City of Fort Pierce
Retirement and Benefit System

Sixty-Third Annual Actuarial Valuation Report
for the Year Ending September 30, 2021

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Report of September 30, 2021 Actuarial Valuation

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February 7, 2022

City Commission
and Retirement Board
City of Fort Pierce Retirement and Benefit System
Fort Pierce, Florida

Dear City Commission and Retirement Board:

The results of the September 30, 2021 Annual Actuarial Valuation of the City of Fort Pierce Retirement and Benefit System are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the Fund only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the Fund's funding progress and to determine the employer contribution rate for the 2022-2023 fiscal years. Information required by Statement Nos. 67 and 68 of the Governmental Accounting Standards Board (GASB) are provided in separate reports. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The contribution amount in this report is determined using the actuarial assumptions and methods disclosed in Section D of this report. This report includes risk metrics on page A-9 but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data and other information through September 30, 2021. The valuation was based upon information furnished by the City, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

This report was prepared using assumptions adopted by the Board. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. Additional information about the actuarial assumptions is included in Section D of this report.

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

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the City of Fort Pierce Retirement and Benefit System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Brad Lee Armstrong and Jeffrey T. Tebeau are Members of the American Academy of Actuaries (MAAA). These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. Our statement by the Enrolled Actuary is contained in Section A.

The signing actuaries are independent of the plan sponsor.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation and report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Brad Lee Armstrong, ASA, EA, FCA, MAAA

Jeffrey T. Tebeau, FSA, EA, FCA, MAAA

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SECTION A

SUMMARY OF VALUATION RESULTS AND CERTIFICATION

Summary of Valuation Results
September 30, 2021

Funding Objective

The basic funding objective of the Retirement and Benefit System is to avoid transfer of the cost of benefit obligations between generations of taxpayers. This objective is implemented by contributions sufficient to:

- Pay for costs allocated to the current year on account of service rendered by participants in the current year (Normal Cost).
- Pay for costs allocated to prior years on account of service rendered by participants in prior years (Unfunded Actuarial Accrued Liability) over a maximum 30-year period.

The annual actuarial valuation measures the relationship between Retirement and Benefit System obligations and assets and determines the contribution rates for the ensuing year. When appropriate, amortization bases were combined in order to moderate scheduled contribution rate volatility.

Funding Progress Indicators

The September 30, 2021 actuarial valuation indicates that the actuarial accrued liabilities of the Retirement and Benefit System are 90% funded by valuation assets. This is the same as last year's funded ratio of 90%, but this is after adopting assumption changes. Although not historically referred to, the ratio of the market value of assets to the Actuarial Accrued Liabilities is 96% which is an increase from last year's market value funded ratio of 90%.

Trends to Monitor

The funding value of assets currently trails the market value of assets by approximately $17.2 million. Absent investment returns below the 7.25% assumed or losses from other sources, this will create a downward pressure on contribution requirements and a coinciding upward pressure on the funded ratios in the next three valuation reports. Please also refer to pages A-7, A-8 and B-4.

Summary of Valuation Results
September 30, 2021

Assumption Changes

Both forward-looking asset return and inflation expectations have declined significantly in the past few years. The probability of exceeding an 7.50% rate of return is less than 35% over a 10-year period based on our 2021 version of the GRS Capital Market Assumptions Modeler. Therefore, we have lowered the assumed rate of return to 7.25%. If the economic (capital market) assumption expectations continue to decline, we may have to decrease the assumption as soon as the next valuation.

The impact of the assumption change increased the actuarial accrued liability by $6.5 million and increased the estimated employer contributions by $640 thousand.

Benefit Changes

The September 30, 2021 valuation reflects changes in relation to City Ordinance No. 21-067. This ordinance removes the $100,000 dollar maximum pension payment for members hired before October 1, 2012. The impact of the benefit change increased the actuarial accrued liability by $2.4 million and increased the estimated employer contributions by $221 thousand.

Summary of Valuation Results
September 30, 2021

Observed Experience

While the investment return on market value was 18.87%, the recognized rate of investment return was 10.15% due to averaging investment experience over the last four years. The recognized investment return was greater than the 7.50% assumed return for fiscal year 2021. This was favorable and contributed to the aggregate experience gain. Note that each year's investment experience gain (loss) is spread over four years in equal dollar installments to reduce the effect of market volatility on contribution rates.

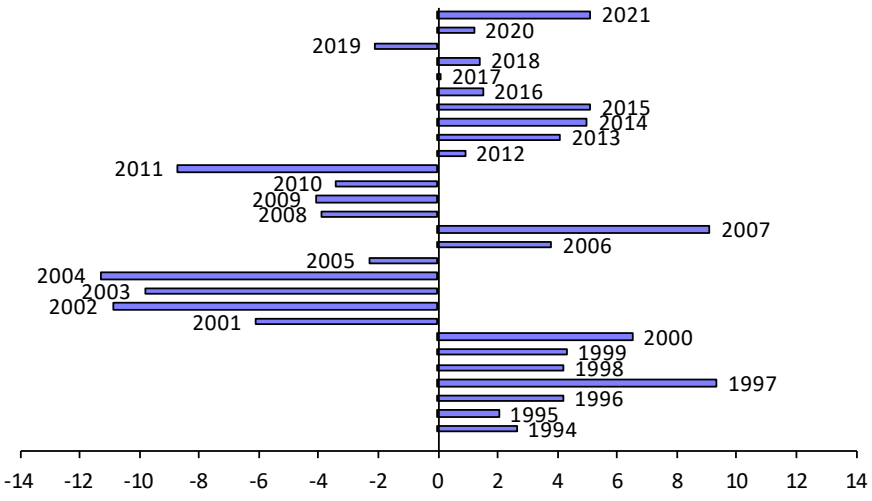
Demographic experience varied among the divisions. The principal deviations from projected demographic experience were:

- 5.0% average pay increases across all the divisions vs. 5.1% expected (favorable)
- Less than expected retiree mortality experience (unfavorable); and
- 10-year average payroll growths were less than the 4.0% assumed (unfavorable for unfunded liability contribution rates)

The net effect of the preceding experience factors was an aggregate experience gain of $5,088,261.

Year-to-year experience variations are expected and normal in the operation of a retirement system as members vary their activities and economic conditions change. The expectation is that the favorable years and unfavorable years will tend to cancel over 5 to 10-year periods.

Experience Gains and Losses
(Amounts in Millions)



Derivation of the current year's gain is located on Page B-3.

Summary of Valuation Results
September 30, 2021

Valuation Results - Contribution Requirement

The percent-of-payroll contribution requirements for the 2022-2023 fiscal year are:

	General	Utilities Authority	Police
Members			
-Bargaining	5.16 %	6.16 %	5.16 %
-Non-Bargaining	5.16	6.16	5.16
Employer for			
-Bargaining	17.13 %	17.96 %	14.62 %
-Non-Bargaining	17.13	17.96	14.62
-Illustrative	$1,944,771	$2,912,510	$1,077,518

For comparison, the percent-of-payroll contribution requirements for the 2021-2022 fiscal year are shown below, and are based on proposal 1 of the actuarial cost estimate dated August 13, 2021, which removed the $100,000 dollar maximum for annual pension benefits for members hired before October 1, 2012.

	General	Utilities Authority	Police
Members			
-Bargaining	5.16 %	6.16 %	5.16 %
-Non-Bargaining	5.16	6.16	5.16
Employer for			
-Bargaining	17.14 %	16.92 %	13.39 %
-Non-Bargaining	17.14	16.92	13.39
-Illustrative	$1,893,876	$2,807,642	$1,014,745

Comparative contribution information is shown on page B-2. Composition of the current contribution rates is shown on page B-1.

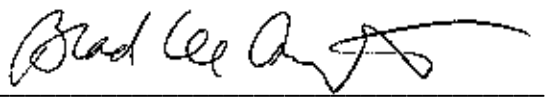
Summary of Valuation Results
September 30, 2021

Cost-of-Living Adjustment (COLA)

Section 13 - 43 of the City's Code of Ordinances provides for a COLA if the investment return of the fund exceeds that required to satisfy the actuarial interest assumption, which did happen this year. In addition, the cumulative value of any COLA's granted since 1999 may not exceed the cumulative net actuarial gains since 1999. Page B-11 shows the cumulative value of COLA's and net actuarial gains/(losses) since 1999. The present balance is $(38,220,363). So even though the recognized rate of investment return for the last fiscal year of 10.15% exceeded the actuarial interest assumption of 7.50%, no COLA could be provided under Section 13 - 43 until the Retirement and Benefit System's future actuarial gains exceed $38,220,363 plus interest. Given the cumulative net actuarial loss balance, this COLA provision is not likely to operate for the indefinite future.

Certification

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation report. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation report.



Brad Lee Armstrong, ASA, EA, FCA, MAAA [20-5614]

2/7/2022
Date

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Contributions and Funded Status

Given the System's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the Retirement and Benefit System earning 7.25% on the Market Value of Assets), it is expected that:

1. The employer normal cost is sufficient to cover the cost of benefits accruing each year;
2. The Unfunded Actuarial Accrued Liabilities (UAAL) will continue to be amortized according to the schedules on pages B-7 through B-9, but may not be completely paid off in the definite future; and
3. The funded status of the Retirement and Benefit System will continue to increase gradually towards a 100% funded ratio.

The computed contribution shown on page B-1 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the Actuarial Accrued Liability (AAL) and the Funding Value of Assets (FVA). Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1. The measurement is inappropriate for assessing the sufficiency of Retirement System assets to cover the estimated cost of settling the Retirement and Benefit System's benefit obligations; for example, transferring the liability to an unrelated third party in a market value type transaction.
2. The measurement is dependent upon the Actuarial Cost Method which, in combination with the Retirement System's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. Even if the funded status is over 100%, the Retirement and Benefit System would still require future normal cost contributions (i.e., contributions to cover the cost of active membership accruing an additional year of service credit).
3. The measurement would produce a different result if the Market Value of Assets (MVA) were used instead of the FVA, unless the MVA is used in the measurement.

Other Observations

Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

Risks to Future Employer Contribution Requirements

There are ongoing risks to future employer contribution requirements to which the Retirement and Benefit System is exposed, such as:

- Actual and Assumed Investment Rate of Return
- Actual and Assumed Mortality Rates
- Amortization Policy

In particular, the assumed investment rate of return, while reasonable, may produce annual losses over 50% of the time, even if average returns over a multi-year period meet the assumed rate. We believe the investment return assumption should be monitored and reviewed on an annual basis.

Risk Measures - Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the System's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base. The continuing ability of the plan sponsor to make the contributions necessary to fund the plan is outside our scope of expertise and was not performed by GRS;
4. **Salary and Payroll risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other demographic risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

Risk Measures

($ Amounts in Thousands)

Actuarial Valuation Date (9/30)	(1) Funding Value of Assets	(2) Actuarial Accrued Liability (AAL)	(3) Unfunded AAL (UAAL) (2) - (1)	(4) Payroll	(5) Funded Ratio (1) / (2)	(6) Retiree Liabilities (RetLiab)	(7) RetLiab / AAL (6)/(2)	(8) AAL / Payroll (2) / (4)	(9) Assets / Payroll (1) / (4)	(10) UAAL / Payroll (3) / (4)	(11) Non-Invest. Cash Flow (NICF)	(12) NICF / Assets (11)/(1)	(13) Market Rate of Return	(14) 5-year Trailing Average
2017	$ 192,300	$ 215,142	$ 22,842	$ 28,563	89.4%	$ 134,409	62.5%	753.2%	673.2%	80.0%	$ (7,446)	(3.9)%	10.6%	N/A
2018	200,087	221,431	21,344	29,264	90.4%	137,926	62.3%	756.7%	683.7%	72.9%	(7,435)	(3.7)%	10.3%	8.4%
2019	208,092	231,143	23,051	31,804	90.0%	145,327	62.9%	726.8%	654.3%	72.5%	(7,852)	(3.8)%	2.6%	6.9%
2020 *	216,567	239,844	23,277	32,563	90.3%	150,865	62.9%	736.6%	665.1%	71.5%	(8,208)	(3.8)%	9.6%	8.5%
2021 *	229,477	256,316	26,839	32,304	89.5%	163,876	63.9%	793.4%	710.4%	83.1%	(8,624)	(3.8)%	18.9%	10.3%

** Revised actuarial assumptions.*

(5). The funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

(6) and (7). The ratio of retiree liabilities to total accrued liabilities gives an indication of the maturity of the system. As the ratio increases, cash flow needs increase, and the liquidity needs of the portfolio change. A ratio on the order of 50% indicates a maturing system.

(8) and (9). The ratio of liabilities and assets to payroll gives an indication of both maturity and volatility. Many systems have ratios between 500% and 700%. Ratios significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll.

(10) The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A ratio above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.

(11) and (12). A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means benefits and expenses exceed contributions, and existing funds may be used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

(13) and (14). Investment return is probably the largest single risk that most systems face. The year-by-year return and the five-year geometric average both give an indication of the reasonableness of the system's assumed return. Of course, past performance is not a guarantee of future results. Market rate shown is based on an actuarial estimation method and will differ modestly from figures reported by the investment consultant.

