>43,363</u>
<b>Total Plan Members</b>	<b>101,146</b>

**SECTION E**

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**SUMMARY OF BENEFITS**

# Summary of Provisions Evaluated (Excludes Special Provisions for General Assembly)

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 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 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.

### Final Average Compensation (FAC)

Average of highest 36 calendar months of covered compensation (60 months for members hired on or after July 1, 2022).

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.

For members first hired on or after July 1, 2022, the redetermined amount is the monthly benefit payable as of the preceding July 1 increased by the lesser of three percent (3%), or the percentage change in the Consumer Price Index for Urban Wage Earnings and Clerical Workers (CPI-W) over the one-year period ending in the December preceding the redetermination date.

### Member Contribution Rates

5% of covered compensation (pre-tax). Beginning July 1, 2022, the member contribution rate will increase in increments of 0.25% per year until it reaches that maximum 7%. 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 of 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 of 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 of 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 of 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 10 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 of Provisions Evaluated General Assembly Division

## **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

<b>Voluntary Retirement</b>	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.
<b>Final Average Compensation (FAC)</b>	Average of the final three calendar years of employment.
<b>Benefit Service</b>	Service performed on or after January 1, 2005.
<b>Eligibility Service</b>	Benefit service plus service in Old Local District Judges Plan.
<b>Full Age and Service Retirement Benefit</b>	2.50% of FAC times actual service.
<b>Benefit Increases after Retirement</b>	Annually, there will be a cost-of-living adjustment equal to 3% of the current benefit.
<b>Member Contribution Rates</b>	Active members contribute 5% of their salaries. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.
<b>Vested Retirement Benefits</b>	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.
<b>Total and Permanent Disability</b>	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.
<b>Death after Retirement</b>	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**

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### **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, 2017 through June 30, 2022 (please see our report dated May 10, 2023). The actuarial assumptions represent estimates of future experience.

## Economic Assumptions

**The investment return rate** used in making the valuation was 7.00% 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 7.00% investment return rate translates to an assumed net real rate of return of 3.75%. 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, 2023 valuation, including also the District Judges division.

**Pay increase assumptions** for individual active members are shown on pages 33 and 34. 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, 2023 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 **healthy retiree mortality tables**, for post-retirement mortality, used in evaluating allowances to be paid were 114% and 132% of the PubG-2010 Amount-Weighted Below-Median Income General Retiree Mortality tables males and females, respectively. The **disabled retiree mortality tables**, for post-retirement disabled mortality, used in evaluating allowances to be paid were 114% and 132% of the PubNS-2010 Amount-Weighted Disabled Retiree Mortality tables for males and females, respectively. The **pre-retirement mortality tables** used were 75% of the PubG-2010 Amount-Weighted Below-Median General Employee Mortality tables for active mortality experience. Mortality rates for a particular calendar year are determined by applying the MP-2021 mortality improvement scale to the above described tables. Related values are shown on pages 29 (post-retirement) and 33 (pre-retirement). These assumptions were first used for the June 30, 2023 valuation.

## Non-Economic Assumptions (Concluded)

**The probabilities of retirement** for members eligible to retire are shown on pages 30 through 32. These probabilities were first used for the June 30, 2023 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 and 34. These probabilities were first used for the June 30, 2023 valuation and for the District Judges division for the June 30, 2018 valuation.

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

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

For APERS, unfunded actuarial accrued liabilities are amortized to produce contribution amounts (principal and interest) which are level percent-of-payroll contributions. Beginning with the 2023 annual actuarial valuation, the amortization period will remain closed and the remaining UAAL will be amortized over a 17-year closed period. Changes in the UAAL due to the actuarial gains or losses for each annual actuarial valuation or from changes to the actuarial assumptions will be amortized over a new closed 20-year period on an annual basis. Changes in the UAAL due to changes in benefit provisions that would result in an increase in the employer contribution rate shall be amortized over a closed 15-year period for active members and a closed 5-year period for non-active members (i.e., retired members and deferred members). Changes in the UAAL due to changes in benefit provisions that would result in a decrease in the employer contribution rate shall be amortized over a closed 30-year period for active members and a closed 15-year period for non-active members (i.e., retired members and deferred members). The maximum amortization period to finance the total UAAL shall not exceed 30 years.

