

Arkansas State Police Retirement System

GASB Statement Nos. 67 and 68 Accounting and
Financial Reporting for Pensions
June 30, 2021





November 4, 2021

Board of Trustees
Arkansas State Police 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 Account 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 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 Arkansas State Police Retirement System only in its entirety and only with the permission of the Board of Trustees. 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.

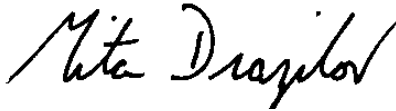
This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

Please see the actuarial valuation report as of June 30, 2021 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 American Academy of Actuaries to render the actuarial opinions herein. The signing individuals are independent of the plan sponsor.

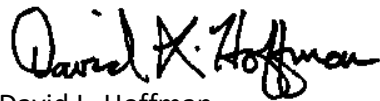
Respectfully submitted,



Mita D. Drazilov, ASA, FCA, MAAA



Heidi G. Barry, ASA, FCA, MAAA



David L. Hoffman

MDD/HGB/DLH:ah

C0309



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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of JUNE 30, 2021

Actuarial Valuation Date	June 30, 2021
Measurement Date of the Net Pension Liability	June 30, 2021
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2021

Membership

Number of	
- Retirees and Beneficiaries and DROP Members	745
- Inactive, Nonretired Members	108
- Active Members	488
- Total	1,341
Covered Payroll #	\$ 33,585,266

Net Pension Liability

Total Pension Liability	\$ 495,913,550
Plan Fiduciary Net Position	434,873,081
Net Pension Liability	\$ 61,040,469
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	87.69%
Net Pension Liability as a Percentage of Covered Payroll	181.75%

Development of the Single Discount Rate

Single Discount Rate	7.15%
Long-Term Expected Rate of Investment Return	7.15%
Long-Term Municipal Bond Rate*	1.92%
Last year ending June 30 in the 2022 to 2121 projection period for which projected benefit payments are fully funded	2121

Total Pension Expense \$ 12,907,589

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	\$ 4,255,131	\$ 2,811,070
Changes in assumptions	-	573,385
Net difference between projected and actual earnings on pension plan investments	12,754,450	63,429,057
Total	\$ 17,009,581	\$ 66,813,512

* 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, 2021. 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.

Including pay for DROP participants.



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 Arkansas State Police Retirement System (ASPRS) subsequent to the measurement date of June 30, 2021.

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;
- 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, 2021 and a measurement date of June 30, 2021.

Single Discount Rate

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.15%; the municipal bond rate is 1.92% (based on the weekly rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 7.15%.

SECTION B

FINANCIAL STATEMENTS

Statement of Pension Expense Under GASB Statement No. 68

Fiscal Year Ended JUNE 30, 2021

Total Pension Expense

1. Service Cost	\$ 6,536,818
2. Interest on the Total Pension Liability	33,332,676
3. Current-Period Benefit Changes	9,589,716
4. Employee Contributions (made negative for addition here)	-
5. Projected Earnings on Plan Investments (made negative for addition here)	(24,011,186)
6. Pension Plan Administrative Expense	215,384
7. Other Changes in Plan Fiduciary Net Position	-
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	1,815,629
9. Recognition of Outflow (Inflow) of Resources due to Assets	<u>(14,571,448)</u>
10. Total Pension Expense	\$ 12,907,589

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended JUNE 30, 2021

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (2,821,477)
2. Assumption Changes (gains) or losses	\$ -
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.5303
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	\$ (622,801)
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	<u>\$ (622,801)</u>
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	\$ (2,198,676)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	<u>\$ (2,198,676)</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$(77,404,020)
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	\$(15,480,804)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$(61,923,216)

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

Fiscal Year Ended JUNE 30, 2021

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	\$ 4,312,898	\$ 2,497,269	\$ 1,815,629
2. Due to Assets	4,654,841	19,226,289	(14,571,448)
3. Total	\$ 8,967,739	\$ 21,723,558	\$ (12,755,819)

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	\$ 1,775,951	\$ 1,508,332	\$ 267,619
2. Assumption Changes	2,536,947	988,937	1,548,010
3. Net Difference between projected and actual earnings on pension plan investments	4,654,841	19,226,289	(14,571,448)
4. Total	\$ 8,967,739	\$ 21,723,558	\$ (12,755,819)

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	\$ 4,255,131	\$ 2,811,070	\$ 1,444,061
2. Assumption Changes	-	573,385	(573,385)
3. Net Difference between projected and actual earnings on pension plan investments	12,754,450	63,429,057	(50,674,607)
4. Total	\$ 17,009,581	\$ 66,813,512	\$ (49,803,931)

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
2022	\$ (12,192,604)
2023	(9,989,577)
2024	(11,810,673)
2025	(15,811,077)
2026	-
Thereafter	-
Total	\$ (49,803,931)



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended JUNE 30, 2021

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					
2017	\$ (3,052,763)	4.7608	\$ (487,847)	\$ -	0.0000
2018	467,389	4.5798	102,054	59,173	0.5798
2019	(1,805,446)	4.5399	(397,684)	(612,394)	1.5399
2020	7,543,752	4.5067	1,673,897	4,195,958	2.5067
2021	(2,821,477)	4.5303	(622,801)	(2,198,676)	3.5303
Total			\$ 267,619	\$ 1,444,061	
Deferred Outflow (Inflow) due to Assumption Changes					
2017	\$ 15,875,267	4.7608	\$ 2,536,947	\$ -	0.0000
2018	(4,529,133)	4.5798	(988,937)	(573,385)	0.5798
2019	-	4.5399	-	-	1.5399
2020	-	4.5067	-	-	2.5067
2021	-	4.5303	-	-	3.5303
Total			\$ 1,548,010	\$ (573,385)	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2017	\$ (11,198,217)	5.0000	\$ (2,239,645)	\$ -	0.0000
2018	(7,529,201)	5.0000	(1,505,840)	(1,505,841)	1.0000
2019	6,050,370	5.0000	1,210,074	2,420,148	2.0000
2020	17,223,836	5.0000	3,444,767	10,334,302	3.0000
2021	(77,404,020)	5.0000	(15,480,804)	(61,923,216)	4.0000
Total			\$ (14,571,448)	\$ (50,674,607)	

Statement of Fiduciary Net Position as of JUNE 30, 2021

Any Additional Required Information to Be Provided by System

Assets

Cash and Deposits	\$	-
Receivables		
Contributions		-
Accounts Receivable - Other		-
Total Receivables		-
Investments		
Securities Lending Collateral	\$	-
Investment Assets		-
Other		-
Total Investments	\$	-
Total Assets	\$	-