SECTION B

VALUATION RESULTS

Contributions to Finance Benefits of the Retirement and Benefit System for the Plan Year Beginning October 1, 2022 to be Contributed during the Fiscal Year Beginning October 1, 2022

Contributions for	Contributions Expressed as Percents of Active Member Payroll General Members	Utilities Authority	Police Members
Normal Cost			
Service pensions	12.85 %	11.38 %	13.29 %
Disability pensions	0.47	0.47	1.01
Death-in-service pensions	0.36	0.41	0.27
Deferred service pensions	2.81	2.85	2.32
Refunds of member contributions	0.63	0.74	0.39
Total Normal Cost	17.12	15.85	17.28
Unfunded Actuarial Accrued Liability [1]			
Retired members and beneficiaries	0.00	0.00	0.00
Active and vested terminated members	3.87	6.82	1.77
Total Unf'd. Actuarial Accrued Liability	3.87	6.82	1.77
Administrative Expenses	0.72	0.72	0.72
Total Unadjusted Computed Contribution	21.71	23.39	19.77
Adjustments to Computed Contribution			
FS 112.64 (5) Compliance	0.58	0.73	0.01
Full funding credit [2]	0.00	0.00	0.00
Total Adjustments	0.58	0.73	0.01
Total Adjusted Contribution Requirement [3]	22.29	24.12	19.78
Member portion	5.16	6.16	5.16
Employer portion	17.13	17.96	14.62

(1) Financing period schedules begin on page B-7.

(2) This is a temporary credit toward the contribution requirement.

(3) FS 112.64 (2) states that "the total contributions to the retirement system or plan shall be sufficient to meet the normal cost of the retirement system or plan and to amortize the unfunded liability." Therefore, the Total Adjusted Contribution for the System shall be no less than Total Normal Cost for the System including the Administrative Expense Load.

FS 112.64 requires employer contributions to be deposited not less frequently than quarterly. Member contributions, which are in addition to the Employer contributions, must be deposited immediately after each pay period.

Recommended and Actual Contributions
Comparative Statement

		Percentage-of-Payroll Contributions Recommended Percents*			Dollar Contributions@	
Fiscal Date	Valuation Date	General Members	Utilities Authority	Police Members	Proj. Funding Requirement	Actual $
80/81	9/79	7.63 %	8.01 %	9.66 %	$ 745,952	$ 897,650
85/86	9/84	7.38 %	7.89 %	9.30 %	1,295,413	1,453,799
90/91	9/89	5.50 %	7.78	8.24 %	1,755,622	2,186,008
95/96	9/94	4.74 %	6.41	4.54 %	1,737,080	2,328,501
00/01 (b)	9/99	0.00 %	0.26	0.00 %	801,012	1,195,351
01/02 (b)	9/00	0.00	0.26	0.00	906,649	2,158,784
02/03 (b)	9/01	2.91	1.10	0.00	2,048,079	2,271,079
03/04	9/02	4.67	3.23	1.38	2,893,397	3,610,663
04/05	9/03	6.15	4.93	3.76	3,948,626	5,634,357
05/06	9/04	8.01	6.23	6.76	6,283,117	8,975,380
06/07	9/05	11.05	11.94	14.14	3,624,157	4,114,963
07/08 (b)	9/06	11.59	11.01	14.88	3,939,766	4,082,846
08/09 (b)	9/07	9.71	10.06	12.26	3,517,935	3,580,089
09/10	9/08	10.36	10.67	12.79	3,964,443	3,377,350
10/11	9/09	11.06	11.86	12.97	3,999,560	3,181,447
11/12 (b)	9/10	12.59	14.08	13.51	3,937,037	3,566,751
12/13 (b)	9/11	16.50	18.51	15.83	4,860,538	4,266,803
13/14 (b)	9/12	16.20	17.41	15.33	4,676,221	4,356,127
14/15	9/13	14.61	16.81	13.76	4,242,676	4,093,268
15/16	9/14	15.03	16.30	13.76	4,196,009	4,211,311
16/17 (b)	9/15	14.89	16.23	14.61	4,296,532	4,565,884
17/18 (b)	9/16	17.35	17.92	11.98	4,878,739	4,909,654
18/19	9/17	16.99	18.11	12.00	5,029,181	5,240,707
19/20 (b)	9/18	16.77	17.58	11.86	5,074,604	5,343,484
20/21	9/19	16.82	16.46	13.31	5,456,288	5,328,802
21/22 (c)	9/20	17.14	16.92	13.39	5,716,263	
22/23 (b)	**9/21**	**17.13**	**17.96**	**14.62**	**5,934,799**	

* *Prior to 9/30/96 the minimum employer contribution required in accordance with Sec. 21.3 of the Retirement and Benefit System Ordinance was 7.60% for General and Utilities Authority, 9.61% for Police.*

@ *Actual Employer contributions are determined by applying the Employer's contribution rate to the emerging payroll. Projected funding requirement is derived from the City portion of the contribution rates on page B-1. The payroll was increased by a factor of 1.0816 (1.04^2) to reflect projected payroll growth to the beginning of the fiscal year during which the contribution will be made. Prior to the valuation date of 9/30/05, dollar contributions included Fire members.*

(b) After changes in benefit provisions and/or actuarial assumptions and cost methods.

(c) Reflects contribution rates in accordance with an actuarial impact statement performed after the regular valuation.

\# *Prior to the 9/98 actuarial valuation, reimbursement of investment expenses (approx. 2% of payroll) were included in the contribution requirement. The plan was amended 4/98 to allow payment of investment expenses out of investment income.*

Experience Gain/(Loss)
Year Ended September 30, 2021

	Divisions			
	General Members	Utilities Authority	Police Members	Total
Derivation				
(1) UAAL* at start of year	$8,063,651	$12,261,678	$2,951,969	$23,277,298
(2) Employer normal cost for year	1,214,445	1,427,353	816,333	3,458,131
(3) Employer contributions	1,767,431	2,575,357	986,014	5,328,802
(4) Interest accrued: .0750 x [(1) + ½ [(2) – (3)]]	584,037	876,576	215,035	1,675,648
(5) Expected UAAL before changes: [(1) + (2) - (3) + (4)]	8,094,702	11,990,250	2,997,323	23,082,275
(6) Effect of assumption changes	1,939,800	2,929,424	1,615,538	6,484,762
(7) Effect of cost method changes/ accounting and timing differences	0	0	0	0
(8) Effect of benefit changes	818,427	1,257,940	283,739	2,360,106
(9) Expected UAAL after changes	10,852,929	16,177,614	4,896,600	31,927,143
(10) Actual UAAL	9,240,720	14,015,717	3,582,445	26,838,882
(11) Gain/(loss): (9) - (10)	1,612,209	2,161,897	1,314,155	5,088,261

** UAAL represents Unfunded Actuarial Accrued Liability.*

Development of Funding Value of Retirement System Assets

Year Ended September 30:	2018	2019	2020	2021	2022	2023	2024
A. Funding Value Beginning of Year	$192,299,566	$200,086,678	$208,092,074	$216,567,027			
B. Market Value End of Year	206,965,262	204,393,903	215,450,747	246,661,634			
C. Market Value Beginning of Year	194,774,112	206,965,262	204,393,903	215,450,747			
D. Non-Investment Net Cash Flow	(7,434,910)	(7,851,765)	(8,208,240)	(8,624,145)			
E. Investment Income							
E1. Market Total: B - C - D	19,626,060	5,280,406	19,265,084	39,835,032			
E2. Amount for Immediate Recognition	14,615,114	15,202,462	15,809,066	15,919,122			
E3. Amount for Phased-In Recognition: E1 - E2	5,010,946	(9,922,056)	3,456,018	23,915,910			
F. Phased-In Recognition of Investment Income							
F1. Current Year: 0.25 x E3	1,252,737	(2,480,514)	864,005	5,978,978			
F2. First Prior Year	1,237,898	1,252,737	(2,480,514)	864,005	$ 5,978,978		
F3. Second Prior Year	644,577	1,237,898	1,252,737	(2,480,514)	864,005	$ 5,978,978	
F4. Third Prior Year	(2,528,304)	644,578	1,237,899	1,252,735	(2,480,514)	864,003	$ 5,978,976
F5. Total Recognized Investment Gain	606,908	654,699	874,127	5,615,204	4,362,469	6,842,981	5,978,976
G. Funding Value End of Year: A + D + E2 + F5	200,086,678	208,092,074	216,567,027	229,477,208			
H. Difference between Market & Funding Value	6,878,584	(3,698,171)	(1,116,280)	17,184,426			
I. Recognized Rate of Return	8.07%	8.08%	8.18%	10.15%			
J. Market Value Return	10.27%	2.60%	9.62%	18.87%			

The Funding Value of Assets recognizes assumed investment income (Line E2) fully each year. Differences between actual and assumed investment income (Line E3) are phased-in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, the Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, the Funding Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for three consecutive years, it will become equal to Market Value.

Funding Indicators # – Historical Comparison

($ Amounts in Thousands)

Valuation Date	Indicator (1) Gain/ (Loss)	Indicator (2) Valuation Assets	AAL*	Funded Ratio	Unfunded AAL	Indicator (3) Member Payroll	Ratio to Payroll
9/30/97	$ 9,324	$ 119,224	$ 100,121	119 %	$ (19,103)	$29,986	(64) %
9/30/98 (b)	4,181	132,975	109,210	122	(23,765)	30,296	(78)
9/30/99 (b)	4,315	146,903	120,514	122	(26,389)	31,688	(83)
9/30/00 (b)	6,465	162,020	129,969	125	(32,051)	33,312	(96)
9/30/01 (b)	(6,086)	165,023	137,067	120	(27,955)	35,600	(79)
9/30/02 (b)	(10,908)	167,050	149,437	112	(17,610)	37,037	(48)
9/30/03	(9,845)	168,943	162,127	104	(6,816)	40,313	(17)
9/30/04	(11,328)	171,558	186,671	92	15,113	43,544	35
9/30/05	(2,296)	185,776	216,534	86	30,758	48,880	63
9/30/06 (b)	3,801	120,062	130,861	92	10,800	30,532	35
9/30/07 (b)	9,087	135,944	138,610	98	2,666	30,984	9
9/30/08	(3,888)	143,467	150,475	95	7,008	32,952	21
9/30/09	(4,060)	147,094	158,755	93	11,661	31,016	38
9/30/10 (b)	(3,429)	148,691	164,865	90	16,174	26,779	60
9/30/11 (b)	(8,690)	142,463	167,683	85	25,220	25,744	98
9/30/12 (b)	854	147,618	171,745	86	24,127	25,842	93
9/30/13	4,086	157,145	177,505	89	20,360	25,199	81
9/30/14	4,960	167,451	182,407	92	14,956	25,150	59
9/30/15 (b)	5,140	177,624	191,986	93	14,362	25,475	56
9/30/16 (b)	1,460	185,171	207,945	89	22,774	27,493	83
9/30/17	69	192,300	215,142	89	22,842	28,563	80
9/30/18 (b)	1,383	200,087	221,431	90	21,344	29,264	73
9/30/19	(2,072)	208,092	231,143	90	23,051	31,804	72
9/30/20 (b)	1,202	216,567	239,844	90	23,277	32,563	71
9/30/21	**5,088**	**229,477**	**247,471**	**93**	**17,994**	**32,304**	**56**
9/30/21 (b)	**5,088**	**229,477**	**256,316**	**90**	**26,839**	**32,304**	**83**

 # Excludes Fire after 9/05 valuation date.

** Actuarial Accrued Liabilities.*

(b) After changes in benefit provisions and/or actuarial assumptions.

