

City of Ocala Firefighters' Retirement Plan

October 1, 2022 | Actuarial Valuation Report

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At the request of the plan sponsor, this report summarizes the Firefighters' Retirement Plan for the City of Ocala as of October 1, 2022. The purpose of this report is to communicate the following results of the valuation:

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

This report has been prepared in accordance with the laws and accounting standards indicated above and their applicable regulations. 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 employer. Asset information has been provided to us by the trustee. 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.

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 weakness or limitations in the software and have determined it is appropriate for performing this valuation.

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.

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

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

Enrolled Actuary No. 20-8496

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Enrolled Actuary No. 20-8613

Kerry Supe

March 27, 2023

Date

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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Benefits Administrator

Municipal Police Officers' &

Firefighters' Trust Funds

Division of Retirement

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Mr. Keith Brinkman

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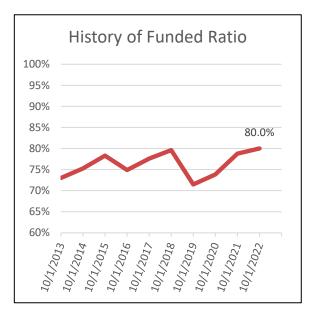
Tallahassee, FL 32315-9000



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	\$84,703,050	\$88,822,517
Actuarial Value of Assets	66,720,136	71,075,172
Unfunded Accrued Liability	\$17,982,914	\$17,747,345
Funded Percentage (AVA)	78.8%	80.0%
Funded percentage (MVA)	90.4%	72.2%
Cost Measures		
Recommended Contribution	\$3,398,109	\$3,376,436
Recommended Contribution (as a percentage of payroll)	40.0%	38.2%
Asset Performance		
Market Value of Assets	\$76,554,069	\$64,112,784
Actuarial Value of Assets	\$66,720,136	\$71,075,172
Actuarial Value/Market Value	87.2%	110.9%
Market Value Rate of Return	19.78%	-14.99%
Member Information		
Active Members	122	122
Terminated Vested Members	4	4
Retirees, Beneficiaries, and Disabled Members	83	85
DROP Participants	17	16
Total	226	227
Expected Payroll	\$8,505,805	\$8,848,567





Changes Since Prior Valuation and Key Notes

The payroll growth assumption used to amortize the unfunded liability was increased to 1.57% from 0.83% to comply with State Law limiting such rate to the 10-year average payroll growth.

Effective October 1, 2022, the plan's actuarial equivalence basis was updated from the 1994 Group Annuity Table, male rates for participants, female rates for beneficiaries, and 8.0% interest to the Pub-2010 Public Safety Table projected generationally with Scale MP-2020 to 2035, and 7.0% interest.



Five Year Valuation Summary

	10/1/2018	10/1/2019	10/1/2020	10/1/2021	10/1/2022
Funding					
Accrued Liability	\$67,325,431	\$77,263,779	\$80,908,874	\$84,703,050	\$88,822,517
Actuarial Value of Assets	\$53,597,970	\$55,227,847	\$59,740,119	\$66,720,136	\$71,075,172
Unfunded Actuarial Accrued Liability	\$13,727,461	\$22,035,932	\$21,168,755	\$17,982,914	\$17,747,345
Funded Percentage	79.6%	71.5%	73.8%	78.8%	80.0%
Normal Cost (NC)	\$1,362,153	\$1,364,394	\$1,426,480	\$1,452,965	\$1,510,777
NC as a Percent of Covered Payroll	17.8%	18.5%	18.5%	18.3%	18.3%
Actual Contribution	\$2,627,755	\$2,960,648	\$3,334,160	TBD	TBD
Recommended Contribution	\$2,627,755	\$2,960,648	\$3,334,160	\$3,398,109	\$3,376,436
Recommended Contribution (% of Pay)	34.3%	40.2%	43.3%	42.7%	40.8%
Interest Rate	7.50%	7.00%	7.00%	7.00%	7.00%
Rate of Return					
Actuarial Value of Assets	8.01%	6.60%	9.01%	11.42%	6.59%
Market Value of Assets	8.93%	3.42%	14.31%	19.78%	-14.99%
Demographic Information					
Active Participants	124	123	119	122	122
Terminated Vested Participants	3	3	3	4	4
Retired Participants	65	74	77	80	82
Beneficiaries	11	11	11	11	10
Disabled Participants	10	10	9	9	9
Total Participants	213	221	219	226	227
Covered Payroll	\$7,657,531	\$7,367,409	\$7,703,127	\$7,949,354	\$8,272,546
Average Covered Pay	\$61,754	\$59,898	\$64,732	\$65,159	\$67,808



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 Ocala Firefighters' Retirement Plan. 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	Additional Information
Investment Return	Portfolio risk and substantial equity position leave the plan open to adverse market results, which could increase costs in the
	future.
Participant Longevity	The plan has adopted FRS' most recent mortality tables for valuation purposes. These tables are modified from the standard
	tables, and, compared to the previous tables used by FRS, project a slightly shorter participant longevity overall. There is no
	guarantee FRS' anticipated mortality experience will mirror your plan's future experience. Deviation from expected mortality
	rates could impact long-term liabilities and plan cost.
Early Retirement	If more employees than expected avail themselves of the early retirement option, then this could impact estimated plan
	liabilities.