Liabilities

Payables		
Accrued Expense and Other Liabilities	\$	-
Investment Principal Payable		-
Securities Lending Liability		-
Total Liabilities	\$	-

Net Position Restricted for Pensions		<u><u>\$ 434,873,081</u></u>
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Statement of Changes in Fiduciary Net Position for Year Ended JUNE 30, 2021

Additions

Contributions		
Employer	\$	22,783,661
Employee		-
Other		-
Total Contributions		\$ 22,783,661
Investment Income		
Net Appreciation in Fair Value of Investments	\$	103,055,211
Interest and Dividends		-
Less Investment Expense		(1,640,005)
Net Investment Income		\$ 101,415,206
Other	\$	-
Total Additions		\$ 124,198,867

Deductions

Benefit payments, including refunds of employee contributions	\$	27,294,080
Pension Plan Administrative Expense		215,384
Other		-
Total Deductions		\$ 27,509,464
Net Increase in Net Position		\$ 96,689,403

Net Position Restricted for Pensions

Beginning of Year		\$ 338,183,678
End of Year		\$ 434,873,081

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, 2021

A. Total pension liability	
1. Service Cost	\$ 6,536,818
2. Interest on the Total Pension Liability	33,332,676
3. Changes of benefit terms	9,589,716
4. Difference between expected and actual experience of the Total Pension Liability	(2,821,477)
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(27,294,080)
7. Net change in total pension liability	<u>\$ 19,343,653</u>
8. Total pension liability – beginning	<u>476,569,897</u>
9. Total pension liability – ending	<u><u>\$ 495,913,550</u></u>
B. Plan fiduciary net position	
1. Contributions – employer	\$ 22,783,661
2. Contributions – employee	-
3. Net investment income	101,415,206
4. Benefit payments, including refunds of employee contributions	(27,294,080)
5. Pension Plan Administrative Expense	(215,384)
6. Other	-
7. Net change in plan fiduciary net position	<u>\$ 96,689,403</u>
8. Plan fiduciary net position – beginning	<u>338,183,678</u>
9. Plan fiduciary net position – ending	<u><u>\$ 434,873,081</u></u>
C. Net pension liability	<u><u>\$ 61,040,469</u></u>
D. Plan fiduciary net position as a percentage of the total pension liability	87.69%
E. Covered-employee payroll #	\$ 33,585,266
F. Net pension liability as a percentage of covered-employee payroll	181.75%

Includes pay for DROP participants.

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Fiscal year ending June 30,	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability								
Service Cost	\$ 6,536,818	\$ 5,861,499	\$ 6,691,528	\$ 6,577,148	\$ 5,473,626	\$ 5,488,445	\$ 6,101,608	\$ 4,866,199
Interest on the Total Pension Liability	33,332,676	31,967,469	31,299,758	30,678,211	30,322,786	29,469,678	29,218,802	28,558,511
Benefit Changes	9,589,716	997,533	-	-	-	-	-	-
Difference between Expected and Actual Experience	(2,821,477)	7,543,752	(1,805,446)	467,389	(3,052,763)	1,757,687	(3,107,531)	(454,349)
Assumption Changes	-	-	-	(4,529,133)	15,875,267	-	8,703,080	8,970,858
Benefit Payments	(27,294,080)	(27,934,141)	(24,930,275)	(24,185,418)	(24,631,787)	(26,035,466)	(23,358,801)	(21,688,239)
Refunds	-	-	-	-	-	-	-	-
Net Change in Total Pension Liability	19,343,653	18,436,112	11,255,565	9,008,197	23,987,129	10,680,344	17,557,158	20,252,980
Total Pension Liability - Beginning	476,569,897	458,133,785	446,878,220	437,870,023	413,882,894	403,202,550	385,645,392	365,392,412
Total Pension Liability - Ending (a)	\$ 495,913,550	\$ 476,569,897	\$ 458,133,785	\$ 446,878,220	\$ 437,870,023	\$ 413,882,894	\$ 403,202,550	\$ 385,645,392
Plan Fiduciary Net Position								
Employer Contributions	\$ 22,783,661	\$ 21,873,425	\$ 21,254,010	\$ 21,003,650	\$ 19,961,066	\$ 19,713,295	\$ 19,784,130	\$ 19,501,684
Employee Contributions	-	-	-	-	-	-	94,814	-
Pension Plan Net Investment Income	101,415,206	6,700,845	17,031,467	28,823,332	31,484,250	(210,045)	6,131,684	43,307,746
Benefit Payments	(27,294,080)	(27,934,141)	(24,930,275)	(24,185,418)	(24,631,787)	(26,035,466)	(23,358,801)	(21,688,239)
Refunds	-	-	-	-	-	-	-	-
Pension Plan Administrative Expense	(215,384)	(195,463)	(554,441)	(228,430)	(208,424)	(205,342)	(196,231)	(189,658)
Other	-	-	-	-	-	-	6	-
Net Change in Plan Fiduciary Net Position	96,689,403	444,666	12,800,761	25,413,134	26,605,105	(6,737,558)	2,455,602	40,931,533
Plan Fiduciary Net Position - Beginning	338,183,678	337,739,012	324,938,251	299,525,117	272,920,012	279,657,570	277,201,968	236,270,435
Plan Fiduciary Net Position - Ending (b)	\$ 434,873,081	\$ 338,183,678	\$ 337,739,012	\$ 324,938,251	\$ 299,525,117	\$ 272,920,012	\$ 279,657,570	\$ 277,201,968
Net Pension Liability - Ending (a) - (b)	61,040,469	138,386,219	120,394,773	121,939,969	138,344,906	140,962,882	123,544,980	108,443,424
Plan Fiduciary Net Position as a Percentage	87.69 %	70.96 %	73.72 %	72.71 %	68.41 %	65.94 %	69.36 %	71.88 %
Covered-Employee Payroll #	\$ 33,585,266	\$ 33,311,093	\$ 30,287,691	\$ 29,593,145	\$ 29,076,764	\$ 29,448,593	\$ 29,929,358	\$ 28,548,873
Net Pension Liability as a Percentage of Covered-Employee Payroll	181.75 %	415.44 %	397.50 %	412.05 %	475.79 %	478.67 %	412.79 %	379.85 %

Notes to Schedule:

N/A N/A N/A N/A N/A N/A N/A N/A

In 2017 and thereafter, actual DROP participant pays were used. In 2016, \$67,241 was used as an estimate of average annual pay for DROP participants. In 2015, \$75,000 was used as an estimate of average annual pay for DROP participants.