Unfunded Actuarial Accrued Liability

($ Amounts in Thousands)*

	September 30, 2021			September 30, 2020		
	General Members	Utilities Authority	Police Members	General Members	Utilities Authority	Police Members
A. Actuarial present value of future benefits	$89,756	$131,737	$73,234	$83,289	$122,954	$68,824
B. Actuarial present value of future normal costs	12,367	16,341	9,702	11,020	15,266	8,937
C. Actuarial accrued liability	77,388	115,396	63,532	72,269	107,688	59,887
D. Funding value of assets	68,147	101,380	59,950	64,205	95,426	56,935
E. Unfunded actuarial accrued liability	9,241	14,016	3,582	8,064	12,262	2,952
F. Funded Ratio	88.1%	87.9%	94.4%	88.8%	88.6%	95.1%

* *Totals may not sum exactly due to rounding.*

Sources and Financing of
Unfunded Actuarial Accrued Liability
General Members

Year Established	Initial Years	Years Remaining	Unf'd. Act. Accr. Liab. Initial Amount	Unf'd. Act. Accr. Liab. Current Amount	Amortization Factor	Amortization Payment*	% of Payroll Contribution*
Initial Unfunded							
1981	34	1	$ 2,135,178	$ 54,652	0.9794	$ 55,800	0.53 %
Experience Changes							
1992	30	1	(260,310)	(31,752)	0.9794	(32,419)	(0.31)
1993	30	2	(1,200,305)	(286,262)	1.9189	(149,184)	(1.42)
1994	30	3	(298,407)	(102,567)	2.8199	(36,372)	(0.35)
1995	30	4	(571,245)	(250,358)	3.6841	(67,955)	(0.65)
1996	30	5	(328,506)	(171,453)	4.5131	(37,990)	(0.36)
1997	30	6	(1,697,188)	(1,009,694)	5.3082	(190,215)	(1.81)
1998	30	7	(1,095,283)	(720,732)	6.0708	(118,722)	(1.13)
1999	30	8	(888,248)	(632,286)	6.8022	(92,953)	(0.89)
2000	30	9	(1,366,921)	(1,035,038)	7.5038	(137,936)	(1.31)
2001	30	10	1,108,179	883,571	8.1767	108,060	1.03
2002	30	11	2,074,314	1,722,834	8.8221	195,286	1.86
2003	30	12	2,097,459	1,798,802	9.4412	190,528	1.82
2004	30	13	2,013,373	1,769,790	10.0349	176,363	1.68
2005	30	14	208,003	186,236	10.6044	17,562	0.17
2006	30	15	(1,561,550)	(1,416,395)	11.1507	(127,023)	(1.21)
2007	30	16	(3,153,776)	(2,884,506)	11.6746	(247,075)	(2.35)
2008	30	17	1,535,312	1,410,019	12.1772	115,792	1.10
2009	30	18	1,306,244	1,200,465	12.6592	94,830	0.90
2010	30	19	301,258	276,137	13.1215	21,045	0.20
2011	30	20	3,140,943	2,863,537	13.5649	211,099	2.01
2012	30	21	(171,717)	(155,298)	13.9902	(11,100)	(0.11)
2013	30	22	(1,386,129)	(1,240,662)	14.3982	(86,168)	(0.82)
2014	30	23	(1,482,476)	(1,361,965)	14.7895	(92,090)	(0.88)
2015	30	24	(2,209,363)	(2,048,102)	15.1648	(135,057)	(1.29)
2016	30	25	(358,467)	(339,128)	15.5247	(21,844)	(0.21)
2017	30	26	91,437	85,808	15.8700	5,407	0.05
2018	30	27	(494,242)	(477,630)	16.2011	(29,481)	(0.28)
2019	30	28	358,225	351,663	16.5188	21,289	0.20
2020	30	29	259,654	257,930	16.8234	15,332	0.15
2021	30	30	(1,612,209)	(1,612,209)	17.1156	(94,195)	(0.90)
Benefit Changes							
1996	30	5	(126,041)	(65,784)	4.5131	(14,576)	(0.14)
1998	30	7	(4,204)	(2,768)	6.0708	(456)	0.00
2000	30	9	416,125	315,091	7.5038	41,991	0.40
2004	30	13	603,572	530,549	10.0349	52,870	0.50
2005	30	14	2,422,727	2,169,201	10.6044	204,556	1.95
2006	30	15	1,820,155	1,650,960	11.1507	148,059	1.41
2010	30	19	421,454	386,310	13.1215	29,441	0.28
2011	30	20	(604,106)	(550,752)	13.5649	(40,601)	(0.39)
2012	30	21	(520,387)	(470,628)	13.9902	(33,640)	(0.32)
2018	30	27	54,741	52,982	16.2011	3,270	0.03
2021	30	30	818,427	818,427	17.1156	47,818	0.46
Assumption Changes							
1995	30	4	822,391	359,089	3.6841	97,469	0.93
2001	30	10	(571,357)	(455,092)	8.1767	(55,657)	(0.53)
2011	30	20	154,468	140,870	13.5649	10,385	0.10
2015	30	24	1,398,986	1,297,604	15.1648	85,567	0.82
2016	30	25	3,523,964	3,335,889	15.5247	214,876	2.05
2020	30	29	708,269	703,565	16.8234	41,821	0.40
2021	30	30	1,939,800	1,939,800	17.1156	113,335	1.08
Totals				**$9,240,720**		**$467,142**	**4.45 %**

** Actual wage growth over the past 10 years has been 2.87% versus the 4.0% assumed. FS 112 requires use of the 10-year average if less than assumed. This has been used in the above calculation as required.*

Sources and Financing of
Unfunded Actuarial Accrued Liability
Utilities Authority Members

Year Established	Initial Years	Years Remaining	Unf'd. Act. Accr. Liab. Initial Amount	Unf'd. Act. Accr. Liab. Current Amount	Amortization Factor	Amortization Payment*	% of Payroll Contribution*
Initial Unfunded							
1981	34	8	$3,349,127	$ 217,441	6.7646	$ 32,144	0.21 %
Experience Changes							
1989	30	8	(130,266)	(8,620)	6.7646	(1,274)	(0.01)
1990	30	8	407,412	57,270	6.7646	8,466	0.06
1991	30	8	(238,416)	(52,190)	6.7646	(7,715)	(0.05)
1992	30	8	(388,969)	(114,046)	6.7646	(16,859)	(0.11)
1993	30	8	(1,360,632)	(507,032)	6.7646	(74,954)	(0.50)
1994	30	8	(978,978)	(413,260)	6.7646	(61,092)	(0.41)
1995	30	8	(974,186)	(464,725)	6.7646	(68,700)	(0.46)
1996	30	8	(940,560)	(493,876)	6.7646	(73,009)	(0.49)
1997	30	8	(2,192,535)	(1,241,898)	6.7646	(183,589)	(1.22)
1998	30	8	(2,534,640)	(1,524,606)	6.7646	(225,381)	(1.50)
1999	30	8	(1,141,977)	(720,325)	6.7646	(106,485)	(0.71)
2000	30	8	(1,309,143)	(857,056)	6.7646	(126,698)	(0.85)
2001	30	8	1,593,737	1,077,048	6.7646	159,219	1.06
2002	30	8	2,859,829	1,980,592	6.7646	292,789	1.95
2003	30	8	2,692,574	1,899,381	6.7646	280,784	1.87
2004	30	8	1,574,647	1,125,438	6.7646	166,372	1.11
2005	30	8	225,846	162,776	6.7646	24,063	0.16
2006	30	8	(2,695,199)	(1,950,913)	6.7646	(288,402)	(1.92)
2007	30	16	(3,178,605)	(2,672,250)	11.5534	(231,296)	(1.54)
2008	30	17	1,783,264	1,509,430	12.0439	125,328	0.84
2009	30	18	2,272,126	1,929,255	12.5136	154,172	1.03
2010	30	19	2,668,679	2,265,099	12.9635	174,728	1.17
2011	30	20	4,692,517	3,969,594	13.3944	296,361	1.98
2012	30	21	(1,001,517)	(842,029)	13.8071	(60,985)	(0.41)
2013	30	22	(1,332,212)	(1,110,445)	14.2024	(78,187)	(0.52)
2014	30	23	(2,039,760)	(1,881,804)	14.5809	(129,059)	(0.86)
2015	30	24	(1,615,435)	(1,502,768)	14.9435	(100,563)	(0.67)
2016	30	25	178,810	171,286	15.2907	11,202	0.07
2017	30	26	(528,606)	(504,020)	15.6233	(32,261)	(0.22)
2018	30	27	(355,475)	(342,886)	15.9418	(21,509)	(0.14)
2019	30	28	173,150	170,044	16.2468	10,466	0.07
2020	30	29	(170,366)	(170,538)	16.5390	(10,311)	(0.07)
2021	30	30	(2,161,897)	(2,161,897)	16.8188	(128,541)	(0.86)
Benefit Changes							
1996	30	5	1,797,497	807,841	4.4971	179,635	1.20
1998	30	7	(6,868)	(3,973)	6.0411	(658)	(0.00)
2000	30	9	217,608	147,014	7.4574	19,714	0.13
2005	30	14	5,714,128	4,673,371	10.5065	444,807	2.97
2007	30	16	879,772	739,624	11.5534	64,018	0.43
2011	30	20	(859,973)	(727,487)	13.3944	(54,313)	(0.36)
2012	30	21	(837,844)	(704,420)	13.8071	(51,019)	(0.34)
2018	30	27	57,583	55,544	15.9418	3,484	0.02
2021	30	30	1,257,940	1,257,940	16.8188	74,794	0.50
Assumption Changes							
1995	30	4	1,262,801	470,121	3.6736	127,972	0.85
2001	30	10	(1,106,750)	(792,033)	8.1210	(97,529)	(0.65)
2011	30	20	695,546	588,391	13.3944	43,928	0.29
2015	30	24	2,088,919	1,943,231	14.9435	130,039	0.87
2016	30	25	4,976,532	4,767,126	15.2907	311,766	2.08
2020	30	29	865,657	866,533	16.5390	52,393	0.35
2021	30	30	2,929,424	2,929,424	16.8188	174,176	1.16
Totals				**$14,015,717**		**$1,132,431**	**7.55 %**

** Actual wage growth over the past 10 years has been 2.72%, versus the 4.0% assumed. FS 112 requires use of the 10-year average if less than assumed. This has been used in the above calculation as required.*

Sources and Financing of Unfunded Actuarial Accrued Liability Police Members

Year Established	Initial Years	Years Remaining	Unf'd. Act. Accr. Liab. Initial Amount	Unf'd. Act. Accr. Liab. Current Amount	Amortization Factor	Amortization Payment*	% of Payroll Contribution*
Initial Unfunded							
1981	34	5	$ (92,516)	$ (173,906)	4.6329	$ (37,537)	(0.55) %
Experience Changes							
1991	30	5	(203,783)	(59,566)	4.6329	(12,857)	(0.19)
1992	30	5	(212,982)	(70,053)	4.6329	(15,121)	(0.22)
1993	30	5	(924,672)	(354,268)	4.6329	(76,468)	(1.12)
1994	30	5	(461,122)	(193,360)	4.6329	(41,736)	(0.61)
1995	30	5	(631,047)	(299,682)	4.6329	(64,685)	(0.95)
1996	30	5	(985,977)	(529,564)	4.6329	(114,305)	(1.68)
1997	30	6	(2,131,299)	(1,294,479)	5.4767	(236,363)	(3.47)
1998	30	7	769,031	513,186	6.2947	81,526	1.20
1999	30	8	(1,200,250)	(861,498)	7.0879	(121,545)	(1.78)
2000	30	9	(597,465)	(453,926)	7.8570	(57,774)	(0.85)
2001	30	10	578,886	461,118	8.6026	53,602	0.79
2002	30	11	1,258,164	1,040,031	9.3256	111,525	1.64
2003	30	12	1,317,638	1,120,897	10.0265	111,793	1.64
2004	30	13	2,033,822	1,768,036	10.7062	165,142	2.42
2005	30	14	(40,822)	(36,049)	11.3651	(3,172)	(0.05)
2006	30	15	455,702	406,688	12.0041	33,879	0.50
2007	30	16	(2,754,392)	(2,473,198)	12.6235	(195,920)	(2.88)
2008	30	17	569,652	512,582	13.2242	38,761	0.57
2009	30	18	481,424	432,696	13.8065	31,340	0.46
2010	30	19	458,881	410,663	14.3711	28,576	0.42
2011	30	20	856,807	761,478	14.9186	51,042	0.75
2012	30	21	319,593	281,358	15.4494	18,212	0.27
2013	30	22	(1,367,523)	(1,189,938)	15.9640	(74,539)	(1.09)
2014	30	23	(1,437,583)	(1,246,731)	16.4630	(75,729)	(1.11)
2015	30	24	(1,315,599)	(1,140,665)	16.9468	(67,309)	(0.99)
2016	30	25	(1,280,599)	(1,127,881)	17.4159	(64,762)	(0.95)
2017	30	26	368,606	358,042	17.8707	20,035	0.29
2018	30	27	(533,546)	(531,085)	18.3117	(29,003)	(0.43)
2019	30	28	1,540,385	1,574,742	18.7392	84,035	1.23
2020	30	29	(1,291,696)	(1,285,202)	19.1538	(67,099)	(0.98)
2021	30	30	(1,314,155)	(1,314,155)	19.5557	(67,201)	(0.99)
Benefit Changes							
1996	30	5	(52,503)	(28,200)	4.6329	(6,087)	(0.09)
1998	30	7	866,643	578,324	6.2947	91,874	1.35
2000	30	9	154,856	117,652	7.8570	14,974	0.22
2002	30	11	(2,757)	(2,279)	9.3256	(244)	(0.00)
2005	30	14	3,376,647	2,981,865	11.3651	262,369	3.85
2006	30	15	21,867	19,516	12.0041	1,626	0.02
2010	30	19	144,060	128,923	14.3711	8,971	0.13
2011	30	20	(576,034)	(511,942)	14.9186	(34,316)	(0.50)
2012	30	21	(211,273)	(185,998)	15.4494	(12,039)	(0.18)
2018	30	27	(508)	(506)	18.3117	(28)	(0.00)
2021	30	30	283,739	283,739	19.5557	14,509	0.21
Assumption Changes							
1995	30	4	576,369	262,463	3.7627	69,754	1.02
2000	30	9	93,418	70,975	7.8570	9,033	0.13
2001	30	10	418,050	333,001	8.6026	38,709	0.57
2011	30	20	577,020	512,821	14.9186	34,375	0.50
2015	30	24	1,193,697	1,035,005	16.9468	61,074	0.90
2016	30	25	1,395,375	1,228,968	17.4159	70,566	1.04
2020	30	29	136,958	136,269	19.1538	7,114	0.10
2021	30	30	1,615,538	1,615,538	19.5557	82,612	1.21
Totals				**$3,582,445**		**$121,189**	**1.78 %**