Type of Risk	Method to Assess Risk
Investment Return	Scenario testing; asset/liability study
Participant Longevity	Benefit projections and contribution strategy
Early Retirement	Scenario testing; review population and retirement rates



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 Ocala Firefighters' Retirement Plan falls in its life-cycle.

Duration of Liabilities: 11.1

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: 53.7%

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: 12.9%

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: 6.5%

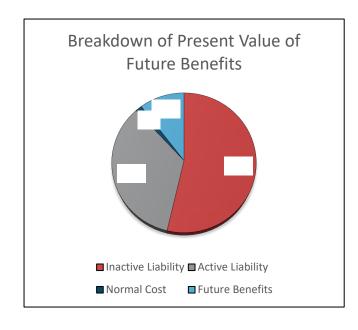
As a plan enters its decumulation phase, a larger percentage of the pre-funded assets are paid out each year to retirees. A high percentage is not cause for alarm as long as the plan is nearly fully funded. However, such a plan is more sensitive to negative asset performance, especially if cash contributions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



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	\$42,509,213
Disability	2,028,080
Death	278,027
Termination	1,581,215
Refund of contributions	311,900
Total active	\$46,708,435
Inactive members	
Retired members	\$49,471,799
Beneficiaries	850,811
Disabled members	2,741,857
Terminated vested members	1,021,340
Total inactive	\$54,085,807
Total	\$100,794,242
Present value of future payrolls	\$66,362,418





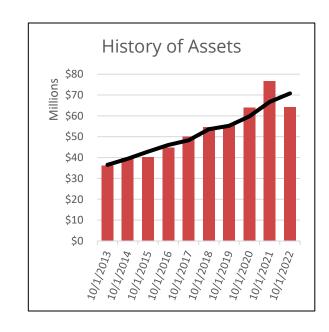
The Accrued Liability measures the present value of benefits earned as of the valuation date, using a specified set of actuarial assumptions. It is not a long-term snapshot of the liabilities.

	October 1, 2022
Accrued Liability	
Active members	
Retirement	\$32,513,271
Disability	1,103,148
Death	161,646
Termination	818,137
Refund of contributions	140,508
Total Active	\$34,736,710
Inactive members	
Retired members	\$49,471,799
Beneficiaries	850,811
Disableds	2,741,857
Terminated vested members	1,021,340
Total Inactive	\$54,085,807
Total	\$88,822,517
Normal Cost	\$1,510,777



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	\$89,922,575
Contributions	
Employer	\$3,334,160
Employee	677,091
Non-Member	614,717
Total	\$4,625,968
Investment income	(13,263,334)
Investment Expenses	(207,380)
Benefit payments	(4,167,351)
Administrative expenses	(135,218)
Other Expenses	0
Market value of asset, beginning of current year	\$76,775,260
Return on Market Value	-14.99%
Reserved Assets	(\$7,651,293)
DROP Account	(\$5,011,183)
Market value of assets available for pension benefits	\$64,112,784
Actuarial value of assets	
Value at beginning of current year	\$71,075,172





Asset Information (continued)

October 1, 2022

Current Actuarial Asset Valuation Method:

As a part of the September 2019 experience study, the Plan implemented a "20% Phase-in Method" with an 80% - 120% corridor. In the first year of the transition (for the October 1, 2019 report), the actuarial value of assets was set equal to the market value. Below continues the transition to the "20% Phase-In Method" with the full transition to be complete for the October 1, 2023 report.

