



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, 2022





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

May 9, 2023

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, 2022 (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, 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 actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and 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 9, 2023
Page 2

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

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

Jennifer Johnson
Senior Consultant



TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Introduction	1
II	Summary of Principal Results	3
III	Notes to Financial Statements	4
IV	Pension Expense	25
 <u>Schedule</u>		
A	Required Supplementary Information Tables	27
B	Summary of Benefit Provisions Evaluated	31
C	Statement of Actuarial Assumptions and Methods	44



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

PREPARED AS OF SEPTEMBER 30, 2022

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, 2022 (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, 2023 (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, 2021. The results of the valuation were detailed in a report dated June 12, 2022.

The NPL shown in the GASB Statement No. 67 Schedules for the Employees' Retirement System of Alabama Prepared as of September 30, 2022 and submitted December 12, 2022 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)

Valuation Date (VD):	September 30, 2021			
Measurement Date (MD):	September 30, 2022			
Reporting Date (RD):	September 30, 2023			
Membership Data as of Measurement Date:	State Employees	State Police	Local Employees	Total
Retirees and Survivors	25,012	994	30,598	56,604
Terminated Vested Employees	1,232	24	2,286	3,542
Terminated Non-vested Employees	30,321	34	18,689	49,044
Active Members	26,556	724	57,278	84,558
Post-DROP Retired Members Still in Active Service	<u>100</u>	<u>0</u>	<u>39</u>	<u>139</u>
Total	83,221	1,776	108,890	193,887
Single Equivalent Interest Rate (SEIR):				
Long-Term Expected Rate of Return	7.45%	7.45%	7.45%	7.45%
Municipal Bond Index Rate at Measurement Date	4.40%	4.40%	4.40%	4.40%
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%
Net Pension Liability:				
Total Pension Liability (TPL)	\$8,674,467	\$697,970	\$12,284,510	\$21,656,947
Fiduciary Net Position (FNP)	<u>4,743,069</u>	<u>338,356</u>	<u>7,917,734</u>	<u>\$12,999,159</u>
Net Pension Liability (NPL= TPL-FNP)	\$3,931,398	\$359,614	\$4,366,776	\$8,657,788
FNP as a percentage of TPL	54.68%	48.48%	64.45%	60.02%
Pension Expense:	\$521,303	\$43,488	\$590,972	\$1,155,764
Deferred Outflows of Resources:	\$757,527	\$59,312	\$1,550,502	\$2,367,341
Deferred Inflows of Resources:	\$17,499	\$5,863	\$190,307	\$213,669



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, 2022, the Measurement Date.

Membership

GROUP	State Employees	State Police	Local Employees	TOTAL
Retired participants and beneficiaries currently receiving benefits	25,012	994	30,598	56,604
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	1,232	24	2,286	3,542
Terminated participants entitled to a refund of contributions	30,321	34	18,689	49,044
Active Participants	26,556	724	57,278	84,558
Post-DROP participants still in active service	<u>100</u>	<u>0</u>	<u>39</u>	<u>139</u>
Total	83,221	1,776	108,890	193,887