Schedules of Required Supplementary Information

Schedule of the Net Pension Liability Multiyear

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	\$385,645,392	\$277,201,968	\$ 108,443,424	71.88%	\$28,548,873	379.85%
2015	403,202,550	279,657,570	123,544,980	69.36%	29,929,358	412.79%
2016	413,882,894	272,920,012	140,962,882	65.94%	29,448,593	478.67%
2017	437,870,023	299,525,117	138,344,906	68.41%	29,076,764	475.79%
2018	446,878,220	324,938,251	121,939,969	72.71%	29,593,145	412.05%
2019	458,133,785	337,739,012	120,394,773	73.72%	30,287,691	397.50%
2020	476,569,897	338,183,678	138,386,219	70.96%	33,311,093	415.44%
2021	495,913,550	434,873,081	61,040,469	87.69%	33,585,266	181.75%

[#] In 2017 and thereafter, actual DROP participant pays were used. In 2016, \$67,241 was used as an estimate of average annual pay for DROP participants. In 2015, \$75,000 was used as an estimate of average annual pay for DROP participants.

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
2012	\$ 14.1	\$ 19.7	\$ (5.6)	\$ 29.5	66.78%
2013	13.6	19.5	(5.9)	28.1	69.40%
2014	14.0	19.5	(5.5)	29.1	67.01%
2015	14.2	19.8	(5.6)	29.9	66.22%
2016	14.3	19.7	(5.4)	29.4	67.01%
2017	14.1	20.0	(5.9)	29.1	68.73%
2018	15.2	21.0	(5.8)	30.0	70.00%
2019	15.6	21.3	(5.7)	30.3	70.30%
2020	16.9	21.9	(5.0)	33.3	65.77%
2021	16.7	22.8	(6.1)	33.6	67.86%

[#] In 2017 and thereafter, actual DROP participant pays were used. In 2016, \$67,241 was used as an estimate of average annual pay for DROP participants. In 2015, \$75,000 was used as an estimate of average annual pay for DROP participants.

Notes to Schedule of Contributions

Valuation Date: June 30, 2020

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year Ending June 30, 2021:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	19 years
Asset Valuation Method	4-Year smoothed market
Inflation	2.50% price inflation
Salary Increases	3.55% to 7.75% including inflation
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 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 future mortality improvements using Scale MP-2017.
Other Information:	
Notes	None

Schedule of Investment Returns Multiyear

To Be Provided by System

Last 10 Fiscal Years

FY Ending June 30,	Annual Return¹
2012	
2013	
2014	
2015	
2016	
2017	
2018	
2019	
2020	
2021	

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

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the current asset allocation percentage and by adding expected price inflation. Best estimates of arithmetic real rates of return for the 10-year period from 2020 to 2029 were based upon capital market assumptions provided by 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, 2021, these best estimates are summarized in the following table:

Asset Allocation

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

Single Discount Rate

A Single Discount Rate of 7.15% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.15%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.15%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 6.15%	Current Single Discount Rate 7.15%	1% Increase 8.15%
Total Pension Liability (TPL)	\$ 556,694,088	\$ 495,913,550	\$ 447,337,153
Net Position Restricted for Pensions	<u>434,873,081</u>	<u>434,873,081</u>	<u>434,873,081</u>
Net Pension Liability (NPL)	\$ 121,821,007	\$ 61,040,469	\$ 12,464,072

Disclosure Regarding the Deferred Retirement Option Program

To Be Provided by System



Summary of Population Statistics as of June 30, 2021

Inactive Plan Members or Beneficiaries Currently Receiving Benefits (Including DROP participants)	745
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	108
Active Plan Members	<u>488</u>
Total Plan Members	1,341

SECTION E

SUMMARY OF BENEFITS

Summary of Non-Contributory Benefit Provisions (Last Changed as of 7-1-2021)

The Non-Contributory Plan was created by Act 793 of 1977 and was effective January 1, 1978. All non-retired members are now covered by non-contributory benefits. Act 1071 of 1997 created a Tier Two benefit plan for all officers hired on or after April 3, 1997. Existing members of the plan in effect prior to this date (Tier One) had one year to elect coverage under Tier Two.

Voluntary Retirement

With a full benefit, after 28 years of actual service (credited service for Tier Two), regardless of age, or at age 65 with 5 actual years of service (credited service for Tier Two). The age requirement is reduced by 1 month for every 2 months of Public Safety service credit, but not below age 52 for Tier One or age 55 for Tier Two members.

Public Safety service credit is granted at the rate of 1.5 months of credit for each month of actual Public Safety employment for Tier One. Service is credited at a rate of one for one in Tier Two.

With a reduced benefit, once a member's age is within 10 years of becoming eligible for full benefits. The reduction for Tier One is equal to 1/2 of 1% for each month retirement precedes Normal Retirement Age. The reduction for Tier Two is equal to 3/4 of 1% for each month retirement precedes Normal Retirement Age.

Final Average Pay (FAP)

Average of the highest 60 calendar months' pays for Tier One or 48 calendar months for Tier Two.

Full Age & Service Retirement Benefit

Tier One: 1.66% of FAP times years and months of credited service. Tier Two: 2.65% of FAP times credited service. If retirement is prior to age 62, an additional .322% of FAP times credited service will be paid until the retiree attains age 62 for Tier One or .513% of FAP times credited service for Tier Two.

Public Safety service credit is granted at the rate of 1.5 months of credit for each month of actual Public Safety employment for Tier One. Service is credited at a rate of one for one in Tier Two.

For Tier One, the portion of the SPRS benefit based on service before 1978 cannot be less than the amount provided by contributory provisions in effect at time of retirement; and if there is credited service for time prior to July 1, 1991, the benefit cannot be less than under the provisions in effect July 1, 1990, (using Social Security offset), plus increases granted since that date.

For Tier One, the minimum monthly benefit is \$150 minus any age and beneficiary option reductions.

Vested and Reduced Early Retirement Benefits

5 years of actual service, and leaving System-covered employment before full retirement age.

Deferred full retirement benefit, based on service and pay at termination, begins when full retirement age would have been reached by continuing covered employment.

In place of a deferred full benefit, a qualifying member may elect an immediate reduced benefit, provided the member is within 10 years of full retirement age. The reduced amount is the full amount reduced by 1/2 of 1% for Tier One and/or 3/4 of 1% for Tier Two for each month of difference in benefit commencement ages.

Death While in System Covered Employment

Member's accumulated contributions before 1978 are refundable.

If the deceased member has 5 or more years of service and has qualifying dependents, monthly benefits are payable instead. A surviving spouse receives a benefit as if the member had retired and elected the joint & 75% survivor option. Payment begins immediately if the member was eligible for a full age and service benefit or had 20 years of service; or payment begins at the spouse's age 50 if the member had 15 or more years of service; or payment begins at the spouse's age 62 if the member had less than 15 years of service.