1.	Expected Market Value of Assets (a) Market value of assets – beginning of year (b) Contributions (c) Benefit payments (d) Expenses (e) Expected Return (7.00%) (f) Expected market value end of year	\$76,554,069 4,377,382 (4,532,171) (135,218) 5,453,459 \$81,717,521
2.	Market Value of assets, beginning of current year	\$64,112,784
3.	Amount subject to phase-in [(2)-(1)(f)]	(\$17,604,737)
4.	Phase in of asset gain/(loss) (a) Second Prior Year [40% x \$5,080,984] (b) First Prior Year [60% x \$8,481,678] (c) Current Year [80% x (\$17,604,737)] (d) Total phase-in	\$2,032,394 5,089,007 (14,083,789) (\$6,962,388)
5.	Preliminary actuarial value of assets, beginning of current year [2 - 4(d)]	\$71,075,172
6.	80% Market value of assets	\$51,290,228
7.	120% Market value of assets	\$76,935,340
8.	Adjusted actuarial value of assets	\$71,075,172
9.	Return on actuarial value of assets	6.59%



Reconciliation of Gain/Loss

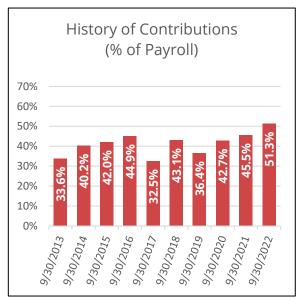
	October 1, 2022
Liability (gain)/loss	
Actuarial Liability, beginning of Prior Year	\$84,703,050
Normal Cost	1,452,965
Benefit Payments	(4,532,171)
Interest	5,874,977
Expected Actuarial Liability, beginning of Current Year	\$87,498,821
Actual Actuarial Liability	88,822,517
Liability (gain)/loss	\$1,323,696
Asset (gain)/loss	
Actuarial Value of Assets, beginning of prior year	\$66,720,136
Contributions	4,377,382
Benefit payments and expenses	(4,667,389)
Investment Return	4,765,084
Expected Actuarial Value of Assets, beginning of current year	\$71,195,213
Actual Actuarial Value of Assets, beginning of current year	71,075,172
Asset (gain)/loss, from asset experience	\$120,041
Impact of One-Year Lag/Timing Adjustment	(\$378,858)
Total (gain)/loss	\$1,064,879

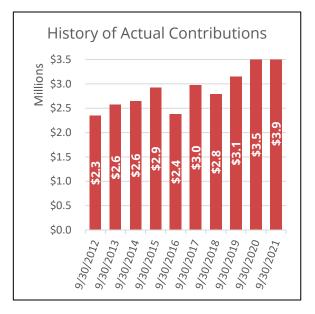


Development of Recommended Contribution

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

		October 1, 2022
Curre	ent Interest Rate (7.0%) and AVA Method (20% Phase In):	
	Funded Position	
1.	Entry Age Accrued Liability	\$88,822,517
2.	Actuarial value of assets	(71,075,172)
3.	Unfunded Actuarial Accrued Liability	\$17,747,345
	Employer Contributions	
4.	Normal Cost	
	(a) Total Normal Cost	\$1,510,777
	(b) Expected Participant Contributions	(634,504)
	(c) Net Normal Cost	\$876,273
5.	Administrative Expenses	135,218
6.	Amortization of UAAL	2,319,732
7.	Applicable Interest	245,213
8.	Total recommended contribution as of end of year [(4)+(5)+(6)+(7)]	\$3,576,436
9.	Expected Non-Employer Contributions	(200,000)
10.	Total Recommended Contribution	\$3,376,436



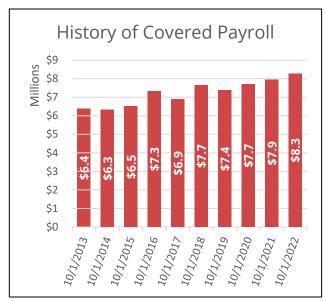




Demographic Information

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	122	122
Retired Members	63	66
Beneficiaries	11	10
Disabled Members	9	9
Terminated Vested Members, due a Monthly Benefit	4	4
DROP Members	17	16
Total	226	227
Active Participant Demographics		
Average Age	36.8	36.7
Average Service	11.50	11.59
Average Compensation for Prior Year	\$62,847	\$65,373
Covered Payroll	\$7,949,354	\$8,272,546





Demographic Information (continued)

	October 1, 2021	October 1, 2022
Retired Member Statistics		
Average Age	66.2	65.7
Average Monthly Benefit	\$3,675	\$3,821
Beneficiary Statistics		
Average Age	69.7	69.6
Average Monthly Benefit	\$801	\$832
Disabled Member Statistics		
Average Age	66.2	67.2
Average Monthly Benefit	\$2,732	\$2,732
Terminated Member Statistics		
Average Age	48.0	49.0
Average Monthly Benefit for Participants due Monthly Benefit	\$2,620	\$2,620
DROP Member Statistics		
Average Age	53.9	54.6
Average Monthly Benefit	\$5,749	\$6,244



Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	DROP	Totals
Prior Year	122	4	9	63	11	17	226
To Retired				5		(5)	0
To Terminated Vested		0					0
To Terminated Non- Vested							0
To Return of							(2)
Contributions	(3)						(3)
To DROP	(4)					4	0
To Death				(1)			(1)
To Beneficiary				(1)			(1)
To Disabled							
Additions	7				1		8
Departures					(2)		(2)
Current Year	122	4	9	66	10	16	227



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	4	10	2								16	\$40,732
25 to 29	3	11	7								21	\$49,931
30 to 34		9	9	2							20	\$60,604
35 to 39			2	5	10						17	\$74,280
40 to 44		2		1	13	3					19	\$80,429
45 to 49			2	1	2	9	5				19	\$93,745
50 to 54					3	4	2				9	\$88,670
55 to 59						1					1	\$65,269
60 to 64											0	\$0
65 to 69											0	\$0
70 & up											0	\$0
Total	7	32	22	9	28	17	7		0	0	122	\$68,424

The 'Average Pay' displayed is projected pay for the current year based on prior year compensation and assumed salary increases.



Plan Status

Established October 1, 1999 under the Code of Ordinances for the City of Ocala, Florida, Chapter 43 Article II Sections 43-21 through 43-45 and was most recently amended by Ordinance No. 2019-14 on January 9, 2019. The Plan is also governed by certain provisions of Chapters 175 and 185, <u>Florida</u> Statutes, Part VII, Chapter 112, <u>Florida</u> Statutes (F.S.) and the Internal Revenue Code.

Eligibility for Participation

Employees in the Fire Department, certified as firefighters.

Accrual of Benefits

The accrued benefit is determined as 3% of Average Final Compensation multiplied by Credited Service as of date of determination; maximum of 93% of Average Monthly Earnings.

Vesting

100% after 10 years

Benefits

Normal Retirement

Eligibility Age 55 and 10 years of credited service, Rule of 70, or 25 years of credited service.

Benefit Accrued Benefit

Early Retirement

Eligibility Age 50 and 10 years of credited service

Benefit Accrued Benefit reduced by 2% for each year prior to normal retirement date.



Termination Benefit

Eligibility Fully vested after 10 years of credited service

Benefit Accrued retirement benefit payable at participant's normal retirement date. If the participant terminates prior to 10 years

of service a refund of the accumulated contributions without interest will be issued.

Disability Benefit In Line of Duty

Eligibility Immediately upon permanent disability

Benefit Accrued benefit, but not less than 42% of AME.

Disability Benefit Not In Line of Duty

Eligibility Participant without vested benefit

Benefit Refund of Contributions

Eligibility Participant with vested benefit

Benefit If vested, accrued benefit, but not less than 30% of AME.



Death Benefit

Participant without vested benefit

Benefit Refund of Contributions

Eligibility

Eligibility Service Incurred; Participant with vested benefit

Benefit Choice of (i) Accrued benefit payable for 120 months; or (ii) 50% of AME to spouse until death.

Non-Service Incurred; Participant with vested benefit

Benefit If not eligible for either early or normal retirement, same as for Service-Incurred Death Benefits.

Eligibility

If eligible for either early or normal retirement, choice of (i) accrued benefit payable for 120 months; or (ii) 50% of

accrued benefit to spouse until death.

Credited Service

For Vesting and Benefit Accruals, Service is defined as years and completed months.

Compensation

Average Monthly Earnings

Within 5 years of normal retirement as of November 1, 2015: Average during highest 3 consecutive of last 5 years of total earnings, including base salary, pick-up contributions, overtime pay, assignment pay, and educational incentive.

Others: Average during highest 5 of last 10 years of earnings, including base salary, state education incentive pay, and up to 300 hours of overtime pay per year, excluding all other compensation

Employee Contributions

7.67% to Regular Fund Retirement Plan and 0.50% to COLA Fund (8.17% total).



Payment Forms

Normal Form

50% joint & contingent survivor, with 10 years' certain, payable for life (married); 10 years' certain and life (single).

Optional Forms

50%, 66 2/3%, 75%, and 100% Joint and Survivor Annuity (last survivor basis) and Life Annuity.

DROP

Up to 5 years; actuarially equivalent BAC-DROP

COLA

Benefit payment schedule to be designed by Board. Funding is from .50% member contributions, market return, and 50% of State Premium Tax Revenues in excess of \$200,000 (percentage increased to 100% once the Plan becomes 90% funded). A portion of excess returns on COLA assets will be transferred to the plan until the plan becomes 90% funded.

Changes Since Last Valuation

There have been no changes to plan provisions since the last valuation.



