



**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*



Retirement Systems  
of Alabama

**GASB STATEMENT NO. 68 REPORT**

**FOR THE**

**EMPLOYEES' RETIREMENT SYSTEM OF ALABAMA**

**PREPARED AS OF SEPTEMBER 30, 2021**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

May 19, 2022

Board of Control  
Employees' Retirement System of Alabama  
Montgomery, Alabama

Members of the Board:

Presented in this report is information to assist the Employees' Retirement System of Alabama (ERS) in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 68 and to identify the information to be provided by the actuary, Cavanaugh Macdonald Consulting (CMC). The information is presented for the period ending September 30, 2021 (the Measurement Date).

GASB Statement No. 68 establishes accounting and financial reporting requirements for governmental employers who provide pension benefits to their employees through a trust.

The annual actuarial valuation used as a basis for much of the information presented in this report, including the Net Pension Liability, was performed as of September 30, 2020 and reflects the impact of the experience study adopted by the Board in September, 2021. The valuation was based on data, provided by the Retirement System staff, for active, inactive and retired members along with pertinent financial information.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the System, and on actuarial assumptions that are, individually and in the aggregate, internally consistent and reasonably based on the actual experience of the System. In addition, the calculations were completed in compliance with the laws governing the System and, in our opinion, meet the requirements of GASB 68. Larry Langer and Ed Koebel are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.



Pension Board

May 19, 2022

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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 and GASB 68 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in the report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

Sincerely yours,

A handwritten signature in blue ink, appearing to be 'LL'.

Larry Langer, ASA, EA, FCA, MAAA  
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to be 'Cathy Turcot'.

Cathy Turcot  
Principal and Managing Director

A handwritten signature in blue ink, appearing to be 'Edward J. Koebel'.

Edward J. Koebel, EA, FCA, MAAA  
Chief Executive Officer



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**REPORT OF THE ANNUAL GASB STATEMENT NO. 68  
REQUIRED INFORMATION FOR THE  
EMPLOYEES' RETIREMENT SYSTEM OF ALABAMA**

**PREPARED AS OF SEPTEMBER 30, 2021**

**SECTION I – INTRODUCTION**

The Governmental Accounting Standards Board issued Statement No. 68 (GASB 68), “*Accounting and Financial Reporting For Pensions*” in June 2012. GASB 68’s effective date is for an employer’s fiscal year beginning after June 15, 2014. The Employees’ Retirement System of Alabama is an agent multiple-employer defined benefit pension plan.

This report, prepared as of September 30, 2021 (the Measurement Date), presents information to assist the Employees’ Retirement System of Alabama (System) in meeting the requirements of GASB 68 for the fiscal year ending September 30, 2022 (Reporting Date). Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the System as of September 30, 2020, in conjunction with the assumptions from the most recent experience study prepared as of September 30, 2020. The results of the valuation were detailed in a report dated May 17, 2021, and the results of the experience study were detailed in a report dated July 7, 2021.

The NPL shown in the GASB Statement No. 67 Schedules for the Employees' Retirement System of Alabama Prepared as of September 30, 2021 and submitted December 10, 2021 is the total NPL used for purposes of GASB 68. The NPL for each local employer will be submitted in separate individual reports.

Pension Expense (PE) includes amounts for service cost (the Normal Cost under the Entry Age Normal actuarial cost method for the year), interest on the Total Pension Liability (TPL), changes in benefit structure, recognition of increases/decreases in liability due to actuarial experience and actuarial assumption changes, and recognition of investment gains/losses. The actuarial experience and assumption change impacts are recognized over the average expected remaining service life of the employer’s membership as of the beginning of the measurement period, and investment gains/losses are recognized over five years. The development of the PE is shown in Section IV.

The unrecognized portions of each year’s experience, assumption changes and investment gains/losses are used to develop deferred inflows and outflows, which also must be included on each employer’s balance sheet. The development of the deferred inflows and outflows is shown in Section III.



Section II of this report is a summary of the principal results of the amounts under GASB 68. Section III provides the results of all the necessary calculations, presented in the order presented in GASB 68 for note disclosure. Schedule A of this report shows the Required Supplementary Information (RSI) for state employees and state police.

The required GASB 68 information has been prepared separately for each employer participating in ERS. This report shows all required tables for state employees, state policemen and in the aggregate for the participating local employers. The required information for the participating local employers has been reported on an individual basis and submitted under separate cover.



**SECTION II – SUMMARY OF PRINCIPAL RESULTS**  
**AS OF THE MEASUREMENT DATE**  
**(\$ IN THOUSANDS)**

<b>Valuation Date (VD):</b>	September 30, 2020			
<b>Measurement Date (MD):</b>	September 30, 2021			
<b>Reporting Date (RD):</b>	September 30, 2022			
<b>Membership Data:</b>	<b>State Employees</b>	<b>State Police</b>	<b>Local Employees</b>	<b>Total</b>
Retirees and Survivors	24,725	963	29,727	55,415
Terminated Vested Employees	1,170	26	2,130	3,326
Terminated Non-vested Employees	26,376	35	16,415	42,826
Active Members	27,411	798	56,184	84,393
Post-DROP Retired Members Still in Active Service	<u>124</u>	<u>0</u>	<u>54</u>	<u>178</u>
Total	79,806	1,822	104,510	186,138
<b>Single Equivalent Interest Rate (SEIR):</b>				
Long-Term Expected Rate of Return	7.45%	7.45%	7.45%	7.45%
Municipal Bond Index Rate at Measurement Date	2.29%	2.29%	2.29%	2.29%
Fiscal Year in which Plan's Fiduciary Net Position is projected to be depleted from future benefit payments for current members	N/A	N/A	N/A	N/A
Single Equivalent Interest Rate	7.45%	7.45%	7.45%	7.45%
<b>Net Pension Liability:</b>				
Total Pension Liability (TPL)	\$8,574,565	\$696,775	\$11,792,624	\$21,063,964
Fiduciary Net Position (FNP)	<u>5,776,542</u>	<u>409,931</u>	<u>9,293,003</u>	<u>\$15,479,476</u>
Net Pension Liability (NPL= TPL-FNP)	\$2,798,023	\$286,844	\$2,499,621	\$5,584,488
FNP as a percentage of TPL	67.37%	58.83%	78.80%	73.49%
<b>Pension Expense:</b>	\$263,636	\$27,542	\$241,602	\$532,779
<b>Deferred Outflows of Resources:</b>	\$318,680	\$27,922	\$667,903	\$1,014,505
<b>Deferred Inflows of Resources:</b>	\$417,032	\$29,470	\$893,979	\$1,340,481



**SECTION III – NOTES TO FINANCIAL STATEMENTS**

The material presented herein will follow the order presented in GASB 68. Paragraph numbers are provided for ease of reference.

**Paragraph 40 (c):** The data required regarding the membership of the Employees’ Retirement System of Alabama were furnished by the System office. The following table summarizes the membership of the system as of September 30, 2021, the Measurement Date.

**Membership**

GROUP	State Employees	State Police	Local Employees	TOTAL
Retired participants and beneficiaries currently receiving benefits	24,725	963	29,727	55,415
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	1,170	26	2,130	3,326
Terminated participants entitled to a refund of contributions	26,376	35	16,415	42,826
Active Participants	27,411	798	56,184	84,393
Post-DROP participants still in active service	<u>124</u>	<u>0</u>	<u>54</u>	<u>178</u>
<b>Total</b>	<b>79,806</b>	<b>1,822</b>	<b>104,510</b>	<b>186,138</b>

**Paragraph 41:** This paragraph requires information regarding the actuarial assumptions used to measure the TPL. The TPL as of September 30, 2021 was determined based on the annual actuarial valuation report prepared as of September 30, 2020 and the results of the experience investigation performed for the five-year period ending September 30, 2020. The complete set of actuarial assumptions utilized in developing the TPL are outlined in Schedule C. The key actuarial assumptions are summarized below:

- Inflation 2.50 percent
- Salary increases 3.25 – 6.00 percent for State and Local Employees and 4.00 – 7.75 percent for State Police, including inflation
- Investment rate of return 7.45 percent, net of pension plan investment expense, including inflation





Mortality rates were based on the Pub-2010 Below-Median Tables, projected generationally using the MP-2020 scale, which is adjusted by 66-2/3% beginning with year 2019:

<u>Group</u>	<u>Membership Table</u>	<u>Set Forward (+)/ Setback (-)</u>	<u>Adjustment to Rates</u>
Non FLC Service Retirees	General Healthy Below Median	Male: +2, Female: +2	Male: 90% ages < 65, 96% ages >= 65 Female: 96% all ages
FLC/State Police Service Retirees	Public Safety Healthy Below Median	Male: +1, Female: none	None
Beneficiaries	Contingent Survivor Below Median	Male: +2, Female: +2	None
Non-FLC Disabled Retirees	General Disability	Male: +7, Female: +3	None
FLC/State Police Disabled Retirees	Public Safety Disability	Male: +7, Female: none	None

The actuarial assumptions used in the September 30, 2020 valuation were based on the results of an actuarial experience study for the period October 1, 2015 – September 30, 2020.

**Paragraph 42 (a)-(f):** The discount rate used to measure the TPL at September 30, 2021 was the long term rate of return, 7.45 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the rates currently in effect and that employer contributions will be made in accordance with the funding policy adopted by the Board of Control. Projected future benefit payments for all current plan members were projected for all years.

Based on those assumptions, each employer’s FNP 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 TPL and a municipal bond rate was not used in determining the discount rate.