For the District Judges division, unfunded actuarial accrued liabilities are amortized as a level dollar contribution. Beginning with the 2023 annual actuarial valuation, the amortization period is a closed 4-year period for the New Plan and Paid-Off Old Plan and a closed 12-year period for the Still Paying Old Plan.

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

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

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

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



**Single Life Retirement Values  
Based on the PubG-2010  
Amount-Weighted Below-Median Income  
General Retiree Mortality Tables  
and 7.00% Interest  
June 30, 2023**

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) 2023 *	
	Men	Women	Men	Women	Men	Women
40	\$ 159.07	\$ 163.90	\$ 234.93	\$ 246.58	41.13	44.97
45	152.41	158.63	219.29	232.79	35.90	39.68
50	144.71	152.28	202.59	217.53	31.03	34.64
55	137.44	145.96	186.80	202.37	26.77	30.07
60	128.52	137.67	169.09	184.64	22.65	25.57
65	117.34	126.65	149.05	163.78	18.67	21.13
70	103.19	112.39	126.34	139.85	14.81	16.83
75	86.96	95.44	102.61	114.17	11.30	12.84
80	69.61	76.75	79.29	88.34	8.25	9.33
85	53.17	58.08	58.69	64.52	5.81	6.45

Sample Attained Ages	Benefit Increasing 3.0% Yearly	Portion of Age 60 Lives Still Alive *	
		Men	Women
60	\$100	100 %	100 %
65	116	93	96
70	134	85	89
75	155	73	80
80	180	56	67

\* Applicable to calendar year 2023. Life expectancies and rates in future years are determined by the fully generational MP-2021 projection scale.

## State and Local Government Division Age-Based Retirement June 30, 2023

Retirement Ages (with less than 28 years of service)	Percent of Eligible Active Members Retiring Within Next Year	
	Unreduced	Reduced
55		2.5 %
56		2.5
57		3.0
58		3.0
59		4.0
60		4.0
61		5.5
62		18.0
63		17.0
64		14.0
65	22.0 %	
66	25.0	
67	23.0	
68	18.0	
69	18.0	
70	18.0	
71	18.0	
72	18.0	
73	18.0	
74-84	20.0	
85 & Over	100.0	

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



**State and Local Government Division  
Service-Based Retirement  
June 30, 2023**

<b>Service</b>	<b>Percent of Eligible Active Members Retiring Within Next Year</b>
28	15 %
29	17
30	15
31	15
32	15
33	15
34	15
35	20
36	22
37	22
38	22
39	25
40	25
41	25
42 & Over	100

## District Judges Division Age-Based Retirement June 30, 2023

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, 2023

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+	12.5	12.5	0.03 %	0.01 %	0.01 %	0.01 %	7.75 %	3.25 %	11.00 %
25		12.5	12.5	0.04	0.01	0.04	0.04	6.10	3.25	9.35
30		11.0	11.0	0.06	0.02	0.07	0.07	3.98	3.25	7.23
35		7.8	7.8	0.08	0.03	0.09	0.09	2.82	3.25	6.07
40		5.5	5.5	0.10	0.04	0.13	0.13	2.20	3.25	5.45
45		4.3	4.3	0.12	0.05	0.17	0.17	1.70	3.25	4.95
50		3.4	3.4	0.15	0.07	0.34	0.34	1.29	3.25	4.54
55		2.4	2.4	0.23	0.12	0.60	0.60	1.06	3.25	4.31
60		1.5	1.5	0.36	0.18	0.85	0.85	0.70	3.25	3.95

\* Applicable to calendar year 2023. Rates in future years are determined by the above rates and the MP-2021 projection scale.

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



# District Judges

## Separations from Active Employment before Service Retirement June 30, 2023

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, 2023

### Miscellaneous and Technical Assumptions

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

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

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

**Other Liability Adjustments.** Active member non-refund normal costs and actuarial accrued liabilities were increased by 1.5% to reflect non-reported reciprocal service. Also, a 0.2% load to the normal cost and actuarial accrued liabilities is being used to account for survivor benefits payable if a retiree dies within the first year of retirement. Actuarial accrued liabilities were also increased by \$130 million to account for revisions to the data submitted and by \$82.0 million for pending refunds.