If a member is killed while in the official line of duty and the surviving spouse is eligible for a deferred benefit, then the surviving spouse may elect to receive a reduced benefit immediately. The reduction of the benefit shall be 1/2 of 1% per month for each of the first 60 months that the benefit commences before when it would have otherwise commenced, plus; 1/4 of 1% per month for each month more than 60 months that the benefit commences before when it would have otherwise commenced. However, the total reduction shall not be more than 50%.

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

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

Total and Permanent Disability

Tier One eligibility: Disabled after 5 years of service.

Tier Two eligibility: Disabled after 5 years of service.

Amount is computed as an age and service benefit, based on service and pay to the time of disability.

Death After Retirement

Retiring member can provide protection for a beneficiary by electing an option which provides beneficiary protection by reducing the retired employee's benefit amount.

Under Tier One, if a straight life annuity is paid, upon the retiree's death, 50% of the retiree's benefit is continued to a surviving spouse. If the deceased retiree leaves children under age 18, 75% of the retiree's benefit is continued to the surviving spouse. If there is no surviving spouse, the 75% will be divided among the children under age 18.

Under Tier Two, if a straight life annuity is elected, no survivor benefit is payable.

Benefit Increases After Retirement

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

Member Contributions

None.

**Arkansas State Police Officers Deferred Retirement Option Plan – Tier I
(Act 967 of 1995)**

Tier One members with 28 years of credited service and who are eligible to receive a service retirement pension may participate.

Participating members may continue in employment for up to 7 years and have their accrued monthly benefit (at date of participation) credited to an individual account in the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The Deferred Retirement Option Plan accounts accumulate with interest and are paid to the member at termination of active membership in either a lump sum or as an annuity of equivalent value. Interest is credited annually at a rate established by the Board of Trustees.

**Arkansas State Police Officers Deferred Retirement Option Plan – Tier II
(Act 1242 of 2009)**

Tier Two members with at least 28 years of credited service and who are eligible to receive a service retirement pension may participate.

Participating members may continue in employment for up to 7 years and have seventy-two percent (72%) of their accrued monthly benefit (at date of participation) credited to an individual account in the Deferred Retirement Option Plan in lieu of any further benefit accruals.

The Deferred Retirement Option Plan accounts accumulate with interest and are paid to the member at termination of active membership in either a lump sum or as an annuity of equivalent value. Interest is credited annually to participant accounts at a rate established by the Arkansas State Police Retirement System Board of Trustees that shall not be greater than five percent (5%) nor less than one percent (1%) per annum.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Actuarial Assumptions Used for State Police Actuarial Valuations Assumptions Adopted by Board of Trustees after Consulting with Actuary

In accordance with Section 24-6-204 of the Arkansas Code, the Board of Trustees adopts the actuarial assumptions used for actuarial valuation purposes.

The actuarial assumptions used in the valuation are shown in this section. Assumptions were established based upon an Experience Study covering the period July 1, 2012 through June 30, 2017 (please see our report dated August 9, 2018). The rates of retirement were updated due to the adoption of Act 415 in 2021. The actuarial assumptions represent estimates of future experience.

Economic Assumptions

The investment return rate used in making the valuation was 7.15% per year, compounded annually (net after administrative and investment expenses). The assumed real rate of return is the portion of investment return which is more than the wage inflation rate. Considering assumed wage inflation of 3.25%, the 7.15% investment return rate translates to an effective assumed real rate of return of 3.90%. The wage inflation assumption was revised for the June 30, 2015 valuation and the investment assumption was revised for the June 30, 2017 valuation.

Pay increase assumptions for individual active members are shown on page 29. 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 2.5% for price inflation and 0.75% for real wage growth. The pay increase assumption for individual active members was revised for the June 30, 2018 valuation.

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

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

Non-Economic Assumptions

The mortality tables used to measure retired life mortality were the RP-2006 Healthy Annuitant benefit weighted generational mortality tables for males and females. The disability post-retirement mortality tables used were the RP-2006 Disabled Retiree benefit weighted generational mortality tables for males and females. The death-in-service mortality tables used were the RP-2006 Employee benefit weighted generational mortality tables for males and females. Mortality rates are multiplied by 135% for males and 125% for females and are adjusted for fully generational mortality improvements using Scale MP-2017. This assumption was first used for the June 30, 2018 valuation.

The probabilities of retirement for members eligible to retire are shown on page 28. The assumption was revised for the June 30, 2021 valuation.

The probabilities of death-in-service, disability and withdrawal from service are shown for sample ages on page 29. The assumption for death-in-service was revised 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.

Unfunded actuarial accrued liabilities are amortized to produce contribution amounts (principal & interest) which are level percent-of-payroll contributions.

Present assets (cash & investments) were valued on a market related basis in which differences between actual and assumed returns are phased-in over a four-year period.

The 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).

Single Life Retirement Values Based on the RP-2006 Healthy Annuitant Generational Mortality Tables and 7.15% Interest

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) 2021 *	
	Men	Women	Men	Women	Men	Women
40	\$ 156.14	\$ 159.98	\$ 229.59	\$ 239.26	41.16	44.84
45	151.04	156.00	216.64	227.89	36.25	39.87
50	144.59	150.65	201.76	214.31	31.49	34.94
55	136.61	143.54	184.97	198.27	26.91	30.10
60	126.83	134.60	166.21	180.05	22.54	25.44
65	115.12	123.73	145.72	159.88	18.43	21.03
70	101.32	110.49	123.69	137.63	14.61	16.87
75	85.44	94.80	100.50	113.70	11.12	13.01
80	68.16	77.27	77.31	89.24	8.05	9.57
85	51.04	59.38	55.98	66.20	5.52	6.70

* Applicable to calendar year 2021. Life expectancies and rates in future years are determined by the fully generational MP-2017 projection scale.

Sample Attained Ages	\$100 Benefit Increasing 3% Yearly
55	\$100.00
60	115.93
65	134.39
70	155.79
75	180.60
80	209.36

Probabilities of Retirement for Members Eligible to Retire

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year		Years of Service	Percent of Eligible Active Members Retiring Within Next Year
	Tier One	Tier Two		Tier Two
47	1%	-		
48	1%	-	28	20%
49	1%	-	29	10%
50	8%	1%	30	10%
51	8%	1%	31	10%
52	8%	1%	32	10%
53	8%	6%	33	20%
54	8%	6%	34	35%
55	10%	25%	35	40%
56	10%	20%	36 & Over	100%
57	10%	18%		
58	25%	18%		
59	40%	20%		
60	50%	25%		
61	60%	30%		
62	80%	100%		
63	80%	100%		
64	100%	100%		
65	100%	100%		

A member is assumed to be eligible to retire at age 52 (55 for Tier Two) with 17 years of service, or at age 50 with 28 years of service (Tier One), or at any age with 28 years of service (Tier Two). A member is assumed to be eligible to retire early at age 47 (50 for Tier 2) with 17 years of service. For a Tier 2 member with 28 or more years of service at the beginning of a year, the percentages shown for service based retirement (28 or more years) take precedence over the percentages associated with age based retirement.