The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each



major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target asset allocation and best estimates of geometric real rates of return for each major asset class, as provided by the System, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Rate of Return*
Fixed Income	15.0%	2.8%
US Large Stocks	32.0%	8.0%
US Mid Stocks	9.0%	10.0%
US Small Stocks	4.0%	11.0%
Int'l Developed Mkt Stocks	12.0%	9.5%
Int'l Emerging Mkt Stocks	3.0%	11.0%
Alternatives	10.0%	9.0%
Real Estate	10.0%	6.5%
Cash	<u>5.0%</u>	1.5%
Total	100.0%	

\*Includes assumed rate of inflation of 2.00%.

**Paragraph 42 (g):** This paragraph requires disclosure of the sensitivity of the NPL to changes in the discount rate. The following presents NPL of the System, calculated using the discount rate of 7.45 percent, as well as what the System's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.45 percent) or 1-percentage-point higher (8.45 percent) than the current rate:

(\$ in Thousands)

	1% Decrease (6.45%)	Current Discount Rate (7.45%)	1% Increase (8.45%)
Net Pension Liability			
State Employees	\$3,695,352	\$2,798,023	\$2,035,746
State Police	358,710	286,844	225,905
Local Employees	<u>3,876,334</u>	<u>2,499,621</u>	<u>1,342,420</u>
Total	<u>\$7,930,396</u>	<u>\$5,584,488</u>	<u>\$3,604,071</u>



**Paragraph 44:** This paragraph requires a schedule of changes in the NPL. The needed information is provided in the table below.

**CHANGES IN THE NET PENSION LIABILITY  
STATE EMPLOYEES  
(\$ in Thousands)**

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at September 30, 2020	<u>\$8,100,855</u>	<u>\$4,992,137</u>	<u>\$3,108,718</u>
Changes for the year:			
Service cost	119,061		119,061
Interest	600,401		600,401
Benefit changes	0		0
Difference between expected and actual experience	77,877		77,877
Changes in assumptions	283,655		283,655
Contributions - employer		221,634	(221,634)
Contributions - employee		108,134	(108,134)
Other		0	0
Net investment income		1,076,417	(1,076,417)
Benefit payments, including refunds of employee contributions	(606,886)	(606,886)	0
Administrative expense		(14,496)	14,496
Transfers among employers	(398)	(398)	0
Net changes	<u>473,710</u>	<u>784,405</u>	<u>(310,695)</u>
Balances at September 30, 2021	<u>\$8,574,565</u>	<u>\$5,776,542</u>	<u>\$2,798,023</u>



**CHANGES IN THE NET PENSION LIABILITY  
STATE POLICE  
(\$ in Thousands)**

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at September 30, 2020	<u>\$653,019</u>	<u>\$348,883</u>	<u>\$304,136</u>
Changes for the year:			
Service cost	9,426		9,426
Interest	48,517		48,517
Benefit changes	0		0
Difference between expected and actual experience	5,826		5,826
Changes in assumptions	25,326		25,326
Contributions - employer		25,768	(25,768)
Contributions - employee		4,919	(4,919)
Net investment income		75,700	(75,700)
Benefit payments, including refunds of employee contributions	(45,849)	(45,849)	0
Administrative expense	0	0	0
Transfers among employers	<u>510</u>	<u>510</u>	<u>0</u>
Net changes	<u>43,756</u>	<u>61,048</u>	<u>(17,292)</u>
Balances at September 30, 2021	<u>\$696,775</u>	<u>\$409,931</u>	<u>\$286,844</u>



**CHANGES IN THE NET PENSION LIABILITY  
LOCAL EMPLOYEES  
(\$ in Thousands)**

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at September 30, 2020	<u>\$10,953,091</u>	<u>\$7,809,518</u>	<u>\$3,143,573</u>
Changes for the year:			
Service cost	220,197		220,197
Interest	817,677		817,677
Benefit changes	39,193		39,193
Difference between expected and actual experience	13,191		13,191
Changes in assumptions	417,215		417,215
Contributions - employer		269,000	(269,000)
Contributions - employee		173,343	(173,343)
Net investment income		1,709,082	(1,709,082)
Benefit payments, including refunds of employee contributions	(667,828)	(667,828)	0
Administrative expense	0	0	0
Transfers among employers	<u>(112)</u>	<u>(112)</u>	<u>0</u>
Net changes	<u>839,533</u>	<u>1,483,485</u>	<u>(643,952)</u>
Balances at September 30, 2021	<u>\$11,792,624</u>	<u>\$9,293,003</u>	<u>\$2,499,621</u>



**CHANGES IN THE NET PENSION LIABILITY  
TOTAL  
(\$ in Thousands)**

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at September 30, 2020	<u>\$19,706,965</u>	<u>\$13,150,538</u>	<u>\$6,556,427</u>
Changes for the year:			
Service cost	348,684		348,684
Interest	1,466,595		1,466,595
Benefit changes	39,193		39,193
Difference between expected and actual experience	96,894		96,894
Changes in assumptions	726,196		726,196
Contributions - employer		516,402	(516,402)
Contributions - employee		286,396	(286,396)
Other		0	0
Net investment income		2,861,199	(2,861,199)
Benefit payments, including refunds of employee contributions	(1,320,563)	(1,320,563)	0
Administrative expense	0	(14,496)	14,496
Transfers among employers	<u>0</u>	<u>0</u>	<u>0</u>
Net changes	<u>1,356,999</u>	<u>2,328,938</u>	<u>(971,940)</u>
Balances at September 30, 2021	<u>\$21,063,964</u>	<u>\$15,479,476</u>	<u>\$5,584,488</u>



**Paragraph 45 (a):** September 30, 2020 is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of September 30, 2021 using standard roll forward techniques. The procedure used to determine the TPL as of September 30, 2021 is shown on page 2 of the GASB Statement No. 67 Schedules for the Employees' Retirement System of Alabama Prepared as of September 30, 2021 and submitted December 10, 2021.

**Paragraph 45 (c):** In 2021, rates of withdrawal, retirement, disability and mortality were adjusted to reflect actual experience more closely. In 2021, economic assumptions and the assumed rates of salary increase were adjusted to reflect actual and anticipated experience more closely. In 2021, the expectation of retired life mortality was changed to the Pub-2010 mortality tables.

**Paragraph 45 (d):** The TPL as of September 30, 2021 reflects 202 additional employers that elected Act 2019-132 since the prior measurement date.

**Paragraph 45 (g):** See Section IV for the annual Pension Expense.

**Paragraph 45 (h):** Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce Pension Expense, they are labeled deferred inflows. If they will increase Pension Expense, they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average expected remaining service life of the active and inactive members of each employer at the beginning of the measurement period. Investment gains and losses are amortized over a fixed five-year period.

The following tables provide a summary of the deferred inflows and outflows as of September 30, 2021 (all \$ in thousands).



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**

**STATE EMPLOYEES**

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$113,818	\$0
Changes of assumptions	204,862	0
Net difference between projected and actual earnings on plan investments	0	417,032
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$417,032</u>

**STATE POLICE**

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$8,486	\$0
Changes of assumptions	19,436	0
Net difference between projected and actual earnings on plan investments	0	29,470
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$29,470</u>

\*Enter FY 2022 employer contributions related to normal and accrued liability components of employer rate net of any refunds or error service payments and add for total Deferred Outflows of Resources.





**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**LOCAL EMPLOYEES**

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$276,478	\$201,972
Changes of assumptions	391,425	15,920
Net difference between projected and actual earnings on plan investments	0	676,087
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$893,979</u>

**TOTAL**

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$398,782	\$201,972
Changes of assumptions	615,723	15,920
Net difference between projected and actual earnings on plan investments	0	1,122,589
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$1,340,481</u>

\*Enter FY 2022 employer contributions related to normal and accrued liability components of employer rate net of any refunds or error service payments and add for total Deferred Outflows of Resources. Prepared on an individual employer basis

**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**

(continued)

**STATE EMPLOYEES**

(\$ in thousands)



<b>Total Deferred Outflows and Inflows between Expected and Actual Experience</b>											
<b>Year</b>	<b>Initial Balance of Losses / Deferred Outflow</b>	<b>Initial Balance of Gains / Deferred Inflow</b>	<b>Amortization Period</b>	<b>Beginning Balance</b>				<b>Amounts Recognized in Pension Expense / Deferred Outflow</b>	<b>Amounts Recognized in Pension Expense / Deferred Inflow</b>	<b>Ending Balance</b>	
				<b>Deferred Outflows</b>	<b>Deferred Inflows</b>	<b>Losses / Deferred Outflows</b>	<b>Gains / Deferred Inflows</b>			<b>Deferred Outflows</b>	<b>Deferred Inflows</b>
				<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>			<b>(a) + (c) - (e)</b>	<b>(b) + (d) - (f)</b>
2021	\$77,877	\$0	3.6	\$0	\$0	\$77,877	\$0	\$21,633	\$0	\$56,244	\$0
2020	\$134,241	\$0	3.5	\$95,886	\$0	\$0	\$0	\$38,355	\$0	\$57,531	\$0
2019	\$310	\$0	3.5	\$132	\$0	\$0	\$0	\$89	\$0	\$43	\$0
2018	\$0	\$16,241	3.5	\$0	\$2,318	\$0	\$0	\$0	\$2,318	\$0	\$0
2017	\$0	\$56,579	3.6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>				<u>\$96,018</u>	<u>\$2,318</u>	<u>\$77,877</u>	<u>\$0</u>			<u>\$113,818</u>	<u>\$0</u>