**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.** Members participating in the DROP are not allowed to participate in the DROP for more than 10 years.

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

# Summary of Assumptions Used

## June 30, 2023

### 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 contribute on the pays of DROP participants and retired members returned to work. For the June 30, 2023 valuation the reported payroll for these members was approximately \$138 million.

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

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

## **SECTION G**

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### **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 7.00%; the municipal bond rate is 3.86% and the resulting SDR is 7.00%.

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	\$ 2,176,106,944	\$ 97,566,817	\$ 164,498,443	\$ 8,704,428	\$ 202,663,331	\$ 473,433,019
2	2,001,456,722	93,955,650	147,376,258	8,005,827	217,124,100	466,461,835
3	1,882,732,777	92,822,003	134,447,811	7,530,931	186,267,665	421,068,411
4	1,787,279,359	92,670,410	123,374,198	7,149,117	187,384,516	410,578,242
5	1,704,575,226	92,954,579	113,390,640	6,818,301	240,581,244	453,744,764
6	1,627,407,195	93,320,114	103,966,398	6,509,629	243,609,140	447,405,281
7	1,552,607,794	93,546,871	94,909,729	6,210,431	249,578,607	444,245,638
8	1,480,092,183	90,345,788	89,480,644	5,920,369	257,673,145	443,419,946
9	1,409,144,332	87,166,701	84,162,126	5,636,577	266,030,756	442,996,160
10	1,339,025,112	83,984,287	78,930,219	5,356,100	274,659,989	442,930,595
11	1,270,697,237	80,744,410	73,917,053	5,082,789	283,569,672	443,313,924
12	1,205,380,786	77,437,940	69,257,643	4,821,523	292,768,919	444,286,025
13	1,142,023,157	74,084,536	64,847,942	4,568,093	302,267,143	445,767,714
14	1,079,906,943	70,708,340	60,615,945	4,319,628	312,074,058	447,717,971
15	1,019,166,952	67,341,390	56,540,323	4,076,668	322,199,699	450,158,080
16	959,674,405	63,980,304	52,611,625	3,838,698	332,138,528	452,569,156
17	901,521,817	60,624,847	48,847,112	3,606,087	342,933,030	456,011,076
18	844,826,838	57,262,923	45,255,904	3,379,307	354,078,354	459,976,488
19	789,008,386	53,850,925	41,810,787	3,156,034	365,585,900	464,403,646
20	733,722,097	50,384,166	38,481,069	2,934,888	85,931,371	177,731,494
21	679,288,794	46,892,038	35,274,396	2,717,155	88,724,141	173,607,730
22	625,467,538	43,368,387	32,170,266	2,501,870	91,607,675	169,648,198
23	572,190,108	39,828,229	29,151,162	2,288,760	-	71,268,151
24	519,852,976	36,309,051	26,234,004	2,079,412	-	64,622,467
25	468,736,098	32,794,896	23,455,144	1,874,944	-	58,124,985
26	418,524,752	29,284,631	20,784,559	1,674,099	-	51,743,289
27	368,263,262	25,768,243	18,139,514	1,473,053	-	45,380,810
28	317,948,926	22,247,511	15,563,899	1,271,796	-	39,083,206
29	270,739,892	18,944,250	13,214,735	1,082,960	-	33,241,946
30	229,505,574	16,058,946	11,167,806	918,022	-	28,144,774
31	193,508,796	13,540,041	9,373,067	774,035	-	23,687,142
32	161,550,015	11,303,749	7,783,174	646,200	-	19,733,123
33	133,034,612	9,308,409	6,365,113	532,138	-	16,205,660
34	107,523,877	7,523,301	5,100,107	430,096	-	13,053,504
35	84,612,395	5,920,163	3,976,371	338,450	-	10,234,984
36	64,576,186	4,518,242	3,007,832	258,305	-	7,784,379
37	48,070,817	3,363,296	2,213,443	192,283	-	5,769,022
38	34,791,238	2,434,208	1,576,888	139,165	-	4,150,261
39	24,114,772	1,687,253	1,069,797	96,459	-	2,853,509
40	15,541,036	1,087,322	668,273	62,164	-	1,817,759
41	8,293,871	580,202	326,310	33,175	-	939,687
42	2,501,569	174,944	88,792	10,006	-	273,742
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 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 10,295,304,391	\$ 473,433,019	\$ 948,914,578	\$ 8,704,428	\$ 704,011,415	\$ 10,515,129,818
