

City of Miami Fire Fighters' and Police Officers' Retirement Trust

October 1, 2022 | Actuarial Valuation Report

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At the request of the plan sponsor, this report summarizes the City of Miami Fire Fighters' and Police Officers' Retirement Trust as of October 1, 2022. The purpose of this report is to communicate the following results of the valuation:

- · Determine Funded Status; and
- Determine Recommended Contribution for the fiscal year October 1, 2023 through September 30, 2024.

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census information has been provided to us by the plan administrator. Asset information has been provided to us by the plan administrator. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

The actuarial assumptions and methods were chosen by the Board. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. 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;
- 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);
 and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

This actuarial valuation and/or cost determination 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. 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.



With respect to reporting standards for defined benefit retirement plans or systems contained in Section 112.664(1), F.S., the actuarial disclosures required under this section were 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, meet the requirements of Section 112.664 (1), Florida Statutes, and Rule 60T-1.0035, Florida Administrative Code.

In preparing these results, Nyhart used ProVal valuation software developed by Winklevoss Technologies, LLC. This software is widely used for the purpose of performing pension valuations. We coded the plan provisions, assumptions, methods, and participant data summarized in this report, and reviewed the liability and cost outputs for reasonableness. We are not aware of any weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions.

Nyhart

Danielle Winegardner, FSA, EA, MAAA

Danielle Wingardner

Enrolled Actuary No. 20-08260

May 15, 2023

Date

Lawrence Watts, Jr., FSA, EA, FCA, CFA, MAAA

Enrolled Actuary No. 20-08496

Copies of this Report are to be furnished to the Division of Retirement within 60 days of receipt from the actuary at the following addresses:

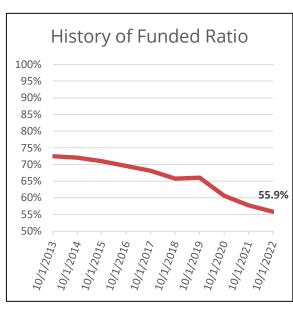
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Summary Results

The actuarial valuation's primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The accrued liability is based on an entry age level percentage of pay.

	October 1, 2021	October 1, 2022
Funded Status Measures		
Accrued Liability	\$2,100,049,297	\$2,168,641,844
Actuarial Value of Assets	1,213,074,854	1,209,691,816
Unfunded Accrued Liability	\$886,974,443	\$958,950,028
Funded Percentage (AVA)	57.8%	55.8%
Funded percentage (MVA)	62.2%	49.8%
Cost Measures ¹		
Recommended Contribution For Next Fiscal Year	\$99,369,914	\$112,614,019
Recommended Contribution (as a percentage of payroll)	55.7%	59.9%
Asset Performance		
Market Value of Assets (MVA)	\$1,306,437,051	\$1,080,862,803
Actuarial Value of Assets (AVA)	\$1,213,074,854	\$1,209,691,816
Actuarial Value/Market Value	92.9%	111.9%
Participant Information		
Active Participants	1,915	1,926
Terminated Vested Participants	31	18
Terminated, Due Refund	117	115
Retirees, Beneficiaries, and Disabled	2,036	2,033
DROP Participants	187	203
Total Participants	4,286	4,295
Valuation Payroll	\$178,532,455	\$187,880,152
Total Payroll	\$194,706,662	\$206,962,544





¹Does not include any contribution to the Stabilization Trust. Please see page 46 for more information.

Changes Since Prior Valuation and Key Notes

The assumed administrative expense decreased from \$2,244,059 to \$2,079,777.

There have been no other assumption changes or plan changes since the prior valuation.



Five Year Valuation Summary

	10/1/2018	10/1/2019	10/1/2020	10/1/2021	10/1/2022
Funding					
Accrued Liability	\$1,796,349,619	\$1,822,559,347	\$1,940,883,223	\$2,100,049,297	\$2,168,641,844
Actuarial Value of Assets	\$1,172,416,575	\$1,189,509,806	\$1,176,911,870	\$1,213,074,854	\$1,209,691,816
Unfunded Actuarial Accrued Liability	\$623,933,044	\$633,049,541	\$763,971,353	\$886,974,443	\$958,950,028
Funded Percentage	65.3%	65.3%	60.6%	57.8%	55.8%
Actual Employer Contribution ¹	\$60,633,239	\$62,773,727	\$65,889,915	TBD	TBD
Recommended Contribution	\$60,633,239	\$62,773,727	\$65,889,915	\$99,369,914	\$112,614,019
Recommended Contribution (% of Pay)	36.4%	37.4%	37.3%	55.7%	59.9%
Interest Rate	7.34%	7.34%	7.00%	7.00%	7.00%
Expense Load Assumption	\$2,210,096	\$2,181,634	\$2,137,199	\$2,244,059	\$2,079,777
Rate of Return					
Actuarial Value of Assets	6.7%	6.5%	6.3%	8.6%	5.2%
Market Value of Assets	6.9%	6.1%	5.7%	19.3%	-12.4%
Demographic Information					
Active Participants	1,998	2,003	1,931	1,915	1,926
Terminated Vested Participants	15	22	27	31	18
Terminated, Due Refund	111	106	116	117	115
Retirees, Beneficiaries, and Disabled	2,120	2,072	2,080	2,036	2,033
DROP Participants	83	122	145	187	203
Total Participants	4,327	4,325	4,299	4,286	4,295
Covered Payroll	\$166,670,939	\$168,059,448	\$176,212,600	\$178,532,455	\$187,880,152
Average Covered Pay	\$83,419	\$83,904	\$91,514	\$93,228	\$97,549

¹Recommended contribution is for the following fiscal year (e.g., the October 1, 2022 recommended contribution will be made in the fiscal year beginning October 1, 2023 and will be documented in the October 1, 2024 valuation report).



Plan Maturity Measures - October 1, 2022

Each pension plan has a distinct life-cycle. New plans promise future benefits to active employees and then accumulate assets to pre-fund those benefits. As the plan matures, benefits are paid and the pre-funded assets begin to decumulate until ultimately, the plan pays out all benefits. A plan's maturity has a dramatic influence on how risks should be viewed. The following maturity measures illustrate where the City of Miami Fire Fighters' and Police Officers' Retirement Trust falls in its life-cycle.

Duration of Liabilities: 10.1

Duration is the most common measure of plan maturity. It is defined as the sensitivity of the liabilities to a change in the interest rate assumption. The metric also approximates the weighted average length of time, in years, until benefits are expected to be paid. A plan with high duration is, by definition, more sensitive to changes in interest rates. A plan with low duration is more susceptible to risk if asset performance deviates from expectations as there would be less time to make up for market losses in adverse market environments while more favorable environments could result in trapped surplus from gains. Conversely, high duration plans can often take on more risk when investing, and low duration plans are less sensitive to interest rate fluctuations.