For purposes of modeling, Tier Two members who are eligible to retire under the service based condition are assumed to have one year of credited service in addition to the credited service that is reported for valuation purposes.

It was assumed that members eligible to enter the DROP will do so to maximize the value of their benefits.

Separations from Active Employment before Age and Service Retirement & Individual Pay Increases

Sample Ages	Percent of Active Members Separating Within the Next Year				Pay Increase Assumptions for Active Members		
	Death		Disability	Other	Merit & Seniority	Base (Economic)	Increase Next Year
	Male	Female					
20	0.05%	0.02%	0.06%	5.50%	4.50%	3.25%	7.75%
25	0.07%	0.02%	0.09%	5.50%	3.90%	3.25%	7.15%
30	0.07%	0.03%	0.19%	5.50%	2.90%	3.25%	6.15%
35	0.08%	0.04%	0.31%	4.18%	1.90%	3.25%	5.15%
40	0.09%	0.06%	0.43%	2.64%	1.38%	3.25%	4.63%
45	0.13%	0.08%	0.55%	1.43%	1.10%	3.25%	4.35%
50	0.22%	0.13%	0.67%	0.55%	0.80%	3.25%	4.05%
55	0.37%	0.22%	0.79%	0.00%	0.60%	3.25%	3.85%

Probabilities of death are for calendar year 2021.

Miscellaneous and Technical Assumptions

June 30, 2021

Marriage Assumption:	95% of males and 95% of females are assumed to be married for purposes of death-in-service benefits. 90% of males and 90% of females are assumed to be married for purposes of death-after-retirement benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Pay Increase Timing:	Beginning of 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 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.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and withdrawal decrements do not operate during the period a member is assumed to be eligible for an unreduced benefit.
DROP Participants:	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.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year.
Service Load:	Actuarial accrued liabilities were also increased by \$2 million to account for revisions to the data submitted.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Tier One DROP Interest Credit:	Interest is assumed to be credited at 3.25%.
Tier Two DROP Interest Credit:	Interest is assumed to be credited at 3.25%.
Administrative Expenses:	The normal cost was increased by 0.70% of payroll to fund administrative expenses.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The *Single Discount Rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects: (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits); and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.15%; the municipal bond rate is 1.92%; and the resulting Single Discount Rate is 7.15%.

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 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

Fiscal Year Ending 6/30	Contributions from Current Employees	Normal Cost and Expense Contributions	UAL Contributions	Total Contributions
2022	\$ -	\$ 8,266,380	\$ 8,044,606	\$ 16,310,986
2023	-	7,924,537	7,148,565	15,073,102
2024	-	7,665,437	5,947,525	13,612,962
2025	-	7,422,301	4,065,336	11,487,637
2026	-	7,186,253	4,197,459	11,383,712
2027	-	6,968,907	4,333,875	11,302,783
2028	-	6,775,286	4,474,727	11,250,013
2029	-	6,621,965	4,620,155	11,242,120
2030	-	6,475,390	4,770,311	11,245,701
2031	-	6,276,277	4,925,346	11,201,622
2032	-	6,031,147	5,085,420	11,116,567
2033	-	5,722,402	5,250,695	10,973,097
2034	-	5,404,556	5,421,343	10,825,899
2035	-	5,145,276	5,597,537	10,742,814
2036	-	4,964,436	5,779,457	10,743,893
2037	-	4,826,248	5,967,289	10,793,537
2038	-	4,625,870	6,161,226	10,787,097
2039	-	4,368,887	6,361,465	10,730,352
2040	-	4,071,502	-	4,071,502
2041	-	3,758,735	-	3,758,735
2042	-	3,451,734	-	3,451,734
2043	-	3,161,244	-	3,161,244
2044	-	2,906,371	-	2,906,371
2045	-	2,646,781	-	2,646,781
2046	-	2,336,215	-	2,336,215
2047	-	2,012,838	-	2,012,838
2048	-	1,686,861	-	1,686,861
2049	-	1,400,437	-	1,400,437
2050	-	1,161,741	-	1,161,741
2051	-	933,423	-	933,423
2052	-	727,518	-	727,518
2053	-	513,710	-	513,710
2054	-	296,322	-	296,322
2055	-	134,158	-	134,158
2056	-	35,606	-	35,606
2057	-	-	-	-
2058	-	-	-	-
2059	-	-	-	-
2060	-	-	-	-
2061	-	-	-	-
2062	-	-	-	-
2063	-	-	-	-
2064	-	-	-	-
2065	-	-	-	-
2066	-	-	-	-
2067	-	-	-	-
2068	-	-	-	-
2069	-	-	-	-
2070	-	-	-	-
2071	-	-	-	-