2	10,515,129,818	466,461,835	749,132,573	8,005,827	726,057,475	10,950,510,729
3	10,950,510,729	421,068,411	781,082,015	7,530,931	753,889,263	11,336,855,457
4	11,336,855,457	410,578,242	806,052,400	7,149,117	779,726,403	11,713,958,585
5	11,713,958,585	453,744,764	832,469,254	6,818,301	806,711,328	12,135,127,122
6	12,135,127,122	447,405,281	868,648,886	6,509,629	834,740,747	12,542,114,634
7	12,542,114,634	444,245,638	897,141,217	6,210,431	862,151,085	12,945,159,709
8	12,945,159,709	443,419,946	927,625,408	5,920,369	889,296,909	13,344,330,786
9	13,344,330,786	442,996,160	959,583,786	5,636,577	916,134,442	13,738,241,025
10	13,738,241,025	442,930,595	991,065,965	5,356,100	942,632,313	14,127,381,869
11	14,127,381,869	443,313,924	1,017,889,277	5,082,789	968,971,828	14,516,695,555
12	14,516,695,555	444,286,025	1,045,690,294	4,821,523	995,309,646	14,905,779,409
13	14,905,779,409	445,767,714	1,078,356,264	4,568,093	1,021,481,245	15,290,104,011
14	15,290,104,011	447,717,971	1,110,317,101	4,319,628	1,047,359,911	15,670,545,165
15	15,670,545,165	450,158,080	1,142,615,663	4,076,668	1,072,971,781	16,046,982,694
16	16,046,982,694	452,569,156	1,171,140,835	3,838,698	1,098,432,061	16,423,004,377
17	16,423,004,377	456,011,076	1,198,722,044	3,606,087	1,123,930,997	16,800,618,320
18	16,800,618,320	459,976,488	1,223,512,750	3,379,307	1,149,655,218	17,183,357,970
19	17,183,357,970	464,403,646	1,248,579,661	3,156,034	1,175,744,503	17,571,770,424
20	17,571,770,424	177,731,494	1,272,453,191	2,934,888	1,192,255,714	17,666,369,554
21	17,666,369,554	173,607,730	1,294,504,332	2,717,155	1,197,984,518	17,740,740,315
22	17,740,740,315	169,648,198	1,317,183,589	2,501,870	1,202,281,290	17,792,984,343
23	17,792,984,343	71,268,151	1,339,570,698	2,288,760	1,201,790,343	17,724,183,380
24	17,724,183,380	64,622,467	1,360,975,403	2,079,412	1,196,016,320	17,621,767,352
25	17,621,767,352	58,124,985	1,382,547,045	1,874,944	1,187,888,430	17,483,358,778
26	17,483,358,778	51,743,289	1,402,039,037	1,674,099	1,177,316,477	17,308,705,408
27	17,308,705,408	45,380,810	1,421,049,101	1,473,053	1,164,224,640	17,095,788,703
28	17,095,788,703	39,083,206	1,438,068,189	1,271,796	1,148,525,113	16,844,057,037
29	16,844,057,037	33,241,946	1,453,402,468	1,082,960	1,130,181,785	16,552,995,340
30	16,552,995,340	28,144,774	1,465,459,228	918,022	1,109,222,909	16,223,985,773
31	16,223,985,773	23,687,142	1,471,445,735	774,035	1,085,837,831	15,861,290,976
32	15,861,290,976	19,733,123	1,475,320,823	646,200	1,060,184,209	15,465,241,284
33	15,465,241,284	16,205,660	1,473,516,994	532,138	1,032,405,349	15,039,803,161
34	15,039,803,161	13,053,504	1,468,244,277	430,096	1,002,701,155	14,586,883,448
35	14,586,883,448	10,234,984	1,457,981,332	338,450	971,256,077	14,110,054,727
36	14,110,054,727	7,784,379	1,443,160,122	258,305	938,306,472	13,612,727,151
37	13,612,727,151	5,769,022	1,420,851,241	192,283	904,194,074	13,101,646,723
38	13,101,646,723	4,150,261	1,398,361,016	139,165	869,138,418	12,576,435,222
39	12,576,435,222	2,853,509	1,369,984,483	96,459	833,306,845	12,042,514,634
40	12,042,514,634	1,817,759	1,342,736,694	62,164	796,835,489	11,498,369,023
41	11,498,369,023	939,687	1,312,858,580	33,175	759,744,128	10,946,161,083
42	10,946,161,083	273,742	1,274,066,349	10,006	722,402,220	10,394,760,691
43	10,394,760,691	-	1,224,230,365	-	685,509,877	9,856,040,202
44	9,856,040,202	-	1,187,748,353	-	649,054,717	9,317,346,567
45	9,317,346,567	-	1,149,262,264	-	612,670,394	8,780,754,697
46	8,780,754,697	-	1,109,042,260	-	576,492,855	8,248,205,292
47	8,248,205,292	-	1,066,789,780	-	540,668,221	7,722,083,733
48	7,722,083,733	-	1,022,720,148	-	505,356,062	7,204,719,647
49	7,204,719,647	-	977,482,678	-	470,697,109	6,697,934,077
50	6,697,934,077	-	931,342,089	-	436,809,726	6,203,401,714