Valuation Date October 1, 2022

Participant and Asset Information Collected as of October 1, 2022

Cost Method Entry Age Normal Cost Method

Amortization MethodThe following amortization periods will apply for any unfunded actuarial accrued liabilities, all on an increasing payroll basis of 1.57% (as limited by 10-year average payroll growth):

- Unfunded liability as of October 1, 2001: 25 years
- Benefit improvements for actives: 25 years
- Benefit improvements for inactives: 15 years
- Actuarial gains/losses: 20 years
- Changes in actuarial assumptions: 20 years

Asset Valuation Method20% Phase-In Method with a fresh start methodology as of October 1, 2019 and a 80%/120% corridor.

Interest Rates 7.0% net of investment expenses

Support for the interest rate assumption has been provided in the experience study report dated September 2019.

Annual Pay Increases 2.5% inflation plus the below merit increases

<u>Age</u>	<u>Genera</u>
<=25	5.5%
<=30	4.1%
<=35	3.1%
<=40	2.1%
<=45	1.1%
50	0.0%

The annual pay increases are based on a study of actual experience for the plan during 2011-2018. See the experience study report dated September 2019.

Non-investment expenses in previous year

nyhart part of FuturePlan by Ascensus*

Expense and/or Contingency Loading

Mortality Rates

Pre-Retirement:

Post-Retirement:

Disabled:

Retirement Rates

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.

10% of Active deaths are assumed to be in the line of duty

These are the same mortality rates used by the Florida Retirement System in their July 1, 2021 Actuarial Valuation Report.

Age + Service	<u>Rate</u>
<70	0%
70-71	25%
72-74	15%
75-79	25%
>=80	100%

The assumed retirement rates are based on a study of actuarial experience for the plan during 2011-2018. See the Experience study report dated 2019.



Disability Rates	A G	<u>Rate</u>	
	Age	0.10%	
	20	0.14%	
	30	0.29%	
	40	0.92%	
	50 80% of disabilities ar	re assumed to be in the line of duty.	

80% of disabilities are assumed to be in the line of duty.

The disability rates are based on a study of actual experience for the plan during 2011-2018. See the experience study report dated September 2019.

With	drawa	al Rates

A ge	<u>Rate</u>
<30	8.0%
<35	5.5%
<40	2.7%
<45	1.9%
<50	1.2%
<55	0.5%
>=55	0.0%

The withdrawal rates are based on a study of actual experience for the plan during 2011-2018. See the experience study report dated September 2019.

Marital Status and Ages

80% of Participants assumed to be married with wives assumed to be 3 years younger than husbands.

Contribution timing

City contribution is assumed to occur at the beginning of the fiscal year.



Changes Since Prior Valuation

The payroll growth assumption used to amortize the unfunded liability was increased to 1.57% from 0.83% to comply with State Law limiting such rate to the 10-year average payroll growth.



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

- · Reconciliation of unfunded actuarial liability
- Statement of changes on value of assets
- Distribution of Assets
- Schedule of amortizations
- Florida State requirements

Comparative Summary of Principal Valuation Results

Comparison of Payroll Growth, salary increases and investment results

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

Reserve account for benefit improvements under F.L. 99-1 and SB 172

- Accrued (Prepaid) Position
- Determination of COLA Fund Assets



Reconciliation of Unfunded Actuarial Liability

		October 1, 2022
1.	Unfunded Actuarial Accrued Liability (UAAL), beginning of Prior Year	\$17,982,914
2.	Normal Cost	\$1,452,965
3.	Expenses	\$135,218
4.	Employer Contributions	(\$3,334,160)
5.	Employee Contributions	(\$635,864)
6.	Non-Employer Contributions	(\$407,358)
7.	Interest	\$1,109,893
8.	Expected UAAL based off of Contributions, beginning of Current Year	\$16,303,608
9.	1-year lag adjustment ¹	378,858
10.	Expected UAAL based off of Amortization Bases, beginning of Current Year	\$16,682,466
11.	Accumulated Reserve Adjustment	\$0
12.	Liability changes due to:	
	(a) Amendments	\$0
	(b) Assumptions	0
	(c) Asset Funding Methods	0
	(d) Actuarial Experience (Gain)/Loss	1,064,879
	(e) Total	\$1,064,879
13.	Unfunded Actuarial Accrued Liability, beginning of Current Year	\$17,747,345

¹ A difference between the "Expected UAAL based off of Contributions" and the "Expected UAAL based off of Amortization Bases" is seen because of the 1 year offset between when the recommended contributions for the fiscal year are calculated and when they are paid by the plan sponsor. Plan practice is to include this difference in the new "Actuarial (Gain) / Loss" base established that year.