Paragraph 41: This paragraph requires information regarding the actuarial assumptions used to measure the TPL. The TPL as of September 30, 2022 was determined based on the annual actuarial valuation report prepared as of September 30, 2021. 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-2021 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, 2021 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, 2022 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	\$4,837,950	\$3,931,398	\$3,161,994
State Police	431,835	359,614	298,365
Local Employees	<u>5,794,226</u>	<u>4,366,776</u>	<u>3,168,011</u>
Total	<u>\$11,064,011</u>	<u>\$8,657,788</u>	<u>\$6,628,370</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, 2021	<u>\$8,574,565</u>	<u>\$5,776,542</u>	<u>\$2,798,023</u>
Changes for the year:			
Service cost	132,524		132,524
Interest	615,208		615,208
Benefit changes	12,124		12,124
Difference between expected and actual experience	(24,790)		(24,790)
Changes in assumptions	0		0
Contributions - employer		226,307	(226,307)
Contributions - employee		108,889	(108,889)
Other		165	(165)
Net investment income		(718,813)	718,813
Benefit payments, including refunds of employee contributions	(633,471)	(633,471)	0
Administrative expense		(14,857)	14,857
Transfers among employers	<u>(1,693)</u>	<u>(1,693)</u>	<u>0</u>
Net changes	<u>99,902</u>	<u>(1,033,473)</u>	<u>1,133,375</u>
Balances at September 30, 2022	<u>\$8,674,467</u>	<u>\$4,743,069</u>	<u>\$3,931,398</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, 2021	<u>\$696,775</u>	<u>\$409,931</u>	<u>\$286,844</u>
Changes for the year:			
Service cost	9,779		9,779
Interest	50,021		50,021
Benefit changes	311		311
Difference between expected and actual experience	(7,695)		(7,695)
Changes in assumptions	0		0
Contributions - employer		25,715	(25,715)
Contributions - employee		4,910	(4,910)
Net investment income		(50,979)	50,979
Benefit payments, including refunds of employee contributions	(50,695)	(50,695)	0
Administrative expense	0	0	0
Transfers among employers	(526)	(526)	0
Net changes	<u>1,195</u>	<u>(71,575)</u>	<u>72,770</u>
Balances at September 30, 2022	<u>\$697,970</u>	<u>\$338,356</u>	<u>\$359,614</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, 2021	<u>\$11,792,624</u>	<u>\$9,293,003</u>	<u>\$2,499,621</u>
Changes for the year:			
Service cost	258,616		258,616
Interest	852,168		852,168
Benefit changes	9,178		9,178
Difference between expected and actual experience	77,972		77,972
Changes in assumptions	0		0
Contributions - employer		310,087	(310,087)
Contributions - employee		196,360	(196,360)
Net investment income		(1,175,668)	1,175,668
Benefit payments, including refunds of employee contributions	(708,267)	(708,267)	0
Administrative expense	0	0	0
Transfers among employers	<u>2,219</u>	<u>2,219</u>	<u>0</u>
Net changes	<u>491,886</u>	<u>(1,375,269)</u>	<u>1,867,155</u>
Balances at September 30, 2022	<u>\$12,284,510</u>	<u>\$7,917,734</u>	<u>\$4,366,776</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, 2021	<u>\$21,063,964</u>	<u>\$15,479,476</u>	<u>\$5,584,488</u>
Changes for the year:			
Service cost	400,919		400,919
Interest	1,517,397		1,517,397
Benefit changes	21,613		21,613
Difference between expected and actual experience	45,487		45,487
Changes in assumptions	0		0
Contributions - employer		562,109	(562,109)
Contributions - employee		310,159	(310,159)
Other		165	(165)
Net investment income		(1,945,460)	1,945,460
Benefit payments, including refunds of employee contributions	(1,392,433)	(1,392,433)	0
Administrative expense	0	(14,857)	14,857
Transfers among employers	<u>0</u>	<u>0</u>	<u>0</u>
Net changes	<u>592,983</u>	<u>(2,480,317)</u>	<u>3,073,300</u>
Balances at September 30, 2022	<u>\$21,656,947</u>	<u>\$12,999,159</u>	<u>\$8,657,788</u>



Paragraph 45 (a): September 30, 2021 is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of September 30, 2022 using standard roll forward techniques. The procedure used to determine the TPL as of September 30, 2022 is shown on page 2 of the GASB Statement No. 67 Schedules for the Employees' Retirement System of Alabama Prepared as of September 30, 2022 and submitted December 12, 2022.

Paragraph 45 (c): There have been no changes in assumptions since the prior measurement date.

Paragraph 45 (d): The TPL as of September 30, 2022 reflects Act 2022-348, Act 2022-351, and Act 2022-184.