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 <sup>((a)-.5)</sup>	(g)=(e)*vf <sup>((a)-.5)</sup>	(h)=(c)/(1+sdr) <sup>((a)-.5)</sup>
1	\$ 10,295,304,391	\$ 948,914,578	\$ 948,914,578	\$ -	\$ 917,350,348	\$ -	\$ 917,350,348
2	10,515,129,818	749,132,573	749,132,573	-	676,835,321	-	676,835,321
3	10,950,510,729	781,082,015	781,082,015	-	659,534,007	-	659,534,007
4	11,336,855,457	806,052,400	806,052,400	-	636,092,175	-	636,092,175
5	11,713,958,585	832,469,254	832,469,254	-	613,961,591	-	613,961,591
6	12,135,127,122	868,648,886	868,648,886	-	598,733,406	-	598,733,406
7	12,542,114,634	897,141,217	897,141,217	-	577,918,045	-	577,918,045
8	12,945,159,709	927,625,408	927,625,408	-	558,462,869	-	558,462,869
9	13,344,330,786	959,583,786	959,583,786	-	539,909,278	-	539,909,278
10	13,738,241,025	991,065,965	991,065,965	-	521,142,718	-	521,142,718
11	14,127,381,869	1,017,889,277	1,017,889,277	-	500,231,313	-	500,231,313
12	14,516,695,555	1,045,690,294	1,045,690,294	-	480,274,616	-	480,274,616
13	14,905,779,409	1,078,356,264	1,078,356,264	-	462,876,406	-	462,876,406
14	15,290,104,011	1,110,317,101	1,110,317,101	-	445,416,222	-	445,416,222
15	15,670,545,165	1,142,615,663	1,142,615,663	-	428,386,126	-	428,386,126
16	16,046,982,694	1,171,140,835	1,171,140,835	-	410,355,794	-	410,355,794
17	16,423,004,377	1,198,722,044	1,198,722,044	-	392,542,026	-	392,542,026
18	16,800,618,320	1,223,512,750	1,223,512,750	-	374,448,754	-	374,448,754
19	17,183,357,970	1,248,579,661	1,248,579,661	-	357,121,806	-	357,121,806
20	17,571,770,424	1,272,453,191	1,272,453,191	-	340,140,347	-	340,140,347
21	17,666,369,554	1,294,504,332	1,294,504,332	-	323,397,059	-	323,397,059
22	17,740,740,315	1,317,183,589	1,317,183,589	-	307,535,384	-	307,535,384
23	17,792,984,343	1,339,570,698	1,339,570,698	-	292,301,229	-	292,301,229
24	17,724,183,380	1,360,975,403	1,360,975,403	-	277,543,781	-	277,543,781
25	17,621,767,352	1,382,547,045	1,382,547,045	-	263,498,025	-	263,498,025
26	17,483,358,778	1,402,039,037	1,402,039,037	-	249,731,758	-	249,731,758
27	17,308,705,408	1,421,049,101	1,421,049,101	-	236,558,728	-	236,558,728
28	17,095,788,703	1,438,068,189	1,438,068,189	-	223,730,706	-	223,730,706
29	16,844,057,037	1,453,402,468	1,453,402,468	-	211,323,711	-	211,323,711
30	16,552,995,340	1,465,459,228	1,465,459,228	-	199,137,155	-	199,137,155
31	16,223,985,773	1,471,445,735	1,471,445,735	-	186,869,761	-	186,869,761
32	15,861,290,976	1,475,320,823	1,475,320,823	-	175,104,568	-	175,104,568
33	15,465,241,284	1,473,516,994	1,473,516,994	-	163,449,040	-	163,449,040
34	15,039,803,161	1,468,244,277	1,468,244,277	-	152,209,502	-	152,209,502
35	14,586,883,448	1,457,981,332	1,457,981,332	-	141,257,538	-	141,257,538
36	14,110,054,727	1,443,160,122	1,443,160,122	-	130,674,369	-	130,674,369
37	13,612,727,151	1,420,851,241	1,420,851,241	-	120,237,718	-	120,237,718
38	13,101,646,723	1,398,361,016	1,398,361,016	-	110,593,001	-	110,593,001
39	12,576,435,222	1,369,984,483	1,369,984,483	-	101,260,533	-	101,260,533
40	12,042,514,634	1,342,736,694	1,342,736,694	-	92,753,785	-	92,753,785
41	11,498,369,023	1,312,858,580	1,312,858,580	-	84,756,878	-	84,756,878
42	10,946,161,083	1,274,066,349	1,274,066,349	-	76,871,485	-	76,871,485
43	10,394,760,691	1,224,230,365	1,224,230,365	-	69,032,340	-	69,032,340
44	9,856,040,202	1,187,748,353	1,187,748,353	-	62,593,626	-	62,593,626
45	9,317,346,567	1,149,262,264	1,149,262,264	-	56,603,207	-	56,603,207
46	8,780,754,697	1,109,042,260	1,109,042,260	-	51,048,879	-	51,048,879
47	8,248,205,292	1,066,789,780	1,066,789,780	-	45,891,598	-	45,891,598
48	7,722,083,733	1,022,720,148	1,022,720,148	-	41,117,564	-	41,117,564
49	7,204,719,647	977,482,678	977,482,678	-	36,727,879	-	36,727,879
50	6,697,934,077	931,342,089	931,342,089	-	32,704,855	-	32,704,855