<b>Total Deferred Outflows and Inflows for Differences From Assumption Changes</b>											
<b>Year</b>	<b>Initial Balance of Losses / Deferred Outflow</b>	<b>Initial Balance of Gains / Deferred Inflow</b>	<b>Amortization Period</b>	<b>Beginning Balance</b>				<b>Amounts Recognized in Pension Expense / Deferred Outflow</b>	<b>Amounts Recognized in Pension Expense / Deferred Inflow</b>	<b>Ending Balance</b>	
				<b>Deferred Outflows</b>	<b>Deferred Inflows</b>	<b>Losses / Deferred Outflows</b>	<b>Gains / Deferred Inflows</b>			<b>Deferred Outflows</b>	<b>Deferred Inflows</b>
				<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>			<b>(a) + (c) - (e)</b>	<b>(b) + (d) - (f)</b>
2021	\$283,655	\$0	3.6	\$0	\$0	\$283,655	\$0	\$78,793	\$0	\$204,862	\$0
2020	\$0	\$0	3.5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	3.6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	\$35,616	\$0	3.5	\$5,087	\$0	\$0	\$0	\$5,087	\$0	\$0	\$0
2017	\$0	\$0	3.6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>				<u>\$5,087</u>	<u>\$0</u>	<u>\$283,655</u>	<u>\$0</u>			<u>\$204,862</u>	<u>\$0</u>



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**STATE EMPLOYEES**  
**(\$ in thousands)**

Total Deferred Outflows and Inflows for Differences in Investment Experience											
Year	Beginning Balance							Ending Balance			
	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows	Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Deferred Outflows	Deferred Inflows
	(a)	(b)		(c)	(d)	(e)	(f)	(a) + (c) - (e)	(b) + (d) - (f)		
2021	\$0	\$703,265	5	\$0	\$0	\$0	\$703,265	\$0	\$140,653	\$0	\$562,612
2020	\$96,230	\$0	5	\$76,984	\$0	\$0	\$0	\$19,246	\$0	\$57,738	\$0
2019	\$255,939	\$0	5	\$153,563	\$0	\$0	\$0	\$51,188	\$0	\$102,375	\$0
2018	\$0	\$72,669	5	\$0	\$29,067	\$0	\$0	\$0	\$14,534	\$0	\$14,533
2017	\$0	\$229,606	5	\$0	\$45,922	\$0	\$0	\$0	\$45,922	\$0	\$0
2016	\$0	\$95,746	5	0	0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>				\$230,547	\$74,989	\$0	\$703,265			\$160,113	\$577,145
<b>Net difference between projected and actual earnings on investments</b>										\$0	\$417,032

**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**

(continued)

**STATE POLICE**

(\$ in thousands)



Total Deferred Outflows and Inflows between Expected and Actual Experience											
Year	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance				Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Ending Balance	
				Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows			Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)			(e)	(f)
2021	\$5,826	\$0	4.3	\$0	\$0	\$5,826	\$0	\$1,355	\$0	\$4,471	\$0
2020	\$8,966	\$0	3.6	\$6,475	\$0	\$0	\$0	\$2,491	\$0	\$3,984	\$0
2019	\$181	\$0	3.6	\$81	\$0	\$0	\$0	\$50	\$0	\$31	\$0
2018	0	\$1,093	3.4	\$0	\$129	\$0	\$0	\$0	\$129	\$0	\$0
2017	0	1,079	3.7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>				<u>\$6,556</u>	<u>\$129</u>	<u>\$5,826</u>	<u>\$0</u>			<u>\$8,486</u>	<u>\$0</u>

Total Deferred Outflows and Inflows for Differences From Assumption Changes											
Year	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance				Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Ending Balance	
				Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows			Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)			(e)	(f)
2021	\$25,326	\$0	4.3	\$0	\$0	\$25,326	\$0	\$5,890	\$0	\$19,436	\$0
2020	\$0	\$0	3.6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	3.6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	\$2,823	\$0	3.4	\$333	\$0	\$0	\$0	\$333	\$0	\$0	\$0
2017	\$0	\$0	3.7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>				<u>\$333</u>	<u>\$0</u>	<u>\$25,326</u>	<u>\$0</u>			<u>\$19,436</u>	<u>\$0</u>



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**STATE POLICE**  
**(\$ in thousands)**

Total Deferred Outflows and Inflows for Differences in Investment Experience													
Year	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance				Losses / Deferred Outflows	Gains / Deferred Inflows	Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Ending Balance	
				Deferred Outflows	Deferred Inflows	Deferred Outflows	Deferred Inflows					Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)					(e)	(f)
2021	\$0	\$49,400	5	\$0	\$0	\$0	\$49,400	\$0	\$9,880	\$0	\$39,520		
2020	\$6,674	\$0	5	\$5,339	\$0	\$0	\$0	\$1,335	\$0	\$4,004	\$0		
2019	\$17,622	\$0	5	\$10,574	\$0	\$0	\$0	\$3,524	\$0	\$7,050	\$0		
2018	\$0	\$5,012	5	\$0	\$2,006	\$0	\$0	\$0	\$1,002	\$0	\$1,004		
2017	\$0	\$15,745	5	\$0	\$3,149	\$0	\$0	\$0	\$3,149	\$0	\$0		
2016	\$0	\$0	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
<b>Total</b>				\$15,913	\$5,155	\$0	\$49,400			\$11,054	\$40,524		
<b>Net difference between projected and actual earnings on investments</b>										\$0	\$29,470		



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**LOCAL EMPLOYEES**  
**(\$ in thousands)**

Total Deferred Outflows and Inflows between Expected and Actual Experience											
Year	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance				Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Ending Balance	
				Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows			Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)	(e)	(f)	(a) + (c) - (e)	(b) + (d) - (f)
2021	\$104,136	\$90,944	Varies	\$0	\$0	\$104,136	\$90,944	\$18,934	\$18,618	\$85,202	\$72,326
2020	\$151,854	\$51,152	Varies	\$124,442	\$38,297	\$0	\$0	\$26,714	\$9,228	\$97,728	\$29,069
2019	\$85,590	\$61,669	Varies	\$57,236	\$53,538	\$0	\$0	\$13,417	\$16,380	\$43,819	\$37,158
2018	\$53,203	\$115,142	Varies	\$26,176	\$57,605	\$0	\$0	\$8,210	\$18,053	\$17,966	\$39,552
2017	\$88,079	\$94,532	Varies	\$34,451	\$30,268	\$0	\$0	\$13,661	\$13,051	\$20,790	\$17,217
2016	\$69,623	\$77,377	Varies	\$17,213	\$12,572	\$0	\$0	\$8,301	\$7,225	\$8,912	\$5,347
2015	\$78,729	\$52,479	Varies	\$6,489	\$3,908	\$0	\$0	\$4,428	\$2,605	\$2,061	\$1,303
<b>Total</b>				\$266,007	\$196,188	\$104,136	\$90,944			\$276,478	\$201,972



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**LOCAL EMPLOYEES**  
**(\$ in thousands)**

Total Deferred Outflows and Inflows for Differences From Assumption Changes											
Year	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance				Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Ending Balance	
				Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows			Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)			(e)	(f)
2021	\$420,742	\$3,528	Varies	\$0	\$0	\$420,742	\$3,528	\$79,467	\$559	\$341,275	\$2,969
2020	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	Varies	\$0	\$23,312	\$0	\$0	\$0	\$10,361	\$0	\$12,951
2018	\$49,188	\$0	Varies	\$33,478	\$0	\$0	\$0	\$13,454	\$0	\$20,024	\$0
2017	\$0	\$0	Varies	\$153	\$0	\$0	\$0	\$153	\$0	\$0	\$0
2016	\$350,904	\$0	Varies	\$71,178	\$0	\$0	\$0	\$41,052	\$0	\$30,126	\$0
<b>Total</b>				\$104,809	\$23,312	\$420,742	\$3,528			\$391,425	\$15,920



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**LOCAL EMPLOYEES**  
**(\$ in thousands)**

Total Deferred Outflows and Inflows for Differences in Investment Experience											
Year	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Beginning Balance				Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Ending Balance	
				Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows			Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)			(e) + (c) - (f)	(f) + (d) - (e)
2021	\$0	\$1,116,431	5	\$0	\$0	\$0	\$1,116,431	\$0	\$223,286	\$0	\$893,145
2020	\$148,638	\$0	5	\$118,910	\$0	\$0	\$0	\$29,728	\$0	\$89,182	\$0
2019	\$367,152	\$0	5	\$220,290	\$11,305	\$0	\$0	\$73,430	\$3,479	\$146,860	\$7,826
2018	\$0	\$100,918	5	\$17,990	\$40,366	\$0	\$0	\$7,996	\$20,184	\$9,994	\$20,182
2017	\$0	\$308,114	5	\$0	\$66,470	\$0	\$0	\$0	\$65,500	\$0	\$970
2016	\$0	\$123,532	5	\$113	\$0	\$0	\$0	\$113	\$0	\$0	\$0
<b>Total</b>				<u>\$357,303</u>	<u>\$118,141</u>	<u>\$0</u>	<u>\$1,116,431</u>			<u>\$246,036</u>	<u>\$922,123</u>
<b>Net difference between projected and actual earnings on investments</b>										\$0	\$676,087





**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**TOTAL**  
**(\$ in thousands)**

Total Deferred Outflows and Inflows between Expected and Actual Experience											
Year				Beginning Balance						Ending Balance	
	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows	Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)	(e)	(f)	(a) + (c) - (e)	(b) + (d) - (f)
2021	\$187,839	\$90,944	Varies	\$0	\$0	\$187,839	\$90,944	\$41,922	\$18,618	\$145,917	\$72,326
2020	\$295,061	\$51,152	Varies	\$226,803	\$38,297	\$0	\$0	\$67,560	\$9,228	\$159,243	\$29,069
2019	\$86,081	\$61,669	Varies	\$57,449	\$53,538	\$0	\$0	\$13,556	\$16,380	\$43,893	\$37,158
2018	\$53,203	\$132,476	Varies	\$26,176	\$60,052	\$0	\$0	\$8,210	\$20,500	\$17,966	\$39,552
2017	\$88,079	\$152,190	Varies	\$34,451	\$30,268	\$0	\$0	\$13,661	\$13,051	\$20,790	\$17,217
2016	\$69,623	\$77,377	Varies	\$17,213	\$12,572	\$0	\$0	\$8,301	\$7,225	\$8,912	\$5,347
2015	\$78,729	\$52,479	Varies	\$6,489	\$3,908	\$0	\$0	\$4,428	\$2,605	\$2,061	\$1,303
<b>Total</b>				\$368,581	\$198,635	\$187,839	\$90,944			\$398,782	\$201,972