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, 2022 (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	\$53,787	\$17,499
Changes of assumptions	126,069	0
Net difference between projected and actual earnings on plan investments	577,671	0
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$17,499</u>

STATE POLICE

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$4,609	\$5,863
Changes of assumptions	13,546	0
Net difference between projected and actual earnings on plan investments	41,157	0
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$5,863</u>

*Enter FY 2023 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	\$316,041	\$185,296
Changes of assumptions	285,335	5,011
Net difference between projected and actual earnings on plan investments	949,126	0
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$190,307</u>

TOTAL

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$374,437	\$208,658
Changes of assumptions	424,950	5,011
Net difference between projected and actual earnings on plan investments	1,567,954	0
Employer contributions subsequent to the Measurement Date	<u>See Note*</u>	<u>0</u>
Total	<u>\$-----</u>	<u>\$213,669</u>

*Enter FY 2023 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)



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)
2022	\$0	\$24,790	3.4	\$0	\$0	\$0	\$24,790	\$0	\$7,291	\$0	\$17,499
2021	\$77,877	\$0	3.6	\$56,244	\$0	\$0	\$0	\$21,633	\$0	\$34,611	\$0
2020	\$134,241	\$0	3.5	\$57,531	\$0	\$0	\$0	\$38,355	\$0	\$19,176	\$0
2019	\$310	\$0	3.5	\$43	\$0	\$0	\$0	\$43	\$0	\$0	\$0
Total				<u>\$113,818</u>	<u>\$0</u>	<u>\$0</u>	<u>\$24,790</u>			<u>\$53,787</u>	<u>\$17,499</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)
2022	\$0	\$0	3.4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$283,655	\$0	3.6	\$204,862	\$0	\$0	\$0	\$78,793	\$0	\$126,069	\$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
Total				<u>\$204,862</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>			<u>\$126,069</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				<u>Beginning Balance</u>				<u>Ending Balance</u>			
	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)
2022	\$1,137,439	\$0	5	\$0	\$0	\$1,137,439	\$0	\$227,488	\$0	\$909,951	\$0
2021	\$0	\$703,265	5	\$0	\$562,612	\$0	\$0	\$0	\$140,653	\$0	\$421,959
2020	\$96,230	\$0	5	\$57,738	\$0	\$0	\$0	\$19,246	\$0	\$38,492	\$0
2019	\$255,939	\$0	5	\$102,375	\$0	\$0	\$0	\$51,188	\$0	\$51,187	\$0
2018	\$0	\$72,669	5	\$0	\$14,533	\$0	\$0	\$0	\$14,533	\$0	\$0
2017	\$0	\$229,606	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total				<u>\$160,113</u>	<u>\$577,145</u>	<u>\$1,137,439</u>	<u>\$0</u>			<u>\$999,630</u>	<u>\$421,959</u>
Net difference between projected and actual earnings on investments										\$577,671	\$0

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)			(a) + (c) - (e)	(b) + (d) - (f)
2022	\$0	\$7,695	4.2	\$0	\$0	\$0	\$7,695	\$0	\$1,832	\$0	\$5,863
2021	\$5,826	\$0	4.3	\$4,471	\$0	\$0	\$0	\$1,355	\$0	\$3,116	\$0
2020	\$8,966	\$0	3.6	\$3,984	\$0	\$0	\$0	\$2,491	\$0	\$1,493	\$0
2019	\$181	\$0	3.6	\$31	\$0	\$0	\$0	\$31	\$0	\$0	\$0
Total				<u>\$8,486</u>	<u>\$0</u>	<u>\$0</u>	<u>\$7,695</u>			<u>\$4,609</u>	<u>\$5,863</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)			(a) + (c) - (e)	(b) + (d) - (f)
2022	\$0	\$0	4.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$25,326	\$0	4.3	\$19,436	\$0	\$0	\$0	\$5,890	\$0	\$13,546	\$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
Total				<u>\$19,436</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>			<u>\$13,546</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	<u>Beginning Balance</u>							<u>Ending Balance</u>			
	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)
2022	\$80,752	\$0	5	\$0	\$0	\$80,752	\$0	\$16,150	\$0	\$64,602	\$0
2021	\$0	\$49,400	5	\$0	\$39,520	\$0	\$0	\$0	\$9,880	\$0	\$29,640
2020	\$6,674	\$0	5	\$4,004	\$0	\$0	\$0	\$1,335	\$0	\$2,669	\$0
2019	\$17,622	\$0	5	\$7,050	\$0	\$0	\$0	\$3,524	\$0	\$3,526	\$0
2018	\$0	\$5,012	5	\$0	\$1,004	\$0	\$0	\$0	\$1,004	\$0	\$0
2017	\$0	\$15,745	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total				<u>\$11,054</u>	<u>\$40,524</u>	<u>\$80,752</u>	<u>\$0</u>			<u>\$70,797</u>	<u>\$29,640</u>
Net difference between projected and actual earnings on investments										\$41,157	\$0