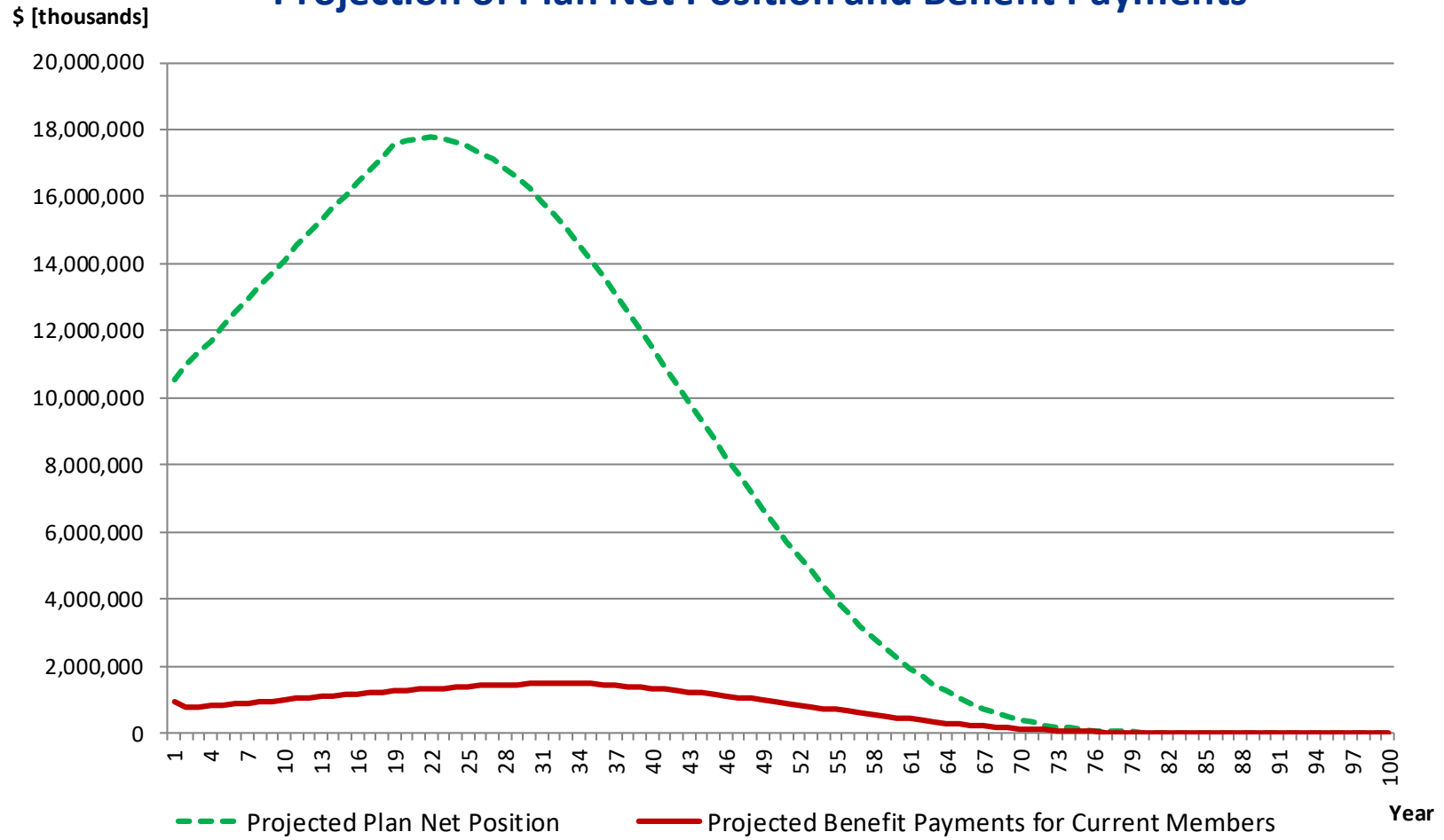
# Single Discount Rate Development

## 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 <sup>a</sup> ((a)-.5)	(g)=(e)*vf <sup>a</sup> ((a)-.5)	(h)=(c)/(1+sdr) <sup>a</sup> ((a)-.5)
51	\$ 6,203,401,714	\$ 884,496,172	\$ 884,496,172	\$ -	\$ 29,027,871	\$ -	\$ 29,027,871
52	5,722,709,879	837,157,870	837,157,870	-	25,676,913	-	25,676,913
53	5,257,336,737	789,510,742	789,510,742	-	22,631,311	-	22,631,311
54	4,808,674,047	741,750,926	741,750,926	-	19,871,287	-	19,871,287
55	4,378,008,106	694,080,849	694,080,849	-	17,377,775	-	17,377,775
56	3,966,505,861	646,709,209	646,709,209	-	15,132,455	-	15,132,455
57	3,575,200,065	599,848,324	599,848,324	-	13,117,710	-	13,117,710
58	3,204,976,138	553,711,553	553,711,553	-	11,316,610	-	11,316,610
59	2,856,560,783	508,511,312	508,511,312	-	9,712,916	-	9,712,916
60	2,530,511,848	464,457,506	464,457,506	-	8,291,082	-	8,291,082
61	2,227,209,097	421,754,448	421,754,448	-	7,036,248	-	7,036,248
62	1,946,847,541	380,596,922	380,596,922	-	5,934,210	-	5,934,210
63	1,689,434,351	341,169,232	341,169,232	-	4,971,458	-	4,971,458
64	1,454,786,559	303,643,969	303,643,969	-	4,135,183	-	4,135,183
65	1,242,529,854	268,178,627	268,178,627	-	3,413,269	-	3,413,269
66	1,052,100,815	234,913,878	234,913,878	-	2,794,288	-	2,794,288
67	882,751,067	203,968,728	203,968,728	-	2,267,474	-	2,267,474
68	733,556,748	175,437,265	175,437,265	-	1,822,707	-	1,822,707
69	603,432,002	149,387,415	149,387,415	-	1,450,525	-	1,450,525
70	491,144,699	125,854,073	125,854,073	-	1,142,075	-	1,142,075
71	395,340,362	104,834,520	104,834,520	-	889,095	-	889,095
72	314,572,518	86,287,782	86,287,782	-	683,926	-	683,926
73	247,335,818	70,134,131	70,134,131	-	519,524	-	519,524
74	192,102,017	56,257,964	56,257,964	-	389,472	-	389,472
75	147,355,467	44,512,285	44,512,285	-	287,997	-	287,997
76	111,626,485	34,723,202	34,723,202	-	209,964	-	209,964
77	83,522,379	26,696,975	26,696,975	-	150,870	-	150,870
78	61,753,380	20,227,792	20,227,792	-	106,833	-	106,833