* *Actual wage growth over the past 10 years has been 3.99%, versus the 4.0% assumed. FS 112 requires use of the 10-year average if less than assumed. This has been used in the above calculation as required.*

Actuarial Balance Sheet - September 30, 2021

($ Amounts in Thousands)*

Present Resources and Expected Future Resources

	General Members	Utilities Authority Members	Police Members	Total
A. Funding value of plan assets:				
1. Net assets from plan financial statements (Market)	$73,251	$ 108,972	$ 64,439	$246,662
2. Funding value adjustment	(5,104)	(7,592)	(4,489)	(17,185)
3. Funding value of assets	$68,147	$ 101,380	$ 59,950	$229,477
B. Actuarial present value of expected future employer contributions:				
1. For normal costs	$ 8,606	$ 9,788	$ 6,716	$ 25,110
2. For unfunded actuarial accrued liability	9,241	14,016	3,582	26,839
3. Total	$17,847	$ 23,804	$ 10,298	$ 51,949
C. Actuarial present value of expected future member contributions	3,761	6,553	2,986	13,300
D. Total Present and Future Resources	$89,755	$ 131,737	$ 73,234	$294,726

Actuarial Present Value of Expected Future Benefit Payments and Reserves

	General Members	Utilities Authority Members	Police Members	Total
A. To retired members and beneficiaries	$46,879	$ 72,015	$44,982	$163,876
B. To vested terminated members	1,762	2,272	455	4,489
C. To present active members:				
1. Allocated to service rendered prior to valuation date	$28,747	$ 41,109	$18,095	$ 87,951
2. Allocated to service likely to be rendered after valuation date	12,367	16,341	9,702	38,410
3. Total	$41,114	$ 57,450	$27,797	$126,361
D. Total actuarial present value of expected future benefit payments	$89,755	$131,737	$73,234	$294,726

** Totals may not sum exactly due to rounding.*

Cumulative Experience Gains/(Losses)

Year Ended September 30	Balance at Beginning of Year	Interest	Gain/(Loss) During Year	Value of Cost-of-Living Adjustment During Year	Balance at End of Year
1999	$ -	$ -	$ 4,314,699	$ 709,305	$ 3,605,394
2000	3,605,394	288,432	6,465,035	1,219,607	9,139,254
2001	9,139,254	731,140	(6,086,030)	1,186,656	2,597,708
2002	2,597,708	207,817	(10,907,939)	-	(8,102,414)
2003	(8,102,414)	(648,193)	(9,844,539)	-	(18,595,145)
2004	(18,595,145)	(1,487,612)	(11,328,205)	-	(31,410,961)
2005	(31,410,961)	(2,512,877)	(2,296,402)	-	(36,220,240)
2006 *	(18,683,996)	(1,494,720)	3,801,047	-	(16,377,668)
2007	(16,377,668)	(1,310,213)	9,086,773	-	(8,601,108)
2008	(8,601,108)	(688,089)	(3,888,228)	-	(13,177,425)
2009	(13,177,425)	(1,054,194)	(4,059,794)	-	(18,291,413)
2010	(18,291,413)	(1,463,313)	(3,428,818)	-	(23,183,544)
2011	(23,183,544)	(1,854,684)	(8,690,267)	-	(33,728,495)
2012	(33,728,495)	(2,698,280)	853,641	-	(35,573,134)
2013	(35,573,134)	(2,845,851)	4,085,864	-	(34,333,121)
2014	(34,333,121)	(2,746,650)	4,959,820	-	(32,119,951)
2015	(32,119,951)	(2,569,596)	5,140,356	-	(29,549,191)
2016	(29,549,191)	(2,290,062)	1,460,257	-	(30,378,996)
2017	(30,378,996)	(2,354,372)	68,563	-	(32,664,805)
2018	(32,664,805)	(2,531,522)	1,383,263	-	(33,813,064)
2019	(33,813,064)	(2,620,512)	(2,071,760)	-	(38,505,336)
2020	(38,505,336)	(2,984,164)	1,202,408	-	(40,287,092)
2021	(40,287,092)	(3,021,532)	5,088,261	-	(38,220,363)

** After removing the estimated impact of Fire members.*

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA SUBMITTED BY THE RETIREMENT AND BENEFIT SYSTEM

Summary of Benefit Provisions
(September 30, 2021)

Participation: Participation in the Retirement and Benefit System begins upon employment.

Normal Retirement (no reduction factor for age):

Eligibility - Original members: 20 or more years of service.

All members - General, Utilities Authority: 25 or more years of service regardless of age, or age 60 with 5 or more years of service.

- Police: 25 or more years of service, regardless of age, or age 55 with 5 or more years of service.

Mandatory Retirement Age - None.

Annual Amount - All members: Total service times 3.0% of final average salary.

For members hired prior to October 1, 2012:

- The maximum annual pension benefit shall not exceed 100% of final average salary.

For members hired on or after October 1, 2012:

- The maximum annual pension benefit shall not exceed 75% of final average salary.
- The maximum pension benefit is $100,000 annually.

The normal form of benefit is a benefit payable for life. Optional forms are available on an actuarial equivalent basis.

Type of Final Average Salary - General: Highest 5 consecutive years out of last 10. Police, Utilities Authority: Highest 5 years out of last 10. Overtime hours included in compensation are limited to 300 hours per fiscal year.

For members hired prior to October 1, 2012: Payments for unused sick and vacation time included in compensation are limited to unused sick and vacation time accrued through September 20, 2012 for General and Police, and July 1, 2011 for Utilities Authority.

For members hired on or after October 1, 2012: Payments for unused sick and vacation time are not included in compensation.

Deferred Retirement Option Plan (DROP) Retirement:

Eligibility - General, Police, and Utilities Authority members: Same as Normal Retirement, election may be made on or after normal retirement eligibility, but not after reaching 30 years of service. Participation in the DROP ends after five years.

Annual Amount - Computed as a normal retirement but based upon service and final average salary at time of DROP election. Member contributions cease and monthly benefits (and post-retirement increases, if any) accumulate in a self-directed DROP account and are payable to the member upon termination of employment.

Deferred Retirement (vested benefit):

Eligibility - 5 or more years of service. Benefit begins upon attaining age 60.

Annual Amount - Computed as a normal retirement but based upon service and final average salary at time of termination.

Duty Disability Retirement:

Eligibility - No age or service requirements if the Retirement Board finds the member to be in receipt of weekly workers' compensation on account of disability in the course of duty.

Annual Amount - Computed as a normal retirement based upon service projected to the end of the duty disability period and final average salary at time of disability. Minimum benefit is 75% of final average salary during the duty disability period. The duty disability period ends on the earlier of the 25th anniversary of the member's hire date or the date the member attains age 65 but not prior to 5 years from the date of duty disability retirement.

Non-Duty Disability Retirement:

Eligibility - 5 or more years of service.

Annual Amount - Computed as a normal retirement but based upon service and final average salary at time of disability.

Duty Death Before Retirement:

Eligibility - No age or service requirements. Benefits begin upon termination of workers' compensation.

Annual Amount - A benefit equal to the same amount that was paid by workers' compensation to the spouse until death, to unmarried children under 18 and dependent parents.

Non-Duty Death Before Retirement:

Eligibility - 5 or more years of service.

Annual Amount - Computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election.

Post-Retirement Increases: COLA may be granted from investment returns in excess of actuarial interest assumption, not to exceed 3%.

Military Service: May be purchased by members who meet the eligibility conditions.

Member Contributions:
General: 5.16% of annual salary
Police: 5.16% of annual salary
Utilities Authority: 6.16% of annual salary

Employer Contributions: Actuarially determined amounts which together with member contributions are sufficient to at least cover the requirements of the funding objective stated on page A-1.

Changes in Plan Provisions: City Ordinance No. 21-067 removes the $100,000 dollar maximum pension payment for members hired before October 1, 2012.

Accounting Information Submitted for Valuation

Revenues and Expenditures

	Year Ended 9/30/2021	9/30/2020
Revenues:		
a. Member contributions:		
General	**$ 542,669**	$ 522,888
Police	**382,555**	373,389
Utilities Authority	**964,291**	974,174
b. Employer contributions:		
General	**1,767,431**	1,697,807
Police	**986,014**	870,642
Utilities Authority	**2,575,357**	2,775,035
c. Investment income:		
1. Interest and dividends	**3,635,729**	3,547,103
2. Gain or loss on sales	**13,029,930**	(2,107,322)
3. Unrealized gain/loss	**24,028,230**	18,573,987
d. Total revenues	**$ 47,912,206**	$ 27,227,703
Expenditures:		
a. Refunds of member contributions:		
General	**$ 43,047**	$ 123,163
Police	**69,318**	145,163
Utilities Authority	**68,758**	141,530
b. Benefits paid:		
General	**4,641,965**	4,576,922
Police	**3,949,183**	3,812,934
Utilities Authority	**6,795,485**	6,359,883
c. Investment expenses	**858,857**	748,684
d. Administrative expenses	**232,885**	222,249
e. Other	**41,821**	40,331
f. Total expenditures	**$ 16,701,319**	$ 16,170,859
Adjustments:	**$ -**	$ -
Reserve Increase:	**$ 31,210,887**	$ 11,056,844

Market Value of Assets

	9/30/2021	9/30/2020
Cash	**$ 0**	$ 0
Receivables & Accruals	**630,256**	606,780
Other short-term	**1,981,699**	5,250,798
Real Estate	**23,118,490**	20,039,072
Bonds - corporate	**32,528,889**	34,409,420
- government	**24,585,776**	24,435,899
Stocks - common	**16,244,807**	11,461,963
- mutual funds	**148,685,099**	119,260,908
Other - prepaid expenses	**0**	0
Total assets	**247,775,016**	215,464,840
Less accounts payable	**1,113,382**	14,093
Net assets	**$ 246,661,634**	$ 215,450,747

Retired Member and Beneficiary Data September 30, 2021
Tabulated by Valuation Divisions

Valuation Divisions	No.	Annual Benefits	Average Benefit	Actuarial Value of Benefits
General Members	212	$ 4,722,214	$ 22,275	$ 46,878,966
Utilities Authority Members	244	6,996,627	28,675	72,015,316
Police Members	98	4,196,319	42,820	44,982,197
Totals	**554**	**$15,915,160**	**$28,728**	**$163,876,479**

	All Retirement's Averages			New Age and Service Retired Members Added During Year Ended 9/30/2021 Averages		
Divisions	Attained Age	Retirement Age	Current Annual Benefits	No.	Age	Annual Benefits
General Members	70.5	59.8	$ 22,275	6	59.9	$ 32,585
Utilities Authority Members	69.9	58.1	28,675	14	61.5	35,891
Police Members	65.5	53.4	42,820	6	54.6	62,783

Retired Member and Beneficiary Data
Historical Comparison

Period	Added		Removed		Net Increase		End of Period		Expected Removals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Benefits
9/30/87	17	$ 182,208	7	$ 18,904	10	$ 163,304	185	$ 1,176,613	6	$ 25,092
9/30/88	16	176,569	6	18,144	10	158,425	195	1,335,038	6	29,181
9/30/89	18	210,866	7	29,378	11	181,488	206	1,516,526	7	34,395
9/30/90	19	284,294	8	50,713	11	233,581	217	1,750,107	7	40,904
9/30/91	12	166,933	12	40,397	0	126,536	217	1,876,643	8	48,142
9/30/92	19	279,791	6	12,185	13	267,606	230	2,144,249	7	46,602
9/30/93	26	505,107	8	102,192	18	402,915	248	2,547,164	8	53,142
9/30/94	20	319,610	8	59,627	12	259,983	260	2,807,147	9	58,237
9/30/95	22	481,651	9	41,888	13	439,763	273	3,246,910	9	64,542
9/30/96	12	177,476	9	54,301	3	123,175	276	3,370,085	8	61,052
9/30/97	20	311,526	11	62,949	9	248,577	285	3,618,662	9	66,449
9/30/98	35	833,113	9	47,534	27	785,579	311	4,404,241	9	72,632
9/30/99	25	507,447	15	126,797	10	380,650	321	4,784,891	10	82,380
9/30/00	27	646,116	14	129,198	13	516,918	334	5,301,809	10	90,589
9/30/01	23	628,192	15	97,296	8	530,896	342	5,832,705	10	97,991
9/30/02	23	526,601	3	33,319	20	493,282	362	6,325,987	10	109,931
9/30/03	17	313,250	5	42,129	12	271,121	374	6,597,108	11	121,871
9/30/04	25	705,692	3	44,505	22	661,187	396	7,258,295	11	132,981
9/30/05	11	354,475	22	266,853	-11	87,622	385	7,345,917	12	149,279
9/30/06 *	37	1,017,845	99	2,907,201	-62	(1,889,356)	323	5,456,561	10	109,462
9/30/07	32	820,021	18	202,924	14	617,097	337	6,073,658	11	126,496
9/30/08	23	635,039	12	184,195	11	450,844	348	6,524,502	11	138,459
9/30/09	55	1,551,148	16	182,856	39	1,368,292	387	7,892,794	12	149,577
9/30/10	56	2,229,035	14	177,196	42	2,051,839	429	9,944,633	12	170,609
9/30/11	26	672,328	16	239,318	10	433,010	439	10,377,643	13	197,045
9/30/12	27	746,421	14	251,747	13	494,674	452	10,872,317	14	196,990
9/30/13	32	927,561	15	134,978	17	792,583	469	11,664,900	14	214,174
9/30/14	40	890,500	20	262,625	20	627,875	489	12,292,775	14	232,649
9/30/15	31	739,422	19	262,533	12	476,889	501	12,769,664	15	249,235
9/30/16	24	653,823	26	380,819	-2	273,004	499	13,042,668	16	270,359
9/30/17	19	382,822	13	154,607	6	228,215	505	13,270,883	14	249,276
9/30/18	32	777,459	20	342,128	12	435,331	517	13,706,214	14	267,842
9/30/19	31	1,018,350	22	345,024	9	673,326	526	14,379,540	14	285,051
9/30/20	25	861,733	17	302,652	8	559,081	534	14,938,621	14	292,501
9/30/21	**39**	**1,245,027**	**19**	**268,488**	**20**	**976,539**	**554**	**15,915,160**	**15**	**328,322**