Demographic Distribution - Ratio of Actively Accruing Participants to All Participants: 44.8%

A plan with a high ratio is more sensitive to fluctuations in salary (if a salary-based plan) and statutory changes. A plan with a low ratio is at higher risk from demographic experience. Such a plan should pay close attention to valuation assumptions as there will be less opportunity to realize future offsetting gains or losses when current experience deviates from assumptions. Plans with a low ratio also have limited opportunities to make alterations to plan design to affect future funded status.

Asset Leverage - Ratio of Payroll for Plan Participants to Market Value of Assets: 17.4%

Younger plans typically have a large payroll base from which to draw in order to fund the plan while mature plans often have a large pool of assets dedicated to providing benefits to a population primarily consisting of members no longer on payroll. Plans with low asset leverage will find it more difficult to address underfunding, as the contributions needed to make up the deficit will represent a higher percentage of payroll than for a plan with high asset leverage.

Benefit Payment Percentage - Ratio of Annual Benefit Payments to Market Value of Assets: 13.4%

As a plan enters its decumulation phase, a larger percentage of the pre-funded assets are paid out each year to retirees. A high percentage is not cause for alarm as long as the plan is nearly fully funded. However, such a plan is more sensitive to negative asset performance, especially if cash contributions are not an option to make up for losses.



Identification of Risks

The results presented in this report are shown as single point values. However, these values are derived using assumptions about future markets and demographic behavior. If actual experience deviates from our assumptions, the actual results for the plan will consequently deviate from those presented in this report. Therefore, it is critical to understand the risks facing this pension plan. The following table shows the risks we believe are most relevant to the City of Miami Fire Fighters' and Police Officers' Retirement Trust. The risks are generally ordered with those we believe to have the most significance at the top. Also shown are possible methods by which a more detailed assessment of the risk can be performed.

Type of Risk Method to Assess Risk

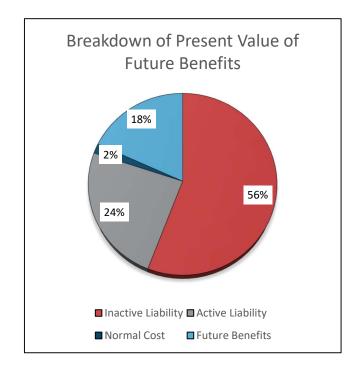
Investment Return	Scenario Testing; Asset Liability Study
Demographic	Scenario Testing
Participant Longevity	Stress Testing; Scenario Testing
Early Retirement	Stress Testing; Scenario Testing



Present Value of Future Benefits

The Present Value of Future Benefits represents the current future benefits payable to the participant.

	October 1, 2022
Present Value of Future Benefits	
Active members	
Retirement	\$1,144,551,670
Disability	14,180,232
Death	9,979,185
Termination	26,158,107
Refund of contributions	1,424,998
Total active	\$1,196,294,192
Inactive members	
Retired members	\$1,172,510,270
DROP members	270,611,455
Beneficiaries	34,938,751
Disabled members	26,284,629
Terminated vested members	7,343,128
Total inactive	\$1,511,688,233
Total	\$2,707,982,425
Present value of future payrolls	\$2,360,321,170

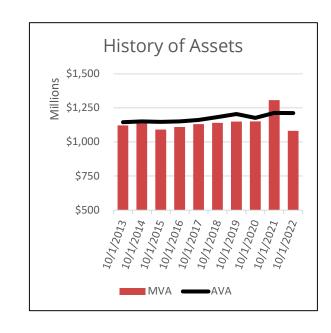




Asset Information

The amount of assets backing the pension promise is typically the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly offsets the ultimate cost.

	October 1, 2022
Market Value Reconciliation	
Market value of assets, beginning of prior year	\$1,306,437,051
Employer contributions (incl. discounted accrued items)	65,889,915
Member contributions	17,385,718
Investment income, net expenses	(161,547,653)
Benefit payments and refunds	(145,165,029)
Administrative expenses	(2,137,199)
Other expenses	0
Market value of asset, beginning of current year	\$1,080,862,803
Return on Market Value	-12.35%
Actuarial value of assets	
Value at beginning of current year	\$1,209,691,816





Asset Information (continued)

Plan Assets are used to develop funded percentages and contribution requirements

October 1, 2022

1.	Expected market value of assets (a) Market value of assets – beginning of prior year (b) City contributions (c) Member contributions (d) Benefits payments and administrative expenses (e) Expected return (f) Expected market value of assets – beginning of current year	\$1,306,437,051 65,889,915 17,385,718 (147,302,228) 91,592,715 \$1,334,003,171
2.	Market value of assets – beginning of current year	\$1,080,862,803
3.	Present value of COLA transfers (a) Current year (b) Next year (c) Total	\$0 0 \$0
4.	Market value net COLA transfer [(2)-(3)]	\$1,080,862,803
5.	Amount subject to phase in [(4)-(1f)]	(\$253,140,368)
6.	Phase in of asset gain/(loss) (a) Current year [80% x (\$253,140,368)] (b) First prior year [60% x \$141,132,434] (c) Second prior year [40% x (\$19,371,884)] (d) Third prior year [20% x (\$16,237,126)] (e) Total phase-in	(\$202,512,294) 84,679,460 (7,748,754) (3,247,425) (\$128,829,013)
7.	Preliminary actuarial value of assets – beginning of current year [(2)-(6e)]	\$1,209,691,816
8.	80% of Market value of assets	\$864,690,243
9.	120% of Market value of assets	\$1,297,035,363
10.	Adjusted actuarial value of assets	\$1,209,691,816
11.	Contribution surplus account balance	\$0
12.	Final actuarial value of assets – beginning of current year [(10)-(11)]	\$1,209,691,816
13.	Return on actuarial value of assets	5.15%