79	45,152,326	15,105,029	15,105,029	-	74,558	-	74,558
80	32,688,226	11,121,721	11,121,721	-	51,305	-	51,305
81	23,472,004	8,081,967	8,081,967	-	34,844	-	34,844
82	16,754,993	5,805,831	5,805,831	-	23,393	-	23,393
83	11,922,245	4,133,065	4,133,065	-	15,564	-	15,564
84	8,481,526	2,925,329	2,925,329	-	10,295	-	10,295
85	6,049,249	2,066,878	2,066,878	-	6,798	-	6,798
86	4,334,701	1,464,099	1,464,099	-	4,500	-	4,500
87	3,123,655	1,043,870	1,043,870	-	2,999	-	2,999
88	2,262,523	751,138	751,138	-	2,017	-	2,017
89	1,643,916	545,888	545,888	-	1,370	-	1,370
90	1,194,320	400,055	400,055	-	938	-	938
91	864,103	294,651	294,651	-	646	-	646
92	619,801	217,077	217,077	-	445	-	445
93	438,641	159,118	159,118	-	305	-	305
94	304,752	115,438	115,438	-	207	-	207
95	206,675	82,499	82,499	-	138	-	138
96	135,804	57,846	57,846	-	90	-	90
97	85,474	39,663	39,663	-	58	-	58
98	50,429	26,520	26,520	-	36	-	36
99	26,526	17,252	17,252	-	22	-	22
100	10,538	10,901	10,901	-	13	-	13
<b>Totals</b>					<b>\$ 15,218,840,419</b>	<b>\$ -</b>	<b>\$ 15,218,840,419</b>



## Projection of Plan Net Position and Benefit Payments



## **SECTION H**

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### **GLOSSARY OF TERMS**

# Glossary of Terms

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

<b><i>Amortization Method</i></b>	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).
<b><i>Amortization Payment</i></b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b><i>Cost-of-Living Adjustments</i></b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b>	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.
<b><i>Covered-Employee Payroll</i></b>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<b><i>Deferred Inflows and Outflows</i></b>	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.
<b><i>Deferred Retirement Option Program (DROP)</i></b>	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.
<b><i>Discount Rate</i></b>	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"><li>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</li><li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li></ol>