Single Discount Rate Development Projection of Plan Fiduciary Net Position

Fiscal Year Ending 6/30	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.15%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2022	\$ 434,873,081	\$ 16,310,986	\$ 36,039,026	\$ 235,230	\$ 30,392,059	\$ 445,301,870
2023	445,301,870	15,073,102	34,141,530	225,332	31,161,239	457,169,349
2024	457,169,349	13,612,962	33,622,867	217,773	31,976,953	468,918,623
2025	468,918,623	11,487,637	32,575,251	210,693	32,779,411	480,399,727
2026	480,399,727	11,383,712	33,392,561	203,889	33,568,184	491,755,173
2027	491,755,173	11,302,783	34,016,259	197,665	34,355,561	503,199,593
2028	503,199,593	11,250,013	34,950,900	192,168	35,139,340	514,445,879
2029	514,445,879	11,242,120	35,235,132	187,814	35,933,339	526,198,392
2030	526,198,392	11,245,701	36,444,624	183,566	36,731,426	537,547,330
2031	537,547,330	11,201,622	38,086,433	177,728	37,483,850	547,968,641
2032	547,968,641	11,116,567	39,467,338	170,526	38,177,724	557,625,067
2033	557,625,067	10,973,097	41,604,212	161,589	38,788,357	565,620,721
2034	565,620,721	10,825,899	41,377,936	152,478	39,363,145	574,279,350
2035	574,279,350	10,742,814	42,179,954	145,132	39,951,399	582,648,476
2036	582,648,476	10,743,893	41,774,475	140,026	40,564,254	592,042,122
2037	592,042,122	10,793,537	42,515,361	136,078	41,211,753	601,395,974
2038	601,395,974	10,787,097	43,512,233	130,421	41,845,503	610,385,920
2039	610,385,920	10,730,352	45,153,645	123,175	42,428,878	618,268,329
2040	618,268,329	4,071,502	45,833,144	114,788	42,734,948	619,126,848
2041	619,126,848	3,758,735	47,032,399	105,982	42,743,519	618,490,722
2042	618,490,722	3,451,734	47,615,994	97,289	42,667,053	616,896,225
2043	616,896,225	3,161,244	48,531,873	89,028	42,510,953	613,947,522
2044	613,947,522	2,906,371	48,527,194	81,776	42,291,586	610,536,509
2045	610,536,509	2,646,781	49,890,535	74,409	41,990,939	605,209,285
2046	605,209,285	2,336,215	50,746,607	65,646	41,569,363	598,302,610
2047	598,302,610	2,012,838	51,508,056	56,529	41,037,743	589,788,606
2048	589,788,606	1,686,861	52,603,633	47,305	40,379,373	579,203,902
2049	579,203,902	1,400,437	52,565,702	39,218	39,614,120	567,613,539
2050	567,613,539	1,161,741	52,927,262	32,496	38,764,557	554,580,079
2051	554,580,079	933,423	52,606,743	26,093	37,836,128	540,716,795
2052	540,716,795	727,518	52,142,230	20,342	36,854,191	526,135,932
2053	526,135,932	513,710	52,730,448	14,383	35,783,691	509,688,503
2054	509,688,503	296,322	52,216,558	8,322	34,618,330	492,378,275
2055	492,378,275	134,158	51,093,794	3,787	33,414,557	474,829,408
2056	474,829,408	35,606	49,747,695	1,013	32,203,740	457,320,047
2057	457,320,047	-	47,752,724	-	31,020,694	440,588,017
2058	440,588,017	-	46,669,735	-	29,862,403	423,780,685
2059	423,780,685	-	45,544,256	-	28,700,220	406,936,649
2060	406,936,649	-	44,420,700	-	27,535,345	390,051,294
2061	390,051,294	-	43,286,289	-	26,367,897	373,132,902
2062	373,132,902	-	42,157,705	-	25,197,883	356,173,080
2063	356,173,080	-	41,021,436	-	24,025,176	339,176,820
2064	339,176,820	-	39,841,158	-	22,851,410	322,187,071
2065	322,187,071	-	38,619,568	-	21,679,560	305,247,063
2066	305,247,063	-	37,359,552	-	20,512,618	288,400,130
2067	288,400,130	-	36,063,935	-	19,353,581	271,689,775
2068	271,689,775	-	34,735,907	-	18,205,448	255,159,316
2069	255,159,316	-	33,379,263	-	17,071,183	238,851,236
2070	238,851,236	-	31,997,769	-	15,953,691	222,807,158
2071	222,807,158	-	30,594,732	-	14,855,832	207,068,258



Single Discount Rate Development Projection of Plan Fiduciary Net Position (Concluded)

Fiscal Year Ending 6/30	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.15%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2072	\$ 207,068,258	\$ -	\$ 29,172,668	\$ -	\$ 13,780,462	\$ 191,676,051
2073	191,676,051	-	27,733,555	-	12,730,479	176,672,975
2074	176,672,975	-	26,279,561	-	11,708,842	162,102,256
2075	162,102,256	-	24,813,202	-	10,718,553	148,007,606
2076	148,007,606	-	23,337,499	-	9,762,631	134,432,739
2077	134,432,739	-	21,856,217	-	8,844,070	121,420,592
2078	121,420,592	-	20,373,905	-	7,965,779	109,012,466
2079	109,012,466	-	18,896,168	-	7,130,515	97,246,813
2080	97,246,813	-	17,429,746	-	6,340,791	86,157,857
2081	86,157,857	-	15,981,729	-	5,598,803	75,774,931
2082	75,774,931	-	14,559,209	-	4,906,401	66,122,123
2083	66,122,123	-	13,169,897	-	4,265,036	57,217,263
2084	57,217,263	-	11,822,343	-	3,675,682	49,070,602
2085	49,070,602	-	10,525,237	-	3,138,767	41,684,132
2086	41,684,132	-	9,287,182	-	2,654,130	35,051,080
2087	35,051,080	-	8,116,577	-	2,220,994	29,155,497
2088	29,155,497	-	7,020,943	-	1,837,952	23,972,506
2089	23,972,506	-	6,007,130	-	1,502,987	19,468,364
2090	19,468,364	-	5,080,468	-	1,213,497	15,601,392
2091	15,601,392	-	4,243,794	-	966,403	12,324,001
2092	12,324,001	-	3,497,880	-	758,276	9,584,396
2093	9,584,396	-	2,841,470	-	585,455	7,328,381
2094	7,328,381	-	2,271,659	-	444,169	5,500,892
2095	5,500,892	-	1,784,347	-	330,625	4,047,169
2096	4,047,169	-	1,374,506	-	241,082	2,913,745
2097	2,913,745	-	1,036,412	-	171,921	2,049,253
2098	2,049,253	-	763,513	-	119,697	1,405,438
2099	1,405,438	-	548,471	-	81,219	938,187
2100	938,187	-	383,403	-	53,610	608,393
2101	608,393	-	260,237	-	34,357	382,513
2102	382,513	-	171,132	-	21,337	232,719
2103	232,719	-	108,800	-	12,817	136,736
2104	136,736	-	66,726	-	7,432	77,442
2105	77,442	-	39,384	-	4,153	42,212
2106	42,212	-	22,324	-	2,234	22,122
2107	22,122	-	12,136	-	1,155	11,141
2108	11,141	-	6,321	-	575	5,394
2109	5,394	-	3,154	-	275	2,516
2110	2,516	-	1,509	-	127	1,133
2111	1,133	-	696	-	57	494
2112	494	-	310	-	24	208
2113	208	-	134	-	10	85
2114	85	-	56	-	4	33
2115	33	-	22	-	2	13
2116	13	-	9	-	1	5
2117	5	-	3	-	0	2
2118	2	-	1	-	0	1
2119	1	-	0	-	0	0
2120	0	-	0	-	0	0
2121	0	-	0	-	0	0