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**

**(continued)**

**TOTAL**

**(\$ in thousands)**

<b>Total Deferred Outflows and Inflows for Differences From Assumption Changes</b>											
<b>Year</b>	<b>Initial Balance of Losses / Deferred Outflow</b>	<b>Initial Balance of Gains / Deferred Inflow</b>	<b>Amortization Period</b>	<b>Beginning Balance</b>				<b>Amounts Recognized in Pension Expense / Deferred Outflow</b>	<b>Amounts Recognized in Pension Expense / Deferred Inflow</b>	<b>Ending Balance</b>	
				<b>Deferred Outflows</b>	<b>Deferred Inflows</b>	<b>Losses / Deferred Outflows</b>	<b>Gains / Deferred Inflows</b>			<b>Deferred Outflows</b>	<b>Deferred Inflows</b>
				<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>			<b>(a) + (c) - (e)</b>	<b>(b) + (d) - (f)</b>
2021	\$0	\$0	Varies	\$0	\$0	\$729,723	\$3,528	\$164,150	\$559	\$565,573	\$2,969
2020	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	Varies	\$0	\$23,312	\$0	\$0	\$0	\$10,361	\$0	\$12,951
2018	\$87,627	\$0	Varies	\$38,898	\$0	\$0	\$0	\$18,874	\$0	\$20,024	\$0
2017	\$0	\$0	Varies	\$153	\$0	\$0	\$0	\$153	\$0	\$0	\$0
2016	\$350,904	\$0	Varies	\$71,178	\$0	\$0	\$0	\$41,052	\$0	\$30,126	\$0
<b>Total</b>				<u>\$110,229</u>	<u>\$23,312</u>	<u>\$0</u>	<u>\$0</u>			<u>\$615,723</u>	<u>\$15,920</u>



**SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES**  
**(continued)**  
**TOTAL**  
**(\$ in thousands)**

Total Deferred Outflows and Inflows for Differences in Investment Experience											
Year				Beginning Balance				Ending Balance			
	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows	Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)	(e)	(f)	(a) + (c) - (e)	(b) + (d) - (f)
2021	\$0	\$1,869,096	5	\$0	\$0	\$0	\$1,869,096	\$0	\$373,819	\$0	\$1,495,277
2020	\$251,542	\$0	5	\$201,233	\$0	\$0	\$0	\$50,309	\$0	\$150,924	\$0
2019	\$640,713	\$0	5	\$384,427	\$11,305	\$0	\$0	\$128,142	\$3,479	\$256,285	\$7,826
2018	\$0	\$178,599	5	\$17,990	\$71,439	\$0	\$0	\$7,996	\$35,720	\$9,994	\$35,719
2017	\$0	\$553,465	5	\$0	\$115,541	\$0	\$0	\$0	\$114,571	\$0	\$970
2016	\$0	\$225,823	5	\$113	\$0	\$0	\$0	\$113	\$0	\$0	\$0
<b>Total</b>				\$603,763	\$198,285	\$0	\$1,869,096			\$417,203	\$1,539,792
										\$0	\$1,122,589

Net difference between projected and actual earnings on investments



**Paragraph 45 (i):** Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in Pension Expense as follows:

**Deferred Amounts to be Recognized in Fiscal Years Following the Reporting Date**

Year	State Employees	State Police	Local Employees	Total
2023	\$54,071	\$3,742	(\$31,629)	\$26,184
2024	\$49,384	\$3,718	(\$20,953)	32,149
2025	(\$61,152)	(\$1,301)	(\$97,127)	(159,580)
2026	(\$140,655)	(\$7,707)	(\$146,567)	(294,929)
2027	\$0	\$0	\$46,488	46,488
Thereafter	\$0	\$0	\$23,712	23,712



## **SECTION IV – PENSION EXPENSE**

As noted earlier, the Pension Expense (PE) consists of a number of different items. GASB 68 refers to the first as Service Cost which is the Normal Cost using the Entry Age Normal (EAN) actuarial funding method. The second item is interest on the beginning of year TPL and the cash flows during the year at the 7.70% rate of return in effect as of the previous measurement date.

The next three items refer to any changes that occurred in the TPL due to:

- benefit changes,
- actual versus expected experience or
- changes in actuarial assumptions.

Benefit changes, which are reflected immediately in PE, can be positive, if there is a benefit enhancement for existing Plan members, or negative if there is a benefit reduction. For the year ended September 30, 2021 the provisions of Act 2019-132 are recognized for 202 Local Employers.

The next item to be recognized is the portion of current year changes in TPL due to actual versus expected experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire membership of the employer. The remaining service life of active members is the average number of years the active members are expected to remain active. For the year ended September 30, 2021 the average remaining service life is 10.1 years for state employees and 9.4 years for state police. The remaining service life of the inactive members is zero. Therefore, the figure to use for the amortization is the weighted average of these two amounts, or 3.6 years for state employees and 4.3 years for state police. The amortization period varies for each local employer.

The last item under changes in TPL are changes in actuarial assumptions. Recognition of the change is spread over the remaining service life of the entire membership of the employer.

Member contributions for the year and projected earnings on the FNP, again at the rate used to calculate the liabilities, are subtracted from the amount determined thus far. One-fifth of current period differences between actual and projected earnings on the FNP are recognized in the pension expense.

The current year portions of previously determined experience, assumption, and earnings amounts, recognized as deferred inflows and outflows (see Section IV) are included next. Deferred inflows are subtracted from the PE while deferred outflows are added to the PE. Transfers among employers are also included in PE.



The calculation of the Pension Expense is shown in the following table.

**Pension Expense**  
**Determined as of the Measurement Date**  
**(\$ thousands)**

	State Employees	State Police	Local Employees	Total
Service Cost	\$119,061	\$9,426	\$220,197	\$348,684
Interest	600,401	48,517	817,677	1,466,595
Current-period benefit changes	0	0	39,193	39,193
Expensed portion of current-period difference between expected and actual experience in the total pension liability	21,633	1,355	316	23,304
Expensed portion of current-period changes of assumptions	78,793	5,890	78,908	163,591
Member contributions	(108,134)	(4,919)	(173,343)	(286,396)
Other	0	0	0	0
Projected earnings on plan investments	(373,152)	(26,300)	(592,651)	(992,103)
Expensed portion of current-period differences between actual and projected earnings on plan investments	(140,653)	(9,880)	(223,286)	(373,819)
Administrative expense	14,496	0	0	14,496
Transfers among employers	0	0	0	0
Recognition of beginning deferred outflows of resources as pension expense	53,509	3,582	151,494	208,585
Recognition of beginning deferred inflows of resources as pension expense	(2,318)	(129)	(76,903)	(79,350)
Pension Expense	<u>\$263,636</u>	<u>\$27,542</u>	<u>\$241,602</u>	<u>\$532,779</u>



**SCHEDULE A**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY**  
**Last 10 Fiscal Years Ending September 30**  
**STATE EMPLOYEES**  
**(\$ in thousands)**