** Removed 90 Fire retirees and beneficiaries, and $2,811,761 annual benefits in the 9/30/2006 valuation.*

Retired Members and Beneficiaries
Historical Comparison

Valuation Date	% Increase in Annual Benefits	No. of Active Per Retired	Annual Benefits as % of Active Payroll	Average Benefits
9/30/87	16.1 %	4.2	6.6 %	$ 6,360
9/30/88	13.5	4.2	6.8	6,846
9/30/89	13.6	4.0	7.5	7,362
9/30/90	15.4	3.9	7.8	8,065
9/30/91	7.2	3.9	7.9	8,648
9/30/92	14.3	3.6	8.6	9,323
9/30/93	18.8	3.1	10.8	10,271
9/30/94	10.2	3.0	11.6	10,797
9/30/95	15.7	3.0	12.4	11,893
9/30/96	3.8	3.0	12.2	12,210
9/30/97	7.4	3.2	12.1	12,697
9/30/98	21.7	2.8	14.5	14,162
9/30/99	8.6	2.7	15.1	14,906
9/30/00	10.8	2.7	15.9	15,874
9/30/01	10.0	2.7	16.4	17,055
9/30/02	8.5	2.5	17.1	17,475
9/30/03	4.3	2.5	16.4	17,639
9/30/04	10.0	2.4	16.7	18,329
9/30/05	1.2	2.6	15.0	19,080
9/30/06 *	20.3	2.0	17.9	16,893
9/30/07	11.3	2.0	19.6	18,023
9/30/08	7.4	2.0	19.8	18,749
9/30/09	21.0	1.7	25.4	20,395
9/30/10	26.0	1.3	37.1	23,181
9/30/11	4.4	1.3	40.3	23,639
9/30/12	4.8	1.2	42.1	24,054
9/30/13	7.3	1.1	46.3	24,872
9/30/14	5.4	1.1	48.9	25,139
9/30/15	3.9	1.0	50.1	25,488
9/30/16	2.1	1.1	47.4	26,138
9/30/17	1.7	1.1	46.5	26,279
9/30/18	3.3	1.1	46.8	26,511
9/30/19	4.9	1.1	45.2	27,338
9/30/20	3.9	1.1	45.9	27,975
9/30/21	**6.5**	**1.0**	**49.3**	**28,728**

* *Removed 90 Fire retirees and beneficiaries, and $2,811,761 annual benefits in the 9/30/2006 valuation.*

Retired Member and Beneficiary Data as of September 30, 2021 by Type of Benefit Being Paid

Type of Benefit Being Paid	No.	Annual Benefits	Average Benefits
Age and Service Benefits			
Straight Life - benefit terminating at death of retirant	198	$ 6,130,891	$30,964
Option A - 100% joint and survivor benefit*	116	3,553,793	30,636
Option B/D/E - 50%/75%/67% joint and survivor benefit*	106	3,639,799	34,338
Option C - 10-year certain and life	24	607,969	25,332
Other Age and Service Benefits	0	0	0
Total Age and Service Benefits	444	13,932,452	31,379
Surviving Beneficiary Benefits	74	1,046,439	14,141
Casualty Benefits			
Duty disability	10	370,165	37,017
Non-duty disability	10	210,376	21,038
Duty death	2	47,846	23,923
Non-duty death	14	307,882	21,992
Total Casualty Benefits	36	936,269	26,007
Total Benefits Being Paid	**554**	**$15,915,160**	**$28,728**

* *Includes Pop-Up provision.*

Retired Members and Beneficiaries as of September 30, 2021 by Attained Age

Age Last Birthday	Age and Service*		Casualty		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 45	3	$ 17,257	0	$ -	3	$ 17,257
45-49	5	143,528	2	81,768	7	225,296
50-54	21	1,286,972	6	150,465	27	1,437,437
55-59	36	1,482,320	8	223,565	44	1,705,885
60-64	109	3,518,226	5	156,130	114	3,674,356
65-69	112	3,064,150	4	94,870	116	3,159,020
70-74	90	2,486,550	6	121,996	96	2,608,546
75-79	66	1,790,910	3	52,775	69	1,843,685
80-84	37	585,761	2	54,700	39	640,461
85-89	17	300,622	0	-	17	300,622
90 & Over	22	302,595	0	-	22	302,595
Totals	**518**	**$ 14,978,891**	**36**	**$ 936,269**	**554**	**$ 15,915,160**

* *Includes Surviving Beneficiary Benefits.*

Inactive Vested Members as of September 30, 2021 by Attained Age

Attained Age	General Members No.	General Members Estimated Annual Benefits	Utilities Authority* No.	Utilities Authority* Estimated Annual Benefits	Police Members* No.	Police Members* Estimated Annual Benefits	TOTAL No.	TOTAL Estimated Annual Benefits
Under 30			1	$ 7,632		$ 0	1	$ 7,632
30-34	2	$ 16,968			1	10,452	3	27,420
35-39			2	67,627	2	41,360	4	108,987
40-44	3	34,333	1	23,773	1	23,159	5	81,265
45-49	1	38,381	5	68,196	2	25,182	8	131,759
50-54	5	117,776	6	94,069	2	20,479	13	232,324
55-59	3	46,179	4	109,831	1	7,094	8	163,104
60-64	1	12,324	1	5,964			2	18,288
TOTALS	**15**	**$ 265,961**	**20**	**$ 377,092**	**9**	**$ 127,726**	**44**	**$770,779**

* *Deferred annuities were estimated for 4 Utilities Authority members and 1 Police member who terminated during the 2020-2021 plan year.*

Active Members Included in Valuation
General Members

Valuation September 30	Active Members	Vested Term. Members	Valuation Payroll	Average Age	Average Service	Average Pay
2002	275	7	$ 8,901,179	45.5 yrs.	8.1 yrs.	$ 32,368
2003	302	5	9,994,351	46.5	7.7	33,094
2004	294	7	10,546,747	46.1	8.1	35,873
2005	297	7	11,854,374	46.4	8.6	39,914
2006	287	6	11,206,771	46.5	8.0	39,048
2007	289	6	11,131,329	47.3	8.3	38,517
2008	281	6	11,949,389	47.9	9.0	42,525
2009	265	8	11,108,762	47.5	8.6	41,920
2010	226	13	8,874,396	46.8	8.0	39,267
2011	219	16	8,488,894	47.1	8.2	38,762
2012	216	16	8,625,945	47.8	8.9	39,935
2013	198	17	7,765,325	48.2	9.4	39,219
2014	198	14	7,912,918	48.3	9.3	39,964
2015	185	15	7,383,853	48.9	9.8	39,913
2016	203	20	8,738,017	48.5	8.8	43,044
2017	199	19	8,858,072	48.7	9.1	44,513
2018	197	21	8,802,993	48.4	8.9	44,685
2019	203	18	9,532,368	48.5	8.6	46,957
2020	213	15	10,215,838	48.4	8.6	47,962
2021	**212**	**15**	**10,496,497**	**48.3**	**8.6**	**49,512**

Number Added to and Removed from Active Membership
General Members

Year Ended September 30	Number Added During Year		Normal Retirement		Disability Retirement		Died-in-Service		Terminations Withdrawal	Terminations Vested	Terminations Totals		Transfer	Active Members End of Year
	A	E	A	E	A	E	A	E	A	A	A	E	A	
2012	10	13	4	7.0	0	0.5	3	0.3	5	1	6	12.3		216
2013	9	27	10	9.8	0	0.5	1	0.4	13	3	16	11.0		198
2014	23	23	10	8.4	0	0.5	0	0.4	13	0	13	9.5		198
2015	14	26	8	10.1	0	0.4	2	0.4	14	2	16	10.9	(1)	185
2016	41	23	7	8.3	0	0.5	0	0.4	10	6	16	9.9		203
2017	17	23	7	6.7	1	0.4	0	0.3	14	1	15	16.5	2	199
2018	32	33	8	8.4	1	0.4	1	0.3	19	4	23	14.7	(1)	197
2019	38	31	7	7.6	0	0.4	0	0.2	22	2	24	15.6	(1)	203
2020	28	18	5	8.4	1	0.3	0	0.2	12	0	12	17.3	0	213
2021	**27**	**26**	**5**	**11.0**	**1**	**0.4**	**0**	**0.2**	**18**	**2**	**20**	**16.8**	**(2)**	**212**
10-Year Totals	**239**	**243**	**71**	**85.7**	**4**	**4.3**	**7**	**3.1**	**140**	**21**	**161**	**134.5**		

A represents actual number; E represents expected number.

Active Members Included in Valuation
Utilities Authority Members

Valuation September 30	Active Members	Vested Term. Members	Valuation Payroll	Average Age	Average Service	Average Pay
2002	253	9	$ 10,675,070	44.9 yrs.	9.7 yrs.	$ 42,194
2003	248	10	10,744,695	45.3	10.0	43,325
2004	245	11	11,193,220	45.8	10.1	45,687
2005	256	12	12,754,845	46.5	10.1	49,824
2006	263	11	12,551,346	46.6	9.6	47,724
2007	278	10	13,494,349	46.5	9.3	48,541
2008	282	12	13,970,069	46.5	9.1	49,539
2009	266	7	13,244,000	46.0	9.3	49,789
2010	248	8	12,119,371	46.2	9.3	48,868
2011	237	10	11,893,916	47.0	9.9	50,185
2012	237	10	11,801,344	47.2	9.9	49,795
2013	232	9	11,534,243	46.7	9.6	49,717
2014	219	15	11,071,951	46.4	9.3	50,557
2015	228	18	11,841,919	46.3	9.1	51,938
2016	229	16	12,588,492	46.3	9.4	54,972
2017	230	18	12,768,134	46.5	9.8	55,514
2018	242	18	13,635,436	46.4	9.5	56,345
2019	257	15	15,141,890	46.2	9.3	58,918
2020	254	17	15,341,742	46.5	9.4	60,401
2021	**244**	**20**	**14,993,204**	**46.0**	**9.4**	**61,448**

Number Added to and Removed from Active Membership
Utilities Authority Members

Year Ended September 30	Number Added During Year A	Number Added During Year E	Normal Retirement A	Normal Retirement E	Disability Retirement A	Disability Retirement E	Died-in-Service A	Died-in-Service E	Terminations Withdrawal A	Terminations Vested A	Terminations Totals A	Terminations Totals E	Transfer A	Active Members End of Year
2012	20	20	8	8.6	0	0.6	0	0.4	11	1	12	11.0		237
2013	25	30	14	9.0	0	0.6	1	0.5	15	0	15	12.0		232
2014	23	36	18	8.8	0	0.6	0	0.4	12	6	18	13.3		219
2015	27	19	10	6.1	1	0.5	0	0.4	4	4	8	13.5	1	228
2016	25	24	6	5.3	0	0.5	0	0.3	15	3	18	15.0		229
2017	19	18	2	6.8	0	0.5	0	0.3	10	6	16	16.7		230
2018	31	19	7	7.9	0	0.5	0	0.3	10	2	12	15.5		242
2019	35	21	6	7.9	0	0.4	0	0.4	12	3	15	17.4	1	257
2020	19	22	11	8.8	0	0.4	0	0.4	9	2	11	19.2	0	254
2021	**23**	**33**	**14**	**10.2**	**0**	**0.4**	**1**	**0.3**	**14**	**4**	**18**	**17.9**	**0**	**244**
10-Year Totals	**247**	**242**	**96**	**79.4**	**1**	**5.0**	**2**	**3.7**	**112**	**31**	**143**	**151.5**		

A represents actual number; E represents expected number.