Single Discount Rate Development

Present Values of Projected Benefits

Fiscal Year Ending 6/30	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)
2022	\$ 434,873,081	\$ 36,039,026	\$ 36,039,026	\$ -	\$ 34,815,846	\$ -	\$ 34,815,846
2023	445,301,870	34,141,530	34,141,530	-	30,781,850	-	30,781,850
2024	457,169,349	33,622,867	33,622,867	-	28,291,392	-	28,291,392
2025	468,918,623	32,575,251	32,575,251	-	25,580,861	-	25,580,861
2026	480,399,727	33,392,561	33,392,561	-	24,472,872	-	24,472,872
2027	491,755,173	34,016,259	34,016,259	-	23,266,421	-	23,266,421
2028	503,199,593	34,950,900	34,950,900	-	22,310,496	-	22,310,496
2029	514,445,879	35,235,132	35,235,132	-	20,991,071	-	20,991,071
2030	526,198,392	36,444,624	36,444,624	-	20,262,824	-	20,262,824
2031	537,547,330	38,086,433	38,086,433	-	19,762,625	-	19,762,625
2032	547,968,641	39,467,338	39,467,338	-	19,112,610	-	19,112,610
2033	557,625,067	41,604,212	41,604,212	-	18,803,006	-	18,803,006
2034	565,620,721	41,377,936	41,377,936	-	17,452,861	-	17,452,861
2035	574,279,350	42,179,954	42,179,954	-	16,603,962	-	16,603,962
2036	582,648,476	41,774,475	41,774,475	-	15,347,034	-	15,347,034
2037	592,042,122	42,515,361	42,515,361	-	14,576,966	-	14,576,966
2038	601,395,974	43,512,233	43,512,233	-	13,923,245	-	13,923,245
2039	610,385,920	45,153,645	45,153,645	-	13,484,342	-	13,484,342
2040	618,268,329	45,833,144	45,833,144	-	12,773,926	-	12,773,926
2041	619,126,848	47,032,399	47,032,399	-	12,233,471	-	12,233,471
2042	618,490,722	47,615,994	47,615,994	-	11,558,814	-	11,558,814
2043	616,896,225	48,531,873	48,531,873	-	10,995,001	-	10,995,001
2044	613,947,522	48,527,194	48,527,194	-	10,260,328	-	10,260,328
2045	610,536,509	49,890,535	49,890,535	-	9,844,690	-	9,844,690
2046	605,209,285	50,746,607	50,746,607	-	9,345,418	-	9,345,418
2047	598,302,610	51,508,056	51,508,056	-	8,852,678	-	8,852,678
2048	589,788,606	52,603,633	52,603,633	-	8,437,681	-	8,437,681
2049	579,203,902	52,565,702	52,565,702	-	7,868,966	-	7,868,966
2050	567,613,539	52,927,262	52,927,262	-	7,394,391	-	7,394,391
2051	554,580,079	52,606,743	52,606,743	-	6,859,181	-	6,859,181
2052	540,716,795	52,142,230	52,142,230	-	6,344,951	-	6,344,951
2053	526,135,932	52,730,448	52,730,448	-	5,988,360	-	5,988,360
2054	509,688,503	52,216,558	52,216,558	-	5,534,298	-	5,534,298
2055	492,378,275	51,093,794	51,093,794	-	5,053,942	-	5,053,942
2056	474,829,408	49,747,695	49,747,695	-	4,592,434	-	4,592,434
2057	457,320,047	47,752,724	47,752,724	-	4,114,110	-	4,114,110
2058	440,588,017	46,669,735	46,669,735	-	3,752,502	-	3,752,502
2059	423,780,685	45,544,256	45,544,256	-	3,417,646	-	3,417,646
2060	406,936,649	44,420,700	44,420,700	-	3,110,904	-	3,110,904
2061	390,051,294	43,286,289	43,286,289	-	2,829,172	-	2,829,172
2062	373,132,902	42,157,705	42,157,705	-	2,571,543	-	2,571,543
2063	356,173,080	41,021,436	41,021,436	-	2,335,262	-	2,335,262
2064	339,176,820	39,841,158	39,841,158	-	2,116,725	-	2,116,725
2065	322,187,071	38,619,568	38,619,568	-	1,914,907	-	1,914,907
2066	305,247,063	37,359,552	37,359,552	-	1,728,820	-	1,728,820
2067	288,400,130	36,063,935	36,063,935	-	1,557,504	-	1,557,504
2068	271,689,775	34,735,907	34,735,907	-	1,400,047	-	1,400,047
2069	255,159,316	33,379,263	33,379,263	-	1,255,592	-	1,255,592
2070	238,851,236	31,997,769	31,997,769	-	1,123,309	-	1,123,309
2071	222,807,158	30,594,732	30,594,732	-	1,002,384	-	1,002,384