Reconciliation of Gain/Loss

October 1, 2022

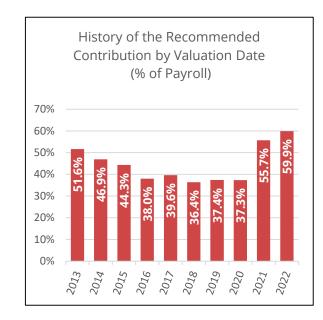
Present value of future benefits \$2,638,664,694 Present value of employee contributions (202,776,296) Expected employee contribution 15,435,434 Benefit payments (145,165,029) Interest 166,597,824 Expected liability \$2,472,756,627 Plan changes 0 Expected after changes \$2,472,756,627 Extracted liability \$2,505,769,023 Liability (gain)/loss \$33,012,396 Asset (gain)/loss \$33,012,396 Actuarial value of assets, beginning of prior year \$1,213,074,854 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,20,691,816 Asset (gain)/loss \$24,413,804		•
Present value of employee contributions (202,776,296) Expected employee contribution 15,435,434 Benefit payments (145,165,029) Interest 166,597,824 Expected liability \$2,472,756,627 Plan changes 0 Expected after changes \$2,472,756,627 Extend liability \$2,505,769,023 Liability (gain)/loss \$33,012,396 Asset (gain)/loss \$33,012,396 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Asset (gain)/loss \$24,413,804	Liability (gain)/loss	
Expected employee contribution 15,435,434 Benefit payments (145,165,029) Interest 166,597,824 Expected liability \$2,472,756,627 Plan changes 0 Expected after changes \$2,472,756,627 Actual liability \$2,505,769,023 Asset (gain)/loss \$33,012,396 Actuarial value of assets, beginning of prior year \$1,213,074,854 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,209,691,816 Asset (gain)/loss \$24,413,804	Present value of future benefits	\$2,638,664,694
Benefit payments (145,165,029) Interest 166,597,824 Expected liability \$2,472,756,627 Plan changes 0 Expected after changes \$2,472,756,627 Actual liability \$2,505,769,023 Asset (gain)/loss \$33,012,396 Asset (gain)/loss \$1,213,074,854 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,299,691,816 Asset (gain)/loss \$24,413,804	Present value of employee contributions	(202,776,296)
166,597,824 169,797,824	Expected employee contribution	15,435,434
Expected liability \$2,472,756,627 Plan changes 0 Expected after changes \$2,472,756,627 Actual liability \$2,505,769,023 Liability (gain)/loss \$33,012,396 Asset (gain)/loss \$1,213,074,854 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,209,691,816 Asset (gain)/loss \$24,413,804	Benefit payments	(145,165,029)
Plan changes 0 Expected after changes \$2,472,756,627 Actual liability \$2,505,769,023 Liability (gain)/loss \$33,012,396 Asset (gain)/loss \$1,213,074,854 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,209,691,816 Asset (gain)/loss \$24,413,804	Interest	166,597,824
\$2,472,756,627 Actual liability \$2,505,769,023 Liability (gain)/loss Asset (gain)/loss Actuarial value of assets, beginning of prior year Contributions Benefit payments and expenses Benefit payments and expenses Expected investment return Expected actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of current year Asset (gain)/loss \$2,472,756,627 \$33,012,396 \$1,213,074,854 \$33,275,633 \$3,275,633 \$4,123,004 \$4,13,804	Expected liability	\$2,472,756,627
\$2,505,769,023 Liability (gain)/loss \$33,012,396 Asset (gain)/loss Actuarial value of assets, beginning of prior year Contributions Benefit payments and expenses Citypected investment return Expected actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of surrent year Asset (gain)/loss \$2,505,769,023 \$1,213,074,854 \$33,012,396 \$1,213,074,854 \$2,4213,022,228) \$2,007,007 \$2,4213,804	Plan changes	0
\$33,012,396 Asset (gain)/loss Actuarial value of assets, beginning of prior year Actuarial value of assets, beginning of prior year Actuarial value of assets, beginning of prior year Senefit payments and expenses Expected investment return Expected actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of servent year Asset (gain)/loss \$33,012,396 \$1,213,074,854 \$3,275,633 \$1,473,022,228) \$5,057,361 \$1,234,105,620 \$1,209,691,816 \$24,413,804	Expected after changes	\$2,472,756,627
Actuarial value of assets, beginning of prior year \$1,213,074,854 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,209,691,816 Asset (gain)/loss \$24,413,804	Actual liability	\$2,505,769,023
Actuarial value of assets, beginning of prior year \$1,213,074,854 Contributions 83,275,633 Benefit payments and expenses (147,302,228) Expected investment return 85,057,361 Expected actuarial value of assets, beginning of current year \$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,209,691,816 Asset (gain)/loss \$24,413,804	Liability (gain)/loss	\$33,012,396
Senefit payments and expenses Expected investment return Expected actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of current year Asset (gain)/loss \$3,275,633 (147,302,228) \$5,057,361 \$1,234,105,620 \$1,234,105,620 \$1,209,691,816	Asset (gain)/loss	
Senefit payments and expenses (147,302,228) Expected investment return Expected actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of current year Asset (gain)/loss (147,302,228) (147,302,28) (147,302,28) (147,302,28) (147,302,28) (147,302,28) (147,	Actuarial value of assets, beginning of prior year	\$1,213,074,854
Expected investment return Expected actuarial value of assets, beginning of current year Actual actuarial value of assets, beginning of current year Asset (gain)/loss \$5,057,361 \$1,234,105,620 \$1,209,691,816	Contributions	83,275,633
\$1,234,105,620 Actual actuarial value of assets, beginning of current year \$1,209,691,816 Asset (gain)/loss \$24,413,804	Benefit payments and expenses	(147,302,228)
Actual actuarial value of assets, beginning of current year \$1,209,691,816 \$24,413,804	Expected investment return	85,057,361
Asset (gain)/loss \$24,413,804	Expected actuarial value of assets, beginning of current year	\$1,234,105,620
¢57.426.200	Actual actuarial value of assets, beginning of current year	\$1,209,691,816
\$57,426,200 \$57,426,200	Asset (gain)/loss	\$24,413,804
	Total (gain)/loss	\$57,426,200

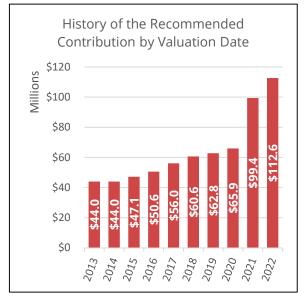


Development of Recommended Contribution

The actuarial determined contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws.

		October 1, 2022
1.	Present value of future benefits	\$2,707,982,425
2.	Actuarial value of assets	1,209,691,816
3.	Present value of future member contributions	202,213,402
4.	Present value of future normal Cost [(1)-(2)-(3)]	\$1,296,077,207
5.	Present value of future payroll	\$2,360,321,170
6.	Normal cost accrual rate [(4)/(5)]	54.91%
7.	Administrative expenses	\$2,079,777
8.	Valuation payroll	\$187,880,152
9.	Applicable interest	7.00%
10.	Normal cost	\$105,246,747
11.	Interest to estimated payment date	\$7,367,272
12.	Recommended contribution as of end of year at 7.00% [(10)+(11)]	\$112,614,019
13.	As a percentage of valuation payroll	59.94%
14.	As a percentage of total payroll	54.41%



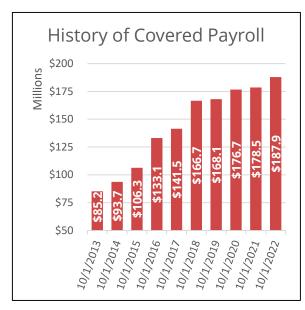




Demographic Information

The foundation of a reliable actuarial report is the member information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