Active Members Included in Valuation
Police Members

Valuation September 30	Active Members	Vested Term. Members	Payroll	Average Age	Average Service	Average Pay
2002	102	2	$ 4,567,931	39.7 yrs.	9.0 yrs.	$ 44,784
2003	103	3	4,921,744	39.9	9.1	47,784
2004	103	3	5,496,631	40.3	9.9	53,365
2005	105	3	5,943,309	40.9	10.6	56,603
2006	111	2	6,773,879	39.3	9.4	61,026
2007	106	2	6,358,225	38.9	9.4	59,983
2008	117	2	7,032,172	39.2	9.4	60,104
2009	111	3	6,663,530	38.6	9.2	60,032
2010	102	3	5,785,106	38.4	9.0	56,717
2011	101	4	5,361,391	38.9	9.7	53,083
2012	99	3	5,415,125	39.0	9.8	54,698
2013	106	3	5,899,165	39.2	9.2	55,653
2014	109	2	6,165,492	38.4	8.9	56,564
2015	107	4	6,249,587	39.0	9.1	58,407
2016	100	6	6,166,648	38.3	9.0	61,666
2017	110	8	6,937,207	37.9	8.6	63,066
2018	111	8	6,825,562	37.9	8.6	61,492
2019	107	7	7,129,571	37.6	8.2	66,632
2020	103	8	7,005,232	37.9	8.4	68,012
2021	**99**	**9**	**6,814,130**	**37.4**	**7.9**	**68,830**

Number Added to and Removed from Active Membership
Police Members

Year Ended September 30	Number Added During Year		Normal Retirement		Disability Retirement		Died-in-Service		Terminations Withdrawal	Terminations Vested	Terminations Totals		Transfer	Active Members End of Year
	A	E	A	E	A	E	A	E	A	A	A	E	A	
2012	14	16	1	0.9	3	0.3	0	0.1	12	0	12	3.7		99
2013	17	10	2	1.4	0	0.2	0	0.1	8	0	8	4.4		106
2014	19	16	4	2.0	0	0.2	0	0.1	12	0	12	5.3		109
2015	14	16	2	2.0	1	0.2	0	0.1	11	2	13	5.8		107
2016	15	22	4	3.4	0	0.2	0	0.1	15	3	18	5.8		100
2017	17	5	1	1.5	0	0.2	1	0.1	2	1	3	6.6	(2)	110
2018	10	11	4	1.9	0	0.3	0	0.1	5	1	6	7.2	1	111
2019	8	15	7	4.5	1	0.3	0	0.1	4	0	4	6.7	0	107
2020	13	17	2	0.9	0	0.3	0	0.1	13	2	15	6.4	0	103
2021	**10**	**16**	**5**	**2.1**	**1**	**0.3**	**0**	**0.1**	**8**	**2**	**10**	**6.7**	**2**	**99**
10-Year Totals	**137**	**144**	**32**	**20.6**	**6**	**2.5**	**1**	**1.0**	**90**	**11**	**101**	**58.6**		

A represents actual number; E represents expected number.

General Members
as of September 30, 2021
by Attained Age and Years of Service

Attained	ice to Valuation Date							Totals	
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	4							4	$ 139,518
25-29	12	1						13	528,324
30-34	10	4						14	670,054
35-39	6	2	1	4	1			14	603,519
40-44	13	6	2	2	2			25	1,164,721
45-49	11	6	6	3	7	2		35	1,891,985
50-54	21	8	4	6	4	2		45	2,497,988
55-59	11	5	3	9	4			32	1,675,735
60	2			3				5	325,788
61	4				1			5	202,497
62	1	1			1			3	194,932
63	1	1		1				3	95,999
64	2	1						3	196,934
66	1	1				1		3	135,342
67		1						1	56,392
68			1					1	26,468
70		1						1	10,959
71		1		1				2	49,234
76		1						1	9,105
77				1				1	10,399
79					1			1	10,604
Totals	**99**	**40**	**17**	**30**	**21**	**5**	**0**	**212**	**$10,496,497**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age:	48.3	years
Service:	8.6	years
Annual Pay:	$49,512	

Utilities Authority Members
as of September 30, 2021
by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	5							5	$ 204,514
25-29	13							13	500,247
30-34	18	15	1					34	1,806,076
35-39	16	7	8	1				32	1,915,952
40-44	8	9	3	3	3			26	1,428,950
45-49	8	5	6	6	3			28	2,001,352
50-54	11	8	6	4	4	4	1	38	2,661,020
55-59	7	5	6	12	1	1		32	1,957,333
60	2	1	2					5	258,574
61	2	2	1		3	1		9	608,036
62		1	1		1			3	189,078
63	2			2				4	227,070
64	1	1	3	2				7	521,312
65		2	1		1		1	5	427,707
66			1					1	68,503
67	1							1	47,528
70					1			1	169,952
Totals	**94**	**56**	**39**	**30**	**17**	**6**	**2**	**244**	**$14,993,204**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age:	46.0	years
Service:	9.4	years
Annual Pay:	$61,448	

Police Members
as of September 30, 2021
by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	6							6	$ 282,761
25-29	14	2						16	865,046
30-34	12	12						24	1,456,670
35-39	3	5	2	1				11	834,295
40-44	4	6	2	2	2			16	1,182,421
45-49	5	2	2	5	3			17	1,365,541
50-54				1	4			5	455,120
55-59		3			1			4	372,276
Totals	**44**	**30**	**6**	**9**	**10**	**0**	**0**	**99**	**$6,814,130**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age:	37.4	years
Service:	7.9	years
Annual Pay:	$68,830	

SECTION D

ACTUARIAL COST METHOD, ACTUARIAL ESTIMATES AND DEFINITIONS OF TECHNICAL TERMS

Actuarial Cost Method Used for the Valuation

The actuarial cost method is a procedure for allocating the actuarial present value of future benefits and expenses to time periods. The method used for this valuation is the individual entry-age actuarial cost method, and has the following characteristics:

Actuarial Present Value of Future Benefits. Actuarial present values are calculated using the benefit provisions applicable to active members, vested terminated members, and retirees and beneficiaries as of the valuation date using the assumptions summarized elsewhere in this report.

Normal Costs. The actuarial present values for each year of service rendered before and after the valuation date are determined so that:

(i) The annual normal costs for each individual active member, payable from the member's effective date of employment (or entry age) to projected date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement; and
(ii) Each annual normal cost is a constant percentage of the active member's year-by-year projected pensionable pay.

Actuarial Accrued Liabilities. The actuarial present value of future benefits minus the actuarial present value of normal costs rendered after the valuation date is the Actuarial Accrued Liabilities.

Funding Value of Assets. The accrued assets recognized as of the valuation date for the purpose of determining contribution requirements.

Unfunded Actuarial Accrued Liabilities. The Actuarial Accrued Liabilities minus the funding value of assets are the Unfunded Actuarial Accrued Liabilities.

Amortization of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liabilities were amortized by level (principal & interest combined) percent-of-payroll contributions over periods shown elsewhere in this report. Active member payroll was assumed to increase 4.0% a year for the purpose of determining the level percent contributions, unless the 10-year average annual payroll growth is lower than 4.0%.

Actuarial Assumptions. Assumptions are established by the Board after consulting with the actuary. Non-economic assumptions are generally selected on the basis of the System's historical activity, modified for expected future differences. The reasonableness of the economic assumptions is based upon capital market expectations provided by various investment consultants and other sources such as the Social Security Trustees report. All actuarial assumptions are based on future expectations, not market measures.

Level Percent of Active Member Covered Payroll Amortization of Unfunded Actuarial Accrued Liability*

General Members

($ Amounts in Thousands)

Year	Pay		Unfunded		Contribution	
	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars
2021	$ 10,496	$10,496	$ 9,241	$9,241	$ 404	$ 404
2022	10,916	10,496	9,484	9,119	396	381
2023	11,353	10,496	9,753	9,018	571	528
2024	11,807	10,496	9,857	8,763	634	564
2025	12,279	10,496	9,902	8,464	626	535
2030	14,940	10,496	8,333	5,854	1,518	1,066
2035	18,177	10,496	4,233	2,445	400	231
2040	22,115	10,496	2,691	1,277	422	200
2050	32,735	10,496	180	58	182	59
2051	34,044	10,496	0	0	0	0

*	$ 1,146,018	over 30 years	$ 234,565	over 15 years
	961,495	over 29 years	2,355,437	over 14 years
	351,663	over 28 years	2,300,339	over 13 years
	(424,648)	over 27 years	1,798,802	over 12 years
	85,808	over 26 years	1,722,834	over 11 years
	2,996,761	over 25 years	428,479	over 10 years
	(750,498)	over 24 years	(719,947)	over 9 years
	(1,361,965)	over 23 years	(632,286)	over 8 years
	(1,240,662)	over 22 years	(723,500)	over 7 years
	(625,926)	over 21 years	(1,009,694)	over 6 years
	2,453,655	over 20 years	(237,237)	over 5 years
	662,447	over 19 years	108,731	over 4 years
	1,200,465	over 18 years	(102,567)	over 3 years
	1,410,019	over 17 years	(286,262)	over 2 years
	(2,884,506)	over 16 years	22,900	over 1 year
			$ 9,240,720	**TOTAL**

Level percent-of-payroll financing of unfunded actuarial accrued liabilities treats each generation of taxpayers equally during the financing period. The alternative, level-dollar financing, produces declining percent-of-payroll contributions and places a greater relative burden on current taxpayers.

The annual rate of increase in member payroll used to compute the level percent-of-payroll contribution is the same rate of payroll growth used to compute actuarial liabilities and costs. It reflects across-the-board salary increases not group size increases.

If future payroll growth is less than the assumed rate due to smaller than projected salary increases, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to decline.

If future payroll growth is less than the assumed rate due to decreases in the number of members, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to increase but dollar contributions will be less than indicated in the preceding schedule.

Level Percent of Active Member Covered Payroll Amortization of Unfunded Actuarial Accrued Liability*

Utility Authority Members

($ Amounts in Thousands)

Year	Pay		Unfunded		Contribution	
	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars
2021	$14,993	$14,993	$14,016	$14,016	$ 1,023	$ 1,023
2022	15,593	14,993	13,951	13,415	1,064	1,023
2023	16,217	14,993	13,839	12,795	1,107	1,023
2024	16,865	14,993	13,673	12,155	1,151	1,023
2025	17,540	14,993	13,448	11,496	1,051	898
2030	21,340	14,993	12,854	9,031	1,372	964
2035	25,963	14,993	8,540	4,931	1,117	645
2040	31,588	14,993	4,554	2,162	815	387
2050	46,759	14,993	318	102	322	103
2051	48,629	14,993	0	0	0	0

* $ 2,025,467	over 30 years	$ -	over 15 years
695,995	over 29 years	4,673,371	over 14 years
170,044	over 28 years	0	over 13 years
(287,342)	over 27 years	0	over 12 years
(504,020)	over 26 years	0	over 11 years
4,938,412	over 25 years	(792,033)	over 10 years
440,463	over 24 years	147,014	over 9 years
(1,881,804)	over 23 years	(1,828,601)	over 8 years
(1,110,445)	over 22 years	(3,973)	over 7 years
(1,546,449)	over 21 years	0	over 6 years
3,830,498	over 20 years	807,841	over 5 years
2,265,099	over 19 years	470,121	over 4 years
1,929,255	over 18 years	0	over 3 years
1,509,430	over 17 years	0	over 2 years
(1,932,626)	over 16 years	0	over 1 year
		$ 14,015,717	**TOTAL**

Level percent-of-payroll financing of unfunded actuarial accrued liabilities treats each generation of taxpayers equally during the financing period. The alternative, level-dollar financing, produces declining percent-of-payroll contributions and places a greater relative burden on current taxpayers.

The annual rate of increase in member payroll used to compute the level percent-of-payroll contribution is the same rate of payroll growth used to compute actuarial liabilities and costs. It reflects across-the-board salary increases not group size increases.

If future payroll growth is less than the assumed rate due to smaller than projected salary increases, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to decline.

If future payroll growth is less than the assumed rate due to decreases in the number of members, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to increase but dollar contributions will be less than indicated in the preceding schedule.

Level Percent of Active Member Covered Payroll Amortization of Unfunded Actuarial Accrued Liability*

Police Members

($ Amounts in Thousands)

Year	Pay		Unfunded		Contribution	
	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars
2021	$ 6,814	$6,814	$3,582	$3,582	$ 121	$ 121
2022	7,087	6,814	3,714	3,572	126	121
2023	7,370	6,814	3,851	3,560	131	121
2024	7,665	6,814	3,992	3,549	136	121
2025	7,972	6,814	4,138	3,537	60	51
2030	9,699	6,814	2,520	1,771	908	638
2035	11,800	6,814	(421)	(243)	(175)	(101)
2040	14,356	6,814	(189)	(90)	(102)	(48)
2050	21,251	6,814	92	29	93	30
2051	22,101	6,814	0	0	0	0

*	$ 585,122	over 30 years	$ 426,204	over 15 years
	(1,148,933)	over 29 years	2,945,816	over 14 years
	1,574,742	over 28 years	1,768,036	over 13 years
	(531,591)	over 27 years	1,120,897	over 12 years
	358,042	over 26 years	1,037,752	over 11 years
	101,087	over 25 years	794,119	over 10 years
	(105,660)	over 24 years	(265,299)	over 9 years
	(1,246,731)	over 23 years	(861,498)	over 8 years
	(1,189,938)	over 22 years	1,091,510	over 7 years
	95,360	over 21 years	(1,294,479)	over 6 years
	762,357	over 20 years	(1,708,599)	over 5 years
	539,586	over 19 years	262,463	over 4 years
	432,696	over 18 years	0	over 3 years
	512,582	over 17 years	0	over 2 years
	(2,473,198)	over 16 years	0	over 1 year
			$ 3,582,445	**TOTAL**

Level percent-of-payroll financing of unfunded actuarial accrued liabilities treats each generation of taxpayers equally during the financing period. The alternative, level-dollar financing, produces declining percent-of-payroll contributions and places a greater relative burden on current taxpayers.