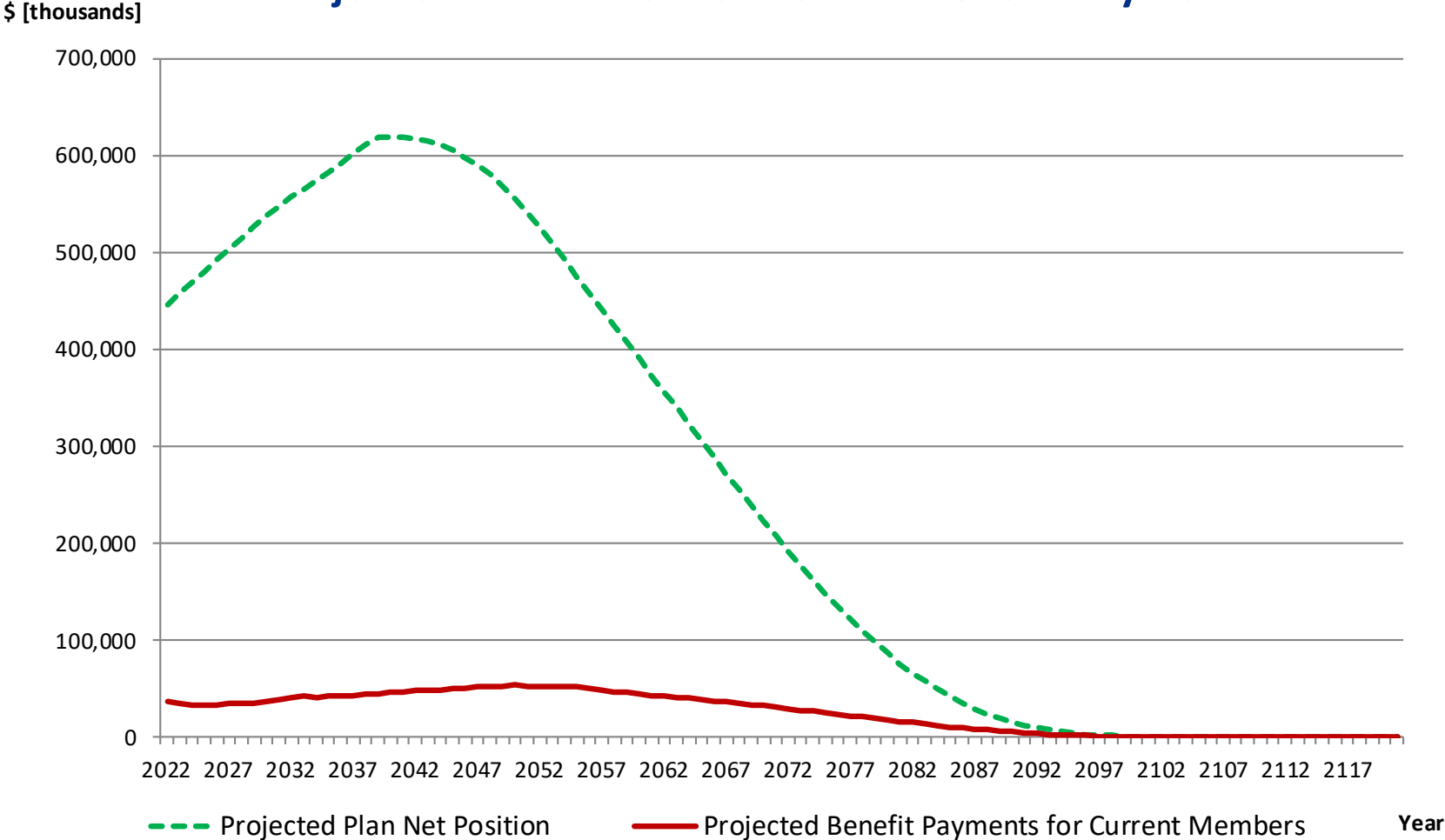


Single Discount Rate Development Present Values of Projected Benefits (Concluded)

Fiscal Year Ending 6/30	Projected			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)
	Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments				
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{(a)-.5}	(g)=(e)*vf ^{(a)-.5}	(h)=(c)/(1+sdr) ^{(a)-.5}
2072	\$ 207,068,258	\$ 29,172,668	\$ 29,172,668	\$ -	\$ 892,013	\$ -	\$ 892,013
2073	191,676,051	27,733,555	27,733,555	-	791,423	-	791,423
2074	176,672,975	26,279,561	26,279,561	-	699,889	-	699,889
2075	162,102,256	24,813,202	24,813,202	-	616,739	-	616,739
2076	148,007,606	23,337,499	23,337,499	-	541,353	-	541,353
2077	134,432,739	21,856,217	21,856,217	-	473,161	-	473,161
2078	121,420,592	20,373,905	20,373,905	-	411,639	-	411,639
2079	109,012,466	18,896,168	18,896,168	-	356,306	-	356,306
2080	97,246,813	17,429,746	17,429,746	-	306,725	-	306,725
2081	86,157,857	15,981,729	15,981,729	-	262,476	-	262,476
2082	75,774,931	14,559,209	14,559,209	-	223,157	-	223,157
2083	66,122,123	13,169,897	13,169,897	-	188,392	-	188,392
2084	57,217,263	11,822,343	11,822,343	-	157,831	-	157,831
2085	49,070,602	10,525,237	10,525,237	-	131,138	-	131,138
2086	41,684,132	9,287,182	9,287,182	-	107,991	-	107,991
2087	35,051,080	8,116,577	8,116,577	-	88,082	-	88,082
2088	29,155,497	7,020,943	7,020,943	-	71,108	-	71,108
2089	23,972,506	6,007,130	6,007,130	-	56,780	-	56,780
2090	19,468,364	5,080,468	5,080,468	-	44,817	-	44,817
2091	15,601,392	4,243,794	4,243,794	-	34,938	-	34,938
2092	12,324,001	3,497,880	3,497,880	-	26,876	-	26,876
2093	9,584,396	2,841,470	2,841,470	-	20,375	-	20,375
2094	7,328,381	2,271,659	2,271,659	-	15,202	-	15,202
2095	5,500,892	1,784,347	1,784,347	-	11,144	-	11,144
2096	4,047,169	1,374,506	1,374,506	-	8,012	-	8,012
2097	2,913,745	1,036,412	1,036,412	-	5,638	-	5,638
2098	2,049,253	763,513	763,513	-	3,876	-	3,876
2099	1,405,438	548,471	548,471	-	2,599	-	2,599
2100	938,187	383,403	383,403	-	1,695	-	1,695
2101	608,393	260,237	260,237	-	1,074	-	1,074
2102	382,513	171,132	171,132	-	659	-	659
2103	232,719	108,800	108,800	-	391	-	391
2104	136,736	66,726	66,726	-	224	-	224
2105	77,442	39,384	39,384	-	123	-	123
2106	42,212	22,324	22,324	-	65	-	65
2107	22,122	12,136	12,136	-	33	-	33
2108	11,141	6,321	6,321	-	16	-	16
2109	5,394	3,154	3,154	-	7	-	7
2110	2,516	1,509	1,509	-	3	-	3
2111	1,133	696	696	-	1	-	1
2112	494	310	310	-	1	-	1
2113	208	134	134	-	0	-	0
2114	85	56	56	-	0	-	0
2115	33	22	22	-	0	-	0
2116	13	9	9	-	0	-	0
2117	5	3	3	-	0	-	0
2118	2	1	1	-	0	-	0
2119	1	0	0	-	0	-	0
2120	0	0	0	-	0	-	0
2121	0	0	0	-	-	-	-
Totals	\$ 564,563,217	\$ -	\$ 564,563,217	\$ -	\$ 564,563,217	\$ -	\$ 564,563,217



Projection of Plan Net Position and Benefit Payments



SECTION H

GLOSSARY OF TERMS

Glossary of Terms

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

Glossary of Terms

<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Amortization Method</i>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of employees that are provided with pensions through the pension plan.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<i>Discount Rate</i>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none">1. The benefit payments to be made while the pension plan’s fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)

The EAN is a cost 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.

GASB

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

Fiduciary Net Position

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

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 contributing entities to plan members for benefits provided through a defined benefit pension plan.

Non-Employer Contributing Entities

Non-employer contributing 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 statements, plan members are not considered non-employer contributing entities.

Normal Cost

The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

Glossary of Terms

<i>Other Postemployment Benefits (OPEB)</i>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year:</p> <ol style="list-style-type: none">1. Service Cost2. Interest on the Total Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.



November 4, 2021

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

Dear Duncan:

Please find enclosed 15 copies of the June 30, 2021 GASB Statements No. 67 and No. 68 Accounting and Financial Reporting for Pensions report of the Arkansas State Police Retirement System.

Sincerely,

A handwritten signature in black ink that reads "Mita Drazilov". The signature is written in a cursive, flowing style.

Mita D. Drazilov, ASA, FCA, MAAA

MDD:ah
Enclosures