## Glossary of Terms

<b><i>Entry Age Actuarial Cost Method (EAN)</i></b>	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<b><i>Fiduciary Net Position</i></b>	The fiduciary net position is the value of the assets of the trust.
<b><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b><i>Long-Term Expected Rate of Return</i></b>	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.
<b><i>Money-Weighted Rate of Return</i></b>	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.
<b><i>Multiple-Employer Defined Benefit Pension Plan</i></b>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b><i>Municipal Bond Rate</i></b>	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.
<b><i>Net Pension Liability (NPL)</i></b>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<b><i>Non-Employer Contribution Entities</i></b>	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.
<b><i>Normal Cost</i></b>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

# Glossary of Terms

<b><i>Other Postemployment Benefits (OPEB)</i></b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<b><i>Real Rate of Return</i></b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b><i>Service Cost</i></b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b><i>Total Pension Expense</i></b>	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"><li>1. Service Cost</li><li>2. Interest on the Total Pension Liability</li><li>3. Current-Period Benefit Changes</li><li>4. Employee Contributions (made negative for addition here)</li><li>5. Projected Earnings on Plan Investments (made negative for addition here)</li><li>6. Pension Plan Administrative Expense</li><li>7. Other Changes in Plan Fiduciary Net Position</li><li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li></ol>
<b><i>Total Pension Liability (TPL)</i></b>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b><i>Valuation Assets</i></b>	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.