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)
2022	\$149,604	\$71,632	Varies	\$0	\$0	\$149,604	\$71,632	\$27,826	\$16,047	\$121,778	\$55,585
2021	\$104,136	\$90,944	Varies	\$85,195	\$72,319	\$0	\$0	\$17,823	\$16,948	\$67,372	\$55,371
2020	\$151,854	\$51,152	Varies	\$97,710	\$29,051	\$0	\$0	\$26,459	\$8,822	\$71,251	\$20,229
2019	\$85,590	\$61,669	Varies	\$43,818	\$37,158	\$0	\$0	\$13,097	\$16,026	\$30,721	\$21,132
2018	\$53,203	\$115,142	Varies	\$17,966	\$39,552	\$0	\$0	\$7,454	\$16,803	\$10,512	\$22,749
2017	\$88,079	\$94,532	Varies	\$20,788	\$17,215	\$0	\$0	\$10,889	\$9,489	\$9,899	\$7,726
2016	\$69,623	\$77,377	Varies	\$8,912	\$5,347	\$0	\$0	\$5,154	\$3,226	\$3,758	\$2,121
2015	\$78,729	\$52,479	Varies	\$2,061	\$1,303	\$0	\$0	\$1,311	\$920	\$750	\$383
Total				\$276,453	\$201,945	\$149,604	\$71,632			\$316,041	\$185,296



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)
2022	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$420,742	\$3,528	Varies	\$341,275	\$2,969	\$0	\$0	\$75,189	\$548	\$266,086	\$2,421
2020	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	Varies	\$0	\$12,951	\$0	\$0	\$0	\$10,361	\$0	\$2,590
2018	\$49,188	\$0	Varies	\$20,024	\$0	\$0	\$0	\$10,281	\$0	\$9,743	\$0
2017	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2016	\$350,904	\$0	Varies	\$30,126	\$0	\$0	\$0	\$20,620	\$0	\$9,506	\$0
Total				\$391,425	\$15,920	\$0	\$0			\$285,335	\$5,011



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	<u>Beginning Balance</u>				Amounts Recognized in Pension Expense / Deferred Outflow	Amounts Recognized in Pension Expense / Deferred Inflow	<u>Ending Balance</u>	
				Deferred Outflows	Deferred Inflows	Losses / Deferred Outflows	Gains / Deferred Inflows			Deferred Outflows	Deferred Inflows
				(a)	(b)	(c)	(d)			(e)	(f)
2022	\$1,860,562	\$0	5	\$0	\$0	\$1,860,562	\$0	\$372,112	\$0	\$1,488,450	\$0
2021	\$0	\$1,116,431	5	\$0	\$893,145	\$0	\$0	\$0	\$223,286	\$0	\$669,859
2020	\$148,638	\$0	5	\$89,182	\$0	\$0	\$0	\$29,728	\$0	\$59,454	\$0
2019	\$367,152	\$0	5	\$146,860	\$7,826	\$0	\$0	\$73,430	\$3,479	\$73,430	\$4,347
2018	\$0	\$100,918	5	\$9,994	\$20,182	\$0	\$0	\$7,996	\$20,182	\$1,998	\$0
2017	\$0	\$308,114	5	\$0	\$970	\$0	\$0	\$0	\$970	\$0	\$0
Total				\$246,036	\$922,123	\$1,860,562	\$0			\$1,623,332	\$674,206
Net difference between projected and actual earnings on investments										\$949,126	\$0



SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES
(continued)
TOTAL
(\$ 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)
2022	\$149,604	\$104,117	Varies	\$0	\$0	\$149,604	\$104,117	\$27,826	\$25,170	\$121,778	\$78,947
2021	\$187,839	\$90,944	Varies	\$145,910	\$72,319	\$0	\$0	\$40,811	\$16,948	\$105,099	\$55,371
2020	\$295,061	\$51,152	Varies	\$159,225	\$29,051	\$0	\$0	\$67,305	\$8,822	\$91,920	\$20,229
2019	\$86,081	\$61,669	Varies	\$43,892	\$37,158	\$0	\$0	\$13,171	\$16,026	\$30,721	\$21,132
2018	\$53,203	\$115,142	Varies	\$17,966	\$39,552	\$0	\$0	\$7,454	\$16,803	\$10,512	\$22,749
2017	\$88,079	\$94,532	Varies	\$20,788	\$17,215	\$0	\$0	\$10,889	\$9,489	\$9,899	\$7,726
2016	\$69,623	\$77,377	Varies	\$8,912	\$5,347	\$0	\$0	\$5,154	\$3,226	\$3,758	\$2,121
2015	\$78,729	\$52,479	Varies	\$2,061	\$1,303	\$0	\$0	\$1,311	\$920	\$750	\$383
Total				\$398,757	\$201,945	\$149,604	\$104,117			\$374,437	\$208,658



SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES
(continued)
TOTAL
(\$ 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)			(a) + (c) - (e)	(b) + (d) - (f)
2022	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	Varies	\$565,573	\$2,969	\$0	\$0	\$159,872	\$548	\$405,701	\$2,421
2020	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	\$0	\$0	Varies	\$0	\$12,951	\$0	\$0	\$0	\$10,361	\$0	\$2,590
2018	\$49,188	\$0	Varies	\$20,024	\$0	\$0	\$0	\$10,281	\$0	\$9,743	\$0
2017	\$0	\$0	Varies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2016	\$350,904	\$0	Varies	\$30,126	\$0	\$0	\$0	\$20,620	\$0	\$9,506	\$0
Total				<u>\$50,150</u>	<u>\$12,951</u>	<u>\$0</u>	<u>\$0</u>			<u>\$424,950</u>	<u>\$5,011</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)
2022	\$3,078,753	\$0	5	\$0	\$0	\$3,078,753	\$0	\$615,750	\$0	\$2,463,003	\$0
2021	\$0	\$1,869,096	5	\$0	\$1,495,277	\$0	\$0	\$0	\$373,819	\$0	\$1,121,458
2020	\$251,542	\$0	5	\$150,924	\$0	\$0	\$0	\$50,309	\$0	\$100,615	\$0
2019	\$640,713	\$0	5	\$256,285	\$7,826	\$0	\$0	\$128,142	\$3,479	\$128,143	\$4,347
2018	\$0	\$178,599	5	\$9,994	\$35,719	\$0	\$0	\$7,996	\$35,719	\$1,998	\$0
2017	\$0	\$553,465	5	\$0	\$970	\$0	\$0	\$0	\$970	\$0	\$0
Total				\$417,203	\$1,539,792	\$3,078,753	\$0			\$2,693,759	\$1,125,805
Net difference between projected and actual earnings on investments										\$1,567,954	\$0



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
2024	\$269,579	\$18,036	\$364,862	\$652,477
2025	159,044	13,018	289,012	461,074
2026	83,917	6,611	238,670	329,198
2027	227,488	15,784	430,164	673,436
2028	0	0	26,049	26,049
Thereafter	0	0	11,438	11,438



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 7.45% 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, 2022 the provisions of Act 2022-348, Act 2022-351, and Act 2022-184 are recognized.