	October 1, 2021	October 1, 2022
Member Counts	-	
Active Members	1,915	1,926
Retired Members	1,673	1,665
Beneficiaries	251	259
Disabled Members	112	109
Terminated Vested Members, due a Monthly Benefit	31	18
Terminated Members, Due a Refund of Employee Contributions	117	115
DROP Members	187	203
Total	4,286	4,295
Active Participant Demographics		
Average Age	37.6	38.0
Average Service	10.6	11.0
Average Compensation	\$93,228	\$ 97,549
Valuation Payroll	\$178,532,455	\$187,880,152
Total Payroll	\$194,706,662	\$206,962,544





Demographic Information (continued)

	October 1, 2021	October 1, 2022
Retired Member Statistics		
Average Age	66.9	67.4
Average Monthly Benefit	\$5,731	\$5,785
Beneficiary Statistics		
Average Age	77.1	77.5
Average Monthly Benefit	\$1,353	\$1,373
Disabled Member Statistics		
Average Age	72.7	73.0
Average Monthly Benefit	\$2,211	\$2,289
Terminated Member Statistics		
Average Age Average Monthly Benefit for Participants due	39.5	40.0
Monthly Benefit	\$2,578	\$3,215
Average Remaining Contributions for Participants Due a Refund	\$7,999	\$9,707
DROP Member Statistics		
Average Age	51.7	52.4
Average Monthly Benefit	\$8,791	\$8,843
Payroll	\$16,174,207	\$19,082,392



Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	Totals
Prior Year	1,915	148	112	1,860	251	4,286
Active						
To Terminated Vested						
To Retired	(39)			39		
To Disabled	(1)		1			
To Refund	(23)					(23)
To Due Refund	(6)	6				
To Death	(3)					(3)
Terminated Vested						
To Retired		(4)		4		
To Refund		(15)				(15)
To Active	2	(2)				
Disabled						
To Death			(4)			(4)
Retired						
To Death				(34)		(34)
Survivor						
To Death					(5)	(5)
Additions	81				13	94
Removed				(1)		(1)
Current Year	1,926	133	109	1,868	259	4,295



Active Participant Schedule

Active participant information grouped based on age and service.

	Years of Service											
Age Group	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	Total	Average Pay
Under 25	27	30	3								60	\$44,967
25 to 29	29	90	128	1							248	72,322
30 to 34	12	61	346	25	3						447	85,997
35 to 39	3	28	222	143	81	2					479	100,970
40 to 44	3	12	65	78	114	31	1				304	111,749
45 to 49		2	23	43	52	84	12				216	119,647
50 to 54	1		6	15	38	47	14	5			126	121,655
55 to 59			2	11	6	9	7	3			38	117,246
60 to 64			2		3	1		1			7	104,051
65 to 69						1					1	113,571
70 & up											0	0
Total	75	223	797	316	297	175	34	9	0	0	1,926	\$97,549



Plan Status

January 1, 1994 amended January 1, 1995

Eligibility for Participation

Police officers and fire fighters.

Accrual of Benefits

The accrued benefit is determined as follows:

For Police Officers who were vested as of 9/27/2010:

3% of Average Final Compensation for the first 15 years of Creditable Service plus 3.5% of Average Final Compensation after 15 years. Maximum of 100% of Average Final Compensation.

For all other Police Officers:

3% of Average Final Compensation for the first 15 years of Creditable Service plus 3.5% of Average Final Compensation after 15 years. Maximum of 100% of Average Final Compensation and the final benefit may not exceed the larger of the 9/30/2010 accrued benefit and \$120,000.

For Firefighters who were vested as of 9/27/2010:

3% of Average Final Compensation for the first 15 years of Creditable Service plus 3.5% of Average Final Compensation after 15 years. Maximum of 100% of Average Final Compensation.

For all other Fire Fighters:

3% of Average Final Compensation for the first 15 years of Creditable Service plus 3.5% of Average Final Compensation after 15 years. Maximum of 100% of Average Final Compensation and the final benefit may not exceed the larger of the 9/30/2010 accrued benefit and \$120,000.



Benefits

Normal Retirement

Eligibility Age plus Creditable Service equal to 68 (Rule of 68) for firefighters, except firefighters active 9/30/2009 who were eligible for

Rule of 64 at 9/30/2009.

Age plus Creditable Service equal to 64 (Rule of 64) for police officers.

Age 50 with 10 years of Creditable Service for all members.

Benefit Unreduced Accrued Benefit payable immediately.

Early Retirement

Eligibility Completion of 20 years of Creditable Service.

Benefit Accrued Benefit adjusted with actuarial equivalence for early commencement.

Late Retirement

Eligibility Participation continues after normal retirement date.

Benefit Accrued Benefit

Ordinary Death before Retirement

Eligibility Participant with 3 years of Creditable Service who dies off duty.

Benefit Between 3 and 10 years of Creditable Service: Lump sum benefit equal to 50% of Compensation received in year preceding

death.

After 10 years of Creditable Service and before eligibility for Early Service or Rule of 64 Retirement: Accrued benefit, deferred to earlier of police officer member's 49th and firefighter member's 50th birthday or Rule of 64 eligibility, payable for 10 years.

Beneficiary does not have to survive deferred period or 10 years' certain period.

If eligible for Service, Early Service, or Rule of 64 retirement, considered to have retired on the date of death. Surviving spouse

would receive 40% of the member's monthly retirement allowance.



Accidental Death before Retirement

Eligibility Member who dies during performance of duties.

Benefit Pension of 50% of Average Final Compensation to spouse until death or remarriage. If there is no spouse, or if spouse dies or

remarries before youngest child is 18, payable to child until attainment of age 18. If no spouse or no children under 18, benefit

is payable to dependent parents.

After 10 years of Creditable Service - Beneficiary receives benefit otherwise payable to member at early or normal retirement

for a period of 10 years.

Termination Benefit

Eligibility Fully vested after completion of 10 years of Creditable Service.

Benefit Accrued Benefit payable at the member's Early or Normal Retirement Date. If the member terminates prior to 10 years of

Creditable Service a refund of accumulated contributions with interest will be issued.

Ordinary Disability Benefit

Eligibility Completion of 10 years of Creditable Service.

Benefit 90% of benefit rate times Average Final Compensation times Creditable Service, with a minimum benefit of 30% of Average Final

Compensation. The normal form is a 10 year certain and life normal form.

Accidental Disability Benefit

Eligibility Immediately upon permanent disability

Benefit 66 2/3% of Average Final Compensation, or 66 2/3% of Final Compensation, whichever is greater. The normal form is a 40% joint

& survivor annuity, with a minimum of 10 years' certain and life.



Compensation

Earnable Compensation

An employee's base salary, including pick-up contributions, for all straight time hours worked, plus assignment pay and payments received for vacation and sick leave taken, jury duty, and death-in-family leave taken. Earnable compensation shall not include overtime pay; payments for accrued sick leave, accrued vacation leave, or accrued compensatory leave; holiday pay; premium pay for holidays worked; the value of any employment benefits or non-monetary entitlements; or any other form of remuneration.