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
<b>Total pension liability</b>										
Service Cost	\$ 119,061	\$ 115,018	\$ 110,482	\$ 107,929	\$ 107,377	\$ 113,497	\$ 152,160	\$ 107,776		
Interest	600,401	582,317	573,993	567,816	563,620	557,699	549,795	541,492		
Benefit changes	-	-	-	-	-	-	-	-		
Difference between expected and actual experience	77,877	134,241	310	(16,241)	(56,579)	3,957	(60,921)	-		
Changes of assumptions	283,655	-	-	35,615	-	183,527	-	-		
Benefit payments, including refunds of employee contributions	(606,886)	(586,640)	(569,659)	(569,781)	(551,721)	(563,913)	(559,171)	(531,786)		
Transfers among employers	(398)	39	1,470	2,411	1,290	(409)	19,304	-		
<b>Net change in total pension liability</b>	<b>473,710</b>	<b>244,975</b>	<b>116,596</b>	<b>127,749</b>	<b>63,987</b>	<b>294,358</b>	<b>101,167</b>	<b>117,482</b>		
<b>Total pension liability - beginning</b>	<b>\$ 8,100,855</b>	<b>\$ 7,855,880</b>	<b>\$ 7,739,284</b>	<b>\$ 7,611,535</b>	<b>\$ 7,547,548</b>	<b>\$ 7,253,190</b>	<b>\$ 7,152,023</b>	<b>\$ 7,034,541</b>		
<b>Total pension liability - ending (a)</b>	<b>\$ 8,574,565</b>	<b>\$ 8,100,855</b>	<b>\$ 7,855,880</b>	<b>\$ 7,739,284</b>	<b>\$ 7,611,535</b>	<b>\$ 7,547,548</b>	<b>\$ 7,253,190</b>	<b>\$ 7,152,023</b>		
<b>Components of Plan Fiduciary Net Position reserved to fund Total Pension Liability</b>										
Contributions - employer	\$ 221,634	\$ 228,964	\$ 208,020	\$ 186,715	\$ 184,362	\$ 192,420	\$ 177,599	\$ 146,752		
Contributions - member	108,134	110,197	104,031	97,527	95,979	100,907	97,144	96,585		
Other	-	-	-	(7,481)	-	-	68,898	-		
Net investment income	1,076,417	276,998	128,063	446,946	581,603	446,180	54,772	523,129		
Benefit payments, including refunds of employee contributions	(606,886)	(586,640)	(569,659)	(570,131)	(551,721)	(563,913)	(559,171)	(531,786)		
Transfers among employers	(398)	39	1,470	2,411	478	(409)	6,435	410		
Administrative Expenses	(14,496)	(16,539)	(15,829)	(13,763)	(14,502)	(13,023)	(13,182)	-		
<b>Net change in plan fiduciary net position</b>	<b>784,405</b>	<b>13,019</b>	<b>(143,904)</b>	<b>142,224</b>	<b>296,199</b>	<b>162,162</b>	<b>(167,505)</b>	<b>235,090</b>		
<b>Plan fiduciary net position - beginning</b>	<b>\$ 4,992,137</b>	<b>\$ 4,979,118</b>	<b>\$ 5,123,022</b>	<b>\$ 4,980,798</b>	<b>\$ 4,684,599</b>	<b>\$ 4,522,437</b>	<b>\$ 4,689,942</b>	<b>\$ 4,454,852</b>		
<b>Plan fiduciary net position - ending (b)</b>	<b>\$ 5,776,542</b>	<b>\$ 4,992,137</b>	<b>\$ 4,979,118</b>	<b>\$ 5,123,022</b>	<b>\$ 4,980,798</b>	<b>\$ 4,684,599</b>	<b>\$ 4,522,437</b>	<b>\$ 4,689,942</b>		
<b>Net pension liability (asset) - ending (a) - (b)</b>	<b>\$ 2,798,023</b>	<b>\$ 3,108,718</b>	<b>\$ 2,876,762</b>	<b>\$ 2,616,262</b>	<b>\$ 2,630,737</b>	<b>\$ 2,862,949</b>	<b>\$ 2,730,752</b>	<b>\$ 2,462,081</b>		
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>67.37%</b>	<b>61.62%</b>	<b>63.38%</b>	<b>66.20%</b>	<b>65.44%</b>	<b>62.07%</b>	<b>62.35%</b>	<b>65.58%</b>		
<b>Covered payroll*</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>		
<b>Net pension liability (asset) as a percentage of covered payroll</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>		

\*Employer's covered payroll during the measurement period is the total covered payroll. For FY2022 the measurement period is October 1, 2021 – September 30, 2022.

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years for which information is available.



**SCHEDULE A**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY**  
**Last 10 Fiscal Years Ending September 30**  
**STATE POLICE**  
**(\$ in thousands)**

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
<b>Total pension liability</b>										
Service Cost	\$ 9,426	\$ 8,800	\$ 8,758	\$ 8,829	\$ 9,016	\$ 8,484	\$ 8,394	\$ 8,654		
Interest	48,517	46,806	46,042	45,434	44,687	43,025	42,677	41,950		
Benefit changes	-	-	-	-	-	-	-	-		
Difference between expected and actual experience	5,826	8,966	181	(1,093)	(1,079)	7,138	(2,544)	-		
Changes of assumptions	25,326	-	-	2,823	-	24,237	-	-		
Benefit payments, including refunds of employee contributions	(45,849)	(46,258)	(44,857)	(44,004)	(42,454)	(44,770)	(43,588)	(39,451)		
Transfers among employers	510	3,710	496	127	253	(470)	-	-		
<b>Net change in total pension liability</b>	<b>43,756</b>	<b>22,024</b>	<b>10,620</b>	<b>12,116</b>	<b>10,423</b>	<b>37,644</b>	<b>4,939</b>	<b>11,153</b>		
<b>Total pension liability - beginning</b>	<b>\$ 653,019</b>	<b>\$ 630,995</b>	<b>\$ 620,375</b>	<b>\$ 608,259</b>	<b>\$ 597,836</b>	<b>\$ 560,192</b>	<b>\$ 555,253</b>	<b>\$ 544,100</b>		
<b>Total pension liability - ending (a)</b>	<b>\$ 696,775</b>	<b>\$ 653,019</b>	<b>\$ 630,995</b>	<b>\$ 620,375</b>	<b>\$ 608,259</b>	<b>\$ 597,836</b>	<b>\$ 560,192</b>	<b>\$ 555,253</b>		
<b>Components of Plan Fiduciary Net Position reserved to fund Total Pension Liability</b>										
Contributions - employer	\$ 25,768	\$ 24,917	\$ 20,915	\$ 17,885	\$ 23,031	\$ 18,491	\$ 16,463	\$ 15,347		
Contributions - member	4,919	4,638	4,406	4,141	4,322	4,407	4,374	4,454		
Other	-	-	-	-	-	-	-	-		
Net investment income	75,700	19,211	8,817	30,819	39,883	30,508	3,776	36,410		
Benefit payments, including refunds of employee contributions	(45,849)	(46,258)	(44,857)	(44,004)	(42,454)	(44,770)	(43,588)	(39,451)		
Transfers among employers	510	3,710	496	127	253	(470)	(138)	(384)		
Administrative Expenses	-	-	-	-	-	-	-	-		
<b>Net change in plan fiduciary net position</b>	<b>61,048</b>	<b>6,218</b>	<b>(10,223)</b>	<b>8,968</b>	<b>25,035</b>	<b>8,166</b>	<b>(19,113)</b>	<b>16,376</b>		
<b>Plan fiduciary net position - beginning</b>	<b>\$ 348,883</b>	<b>\$ 342,665</b>	<b>\$ 352,888</b>	<b>\$ 343,920</b>	<b>\$ 318,885</b>	<b>\$ 310,719</b>	<b>\$ 329,832</b>	<b>\$ 313,456</b>		
<b>Plan fiduciary net position - ending (b)</b>	<b>\$ 409,931</b>	<b>\$ 348,883</b>	<b>\$ 342,665</b>	<b>\$ 352,888</b>	<b>\$ 343,920</b>	<b>\$ 318,885</b>	<b>\$ 310,719</b>	<b>\$ 329,832</b>		
<b>Net pension liability (asset) - ending (a) - (b)</b>	<b>\$ 286,844</b>	<b>\$ 304,136</b>	<b>\$ 288,330</b>	<b>\$ 267,487</b>	<b>\$ 264,339</b>	<b>\$ 278,951</b>	<b>\$ 249,473</b>	<b>\$ 225,421</b>		
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>58.83%</b>	<b>53.43%</b>	<b>54.31%</b>	<b>56.88%</b>	<b>56.54%</b>	<b>53.34%</b>	<b>55.47%</b>	<b>59.40%</b>		
<b>Covered payroll*</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>	<b>\$X,XXX</b>
<b>Net pension liability (asset) as a percentage of covered payroll</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>	<b>X.XX%</b>

\*Employer's covered payroll during the measurement period is the total covered payroll. For FY2022 the measurement period is October 1, 2021 – September 30, 2022.

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years for which information is available.



**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
**Last 10 Fiscal Years Ending September 30**  
**STATE EMPLOYEES**



	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Actuarially determined contribution*	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX
Contributions in relation to the actuarially determined contribution*	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX
Contribution deficiency (excess)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Covered payroll**	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX
Contributions as a percentage of covered payroll	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%

\*The amount of employer contributions related to normal and accrued liability components of employer rate net of any refunds or error service payments. The Schedule of Employer Contributions is based on the 12-month period of the underlying financial statement.

\*\*Employer's covered payroll for FY2022 is the total covered payroll for the 12-month period of the underlying financial statement.

**Notes to Schedule**

Actuarially determined contribution rates are calculated as of September 30, three years prior to the end of the fiscal year in which contributions are reported. Contributions for fiscal year 2022 were based on the September 30, 2019 actuarial valuation.

Methods and assumptions used to determine contribution rates for the period October 1, 2021 to September 30, 2022\*:

Actuarial cost method	Entry Age
Amortization method	Level percent closed
Remaining amortization period	27.9 years
Asset valuation method	Five-year smoothed market
Inflation	2.75%
Salary increases	3.25% - 5.00%, including inflation
Investment rate of return	7.70%, net of pension plan investment expense, including inflation

\*If the employer's financial reporting period end is other than September 30, 2022, additional assumptions should be reported for the basis of determining the portion of the contribution prior to or subsequent to this period.

**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
**Last 10 Fiscal Years Ending September 30**  
**STATE POLICE**



	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Actuarially determined contribution*	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX
Contributions in relation to the actuarially determined contribution*	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX	X,XXX
Contribution deficiency (excess)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Covered payroll**	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX	\$X,XXX
Contributions as a percentage of covered payroll	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%	X.XX%

\*The amount of employer contributions related to normal and accrued liability components of employer rate net of any refunds or error service payments. The Schedule of Employer Contributions is based on the 12-month period of the underlying financial statement.

\*\*Employer's covered payroll for FY2022 is the total covered payroll for the 12-month period of the underlying financial statement.

**Notes to Schedule**

Actuarially determined contribution rates are calculated as of September 30, three years prior to the end of the fiscal year in which contributions are reported. Contributions for fiscal year 2022 were based on the September 30, 2019 actuarial valuation.

Methods and assumptions used to determine contribution rates for the period October 1, 2021 to September 30, 2022\*:

Actuarial cost method	Entry Age
Amortization method	Level percent closed
Remaining amortization period	27.8 years
Asset valuation method	Five-year smoothed market
Inflation	2.75%
Salary increases	4.50%, including inflation
Investment rate of return	7.70%, net of pension plan investment expense, including inflation

\*If the employer's financial reporting period end is other than September 30, 2022, additional assumptions should be reported for the basis of determining the portion of the contribution prior to or subsequent to this period.