Statement of Changes on Value of Assets	September 30, 2021	September 30, 2022
Additions		
Contributions:		
Employer	\$2,960,648	\$3,334,160
Member	734,643	677,091
Nonemployer contributing entity	541,289	614,717
Total contributions	\$4,236,580	\$4,625,968
Investment income		
Net increase in fair value of investments	\$13,637,276	(\$15,300,393)
Interest and dividends	1,351,131	2,037,059
Less investment expense, other than from securities lending	(185,178)	(207,380)
Net income other than from securities lending	\$14,803,229	(\$13,470,714)
Securities lending income	0	0
Less securities lending expense	0	0
Net income from securities lending	0	0
Net investment income	\$14,803,229	(\$13,470,714)
Other	0	0
Total additions	\$19,039,809	(\$8,844,746)
Deductions		
Benefit payments, including refunds of member contributions	\$3,877,368	\$4,167,351
Administrative expense	116,404	135,218
Other	0	0
Total deductions	\$3,993,772	\$4,302,569
Net increase in market value	\$15,046,037	(\$13,147,315)
Market Value as of		
Beginning of year	74,876,538	89,922,575
End of year	\$89,922,575	\$76,775,260



Distribution of Assets	September 30, 2021	September 30, 2022
Cash and deposits	\$2,806,031	\$1,529,008
Securities lending cash collateral	0	0
Total cash	\$2,806,031	\$1,529,008
Receivables:		
Investment income	\$142,001	\$119,607
Other	750	0
Total receivables	\$142,751	\$119,607
Investments:		
Mutual Funds	\$0	0
Common Stock	0	0
Fixed Income	26,026,172	19,168,506
Domestic Equities	40,370,145	36,652,556
International Equities	13,456,773	9,035,976
Real Estate Fund	7,312,837	10,386,226
Total investments	\$87,165,927	\$75,243,264
Total assets	\$90,114,709	\$76,891,879
Liabilities		
Payables		
Investment management fees	\$144,427	\$59,546
Due to broker for investments purchased	0	0
Collateral payable for securities lending	0	0
Other	47,707	57,073
Total liabilities	\$192,134	\$116,619
Total	\$89,922,575	\$76,775,260
Reserved Assets		
COLA Fund	(\$7,868,177)	(\$6,769,854)
DROP Account	(4,665,200)	(5,011,183)
State Reserve Account	0	0
Accrued (Prepaid) Position	(835,129)	(881,439)
Assets available for benefits	\$76,554,069	\$64,112,784



October	1, 2022

\$17,747,345 \$2,319,732 Total Remaining **Original Amount Remaining Period Years Annual Payment** Description Date Established Balance 3,756,166 Original 1,234,596 333,149 Actuarial (Gain)/Loss 10/1/2002 1,132,486 0 0 0 Actuarial (Gain)/Loss 2 439,957 225,702 10/1/2003 2,150,309 **Assumption Change** 2 161,566 10/1/2003 671,278 82,885 3 (36,551)10/1/2004 Software Change (337,307)(104,186)3 Actuarial (Gain)/Loss 1,946,896 601,351 210,970 10/1/2004 10/1/2004 **Assumption Change** (3,172,477)3 (979,905)(343,776)Actuarial (Gain)/Loss 770,808 313,397 84,568 10/1/2005 4 Actuarial (Gain)/Loss 5 10/1/2006 119,465 54,151 11,986 10/1/2007 Actuarial (Gain)/Loss (339,027)6 (176,057)(33,289)4,327,025 7 444,821 10/1/2008 Actuarial (Gain)/Loss 2,678,045 8 10/1/2009 Actuarial (Gain)/Loss 1,693,744 1,133,383 168,780 825,265 9 10/1/2010 Actuarial (Gain)/Loss 587.865 79.715 1,779,240 9 10/1/2010 **Assumption Change** 1,267,420 171,864 844,373 10 10/1/2011 Actuarial (Gain)/Loss 633,950 79,239 11 (115,656)10/1/2012 Actuarial (Gain)/Loss (1,268,648)(994,036)12 (598, 254)(485,233)(52,980)10/1/2013 Actuarial (Gain)/Loss 10/1/2014 Actuarial (Gain)/Loss 13 (152,962)(15,779)(183,432)753,718 73,875 10/1/2015 Actuarial (Gain)/Loss 806,755 14 14 (45,736)10/1/2015 Actuarial (Gain)/Loss (466,622)(499,457)10/1/2016 Actuarial (Gain)/Loss 1,789,200 15 1,712,586 160,278 **Assumption Change** 2,275,563 15 2,178,122 10/1/2016 203,846 10/1/2017 Actuarial (Gain)/Loss (887,868) 15 (785, 275)(73,492)16 10/1/2018 Actuarial (Gain)/Loss 35,698 32,591 2,925 16 128,970 10/1/2018 **Assumption Change** 141,256 11,574 10/1/2019 Actuarial (Gain)/Loss 1,182,361 17 1,107,330 95,641 17 155,897 10/1/2019 **Asset Method Change** 1,804,980 1,927,282 **Assumption Change** 6,042,962 488,814 10/1/2019 17 5,659,486 10/1/2020 Actuarial (Gain)/Loss 301,953 18 290,414 24,220 Actuarial (Gain)/Loss 10/1/2021 (1,984,364)19 (1,947,136)(157,248)10/1/2022 Actuarial (Gain)/Loss 20 1,064,879 1,064,879 83,490