The annual rate of increase in member payroll used to compute the level percent-of-payroll contribution is the same rate of payroll growth used to compute actuarial liabilities and costs. It reflects across-the-board salary increases not group size increases.

If future payroll growth is less than the assumed rate due to smaller than projected salary increases, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to decline.

If future payroll growth is less than the assumed rate due to decreases in the number of members, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to increase but dollar contributions will be less than indicated in the preceding schedule.

Actuarial Estimates Used for the Valuation

Funding objective contribution requirements and actuarial present values are calculated by applying estimates of future activities (actuarial estimates) to the benefit provisions and people information of the System.

The principal areas of risk which require estimates of future activities are:

(i) Long-term rates of investment return to be generated by the assets of the System

(ii) Patterns of pay increases to members

(iii) Rates of mortality among members, retirants, and beneficiaries

(iv) Rates of withdrawal of active members

(v) Rates of disability among active members

(vi) The age patterns of actual retirements

In a valuation, the monetary effect of each activity is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual activities of the System will not coincide exactly with estimated activities, due to the nature of the activities. Each valuation provides a complete recalculation of estimated future activities and takes into account the effect of differences between estimated and actual activities to date. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time one or more of the estimates are modified to reflect experience trends (but not random or temporary year-to-year fluctuations).

In accordance with Chapter 112, Florida Statutes, 112.661(9), the Retirement Board adopts the assumed rate of return assumption used for actuarial valuation purposes. The actuarial assumptions are set by the Board. The rationale for certain actuarial assumptions is described in the October 1, 1995 through September 30, 2000 experience study report. All actuarial assumptions are estimates of future experience.

Actuarial estimates regarding the net investment return, inflation, real investment return, and salary increase rates are used, in combination with the other assumptions, to (i) determine the present value of amounts expected to be paid in the future and (ii) establish rates of contribution which are expected to remain relatively level as a percent of total valuation payroll.

Net Rate of Investment Return. 7.25% per annum, compounded annually, net of investment expenses.

Inflation. 2.75% per annum, compounded annually. This is the rate at which growth in the supply of money and credit is estimated to exceed growth in the supply of goods and services. It may be thought of as the rate of depreciation of the purchasing power of the dollar. There are a number of indices for measuring the inflation rate. The recent inflation rate, as measured by the Consumer Price Index, has been:

	Year Ended September 30					Average
	2021	2020	2019	2018	2017	for Period
Actual	5.40%	1.40%	1.70%	2.30%	2.20%	2.59%
Assumed	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%

Real Investment Return. 4.50% per annum, compounded annually. This is the rate of return assumed to be produced by investing a pool of assets in an inflation-free environment. Recent real investment return for the Retirement and Benefit System has been:

	Year Ended September 30					Average
	2021	2020	2019	2018	2017	for Period
Total Rate of Return	10.15%	8.18%	8.08%	8.07%	8.03%	8.50%
Less Inflation Rate	5.40%	1.40%	1.70%	2.30%	2.20%	2.59%
Actual Real Rate of Return	4.75%	6.78%	6.38%	5.77%	5.80%	5.91%
Assumed Real Rate of Return	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Assumed Net Rate of Return	7.50%	7.75%	7.75%	7.75%	7.75%	7.70%

The total investment return rate was computed using the approximate formula i = I divided by 1/2 (A + B - I), where I is actual realized investment income plus market value adjustments, A is the beginning of year asset value, and B is the end of year asset value.

The preceding investment return rates reflect the particular characteristics of this Retirement and Benefit System and should not be used to measure an investment advisor's performance or for comparison with other retirement systems. Such use will usually mislead.

Salary Increases. Employee salaries are estimated to increase between the date of hire and date of retirement. Salary increases occur in recognition of (i) individual merit and seniority, (ii) inflation related depreciation of the purchasing power of salaries, and (iii) competition from other employers for personnel.

A schedule of estimated rates of increases in individual salaries for sample ages follows:

Annual Rates of Salary Increases for Sample Ages

	General and Utilities Authority			Police Officers		
Age	Merit & Seniority	Wage Inflation	Total	Merit & Seniority	Wage Inflation	Total
20	2.5 %	4.0 %	6.5 %	4.0 %	4.0 %	8.0 %
30	1.7 %	4.0 %	5.7 %	2.8 %	4.0 %	6.8 %
40	1.1 %	4.0 %	5.1 %	2.2 %	4.0 %	6.2 %
50	0.6 %	4.0 %	4.6 %	1.2 %	4.0 %	5.2 %
55	0.5 %	4.0 %	4.5 %	0.7 %	4.0 %	4.7 %
60	0.5 %	4.0 %	4.5 %	0.2 %	4.0 %	4.2 %

The merit and seniority rates for General and Utilities Authority were first used in the September 30, 2016 valuation.

The merit and seniority rates for Police Officers were first used in the September 30, 2001 valuation.

It is estimated that the group size will remain constant and that total payroll for the group will increase at the rate of the general increase in wage levels due to inflation, which in this case is 4.0%.

A schedule of recent salary change experience follows:

	% Change in Salaries					
	Year Ended September 30					Average
	2021	2020	2019	2018	2017	5-Year
Rate of Change in Salaries						
- Total	**5.0** %	4.7 %	9.2 %	2.9 %	5.7 %	5.5 %
- General	**4.9**	5.1	7.4	3.9	6.1	5.5
- U.A.	**4.2**	4.6	7.3	3.7	4.6	4.9
- Police	**6.4**	4.0	15.2	0.2	7.2	6.5
Expected - Total	**5.1**	5.1	5.1	5.2	5.0	5.1 %
- General	**4.7**	4.7	4.7	4.7	4.7	4.7
- U.A.	**4.8**	4.8	4.8	4.8	4.8	4.8
- Police	**6.4**	6.3	6.3	6.3	6.3	6.3

	% Change in Total Payroll						
	Year Ended September 30					Average*	
	2021	2020	2019	2018	2017	5-Year	10-Year
- Total	**(0.8)** %	2.4 %	8.7 %	2.5 %	3.9 %	1.7 %	3.0 %
- General	**2.7**	7.2	8.3	(0.6)	1.4	1.4	2.9
- U.A.	**(2.3)**	1.3	11.0	6.8	1.4	1.6	2.7
- Police	**(2.7)**	(1.7)	4.5	(1.6)	12.5	2.1	4.0

** 5-year and 10-year averages include DROP payroll.*

In order to achieve the funding objective of a contribution rate which remains level as a percent-of-payroll, the total rate of investment return must exceed the rate of average increase in salaries by an amount equal to the estimated real investment return rate.

Mortality Tables. The mortality tables used to measure retired life mortality were the Florida Retirement System (FRS) Mortality Tables, as described below:

General & Utilities Authority

- Male non-disabled pre-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted General Below Median Employee Male Table, set back 1 year, projected with scale MP-2018.
- Female non-disabled pre-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted General Below Median Employee Female Table, projected with scale MP-2018.
- Male non-disabled post-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted General Below Median Healthy Retiree Male Table, set back 1 year, projected with scale MP-2018.
- Female non-disabled post-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted General Below Median Healthy Retiree Female Table, projected with scale MP-2018.
- Male disabled mortality: PUB-2010 Headcount Weighted General Disabled Retiree Male Table, set forward 3 years.
- Female disabled mortality: PUB-2010 Headcount Weighted General Disabled Retiree Female Table, set forward 3 years.

Police

- Male non-disabled pre-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted Public Safety Below Median Employee Male Table, set forward 1 year, projected with scale MP-2018.
- Female non-disabled pre-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted Public Safety Employee Female Table, set forward 1 year, projected with scale MP-2018.
- Male non-disabled post-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted Public Safety Below Median Healthy Retiree Male Table, set forward 1 year, projected with scale MP-2018.
- Female non-disabled post-retirement mortality: fully generational mortality. PUB-2010 Headcount Weighted Public Safety Healthy Retiree Female Table, set forward 1 year, projected with scale MP-2018.
- Male disabled mortality: PUB-2010 Headcount Weighted 80% General Disabled Retiree/20% Public Safety Disabled Retiree Male Table.
- Female disabled mortality: PUB-2010 Headcount Weighted 80% General Disabled Retiree/20% Public Safety Disabled Retiree Female Table.

	Single Life Retirement Values							
	Present Value of $1 Monthly for Life				Future Life Expectancy (Years)			
Sample Ages in 2021	General & UA		Police		General & UA		Police	
	Males	Females	Males	Females	Males	Females	Males	Females
45	$151.63	$156.42	$151.41	$156.72	38.33	42.20	37.29	41.47
50	143.91	150.30	145.55	151.29	33.10	36.91	32.46	36.29
55	137.38	145.78	137.66	144.26	28.73	32.46	27.68	31.26
60	130.17	139.14	127.67	135.62	24.64	27.92	23.10	26.47
65	120.65	129.66	115.87	125.16	20.58	23.35	18.83	21.96
70	107.95	117.07	101.46	112.37	16.58	18.87	14.82	17.70
75	92.93	101.75	85.15	97.26	12.87	14.69	11.22	13.78
80	76.43	84.28	67.91	80.62	9.59	10.93	8.14	10.31

The margin for future mortality improvements is included in projection scales. 100% of deaths were assumed to be non-duty related.

Rates of separation from active membership. The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This estimate measures the probabilities of members remaining in employment.

Samples Ages	Years of Service	Percent Separating Within Next Year: General and Utilities Authority	Police
ALL	0	22.00 %	15.00 %
	1	16.50	12.00
	2	12.00	10.00
	3	10.00	8.00
	4	8.00	6.00
20	5 & Over	8.00	6.00
25		8.00	6.00
30		8.00	6.00
35		8.00	6.00
40		8.00	6.00
45		5.00	3.50
50		2.25	1.00
55		2.25	1.00
60		2.25	1.00
65		2.25	1.00

The rates for all divisions were first used in the September 30, 2016 valuation.

Rates of Disability. These estimates represent the probabilities of active members becoming disabled.

Sample Ages	Percent Becoming Disabled Within Next Year: General and Utilities Authority	Police
20	0.04 %	0.07 %
25	0.04	0.09
30	0.04	0.10
35	0.05	0.14
40	0.10	0.21
45	0.17	0.32
50	0.36	0.52
55	0.59	0.92
60	0.90	1.53
65	1.00	1.65

The mortality table was set forward ten years for projecting disability costs. 100% of the disability retirements were assumed to be non-duty related for General and Utilities Authority members. 75% of the disability retirements were assumed to be non-duty for Police members.

Rates of Retirement. These rates are used to measure the probabilities of an eligible member retiring during the next year.

Service Based			Age Based		
Service Years	General and Utilities Authority	Police	Retirement Ages	General and Utilities Authority	Police
25	40 %	75 %	55		35 %
26	40	75	56		30
27	40	75	57		30
28	40	75	58		30
29	40	75	59		30
30	40	100	60	10 %	30
31	40	100	61	5	30
32	40	100	62	12	30
33	40	100	63	6	30
34	40	100	64	14	40
35	100	100	65	65	100
			66	25	
			67	30	
			68	40	
			69	50	
			70	100	

These rates were first used for the September 30, 1995 valuation with the exception of the Police service based rates, which were first used for the September 30, 2000 valuation, Police age based rates which were first used for the September 30, 2001 valuation, and Utilities Authority service based rates which were first used for the September 30, 2007 valuation.

Miscellaneous and Technical Assumptions

Marriage Assumption. It is estimated that 80% of active members who meet the age and service requirements for pre-retirement survivor benefits are married. Female spouses are estimated to be 3 years younger than the male participant. Male spouses are estimated to be 3 years older than the female participant.

Pay Increase Timing. Middle of (Fiscal) year.

Decrement Timing. Retirement decrements are assumed to occur at the beginning of the year. Decrements of all other types are assumed to occur at the end of the year.

Eligibility Testing. Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Benefit Service. The nearest whole year of service on the date the decrement is assumed to occur is used to determine the amount of benefit payable.

Decrement Relativity. Decrement rates are used without adjustment for multiple decrement table effects.

Decrement Operation. Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.

Normal Form of Benefit. The assumed normal form of benefit is the straight life form. Optional benefit forms are available on an actuarial equivalent basis.

Incidence of Contributions. Contributions are assumed to be received continuously throughout the year based upon the computed percent-of-payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.

Vested members who terminate with a benefit worth less than 100% of their own accumulated contributions were presumed to elect a refund of accumulated contributions and forfeit the vested benefit.

Lump sum payments included in the calculation of the average pay upon which benefits are computed were estimated to increase benefits by the following percents.

General members	3.5 %
Utilities Authority members	3.0
Police members	4.0

Administrative Expenses. Administrative expenses for the next year are assumed to be equal to the previous year's amount.

Investment Expenses. Investment expenses are paid out of investment income.

Active Member Group Size. The valuation was based on a constant active member group size.

Valuation Pay. Active members whose current pay is at least 10% less than their pay in the prior valuation were assumed to have their prior year pay for this valuation.