**SCHEDULE B**  
**SUMMARY OF BENEFIT PROVISIONS EVALUATED**

The Employees' Retirement System of Alabama was established on October 1, 1945. The valuation took into account amendments to the System effective through the valuation date. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

1 – DEFINITIONS

Average Final Compensation – the average compensation of a member for:

- Tier 1 - the 3 highest years in the last 10 years of creditable service
- Tier 2 - the 5 highest years in the last 10 years of creditable service

Membership Service – all service rendered while a member of the Retirement System and for which contributions are made.

Creditable Service – the sum of membership service, prior service, and any other previous service established as creditable in accordance with the provisions of the retirement law.

Annuity – payments for life derived from accumulated contributions of a member.

Pension – payments for life derived from the accumulated contributions of an employer.

Retirement Allowance – the sum of the annuity and pension payments.

2 - BENEFITS

MEMBERS CLASSIFIED AS STATE EMPLOYEES

Service Retirement Allowance

Condition for Allowance

Tier I	A retirement allowance is payable upon the request of any member who has completed 25 years of creditable service, (except for employees of local employers who did not elect 25-year retirement), or who has attained age 60 and completed at least 10 years of creditable service.
Tier II	A retirement allowance is payable upon the request of any member who has attained age 62 and completed at least 10 years of creditable service (age 56 with 10 years of creditable



service for a full-time certified firefighter, police officer or correctional officer).

#### Amount of Allowance

##### Tier I

Upon service retirement a member receives a retirement allowance equal to 2.0125% of the member's average final compensation multiplied by the number of years of his creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a full-time certified firefighter, police officer or correctional officer.

##### Tier II

Upon service retirement a member receives a retirement allowance equal to 1.65% of the member's average final compensation multiplied by the number of years of creditable service. The benefit is capped at 80% of the member's average final compensation.

#### Disability Retirement Allowance

##### Condition for Allowance

A disability retirement allowance may be granted to a member who has 10 or more years of creditable service and becomes permanently incapacitated for duty before reaching eligibility for service retirement.

##### Amount of Allowance

##### Tier I

Upon retirement for disability, a member receives a retirement allowance equal to 2.0125% of the member's average final compensation multiplied by the number of years of his creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a full-time certified firefighter, police officer or correctional officer.

##### Tier II

Upon disability retirement a member receives a retirement allowance equal to 1.65% of the member's average final compensation multiplied by the number of years of creditable service. The benefit is capped at 80% of the member's average final compensation.



Benefits Payable on  
Separation from Service

Any member who withdraws from service is entitled to receive a return of member contributions with allowable interest. A member who has completed 10 years of creditable service may, after separation from service, continue in the membership of the System and file for service retirement after reaching age 60 (age 62 for Tier II members).

Benefits Payable upon  
Death in Active Service

In the event of the death of a member eligible for service retirement, the designated beneficiary may elect: (1) to exercise option 3 as defined below under “Special Privileges at Retirement – All Employees” or (2) to receive a return of member contributions and total interest earned plus a death benefit payable from the pre-retirement death benefit fund equal to the salary on which the member made retirement contributions for the previous fiscal year (October 1 – September 30).\*

In the event of the death of a member with more than one year of service who is not eligible for retirement, the designated beneficiary shall receive a return of member contributions and total interest earned. Also, the designated beneficiary shall receive an additional death benefit payable from the pre-retirement death benefit fund equal to the salary on which their retirement contributions were made for the previous fiscal year (October 1 – September 30).\*

In the event of a job-related death of a member at any age with less than 1 year of service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a death benefit payable from the pre-retirement death benefit fund equal to the annual earnable compensation of the member at the time death occurs.\*

In the event of a non-job-related death of a member with less than 1 year of service, the beneficiary shall receive the return of member contributions and total interest earned plus a matching death benefit which is limited to a maximum of \$5,000.



- \* However, if the death occurred more than 180 calendar days after the member's last day in pay status, or if the deceased had applied for a refund of contributions or terminated employment, the lump sum will be the same as if the member had less than one year of service and the death was not job-related.

## Deferred Retirement Option Plan (DROP)

A member may elect to participate in the Deferred Retirement Option Plan (DROP) upon completion of at least 25 years of service (at least 30 years for employers that did not elect 25 year retirement) of creditable service (excluding sick leave) and attainment of at least 55 years of age. Under the DROP, the member may defer receipt of a retirement allowance and continue employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member may withdraw from active service and receive the retirement benefit based on his or her years of service credit at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits, employee contributions while participating in the DROP, and interest earned on DROP deposits.

As a result of Act 2011-27 no new participants were allowed to enter DROP with an effective participation date after June 1, 2011.

## Member Contributions

### Tier I

Prior to October 1, 2011, regular members contributed 5.0% of salary. Full-time certified police officers, firefighters and correctional officers contributed 6.0% of salary. DROP participants continue to contribute during the DROP period, but receive a refund of these contributions and regular interest upon retirement.

Beginning October 1, 2011, the contribution rates were increased to 7.25% for regular members and 8.25% for full-time certified police officers, firefighters and correctional officers, for all State employees and for local employees whose employers elect to do so.



Beginning October 1, 2012, the contribution rates were increased to 7.50% for regular members and 8.50% for full-time certified police officers, firefighters and correctional officers, for all State employees and for local employees whose employers elect to do so.

Tier II Regular members contribute 6% of salary and full-time certified firefighters, police officers and correctional officers contribute 7% of salary.

Both If positive investment performance results in a decrease in the total contribution rate paid by employers and employees participating in the System, the Retirement System of Alabama shall first reduce the employee contribution rate.

“Regular Interest” is 4% which is the rate adopted by the Board and applied to the balance in each member’s account every year; however, if a member receives a refund of contributions, the interest rate applied to the refund is lower than the 4% regular rate (Based on Section 36-27-16.3(c)(1)).

#### MEMBERS OF LOCAL EMPLOYERS

Members of local employers generally receive the same benefit structure as State employees, however some benefits must be elected by individual employers. Members whose employers have not yet elected to grant retirement upon completion of 25 years of service must have 30 years of service for retirement before age 60. These employers have the option of electing 25-year retirement for their members. Employers may also elect to increase Tier I member contribution rates to 7.5% of payroll for regular members and 8.5% of payroll for FLC members. Employers who have not elected to allow sick leave conversion may still elect to do so. Employers may elect to provide Tier I benefits to their Tier II members, provided the members pay the increased members rates shown above.

Members of the City of Montgomery who elected to remain under the City’s retirement plan structure are subject to the conditions and benefit structure of that plan. A brief description of this structure is as follows:



## Service Retirement Allowance

### Condition for Allowance

- Group I** For general municipal employees hired before October 1, 2013, a retirement allowance is payable upon the request of any member who has completed 20 years of creditable service, or who has attained age 65 (25 years or age 62 if hired after October 1, 2005 or elected)
- Group II** For members of the fire department or police department of the City, a retirement allowance is payable upon the request of any member who has completed 20 years of creditable service or attained age 62 (25 years or age 55 if hired after October 1, 2005, or 25 years or age 55 with 10 years of creditable service if hired after October 1, 2013)

### Amount of Allowance

- Group I** **20-year retirement plan:** Upon service retirement a member receives a retirement allowance equal to 2.0% of the member's average final compensation multiplied by the number of years of his creditable service (up to 20 years), and 1% of the member's average final compensation multiplied by the number of years of his creditable service over 20 years. Maximum benefit is 60% of average final compensation.  
**25-year retirement plan:** Upon service retirement a member receives a retirement allowance equal to 2.0% of the member's average final compensation multiplied by the number of years of his creditable service. Maximum benefit is 100% of average final compensation.
- Group II** **20-year retirement plan:** Upon service retirement a member receives a retirement allowance equal to 2.5% of the member's average final compensation multiplied by the number of years of his creditable service (up to 20 years), and 1% of the member's average final compensation multiplied by the number of years of his creditable service over 20 years. Maximum benefit is 60% of average final compensation.





**25-year retirement plan:** Upon service retirement a member receives a retirement allowance equal to 2.5% of the member's average final compensation multiplied by the number of years of his creditable service. Maximum benefit is 100% of average final compensation.

**Age 62 retirement plan:** Upon service retirement a member receives a retirement allowance equal to 2.5% of the member's average final compensation multiplied by the number of years of his creditable service. Maximum benefit is 100% of average final compensation. Benefit is reduced by early retirement factor (5/9% for each month annuity start date precedes age 62 but not earlier than age 55).

Employee Retention Incentive Program  
(ERIP)

An employee is eligible to enter the ERIP plan if he or she is an active employee and has at least 20 years of service (25 years for a 25-year retirement plan participant). The participant can effectively elect to retire up to three years prior to termination, and receive the payments that would have been made as a lump sum (accumulated with 5% interest). Subsequent monthly benefits are based on the benefit used to determine the lump sum.

Preretirement Death Benefits

If the member is eligible for a service retirement, 50% of the accrued benefit, reduced for a 50% joint and survivor annuity. If the member is not eligible for a service retirement benefit, a lump sum of member contributions is payable.

Disability Benefits

If a participant has 10 years of service and becomes permanently disabled he is entitled to immediately receive his monthly accrued benefit, based on his current years of service and current final average earnings.