Comparative Summary of Principal Valuation Results

	10/1/2022 7.00%	10/1/2021 7.00%
Participant Data		
Active members	122	119
Total annual payroll	\$8,347,705	\$7,812,392
Members in DROP	16	19
Total Annualized Benefit	\$1,198,787	\$1,230,293
Retired members and beneficiaries	76	69
Total annualized benefit	\$3,123,935	\$2,568,535
Disabled members receiving benefits	9	9
Total annualized benefit	\$284,138	\$284,138
Terminated vested members	4	3
Total annualized benefit	\$125,772	\$104,324
Assets		
Actuarial value of assets	\$71,075,172	\$59,740,119
Market value of assets	\$64,112,784	\$63,804,906



Comparative Summary of Principal Valuation Results (continued)

	10/1/2022 7.00%	10/1/2021 7.00%
Liabilities, present value of all future expected benefit payments		
Active members Retirement benefits Vesting benefits Disability benefits Death benefits Return of contribution	\$42,509,213 1,581,215 2,028,080 278,027 311,900	\$40,104,028 1,467,107 1,973,653 267,974 266,460
Total	\$46,708,435	\$44,079,222
Terminated vested members	1,021,340	815,973
Retired members and beneficiaries	50,322,610	44,416,797
Disabled members	2,741,857	2,838,670
Total	\$100,794,242	\$92,150,662
Liabilities due and unpaid	\$0	\$0
Actuarial accrued liability	\$88,822,517	\$80,908,874
Unfunded actuarial accrued liability	\$17,747,345	\$21,168,755



Comparative Summary of Principal Valuation Results (continued)

	10/1/2022 7.00%	10/1/2021 7.00%
Actuarial present value of accrued benefits		
Statement of actuarial present value of all accrued benefits Vested accrued benefits		
Inactive members and beneficiaries	\$54,085,807	\$51,066,481
Active members	22,185,972	21,603,538
Total value of all vested accrued benefits	\$76,271,779	\$72,670,019
Non-vested accrued benefits	3,774,073	3,781,715
Total actuarial present value of all accrued benefits	\$80,045,852	\$76,451,734
Statement of changes in total actuarial present value of all accrued benefits (ASC 960) Actuarial present value of accrued benefits, beginning of year	\$76,451,734	\$73,124,092
Increase (decrease) during year	\$70,431,734	\$73,124,092
Benefits accumulated	\$2,553,238	\$2,219,736
Plan amendment	0	0
Changes in actuarial assumptions	0	0
Interest	5,208,231	4,985,274
Benefits paid	(4,167,351)	(3,877,368)
Other changes	0	0
Net increase (decrease)	\$3,594,118	\$3,327,642
Actuarial present value of accrued benefits, end of year	\$80,045,852	\$76,451,734



Comparative Summary of Principal Valuation Results (continued)

	10/1/2022 7.00%	10/1/2021 7.00%
Pension cost Normal Cost	\$1,510,777	\$1,452,965
Member contributions	\$634,504	\$609,715
Expected plan sponsor contribution As % of payroll Member Contributions as % of payroll	\$3,376,436 38.16% 7.17%	\$3,398,109 39.95% 7.17%
Past contributions Required plan sponsor contribution	9/30/2022 \$3,334,160	9/30/2021 \$2,960,648
Required member contribution	\$635,864	\$695,149
Actual contributions made by: Plan's sponsor Members Other	\$3,334,160 \$635,864 \$407,358	\$2,960,648 \$695,149 \$370,644
Net actuarial gain (loss) (if applicable)	(\$1,064,879)	\$1,984,364
Other disclosures (where applicable)		
Present value of active member Future salaries at attained age Future contributions at attained age Accumulated Member Contributions	\$66,362,418 \$4,691,318 \$5,486,064	\$63,892,480 \$4,515,735 \$5,373,101