Average Final Compensation

The annual earnable compensation of a member during either the last one year or the highest year of membership service, whichever is greater.

Provided, in no event shall the Average Final Compensation of any member who was employed as a police officer or fire fighter on 9/30/2010 and retires on or after 10/1/2010, be less than the highest year of membership service prior to 9/30/2010.

Creditable Service

For Vesting and Benefit Accrual

Service credited under Retirement System; military service (maximum of four years) during wartime for which Member makes contributions; maternity leave (maximum of 180 days for each leave) for which Member makes contributions; up to 5 years, without member contributions, if member was an employee before period of military service.

Accumulated leave balances may be transferred into system immediately prior to retirement to purchase up to 3 whole years of additional Creditable Service, on an actuarially equivalent basis.

457 balances of Firefighters may be transferred into System at retirement to purchase up to 3 whole years of additional Creditable Service for multiplier purposes.

Member Contributions

Police Officers: 7% (10% if hired on or after 10/1/2012)

Fire Fighters: 10%



DROP

Election must be made within 10 years after eligibility for normal retirement. All Members are eligible for forward DROP.

At Retirement Eligibility, Fire and Police participants may enter the City Deferred Retirement Option Program (DROP). The maximum participation in the Forward DROP for fire fighters is 54 months. The maximum participation in the Forward DROP for police officers is 84 months.

Effective 1/1/2013 members may elect the BackDROP option (maximum of 7 years). Members receive a monthly benefit based on an earlier retirement date and a lump sum of past payments compounded at 3%/year.

COLA

Eligibility Participant or Beneficiary

Benefit Amount varies annually with the adjustment on January 1

Payment Forms

Normal Form

Joint and 40% Contingent Survivor

Optional Forms

Option 1 – Cash refund annuity based on Present Value at retirement

Option 2 – Joint and 100% Contingent Annuity

Option 3 – Joint and 50% Contingent Annuity

Option 4 – Joint and Contingent Annuity approved by the Board

Option 5 – Determined by Board due to incapacity of member

Option 6 - Withdrawal of member contributions with interest and benefit that is ½ of normal level

Plan Provision Not Included

The COLA benefits and liabilities are not included in this report; these benefits are reported in a separate COLA report dated December 9, 2022. We are not aware of any other provisions not included in this report.



Adjustments Made for Subsequent Events

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results.

Changes Since Prior Report

None



Cost Method (CO)

Aggregate Cost Method.

Asset Valuation Method (CO)

20% Phase-In Method: fair market value of assets on the valuation date adjusted for a 5-year phase-in of gains and losses on the fair market value of assets.

The result cannot be greater than 120% of market value or less than 80% of market value (net of pending COLA transfers).

Interest Rates (CO)

7.00% net of investment expenses

Support for the discount rate assumption has been provided in the experience study report dated January 2021.

Annual Pay Increases (FE)

3.25% inflation and 1.5% for promotions and other increases plus salary merit scale below.

<u>Service</u>	<u>Police</u>	<u>Fire</u>
0-6	5.0%	5.0%
7	2.5%	5.0%
8-9	5.0%	5.0%
10-14	1.0%	0.0%
15-16	1.25%	2.5%
17-21	1.0%	1.0%
22+	0.0%	0.0%

The annual pay increases are based on a study of actual experience for the plan during 2017-2020. See the experience study report dated January 2021.

Expense and/or Contingency Loading (FE)

An assumed administrative expense of \$2,356,262 is added to the recommended contribution development.



Mortality Rates (CO)

Pre-Retirement:

Post-Retirement:

Disabled:

Retirement Rates (FE)

Pub-2010 Generational using scale MP-2018; Females, Headcount Weighted Safety Employee Female Table, set forward 1 year; Males, Headcount Weighted Safety Below Median Employee Male Table, set forward 1 year.

Pub-2010 Generational using scale MP-2018; Females, Headcount Weighted Safety Healthy Retiree Female Table, set forward 1 year; Males, Headcount Weighted Safety Below Median Healthy Retiree Male Table, set forward 1 year

Pub-2010; Females, 80% Headcount Weighted General Disabled Retiree Female Table / 20% Headcount Weighted Safety Disabled Retiree Female Table; Males, 80% Headcount Weighted General Disabled Retiree Male Table / 20% Headcount Weighted Safety Disabled Retiree Male Table.

The mortality rate assumptions were set in accordance with the Florida Retirement System Valuation report dated December 2022.

The following decrements apply based on service.

Years of Service	Police %	<u>Fire %</u>
<20	0	0
20	15	10
21-24	20	7.5
25	50	20
26-29	40	20
30-34	100	40
35		100

The assumed retirement rates are based on a study of actual experience for the plan during 2017-2020. See the experience study report dated January 2021.



Disability Rates (FE)

100% of the disabilities are expected to be accidental with the following probabilities. No recovery is assumed.

<u>Age</u>	<u>Rates</u>
35	0.07125%
40	0.09750%
45	0.20000%
50	0.30250%

The disability rates are based on a study of actual experience for the plan during 2017-2020. See the experience study report dated January 2021.

Based on Years of Creditable Service using the rates below

Years of Service	Police %	Fire %
0	12.00	7.50
1	4.00	4.00
2-6	1.50	1.75
7-19	0.75	1.00
20+	0.00	0.00

The withdrawal rates are based on a study of actual experience for the plan during 2017-2020. See the experience study report dated January 2021.

100% of Members are assumed to be married. Female spouses assumed to be 3 years younger than male spouses.

No liabilities or costs are included for the provision to transfer compensated absence balances into FIPO to purchase additional creditable service, based on our understanding that assets will be transferred immediately prior to retirement to cover 100% of the liability for the additional service.

It is assumed that employees do not withdraw their contribution balances upon employment termination or retirement.

COLA benefits are assumed to increase as indicated in the COLA table; these are documented in a separate COLA report. No increase to the table is assumed to occur.

Withdrawal Rates (FE)

Marital Status and Ages

Compensated Absence Balance Transfers

Withdrawal of Employee Contributions

COLA



Changes Since Prior Report

The assumption for the administrative expenses decreased to \$2,079,777.

FE indicates an assumption representing an estimate of future experience.

MO indicates an assumption representing an observation of estimates inherit to market data.

CO indicates an assumption representing a combination of an estimate of future experience and observations of market data.



The actuarial report also shows the necessary items required for plan reporting and the any state requirements.

- ✓ Market Value Reconciliation
- ✓ Membership and Benefits Cost-Of-Living Adjustment Account Summary
- ✓ Investment Results
- ✓ Florida State Requirements

Comparative Summary of Principal Valuation Results

Separation for Police & Fire

Comparison of payroll growth, salary increases and investment returns

Requirements under Florida Statute 112.664 and F.A.C. 60T-1.0035



Market Value Reconciliation

The amount of assets backing the pension promise is typically the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly offsets the ultimate cost.