## Separation Benefits

- |          |  |
|----------|--|
| Group I  | Return of contributions if less than 10 years of service. If more than 10 years of service, member is entitled to his accrued benefit payable at age 62 (age 65 for 20-year plan).                 |
| Group II | Return of contributions if less than 10 years of service. If more than 10 years of service, member is entitled to his accrued benefit payable at age 55 (age 62 for 20-year plan and Age 62 plan). |

## MEMBERS CLASSIFIED AS STATE POLICEMEN

### Service Retirement Allowance

#### Condition for Allowance

- |         |   |
|---------|---|
| Tier I  | Members hired prior to January 1, 2015: A retirement allowance is payable upon the request of any member who has completed 25 years of creditable service or who has attained age 52 and completed at least 10 years of creditable service.<br><br>Members hired after January 1, 2015: A retirement allowance is payable upon the request of any member who has completed 25 years of creditable service or who has attained age 60 and completed at least 10 years of creditable service. |
| Tier II | A retirement allowance is payable upon the request of any member who has attained age 56 and completed at least 10 years of creditable service.   |

#### Amount of Allowance

- |        |  |
|--------|--|
| Tier I | Members hired prior to January 1, 2015: Upon service retirement a member receives a retirement allowance equal to 2.875% of the member's average final compensation multiplied by the number of years of his creditable service. |
|--------|--|



A member who has attained 20 or more years of creditable service and retires prior to age 60 is eligible to receive a “bonus service credit” up to 4 years as follows:

- Age 56 or older – bonus service of 4 years reduced by 1 month for each month over the age of 56.
- Age 52 to 56 – bonus service of 4 years.
- Age 52 or less (disability retirement only) – bonus service of 4 years.
- Age 52 or less with 25 or more years of service – bonus service of 4 years.

Members hired after January 1, 2015: Upon service retirement a member receives a retirement allowance equal to 2.0125% of the member's average final compensation multiplied by the number of years of his creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as an officer.

## Tier II

Members hired prior to January 1, 2015: Upon service retirement a member receives a retirement allowance equal to 2.375% of the member's average final compensation multiplied by the number of years of his creditable service. The benefit is capped at 80% of the member’s average final compensation.

Members hired after January 1, 2015: Upon service retirement a member receives a retirement allowance equal to 1.65% of the member's average final compensation multiplied by the number of years of his creditable service. The benefit is capped at 80% of the member’s average final compensation.



## Disability Retirement Allowance

### Condition for Allowance

A disability retirement allowance may be granted to a member who has 10 or more years of creditable service or who becomes disabled as a result of his employment in line of duty without regard to his years of creditable service, and who becomes permanently incapacitated, mentally or physically, for the further performance of duty before reaching the minimum age for service retirement.

### Amount of Allowance

#### Tier I

Members hired prior to January 1, 2015: Upon retirement for disability, a member receives a retirement allowance equal to 2.875% of the member's average final compensation multiplied by the number of years of his creditable service.

Members hired after January 1, 2015: Upon retirement for disability, a member receives a retirement allowance equal to 2.0125% of the member's average final compensation multiplied by the number of years of his creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a full-time officer.

#### Tier II

Members hired prior to January 1, 2015: Upon retirement for disability, a member receives a retirement allowance equal to 2.375% of the member's average final compensation multiplied by the number of years of his creditable service. The benefit is capped at 80% of the member's average final compensation.

Members hired after January 1, 2015: Upon retirement for disability, a member receives a retirement allowance equal to 1.65% of the member's average final compensation multiplied by the number of years of his creditable service. The benefit is capped at 80% of the member's average final compensation.

### Benefits Payable on Separation from Service

Any member who withdraws from service is entitled to receive a return of member contributions with allowable interest. A member who has completed 10 years of creditable



service may, after separation from service, continue in the membership of the System and file for service retirement after reaching age 52 (age 56 for Tier II members).

Benefits Payable upon  
Death in Active Service

In the event of the death of a member who is eligible for service retirement, the designated beneficiary may elect: (1) to exercise option 3 as defined below under “Special Privileges at Retirement – All Employees” or (2) to receive a return of member contributions and total interest earned plus a death benefit payable from the pre-retirement death benefit fund equal to the salary on which the member made retirement contributions for the previous fiscal year (October 1 – September 30).\*

In the event of the death of a member with more than one year of service who is not eligible for retirement, the designated beneficiary shall receive a return of member contributions and total interest earned. Also, the designated beneficiary shall receive an additional death benefit payable from the pre-retirement death benefit fund equal to the salary on which their retirement contributions were made for the previous fiscal year (October 1 – September 30).\*

In the event of a job-related death of a member at any age with less than 1 year of service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a death benefit payable from the pre-retirement death benefit fund equal to the annual earnable compensation of the member at the time death occurs.\*

In the event of a non-job-related death of a member with less than 1 year of service, the beneficiary shall receive the return of member contributions and total interest earned plus a matching death benefit which is limited to a maximum of \$5,000.

\* However, if the death occurred more than 180 calendar days after the member’s last day in pay status, or if the deceased had applied for a refund of contributions or terminated employment, the lump sum will be the same



as if the member had less than one year of service and the death was not job-related.

## Deferred Retirement Option Plan (DROP)

A member may elect to participate in the Deferred Retirement Option Plan (DROP) upon completion of at least 25 years of creditable service (excluding sick leave) and attainment of at least 52 years of age. Under the DROP, the member may defer receipt of a retirement allowance and continue employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member may withdraw from active service and receive the retirement benefit based on his or her years of service credit at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits, employee contributions while participating in the DROP, and interest earned on DROP deposits.

The effect of Act 2011-27 is that no new participants will be allowed to enter DROP with an effective participation date after June 1, 2011.

## Member Contributions

### Tier I

Members hired prior to January 1, 2015: Each member contributes 10% of salary. DROP participants continue to contribute during the DROP period, but receive a refund of these contributions with interest upon retirement.

Members hired after January 1, 2015: Each member contributes 8.5% of salary.

### Tier II

Members hired prior to January 1, 2015: Each member contributes 10% of salary. DROP participants continue to contribute during the DROP period, but receive a refund of these contributions with interest upon retirement.

Members hired after January 1, 2015: Each member contributes 7% of salary.



### 3 - SPECIAL PRIVILEGES AT RETIREMENT – ALL MEMBERS

In lieu of the full retirement allowance, any member may, at retirement, elect to receive a reduced retirement allowance equal in value to the full allowance, with the provision that:

Option 1. If the member dies before the annuity payments equal or exceed the present value of the member's annuity at the date of retirement, the balance is paid to a designated beneficiary or to the estate, or

Option 2. After the member's death, the member's allowance is continued throughout the life of the designated beneficiary, or

Option 3. After the member's death, one half of the member's allowance is continued throughout the life of the designated beneficiary, or

Option 4. Some other benefit is paid either to the member or to the designated beneficiary provided such benefit, together with the reduced retirement allowance, is of equivalent actuarial value to his retirement allowance and is approved by the Board of Control.

Partial Lump Sum Option Plan (PLOP). For members retiring on or after October 1, 2019, in addition to selecting Options 1, 2, 3, or 4, the member may also elect to receive a one-time lump-sum distribution in addition to the monthly retirement benefit. The PLOP distribution will be made as a single payment at the time the first monthly benefit is paid. Based on the amount of the PLOP and the member's age, the monthly retirement benefit is actuarially reduced.



**SCHEDULE C**

**STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2020, submitted to, and adopted by the Board on September 14, 2021.**

INVESTMENT RATE OF RETURN: 7.45% per annum, compounded annually, including price inflation at 2.50%.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows:

**STATE AND LOCAL EMPLOYEES**

<b>Service</b>	<b>Annual Rate *</b>
0	6.00 %
1-5	4.25
6-10	4.00
11-15	3.75
16-19	3.50
20 & Over	3.25

**STATE POLICEMEN**

<b>Service</b>	<b>Annual Rate *</b>
0-3	7.75 %
4-5	7.50
6	6.25
7-10	5.50
11-14	5.25
15-17	4.75
18-19	4.50
20 & Over	4.00

*\*Includes wage inflation at 2.75% per annum.*





**SEPARATIONS FROM ACTIVE SERVICE- STATE AND LOCAL EMPLOYEES**

TERMINATION: Representative values of the assumed annual rates of withdrawal are shown in the following tables:

<u>Years of Service</u>	<u>Annual Rate of Withdrawal*</u>	
	Non-FLC Members	FLC Members
0-1	20.00%	16.50%
2	16.75	12.00
3	14.00	11.50
4	13.00	11.00
5	7.50	6.50
6	6.75	6.25
7	6.50	6.00
8	5.75	5.40
9	5.25	5.00
10-12	3.50	3.00
13-14	3.50	2.75
15	3.00	2.25
16-18	2.50	2.00
19	2.00	1.50
20+	1.50	1.50

*There are no withdrawal decrements after eligibility for service retirement.*

\* For local employers with fewer than 25 employees the rates are multiplied by 50%.



SERVICE RETIREMENT: The assumed annual rates of service retirement are as follows:

**REGULAR MEMBERS**

Age	Annual Rate <sup>1</sup>			
	TIER I <sup>2</sup>		TIER II	
	<u>1<sup>ST</sup> Eligible</u>	<u>Subsequent</u>	<u>1<sup>ST</sup> Eligible</u>	<u>Subsequent</u>
49 & Under	16.50%	10.50%		
50 to 57	20.00	10.50		
58	25.00	12.50		
59	23.00	12.50		
60	12.00	15.00		
61	13.00	12.00		
62	23.00	23.00	50.00%	
63	23.00	20.00	23.00	20.00%
64	23.00	17.00	23.00	17.00
65	32.00	25.00	32.00	25.00
66	35.00	28.50	35.00	28.50
67	35.00	24.00	35.00	24.00
68 to 79	35.00	21.00	35.00	21.00
80 & Above	100.00	100.00	100.00	100.00

<sup>1</sup>For local employers with fewer than 25 employees we assume that all members retire upon first eligibility for a service retirement benefit.