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, 2022 the average remaining service life is 10.2 years for state employees and 10.6 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 3.4 years for state employees and 4.2 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	\$132,524	\$9,779	\$258,616	\$400,919
Interest	615,208	50,021	852,168	1,517,397
Current-period benefit changes	12,124	311	9,178	21,613
Expensed portion of current-period difference between expected and actual experience in the total pension liability	(7,291)	(1,832)	11,779	2,656
Expensed portion of current-period changes of assumptions	0	0	0	0
Member contributions	(108,889)	(4,910)	(196,360)	(310,159)
Other	(165)	0	0	(165)
Projected earnings on plan investments	(418,625)	(29,773)	(684,894)	(1,133,292)
Expensed portion of current-period differences between actual and projected earnings on plan investments	227,488	16,150	372,112	615,750
Administrative expense	14,857	0	0	14,857
Transfers among employers	0	0	0	0
Recognition of beginning deferred outflows of resources as pension expense	138,824	9,767	188,278	336,869
Recognition of beginning deferred inflows of resources as pension expense	(84,752)	(6,025)	(219,905)	(310,682)
Pension Expense	<u>\$521,303</u>	<u>\$43,488</u>	<u>\$590,972</u>	<u>\$1,155,763</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)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total pension liability										
Service Cost	\$ 132,524	\$ 119,061	\$ 115,018	\$ 110,482	\$ 107,929	\$ 107,377	\$ 113,497	\$ 152,160	\$ 107,776	
Interest	615,208	600,401	582,317	573,993	567,816	563,620	557,699	549,795	541,492	
Benefit changes	12,124	-	-	-	-	-	-	-	-	
Difference between expected and actual experience	(24,790)	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	(633,471)	(606,886)	(586,640)	(569,659)	(569,781)	(551,721)	(563,913)	(559,171)	(531,786)	
Transfers among employers	(1,693)	(398)	39	1,470	2,411	1,290	(409)	19,304	-	
Net change in total pension liability	99,902	473,710	244,975	116,596	127,749	63,987	294,358	101,167	117,482	
Total pension liability - beginning	\$ 8,574,565	\$ 8,100,855	\$ 7,855,880	\$ 7,739,284	\$ 7,611,535	\$ 7,547,548	\$ 7,253,190	\$ 7,152,023	\$ 7,034,541	
Total pension liability - ending (a)	\$ 8,674,467	\$ 8,574,565	\$ 8,100,855	\$ 7,855,880	\$ 7,739,284	\$ 7,611,535	\$ 7,547,548	\$ 7,253,190	\$ 7,152,023	
Components of Plan Fiduciary Net Position reserved to fund Total Pension Liability										
Contributions - employer	\$ 226,307	\$ 221,634	\$ 228,964	\$ 208,020	\$ 186,715	\$ 184,362	\$ 192,420	\$ 177,599	\$ 146,752	
Contributions - member	108,889	108,134	110,197	104,031	97,527	95,979	100,907	97,144	96,585	
Other	165	-	-	-	(7,481)	-	-	68,898	-	
Net investment income	(718,813)	1,076,417	276,998	128,063	446,946	581,603	446,180	54,772	523,129	
Benefit payments, including refunds of employee contributions	(633,471)	(606,886)	(586,640)	(569,659)	(570,131)	(551,721)	(563,913)	(559,171)	(531,786)	
Transfers among employers	(1,693)	(398)	39	1,470	2,411	478	(409)	6,435	410	
Administrative Expenses	(14,857)	(14,496)	(16,539)	(15,829)	(13,763)	(14,502)	(13,023)	(13,182)	-	
Net change in plan fiduciary net position	(1,033,473)	784,405	13,019	(143,904)	142,224	296,199	162,162	(167,505)	235,090	
Plan fiduciary net position - beginning	\$ 5,776,542	\$ 4,992,137	\$ 4,979,118	\$ 5,123,022	\$ 4,980,798	\$ 4,684,599	\$ 4,522,437	\$ 4,689,942	\$ 4,454,852	
Plan fiduciary net position - ending (b)	\$ 4,743,069	\$ 5,776,542	\$ 4,992,137	\$ 4,979,118	\$ 5,123,022	\$ 4,980,798	\$ 4,684,599	\$ 4,522,437	\$ 4,689,942	
Net pension liability (asset) - ending (a) - (b)	\$ 3,931,398	\$ 2,798,023	\$ 3,108,718	\$ 2,876,762	\$ 2,616,262	\$ 2,630,737	\$ 2,862,949	\$ 2,730,752	\$ 2,462,081	
Plan fiduciary net position as a percentage of the total pension liability	54.68%	67.37%	61.62%	63.38%	66.20%	65.44%	62.07%	62.35%	65.58%	
Covered payroll*	\$X,XXX	\$X,XXX								
Net pension liability (asset) as a percentage of covered payroll	X.XX%	X.XX%								

*Employer's covered payroll during the measurement period is the total covered payroll. For FY2023 the measurement period is October 1, 2022 – September 30, 2023.