/es	tment performance of the assets directly offsets the ultimate cost.		October
		Membership and	COLA Account
		Benefit Accounts	
1.	Market value – beginning of prior year	\$1,306,437,051	\$477,331,528
2.	Book value – beginning of prior year	\$1,074,022,569	\$392,413,401
3.	Income		
	(a) City contributions	\$65,889,915	\$7,496,759
	(b) Member contributions	17,385,718	0
	(c) Other contributions	0	0
	(d) Interest and dividends	11,697,736	4,170,435
	(e) Net realized gains (losses)	21,388,000	7,552,711
	(f) Securities lending income	130,133	46,576
	(g) Rental and other income	174,500	62,777
	(h) Income transfer	0	0
	(i) Total	\$116,666,002	\$19,329,258
4.	Disbursements		
	(a) Benefit payments and refunds	\$145,165,029	\$29,232,051
	(b) Custodial and investment expenses	3,220,780	1,152,621
	(c) Administrative expense	2,137,199	0
	(d) Other expense	0	0
	(e) Securities lending fees	31,067	11,632
	(f) Building depreciation	16,367	5,977
	(g) Total	\$150,570,442	\$30,402,281
5.	Book value – beginning of current year [(2)+(3i)-(4g)]	\$1,040,118,129	\$381,340,378
6.	Net change in unrealized gains (losses)	(\$191,669,808)	(\$69,979,835)
7.	Unrealized gains (losses)	\$40,744,674	\$14,938,292
8.	Market value – beginning of current year [(1)+(3i)-(4g)+(6)]	\$1,080,862,803	\$396,278,670
9.	Net market value – beginning of current year	\$1,080,862,803	\$396,278,670



Membership and Benefits Cost-Of-Living Adjustment Account Summary

		September 30, 20
	Market	Book
. Investments		
(a) Bill, bonds, notes	\$319,995,418	\$383,805,453
(b) Domestic stocks	493,859,024	455,167,846
(c) International stocks	290,974,831	344,669,734
(d) Private equity	195,829,173	133,748,338
(e) Money market fund and time deposit	13,228,435	13,228,435
(f) Mutual fund	162,368,013	89,952,122
(g) Real estate	2,032,401	2,032,401
(h) Securities lending adjustment	0	0
(i) Total investment	\$1,478,287,295	\$1,422,604,329
2. Cash	\$154,818	\$154,818
8. Receivables		
(a) City contributions	\$0	\$0
(b) Member contributions	0	0
(c) Accounts receivable	5,952	5,952
(d) Accrued interest and dividend	1,495,509	1,495,509
(e) Securities sold	2,236,905	2,236,905
(f) Total receivables	\$3,738,366	\$3,738,366
l. Payables:	40	t O
(a) Budget advance	\$0 463	\$0 463
(b) Accrual expense (c) Transfer	463	463
(d) Tax withheld	0	0
(e) Accounts payable	325,383	325,383
(f) Securities purchased	4,713,160	4,713,160
(g) Total payables	\$5,039,006	\$5,039,006
5. Total [(1i)+(2)+(3f)-(4g)]	\$1,477,141,473	\$1,421,458,507
6. COLA account	\$396,278,670	\$381,340,378
7. Membership & benefits account [(5)-(6)-(7)]	\$1,080,862,803	\$1,040,118,129



Investment Results - Membership and Benefits Accounts

September 30, 2022

Membership and Benefits Accounts	<u>Dollar Return</u>	Market Return	Book Return
Interest	\$8,025,125	0.7%	0.8%
Dividends	3,672,611	0.3%	0.4%
Rental and Other Income, less Depreciation	158,133	0.0%	0.0%
Realized Gains	21,388,000	1.6%	2.1%
Securities Lending (Net)	99,066	0.0%	0.0%
Increase in Unrealized Gains	(191,669,808)	(14.7%)	(18.4%)
Custodial and Investment Expenses	(3,220,780)	(0.2%)	(0.4%)
	(\$161,547,653)	(12.3%)	(15.5%)



Investment Results - COLA Account

September 30, 2022

COLA Accounts	<u>Dollar Return</u>	<u>Market Return</u>	Book Return
Interest	\$2,868,643	0.6%	0.8%
Dividends	1,301,792	0.3%	0.3%
Rental and Other Income, less Depreciation	56,800	0.0%	0.0%
Realized Gains	7,552,711	1.6%	2.0%
Securities Lending (Net)	34,944	0.0%	0.0%
Increase in Unrealized Gains	(69,979,835)	(15.0%)	(18.3%)
Custodial and Investment Expenses	(1,152,621)	(0.2%)	(0.3%)
	(\$59,317,566)	(12.7%)	(15.5%)



Comparative Summary of Principal Valuation Results

		10/1/2022	10/1/2022	10/1/2021
		7.00%	7.00%	7.00%
		(assumption &	(prior methods &	
	_	plan changes)	assumptions)	
Participa	nt Data			
	Active members	1,926	1,926	1,915
•	Total annual payroll	\$187,880,152	\$187,880,152	\$178,532,455
	Members in DROP	203	203	187
	DROP Payroll	\$19,082,392	\$19,082,392	\$16,174,207
	Projected Total Payroll	\$206,962,544	\$206,962,544	\$194,706,662
	Retired members and beneficiaries	1,923	1,923	1,924
	Total annualized benefit	\$119,840,839	\$119,840,840	\$119,136,115
	Disabled members receiving benefits	109	109	112
	Total annualized benefit	\$2,993,863	\$2,993,863	\$2,971,538
	Terminated vested members	133	133	148
	Total annualized benefit	\$609,438	\$609,438	\$764,485
Assets				
	Actuarial value of assets	\$1,209,691,816	\$1,209,691,816	\$1,213,074,854
	Market value of assets	\$1,080,862,803	\$1,080,862,803	\$1,306,437,051



Comparative Summary of Principal Valuation Results (continued)

	10/1/2022 7.00% (assumption & plan changes)	10/1/2022 7.00% (prior methods & assumptions)	10/1/2021 7.00%
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$1,144,551,670	\$1,144,551,670	\$1,089,080,962
Vesting benefits	26,158,107	26,158,107	25,523,752
Disability benefits	14,180,232	14,180,232	14,194,423
Death benefits	9,979,185	9,979,185	9,820,570
Return of contribution	1,424,998	1,424,998	1,939,688
Total	\$1,196,294,192	\$1,196,294,192	\$1,140,559,395
Terminated vested members	7,343,128	7,343,128	9,161,603
Retired members and beneficiaries	1,478,060,476	1,478,060,476	1,462,690,573
Disabled members	26,284,629	26,284,629	26,253,123
Total	\$2,707,982,425	\$2,707,982,425	\$2,638,664,694
Liabilities due and unpaid	\$0	\$0	\$0