Definitions of Technical Terms

Accrued Service. Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between the actuarial present value of future benefit payments and the actuarial present value of future normal costs. Also referred to as "accrued liability" or "past service liability."

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefit payments" between future normal costs and actuarial accrued liability. Sometimes referred to as the "actuarial valuation cost method."

Actuarial Equivalent. A single amount or series of amounts of equal actuarial present value to another single amount or series of amounts, computed on the basis of appropriate actuarial activities.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment. Also referred to as "present value."

Amortization. Paying off an interest-discounted amount with periodic payments of interest and principal -- as opposed to paying off with lump sum payment.

Experience Estimates (Assumptions). Estimates of expected future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement estimates (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic estimates (salary increases and investment income) consist of the underlying rates in an inflation-free environment plus a provision for a long-term average rate of inflation.

Experience Gain (Loss). The difference between actual actuarial costs and estimated actuarial costs -- during the period between two valuation dates.

Funding Value of Assets. The actuarial value of assets used to determine contribution amounts.

Normal Cost. The actuarial cost allocated to the current year by the actuarial cost method. Sometimes referred to as "current service cost."

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and the actuarial value of system assets. Sometimes referred to as "unfunded past service liability," "unfunded accrued liability" or "unfunded supplemental present value."

Most retirement systems have an unfunded actuarial accrued liability. They arise each time new benefits are added and each time an experience loss is realized.

Unfunded actuarial accrued liability does not represent a debt that is payable today. What is important is the ability to control the amount of unfunded actuarial accrued liability and the trend in its amount (after due allowance for devaluation of the dollar).

SECTION E

ADDITIONAL DISCLOSURE INFORMATION

GASB Statements No. 67 and No. 68 are the accounting standards which replaced GASB Statements No. 25 and No. 27. GASB Statement No. 67 is first effective for fiscal year 2014 and GASB Statement No. 68 is first effective for fiscal year 2015. A separate GASB Statements No. 67 and No. 68 report has been issued outside of this report. This section contains historical GASB Statements No. 25 and No. 27 reporting information for prior fiscal years and illustrative information for fiscal year 2015 and after.

Additional Disclosure Information

Schedule of Funding Progress

($ Amounts in Thousands)

Valuation Date	Valuation Assets	AAL*	Funded Ratio	Unfunded AAL*	Member Payroll	Ratio to Payroll
9/30/11 (b)	$ 142,463	$ 167,683	85 %	$ 25,220	$25,744	98 %
9/30/12 (b)	147,618	171,745	86	24,127	25,842	93
9/30/13	157,145	177,505	89	20,360	25,199	81
9/30/14	167,451	182,407	92	14,956	25,150	59
9/30/15 (b)	177,624	191,986	93	14,362	25,475	56
9/30/16 (b)	185,171	207,945	89	22,774	27,493	83
9/30/17	192,300	215,142	89	22,842	28,563	80
9/30/18	200,087	221,431	90	21,344	29,264	73
9/30/19	208,092	231,143	90	23,051	31,804	72
9/30/20 (b)	216,567	239,844	90	23,277	32,563	71
9/30/21 (b)	**229,477**	**256,316**	**90**	**26,839**	**32,304**	**83**

* *Actuarial Accrued Liabilities.*
(b) After changes in benefit provisions and/or actuarial assumptions.

Schedule of Employer Contributions

Fiscal Year	Aggregate Contribution Rates as Percents of Valuation Payroll	Projected Dollar Contribution Based on Valuation Payroll	Actual Contribution Based on Actual Payroll@
13/14	16.57 %	$ 4,676,221	$ 4,356,127
14/15	15.42	4,242,676	4,093,268
15/16	15.28	4,196,009	4,211,311
16/17	15.44	4,296,532	4,565,884
17/18	16.41	4,878,739	4,909,654
18/19	16.28	5,029,181	5,240,707
19/20	16.03	5,074,604	5,343,484
20/21	15.86	5,456,288	5,328,802
21/22	15.55	5,475,742	
22/23	**16.99**	**5,934,799**	

@ Actual Employer contributions are determined by applying the Employer's contribution rate to the emerging payroll. Projected funding requirement is based on a stable work force and projected salary increases.

Additional Disclosure Information

Supplementary Information

The information presented in the additional disclosure schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	September 30, 2021
Actuarial Cost Method	Individual Entry Age
Amortization Method	Level Percent-of-Payroll, Closed
Remaining Amortization Periods#	1-30 years
Asset Valuation Method	4-year smoothed market
Actuarial Assumptions:	
Investment Rate of Return*	7.25%
Projected Salary Increases**	General & U.A.: 4.0% - 6.5% Police: 4.0% - 8.0%
* Includes Price Inflation at	2.75%
**Includes Wage Inflation and other general increases at	4.00%
Cost-of-living adjustments	None

Retirees and beneficiaries receiving benefits	554
Terminated plan members entitled to but not yet receiving benefits	44
Active plan members	
- Vested	318
- Non-vested	237
Total	1,153

 # The periods are in compliance with Florida Statutes and Actuarial Standards of Practice, but do not necessarily produce an Annual Required Contribution with an aggregate amortization of the unfunded actuarial accrued liability under 30 years.

SECTION F

STATE REQUIRED DATA

Actuarial Present Value of Accrued Benefits

($ Amounts in Thousands)*

	September 30, 2021								September 30, 2020			
	After				Before							
	General Members	Utilities Authority	Police Members	Total	General Members	Utilities Authority	Police Members	Total	General Members	Utilities Authority	Police Members	Total
(i) Actuarial present value of active member benefits:												
Service retirement	$35,919	$49,428	$24,188	$ 109,535	$33,487	$45,897	$22,703	$ 102,087	$32,136	$47,722	$24,916	$ 104,774
Vested termination benefits	3,495	5,581	2,095	11,171	3,284	5,237	1,936	10,457	3,238	5,094	1,887	10,219
Disability retirement	747	1,111	1,101	2,959	717	1,068	1,054	2,839	712	1,042	1,048	2,802
Survivor benefits (pre-retirement)	677	1,140	321	2,138	643	1,081	305	2,029	627	1,104	315	2,046
Termination benefits - refunds	276	190	92	558	275	188	92	555	223	209	107	539
Total	41,114	57,450	27,797	126,361	38,406	53,471	26,090	117,967	36,936	55,171	28,273	120,380
(ii) Actuarial present value of terminated vested members	1,762	2,272	455	4,489	1,701	2,189	431	4,321	1,497	1,960	364	3,821
(iii) Actuarial present value of retired members & beneficiaries:												
Present value of benefits	46,879	72,015	44,982	163,876	45,964	70,572	44,032	160,568	44,856	65,823	40,186	150,865
Reserve	0	0	0	0	0	0	0	0	0	0	0	0
Total	46,879	72,015	44,982	163,876	45,964	70,572	44,032	160,568	44,856	65,823	40,186	150,865
(iv) Total actuarial present value of future benefit payments	89,755	131,737	73,234	294,726	86,071	126,232	70,553	282,856	83,289	122,954	68,823	275,066
(v) Present value of active member future payroll	72,886	106,383	57,871	237,140	71,889	104,870	56,951	233,710	69,486	105,532	56,115	231,132
(vi) Present value of future active member contributions	3,761	6,553	2,986	13,300	3,709	6,460	2,939	13,108	3,585	6,501	2,896	12,982
(vii) Active member accumulated contributions	4,941	9,374	2,945	17,260	4,941	9,374	2,945	17,260	4,747	9,509	3,248	17,504
(viii) Plan costs for fiscal year beginning October 1, 2022												
Normal costs												
Service pensions	12.85%	11.38%	13.29%		12.02%	10.56%	12.38%		11.97%	10.77%	12.65%	
Disability pensions	0.47%	0.47%	1.01%		0.45%	0.45%	0.98%		0.45%	0.45%	1.00%	
Death-in-service pensions	0.36%	0.41%	0.27%		0.35%	0.39%	0.26%		0.34%	0.39%	0.27%	
Deferred service pensions	2.81%	2.85%	2.32%		2.65%	2.68%	2.15%		2.65%	2.64%	2.16%	
Refunds of member contributions	0.63%	0.74%	0.39%		0.63%	0.74%	0.39%		0.64%	0.75%	0.38%	
Total normal cost	17.12%	15.85%	17.28%		16.10%	14.82%	16.16%		16.05%	15.00%	16.46%	
Payment to amortize unf'd act. accr. liab.	3.87%	6.82%	1.77%		2.58%	5.65%	0.38%		3.89%	5.98%	0.68%	
Administrative expenses	0.72%	0.72%	0.72%		0.72%	0.72%	0.72%		0.68%	0.68%	0.68%	
FS112.64(5) Requirement/Temporary Funding Credits	0.58%	0.73%	0.01%		0.41%	0.50%	0.00%		0.94%	0.67%	0.28%	
Amount to be paid by participants	5.16%	6.16%	5.16%		5.16%	6.16%	5.16%		5.16%	6.16%	5.16%	
Expected plan sponsor contribution												
% of payroll	17.13%	17.96%	14.62%	16.99%	14.65%	15.53%	12.10%	14.52%	16.40%	16.17%	12.94%	15.55%
dollars	1,945	2,913	1,078	5,935	1,663	2,518	892	5,074	1,812	2,683	980	5,476

** Totals may not sum exactly due to rounding.*

Actuarial Present Value of Accrued Benefits

($ Amounts in Thousands)*

		September 30, 2021								September 30, 2020			
		After				Before							
		General Members	Utilities Authority	Police Members	Total	General Members	Utilities Authority	Police Members	Total	General Members	Utilities Authority	Police Members	Total
Actuarial Present Value of Accrued Benefits (calculated in accordance with FASB Statement No. 35)													
(i)	Vested accrued benefits												
	Retired members and beneficiaries	$ 46,879	$ 72,015	$ 44,982	$ 163,876	$ 45,964	$ 70,572	$ 44,032	$ 160,568	$ 44,856	$ 65,823	$ 40,186	$ 150,865
	Terminated members	1,762	2,272	455	4,489	1,701	2,189	431	4,321	1,497	1,960	364	3,821
	Active members (includes non-forfeitable accum. member contributions)	18,644	27,665	12,079	58,388	17,935	26,696	11,654	56,285	17,013	28,189	13,740	58,942
	Total	$ 67,285	$ 101,952	$ 57,516	$ 226,753	$ 65,600	$ 99,457	$ 56,117	$ 221,174	$ 63,366	$ 95,972	$ 54,290	$ 213,628
(ii)	Non-vested accrued benefits	2,087	2,474	1,125	5,686	2,014	2,375	1,072	5,461	1,979	2,218	1,090	5,287
(iii)	Total actuarial p.v. of accrued benefits	$ 69,372	$ 104,426	$ 58,641	$ 232,439	$ 67,614	$ 101,832	$ 57,189	$ 226,635	$ 65,345	$ 98,190	$ 55,380	$ 218,915
(iv)	Actuarial p.v. of accrued benefits at begin. of year	$ 65,345	$ 98,190	$ 55,380	$ 218,915	$ 65,345	$ 98,190	$ 55,380	$ 218,915	$ 61,828	$ 92,615	$ 53,389	$ 207,832
(v)	Changes attributable to:												
	Amendments	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Assumption change	1,758	2,594	1,452	5,804	-	-	-	-	636	815	83	1,534
	Operation of decrements	6,954	10,506	5,828	23,288	6,954	10,506	5,828	23,288	7,581	11,261	5,866	24,708
	Benefit payments	(4,685)	(6,864)	(4,019)	(15,568)	(4,685)	(6,864)	(4,019)	(15,568)	(4,700)	(6,501)	(3,958)	(15,159)
	Other	-	-	-	-	-	-	-	-	-	-	-	-
(vi)	Net change	4,027	6,236	3,261	13,524	2,269	3,642	1,809	7,720	3,517	5,575	1,991	11,083
(vii)	Actuarial p.v. of Accr. benefits at end of year	$ 69,372	$ 104,426	$ 58,641	$ 232,439	$ 67,614	$ 101,832	$ 57,189	$ 226,635	$ 65,345	$ 98,190	$ 55,380	$ 218,915

** Totals may not sum exactly due to rounding.*

Reconciliation of Membership Data

	From 10/1/20 To 9/30/21	From 10/1/19 To 9/30/20
A. Active Members		
1. Number Included in Last Valuation	570	567
2. New Members Included in Current Valuation	60	60
3. Non-Vested Employment Terminations	(36)	(34)
4. Vested Employment Terminations	(8)	(4)
5. Service Retirements	(24)	(18)
6. Disability Retirements	(2)	(1)
7. Deaths	(5)	0
8. Other	0	0
9. Number Included in this Valuation	555	570
B. Terminated Vested Members		
1. Number Included in Last Valuation	40	40
2. Additions from Active Members	8	4
3. Lump Sum Payments	(1)	(3)
4. Payments Commenced	(3)	(3)
5. Deaths	0	0
6. Other	0	2
7. Number Included in this Valuation	44	40
C. Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	534	526
2. Additions from Active Members	26	19
3. Additions from Terminated Vested Members	3	3
4. Removals Resulting in No Further Payments	(19)	(17)
5. Deaths Resulting in New Survivor Benefits	10	3
6. Other	0	0
7. Number Included in this Valuation	554	534