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)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total pension liability										
Service Cost	\$ 9,779	\$ 9,426	\$ 8,800	\$ 8,758	\$ 8,829	\$ 9,016	\$ 8,484	\$ 8,394	\$ 8,654	
Interest	50,021	48,517	46,806	46,042	45,434	44,687	43,025	42,677	41,950	
Benefit changes	311	-	-	-	-	-	-	-	-	
Difference between expected and actual experience	(7,695)	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	(50,695)	(45,849)	(46,258)	(44,857)	(44,004)	(42,454)	(44,770)	(43,588)	(39,451)	
Transfers among employers	(526)	510	3,710	496	127	253	(470)	-	-	
Net change in total pension liability	1,195	43,756	22,024	10,620	12,116	10,423	37,644	4,939	11,153	
Total pension liability - beginning	\$ 696,775	\$ 653,019	\$ 630,995	\$ 620,375	\$ 608,259	\$ 597,836	\$ 560,192	\$ 555,253	\$ 544,100	
Total pension liability - ending (a)	\$ 697,970	\$ 696,775	\$ 653,019	\$ 630,995	\$ 620,375	\$ 608,259	\$ 597,836	\$ 560,192	\$ 555,253	
Components of Plan Fiduciary Net Position reserved to fund Total Pension Liability										
Contributions - employer	\$ 25,715	\$ 25,768	\$ 24,917	\$ 20,915	\$ 17,885	\$ 23,031	\$ 18,491	\$ 16,463	\$ 15,347	
Contributions - member	4,910	4,919	4,638	4,406	4,141	4,322	4,407	4,374	4,454	
Other	-	-	-	-	-	-	-	-	-	
Net investment income	(50,979)	75,700	19,211	8,817	30,819	39,883	30,508	3,776	36,410	
Benefit payments, including refunds of employee contributions	(50,695)	(45,849)	(46,258)	(44,857)	(44,004)	(42,454)	(44,770)	(43,588)	(39,451)	
Transfers among employers	(526)	510	3,710	496	127	253	(470)	(138)	(384)	
Administrative Expenses	-	-	-	-	-	-	-	-	-	
Net change in plan fiduciary net position	(71,575)	61,048	6,218	(10,223)	8,968	25,035	8,166	(19,113)	16,376	
Plan fiduciary net position - beginning	\$ 409,931	\$ 348,883	\$ 342,665	\$ 352,888	\$ 343,920	\$ 318,885	\$ 310,719	\$ 329,832	\$ 313,456	
Plan fiduciary net position - ending (b)	\$ 338,356	\$ 409,931	\$ 348,883	\$ 342,665	\$ 352,888	\$ 343,920	\$ 318,885	\$ 310,719	\$ 329,832	
Net pension liability (asset) - ending (a) - (b)	\$ 359,614	\$ 286,844	\$ 304,136	\$ 288,330	\$ 267,487	\$ 264,339	\$ 278,951	\$ 249,473	\$ 225,421	
Plan fiduciary net position as a percentage of the total pension liability	48.48%	58.83%	53.43%	54.31%	56.88%	56.54%	53.34%	55.47%	59.40%	
Covered payroll*	\$X,XXX	\$X,XXX								
Net pension liability (asset) as a percentage of covered payroll	X.XX%	X.XX%								

*Employer's covered payroll during the measurement period is the total covered payroll. For FY2023 the measurement period is October 1, 2022 – September 30, 2023.

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



	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Actuarially determined contribution*	\$X,XXX									
Contributions in relation to the actuarially determined contribution*	X,XXX									
Contribution deficiency (excess)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Covered payroll**	\$X,XXX									
Contributions as a percentage of covered payroll	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 FY2023 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 2023 were based on the September 30, 2020 actuarial valuation.

Methods and assumptions used to determine contribution rates for the period October 1, 2022 to September 30, 2023*:

Actuarial cost method	Entry Age
Amortization method	Level percent closed
Remaining amortization period	26.7 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, 2023, 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



	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Actuarially determined contribution*	\$X,XXX									
Contributions in relation to the actuarially determined contribution*	X,XXX									
Contribution deficiency (excess)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Covered payroll**	\$X,XXX									
Contributions as a percentage of covered payroll	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 FY2023 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 2023 were based on the September 30, 2020 actuarial valuation.