<sup>2</sup>25% are assumed to retire at age 60 with 25 years of service.

**FLC MEMBERS**

Age	Annual Rate <sup>1</sup>			
	TIER I <sup>2</sup>		TIER II	
	<u>1<sup>ST</sup> Eligible</u>	<u>Subsequent</u>	<u>1<sup>ST</sup> Eligible</u>	<u>Subsequent</u>
51 & Under	35.00%	22.00%		
52 to 55	35.00	18.00		
56 to 59	40.00	18.00	15.00%	15.00%
60	17.00	21.00	17.00	17.00
61	40.00	18.50	40.00	18.50
62	40.00	30.00	40.00	30.00
63	40.00	25.00	40.00	25.00
64	40.00	22.00	40.00	22.00
65	40.00	27.00	40.00	27.00
66	40.00	38.00	40.00	38.00
67-69	40.00	30.00	40.00	30.00
70 to 74	60.00	30.00	60.00	30.00
75 & Above	100.00	100.00	100.00	100.00

<sup>1</sup>For local employers with fewer than 25 employees we assume that all members retire upon first eligibility for a service retirement benefit.

<sup>2</sup>50% are assumed to retire at age 60 with 25 years of service.



RATES OF DEATH: Representative values of the assumed annual rates of death are as follows:

Age	Annual Rate of Death*			
	Non FLC State & Local		FLC State & Local	
	Male	Female	Male	Female
20	0.040%	0.014%	0.042%	0.016%
25	0.040	0.011	0.049	0.025
30	0.050	0.017	0.054	0.034
35	0.065	0.027	0.060	0.046
40	0.089	0.043	0.074	0.062
45	0.132	0.066	0.101	0.085
50	0.201	0.099	0.147	0.115
55	0.297	0.145	0.216	0.157
60	0.432	0.218	0.323	0.213
65	0.631	0.344	0.499	0.290
69	0.866	0.512	0.793	0.466

\*Base mortality rates as of 2010 before application of the improvement scale

RATES OF DISABILITY: Representative values of the assumed annual rates of disability are as follows:

**STATE EMPLOYEES**

Age	Annual Rate of Disability*				
	Tier I			Tier II	
	Service < 25		Service >=25	Male	Female
	Male	Female			
20	0.014%	0.013%		0.014%	0.013%
25	0.082	0.075		0.082	0.075
30	0.150	0.138		0.150	0.138
35	0.180	0.200		0.180	0.200
40	0.350	0.300		0.350	0.300
45	0.650	0.500	0.250%	0.650	0.500
50	1.000	0.800	0.250	1.000	0.800
55	1.350	1.100	0.250	1.350	1.100
60	1.200	1.450	0.250	1.200	1.450
65	0.600	0.750	0.250	0.600	0.750
69	0.200	0.270		0.200	0.270



**LOCAL EMPLOYEES**

Age	Annual Rate of Disability*				
	Tier I			Tier II	
	Service < 25		Service >=25	Male	Female
	Male	Female			
20	0.006%	0.014%		0.006%	0.014%
25	0.033	0.082		0.033	0.082
30	0.060	0.150		0.060	0.150
35	0.120	0.080		0.120	0.080
40	0.290	0.230		0.290	0.230
45	0.470	0.350	0.250%	0.470	0.350
50	0.800	0.600	0.250	0.800	0.600
55	1.300	0.900	0.250	1.300	0.900
60	1.000	0.550	0.250	1.000	0.550
65	0.500	0.160	0.250	0.500	0.160
69	0.100	0.032		0.100	0.032

\*There are no disability rates for members with less than 10 years of service.



**STATE POLICE**

**GROUP 1: MEMBERS HIRED BEFORE JANUARY 1, 2015**

<u>Withdrawal</u>		<u>Age</u>	<u>Death</u>		<u>Disability</u>		<u>Retirement</u>		
<u>Years of Service</u>	<u>Rate</u>		<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>10-19</u>	<u>20-24</u>	<u>25+</u>
0	6.00%	20	0.042%	0.016%	0.050%	0.012%			
1-5	6.00	25	0.049	0.025	0.250	0.060			
6-10	1.50	30	0.054	0.034	0.500	0.120			
11-15	1.50	35	0.060	0.046	0.300	0.180			
20+	1.00	40	0.074	0.062	0.200	0.290			
		45	0.101	0.085	0.550	0.440			40.00%
		50	0.147	0.115	0.500	0.500			40.00
		55	0.216	0.157					40.00
		60	0.323	0.213			5.00%	33.00%	33.00
		62	0.383	0.241			20.00	35.00	35.00
		65	0.499	0.290			20.00	35.00	35.00
							100.00	100.00	100.00



**GROUP 2: MEMBERS HIRED AFTER JANUARY 1, 2015**

**RATES OF WITHDRAWAL**

<u>Years of Service</u>	<u>Annual Rate of Withdrawal</u>
0-1	16.50%
2	12.00
3	11.50
4	11.00
5	6.50
6	6.25
7	6.00
8	5.40
9	5.00
10-12	3.00
13-14	2.75
15	2.25
16-18	2.00
19	1.50
20+	1.50

*There are no withdrawal decrements after eligibility for service retirement.*

**RATES OF SERVICE RETIREMENT**

<u>Age</u>	<u>Annual Rate</u>			
	<u>TIER I<sup>1</sup></u>		<u>TIER II</u>	
	<u>1<sup>ST</sup> Eligible</u>	<u>Subsequent</u>	<u>1<sup>ST</sup> Eligible</u>	<u>Subsequent</u>
51 & Under	35.00%	22.00%		
52 to 55	35.00	18.00		
56 to 59	40.00	18.00	15.00%	15.00%
60	17.00	21.00	17.00	17.00
61	40.00	18.50	40.00	18.50
62	40.00	30.00	40.00	30.00
63	40.00	25.00	40.00	25.00
64	40.00	22.00	40.00	22.00
65	40.00	27.00	40.00	27.00
66	40.00	38.00	40.00	38.00
67	40.00	30.00	40.00	30.00
68-69	40.00	30.00	40.00	30.00
70 to 74	60.00	30.00	60.00	30.00
75 & Above	100.00	100.00	100.00	100.00

<sup>1</sup> 50% are assumed to retire at age 60 with 25 years of service.



RATES OF DEATH: Representative values of the assumed annual rates of death are as follows:

Age	Annual Rate of Death*	
	Male	Female
20	0.042%	0.016%
25	0.049	0.025
30	0.054	0.034
35	0.060	0.046
40	0.074	0.062
45	0.101	0.085
50	0.147	0.115
55	0.216	0.157
60	0.323	0.213
65	0.499	0.290
69	0.793	0.466

\*Base mortality rates as of 2010 before application of the improvement scale

RATES OF DISABILITY: Representative values of the assumed annual rates of disability are as follows:

Age	Annual Rate of Disability*				
	Tier I			Tier II	
	Service < 25		Service >=25	Male	Female
	Male	Female			
20	0.014%	0.013%	0.014%	0.013%	
25	0.082	0.075	0.082	0.075	
30	0.150	0.138	0.150	0.138	
35	0.180	0.200	0.180	0.200	
40	0.350	0.300	0.350	0.300	
45	0.650	0.500	0.250%	0.650	0.500
50	1.000	0.800	0.250	1.000	0.800
55	1.350	1.100	0.250	1.350	1.100
60	1.200	1.450	0.250	1.200	1.450
65	0.600	0.750	0.250	0.600	0.750
69	0.200	0.270		0.200	0.270



DEATH AFTER RETIREMENT: Rates of mortality are according to the Pub-2010 Below-Median Tables, projected generationally using the MP-2020 scale, which is adjusted by 66-2/3% beginning with year 2019:

<u>Group</u>	<u>Membership Table</u>	<u>Set Forward (+)/ Setback (-)</u>	<u>Adjustment to Rates</u>
Non FLC Service Retirees	General Healthy Below Median	Male: +2, Female: +2	Male: 90% ages < 65, 96% ages >= 65 Female: 96% all ages
FLC/State Police Service Retirees	Public Safety Healthy Below Median	Male: +1, Female: none	None
Beneficiaries	Contingent Survivor Below Median	Male: +2, Female: +2	None
Non-FLC Disabled Retirees	General Disability	Male: +7, Female: +3	None
FLC/State Police Disabled Retirees	Public Safety Disability	Male: +7, Female: none	None

DEATH IN ACTIVE SERVICE BENEFIT: For those eligible for service retirement who die in active service, it is assumed that 70% of beneficiaries will elect the lump sum death benefit and 30% will elect the Option 3 allowance.

BENEFITS PAYABLE UPON SEPARATION FROM SERVICE: For active members who separate from service prior to eligibility for a service retirement allowance, the liability is assumed to be the greater of the value of the refund of contributions and the value of the deferred annuity.

UNUSED SICK LEAVE: 1.00% load on service retirement liabilities for active members (No load for Tier II members).

PERCENT MARRIED: 100% of employees are assumed to be married, with the wife 3 years younger than the husband.

ACTUARIAL METHOD: Individual entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability.





ASSET METHOD: Market value.

LIABILITY FOR CURRENT INACTIVE MEMBERS: Member Contribution Balance is multiplied by a factor of 3.0 for vested local employees with incomplete data and by a factor of 1.0 for all non-vested inactive members.

LIABILITY FOR POST-DROP ACTIVE MEMBERS: Members are assumed to retire immediately and receive their accrued benefit.

COLA: No future ad hoc cost of living adjustments (COLAs) are assumed.

FUTURE SERVICE CREDIT: One year of creditable service per year of employment.