Comparative Summary of Principal Valuation Results (continued)

Actuarial present value of accrued benefits	10/1/2022 7.00% (assumption & plan changes)	10/1/2022 7.00% (prior methods & assumptions)	10/1/2021 7.00%
Accounts present value of accided beliefies			
Statement of actuarial present value of all accrued benefits Vested accrued benefits			
Inactive members and beneficiaries	\$1,511,688,233	\$1,511,688,233	\$1,498,105,299
Active members	456,670,479	456,670,479	399,312,968
Total value of all vested accrued benefits	\$1,968,358,712	\$1,968,358,712	\$1,897,418,267
Non-vested accrued benefits	83,373,684	83,373,684	80,877,018
Total actuarial present value of all accrued benefits	\$2,051,732,396	\$2,051,732,396	\$1,978,295,285
Statement of changes in total actuarial present value of all accrued benefits (ASC 960) Actuarial present value of accrued benefits, beginning of year	\$1,978,295,285	\$1,978,295,285	\$1,863,624,229
Increase (decrease) during year			
Benefits accumulated	\$85,116,315	\$85,116,315	\$56,814,463
Plan amendment	0	0	74,064,407
Changes in actuarial assumptions	0	0	0
Interest	133,485,825	133,485,825	125,575,219
Benefits paid	(145,165,029)	(145,165,029)	(141,783,033)
Other changes	0	0	0
Net increase (decrease)	\$73,437,111	\$73,437,111	\$114,671,056
Actuarial present value of accrued benefits, end of year	\$2,051,732,396	\$2,051,732,396	\$1,978,295,285



Comparative Summary of Principal Valuation Results (continued)

	10/1/2022 7.00% (assumption & plan changes)	10/1/2022 7.00% (prior methods & assumptions)	10/1/2021 7.00%
Pension cost Normal Cost	\$129,090,837	\$129,090,837	\$114,929,498
Member contributions	\$16,476,818	\$16,476,818	\$15,559,584
Expected plan sponsor contribution As % of payroll As % of Total Payroll Member Contributions as % of payroll	\$112,614,019 59.94% 54.41% 8.77%	\$112,614,019 59.94% 54.41% 8.77%	\$99,369,914 55.66% 51.04% 8.72%
Past contributions Required plan sponsor contribution	9/30/2022 \$65,889,915		9/30/2021 \$62,773,727
Required member contribution	\$17,385,718		\$15,892,460
Actual contributions made by: Plan's sponsor Members Other	\$65,889,915 \$17,385,718 \$0		\$62,773,727 \$15,892,460 \$0
Net actuarial gain (loss) (if applicable)	N/A	N/A	N/A
Other disclosures (where applicable)			
Present value of active member Future salaries at attained age Future contributions at attained age	\$2,360,321,170 \$202,213,402	\$2,360,321,170 \$202,213,402	\$2,354,637,399 \$202,776,296



Hypothetical City Contribution Requirement for 2022/2023 Fiscal Year

	Police	Fire	Total
Unfunded actuarial accrued liability	\$0	\$0	\$0
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$676,327,203	\$468,224,467	\$1,144,551,670
Vesting benefits	17,130,297	9,027,810	\$26,158,107
Disability benefits	8,128,431	6,051,801	\$14,180,232
Death benefits	5,309,281	4,669,904	\$9,979,185
Return of contribution	1,101,066	323,932	1,424,998
Total	\$707,996,278	\$488,297,914	\$1,196,294,192
Terminated vested members	4,640,965	2,702,163	7,343,128
Retired members and beneficiaries	866,429,336	611,631,140	1,478,060,476
Disabled members	22,972,849	3,311,780	26,284,629
Total	\$1,602,039,428	\$1,105,942,997	\$2,707,982,425
Entry age reserve			
Active	\$363,489,679	\$293,463,932	\$656,953,611
Inactive	894,043,150	617,645,083	1,511,688,233
Total	\$1,257,532,829	\$911,109,015	\$2,168,641,844
Actuarial asset value ¹	\$701,465,378	\$508,226,438	\$1,209,691,816

¹Allocated based on Entry Age Reserve



Hypothetical City Contribution Requirement for 2022/2023 Fiscal Year (continued)

	Police	Fire	Total
Normal cost			_
Total present value of future benefits	\$1,602,039,428	\$1,105,942,997	\$2,707,982,425
Present value of future member contributions	(115,783,831)	(86,429,571)	(202,213,402)
Actuarial asset value	(701,465,378)	(508,226,438)	(1,209,691,816)
Present value of future normal costs	\$784,790,219	\$511,286,988	\$1,296,077,207
Present value of future payrolls	\$1,400,218,357	\$960,102,813	\$2,360,321,170
Administrative expense ¹	\$1,206,003	\$873,774	\$2,079,777
Current payroll	\$110,840,253	\$77,039,899	\$187,880,152
Interest rate	7.00%	7.00%	7.00%
Normal Cost	\$63,329,418	\$41,900,107	\$105,246,747
Interest to End of Year	\$4,433,059	\$2,933,007	\$7,367,272
Recommended contribution at end of year at 7.00%	\$67,762,477	\$44,833,114	\$112,614,019
As a percentage of payroll	61.14%	58.19%	59.94%
Hypothetical Total			\$112,595,592



¹Allocated based on Entry Age Reserve

Historical Salary Increases and Asset Performance

September 30, 2022

			Expected Salary	Asset Return	Asset Return	Asset Return
Year Ending	Payroll Growth	Salary Growth	Growth	(Market)	(Actuarial)	(Expected)
9/30/2022	5.24%	8.93%	7.70%	(12.35%)	5.15%	7.00%
9/30/2021	1.32%	5.00%	7.72%	19.27%	8.59%	7.00%
9/30/2020	5.15%	11.24%	8.05%	5.65%	6.25%	7.34%
9/30/2019	0.83%	8.21%	7.74%	6.11%	6.48%	7.34%
9/30/2018	5.27%	7.39%	7.85%	6.90%	6.66%	7.34%
9/30/2017	6.32%	7.02%	7.85%	8.24%	6.76%	7.42%
9/30/2016	25.22%	10.46%	7.85%	8.42%	6.51%	7.42%
9/30/2015	13.42%	12.60%	7.79%	2.80%	6.18%	7.42%
9/30/2014	10.00%	1.38%	7.72%	8.60%	7.18%	7.50%
9/30/2013	3.70%	3.64%	7.77%	11.20%	6.95%	7.50%
Averages						
3-year				3.37%	6.65%	
5-year				4.61%	6.62%	
10-year	7.65%			6.20%	6.67%	