Methods and assumptions used to determine contribution rates for the period October 1, 2022 to September 30, 2023*:

Actuarial cost method	Entry Age
Amortization method	Level percent closed
Remaining amortization period	20.5 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, 2023, 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. Act 2019-132 allows local employers that participate in the System to elect to provide Tier I retirement benefits to their Tier II employees, upon approval by the Board of Control, until May 8, 2021, and will be reflected in the valuations prepared for the individual employers. Act 2022-138 removes the deadline for this election effective April 13, 2022. There is a new tier (Tier II) of benefits for all members initially joining the System on and after January 1, 2013. Act 2017-360 revised the definition of “state policemen” to include any employee hired by the Alabama State Law Enforcement Agency after January 1, 2015, who is certified by the Alabama Peace Officers’ Standards and Training Commission and performs law enforcement duties. These members pay the same employee contribution rate and receive the same benefits as certified law enforcement officers (FLC) of other state agencies and local employers. 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 creditable 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 completed 30 years of creditable service or 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 creditable 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. For a member whose age at retirement is less than age 62 (age 56 for a full-time certified firefighter, police officer, or correctional officer), the amount of the allowance will be reduced by 2% for each year that the member's age is less than age 62 (age 56 for a full-time certified firefighter, police officer, or correctional officer). |



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 creditable 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 2 (spouse) or option 3 (non-spouse beneficiary) 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 preretirement 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 creditable 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 preretirement 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 creditable 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 creditable service and the death was not job-related.

Deferred Retirement Option Plan (DROP)

A member could 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 deferred receipt of a retirement allowance and continued employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member withdrew from active service and received the retirement benefit based on his or her years of service credit at the time of enrollment in the DROP, and also received 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 was that no new participants were allowed to enter the 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 continued to contribute during the DROP period, but received a refund of these contributions and regular interest upon retirement.

Beginning October 1, 2011, the contribution rates were increased to 7.25% of salary for regular members and 8.25% of salary 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% of salary for regular members and 8.50% of salary 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 Systems 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 (For Tier I). These employers have the option of electing 25-year retirement for their Tier I 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 | <p>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.</p> <p>25-year retirement plan: Upon service retirement a member receives a retirement allowance equal to 2.0% of the</p> |
|---------|--|



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.

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 completed 30 years of creditable service or 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 creditable 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. For a member whose age at retirement is less than age 56, the amount of the allowance will be reduced by 2% for each year that the member’s age is less than age 56.



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 creditable 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 2 (spouse) or option 3 (non-spouse beneficiary) 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 preretirement 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 creditable 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 preretirement 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 creditable service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a death benefit payable from the preretirement 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 creditable 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 creditable service and the death was not job-related.

Deferred Retirement Option Plan (DROP)

Prior to March 25, 2011, a member could 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 deferred receipt of a retirement allowance and continued employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member withdrew from active service and received the retirement benefit based on his or her years of service credit at the time of enrollment in the DROP, and also received 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 was that no new participants were allowed to enter the 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 continued to contribute during the DROP period, but received 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 continued to contribute during the DROP period, but received 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 his/her 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

Service	Annual Rate *
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

Service	Annual Rate *
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 ¹			
	TIER I ²		TIER II	
	<u>1ST Eligible</u>	<u>Subsequent</u>	<u>1ST 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

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

²25% are assumed to retire at age 60 with 25 years of creditable service.

FLC MEMBERS

Age	Annual Rate ¹			
	TIER I ²		TIER II	
	<u>1ST Eligible</u>	<u>Subsequent</u>	<u>1ST 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

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

²50% are assumed to retire at age 60 with 25 years of creditable 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 creditable service.



STATE POLICE

GROUP 1: MEMBERS HIRED BEFORE JANUARY 1, 2015

<u>Withdrawal</u>		<u>Death</u>			<u>Disability</u>		<u>Retirement</u>		
<u>Years of Service</u>	<u>Rate</u>	<u>Age</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 I¹</u>		<u>TIER II</u>	
	<u>1ST Eligible</u>	<u>Subsequent</u>	<u>1ST 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

¹ 50% are assumed to retire at age 60 with 25 years of creditable 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-2021 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.