October 1, 2022

	Valuation	- 200 bp ²	Funding Rate ²	+ 200 bp ²
	7.00%	5.00%	7.00%	9.00%
Total pension liability				
Service Cost	\$44,246,187	\$44,246,187	\$44,246,187	\$44,246,187
Interest	144,264,229	145,019,908	145,019,908	145,019,908
Benefit changes	0	0	0	0
Difference between expected and actual experience	11,551,087	24,491,481	24,491,481	24,491,481
Changes in assumptions	0	521,998,366	0	(369,155,416)
Benefit payments	(144,005,082)	(144,005,082)	(144,005,082)	(144,005,082)
Contribution refunds	(1,159,947)	(1,159,947)	(1,159,947)	(1,159,947)
Net change in pension liability	\$54,896,474	\$590,590,913	\$68,592,547	(\$300,562,869)
Total pension liability, beginning of year	\$2,089,253,889	\$2,100,049,297	\$2,100,049,297	\$2,100,049,297
Total pension liability, end of year	\$2,144,150,363	\$2,690,640,210	\$2,168,641,844	\$1,799,486,428
Plan fiduciary net position				
Contributions - Employer	\$65,889,915	\$65,889,915	\$65,889,915	\$65,889,915
Contributions - State	0	0	0	0
Contributions - Member	17,385,718	17,385,718	17,385,718	17,385,718
Net investment income	(161,547,653)	(161,547,653)	(161,547,653)	(161,547,653)
Benefit payments	(144,005,082)	(144,005,082)	(144,005,082)	(144,005,082)
Contribution refunds	(1,159,947)	(1,159,947)	(1,159,947)	(1,159,947)
Administrative expense	(2,137,199)	(2,137,199)	(2,137,199)	(2,137,199)
Other	0	0	0	0
Net change in plan fiduciary net position	(\$225,574,248)	(\$225,574,248)	(\$225,574,248)	(\$225,574,248)
Plan fiduciary net position, beginning of year	1,306,437,051	\$1,306,437,051	\$1,306,437,051	\$1,306,437,051
Plan fiduciary net position, end of year	\$1,080,862,803	\$1,080,862,803	\$1,080,862,803	\$1,080,862,803
Net pension liability/(asset)	\$1,063,287,560	\$1,609,777,407	\$1,087,779,041	\$718,623,625
Funded ratio	50.41%	40.17%	49.84%	60.07%
Years that Assets support expected benefit payments	9	8	9	10
Estimated city contribution				
Annual dollar value	\$112,614,019	\$162,078,769	\$112,614,019	\$74,161,907
Percentage of payroll	59.94%	86.27%	59.94%	39.47%

¹ Does not include DROP assets and liabilities



² Based on valuation assumption with the following changes

⁻ interest rate (as noted)

October 1, 2022

Sustainment of Expected Benefit Payments

Mortality	Valuation
Interest	7.00%

<u>Year</u>	Market Value of Assets	<u>Investment Return</u>	Benefit Payments
1	\$1,080,862,803	\$70,654,686	\$145,480,815
2	1,006,036,674	65,366,295	146,950,306
3	924,452,663	59,586,906	148,941,350
4	835,098,219	53,246,517	151,428,503
5	736,916,233	46,266,971	154,532,641
6	628,650,563	38,565,942	158,090,872
7	509,125,633	30,027,192	163,089,828
8	376,062,997	20,521,422	168,652,069
9	227,932,350	9,968,487	173,993,547
10	63,907,290		178,746,125



October 1, 2022

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Pub-2010 Generational using scale MP-2018 Interest 5.00%

<u>Year</u>	Market Value of Assets	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,080,862,803	\$50,370,449	\$148,721,575
2	982,511,677	45,444,677	149,054,270
3	878,902,084	40,213,558	151,104,871
4	768,010,771	34,608,412	153,558,014
5	649,061,169	28,583,746	156,683,557
6	520,961,358	22,092,549	160,174,382
7	382,879,525	15,065,327	165,160,423
8	232,784,429	7,425,112	170,645,717
9	69,563,824		175,879,673



October 1, 2022

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Pub-2010 Generational using scale MP-2018 Interest 7.00%

<u>Year</u>	Market Value of Assets	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,080,862,803	\$70,543,178	\$148,721,575
2	1,002,684,406	65,059,243	149,054,270
3	918,689,379	59,109,034	151,104,871
4	826,693,542	52,584,917	153,558,014
5	725,720,445	45,409,257	156,683,557
6	614,446,145	37,499,943	160,174,382
7	491,771,706	28,741,172	165,160,423
8	355,352,455	19,003,087	170,645,717
9	203,709,825	8,208,012	175,879,673
10	36,038,164		180,419,897



October 1, 2022

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Pub-2010 Generational using scale MP-2018 Interest 9.00%

<u>Year</u>	Market Value of Assets	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,080,862,803	\$90,729,345	\$148, ⁷ 21,575
2	1,022,870,573	85,495,395	149,054,270
3	959,311,698	79,684,807	151,104,871
4	887,891,634	73,148,988	153,558,014
5	807,482,608	65,774,556	156,683,557
6	716,573,607	57,439,042	160,174,382
7	613,838,267	47,973,323	165,160,423
8	496,651,167	37,184,963	170,645,717
9	363,190,413	24,943,041	175,879,673
10	212,253,781	11,158,835	180,419,897
11	42,992,719		183,903,080



Contribution Stabilization Trust

As outlined in City ordinance (Article IV – Division 5), beginning October 1, 2008, any time the city's contributions to normal costs fall below 37%, the difference between the contributions to normal costs and 37% will be deposited into the city firefighters' and police officers' retirement contribution stabilization fund trust ("Stabilization Trust"). The purpose of the trust is to assist in stabilizing the city's annual contributions to the city Firefighters' and Police Officers' Retirement Trust. Whenever the city's annual contributions to the retirement system exceed 37% of valuation payroll, the city may choose to use part of the trust to cover contributions in excess of 37%. The following shows the contributions or use of the funds from the Stabilization Trust.

		October 1, 2022	October 1, 2021
4		t112 C1 1 010	t00 200 04 4
1.	City Contribution	\$112,614,019	\$99,369,914
2.	Valuation Payroll	\$187,880,152	\$178,532,455
3.	City Contribution as a % of Valuation Payroll	59.94%	55.66%
4.	Pension Stabilization Contribution, [(37% - (1)/(2)) x (2)] (not less than \$0)	\$0	\$0
5.	Amount of City Contribution that may be paid from the Stabilization Trust (if funds available), $[((1)/(2) - 37\%) \times (2)]$ (not less than \$0)	\$43,098,363	\$33,312,906

If the City followed the stated City ordinance, the following provides the hypothetical cumulative position of the Stabilization Trust.

		Amount used to satisfy recommended	
	Pension Stabilization	City	Current Stabilization Trust
Valuation Date	Contribution	contribution	Balance
10/1/2019	\$0	\$0	\$1,035,008
10/1/2020	\$0	\$0	\$1,035,008
10/1/2021	\$0	\$0	\$1,035,008
10/1/2022	\$0	To be decided	\$1,035,008