Historical Salary Increases and Asset Performance

September 30, 2022

Year Ending 9/30/2022 9/30/2021 9/30/2020 9/30/2019 9/30/2018 9/30/2017	Payroll Growth 4.03% 2.71% 1.39% (3.80%) 11.20% (6.10%)	Salary Growth 9.45% 7.31% 8.37% 4.73% 9.88% 0.64%	Expected Salary Growth 4.74% 5.53% 5.51% 5.48% 5.27% 5.23%	Asset Return (Market) (14.99%) 19.78% 14.31% 3.42% 8.93% 11.05%	Asset Return (Actuarial) 6.59% 11.42% 9.01% 6.60% 8.01% 7.86%	Asset Return (Expected) 7.00% 7.00% 7.00% 7.50% 7.50%
9/30/2016	12.70%	13.97%	5.25%	10.33%	7.02%	7.75%
9/30/2015	3.10%	5.59%	5.31%	0.05%	6.07%	7.75%
9/30/2014	(1.30%)	1.10%	5.40%	9.50%	7.86%	7.75%
9/30/2013	(8.20%)	(1.00%)	5.50%	13.20%	7.42%	7.75%
Averages						
3-year				5.19%	8.99%	
5-year				5.57%	8.31%	
10-year	1.57%			7.14%	7.78%	
20-year				6.24%	5.91%	

Amortization of Unfunded Actuarial Accrued Liability

	UAAL	Amortization
10/1/2022	\$17,747,345	\$2,319,732
10/1/2023	\$16,507,548	\$2,356,223
10/1/2024	\$15,141,918	\$2,074,912
10/1/2025	\$13,981,696	\$2,285,031
10/1/2041	\$112,310	\$112,310



				October 1, 2022
	GASB 67/68 ²	- 200 bp ²	Funding Rate ²	+ 200 bp ²
	7.00%	5.00%	7.00%	9.00%
Total pension liability				
Service Cost	\$1,573,269	\$1,573,269	\$1,573,269	\$1,573,269
Interest	6,542,516	4,753,505	6,654,906	8,556,308
Benefit changes	0	0	0	0
Difference between expected and actual experience	1,717,962	1,405,012	1,405,012	1,405,012
Changes in assumptions	0	28,520,904	0	(20,156,609)
Benefit payments	(4,167,351)	(4,167,351)	(4,167,351)	(4,167,351)
Contribution refunds	0	0	0	0
Net change in pension liability	\$5,666,396	\$32,085,340	\$5,465,836	(\$12,789,371)
Total pension liability, beginning of year	\$93,974,927	\$95,580,499	\$95,580,499	\$95,580,499
Total pension liability, end of year	\$99,641,323	\$127,665,839	\$101,046,335	\$82,791,128
Plan fiduciary net position				
Contributions - Employer	\$3,334,160	\$3,334,160	\$3,334,160	\$3,334,160
Contributions - State	614,717	614,717	614,717	614,717
Contributions - Member	677,091	677,091	677,091	677,091
Net investment income	(13,470,714)	(13,470,714)	(13,470,714)	(13,470,714)
Benefit payments	(4,167,351)	(4,167,351)	(4,167,351)	(4,167,351)
Contribution refunds	0	0	0	0
Administrative expense	(135,218)	(135,218)	(135,218)	(135,218)
Other	0	0	0	0
Net change in plan fiduciary net position	(\$13,147,315)	(\$13,147,315)	(\$13,147,315)	(\$13,147,315)
Plan fiduciary net position, beginning of year	\$89,922,575	\$89,922,575	\$89,922,575	\$89,922,575
Plan fiduciary net position, end of year	\$76,775,260	\$76,775,260	\$76,775,260	\$76,775,260
Net pension liability/(asset)	\$22,866,063	\$50,890,578	\$24,271,075	\$6,015,868
Funded ratio	77.05%	60.14%	75.98%	92.73%
Years that Assets support expected benefit payments	17	14	17	23
Estimated city contribution				
Annual dollar value	\$3,376,436	\$5,835,841	\$3,376,436	\$1,404,580
Percentage of payroll	38.16%	65.95%	38.16%	15.87%

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 GASB 67/68 Interest 7.00%

<u>Year</u>	Market Value of Assets	<u>Investment Return</u>	Benefit Payments
1	\$76,775,260	\$5,021,518	\$10,251,983
2	71,544,795	4,815,811	5,589,516
3	70,771,090	4,751,963	5,871,116
4	69,651,937	4,661,609	6,220,259
5	68,093,287	4,543,880	6,470,870
6	66,166,297	4,399,757	6,739,225
7	63,826,829	4,229,098	6,939,643
8	61,116,284	4,031,235	7,175,803
9	57,971,716	3,800,443	7,485,957
10	54,286,202	3,531,857	7,794,028
11	50,024,031	3,224,334	8,060,554
12	45,187,811	2,877,576	8,299,522
13	39,765,865	2,491,650	8,485,246
14	33,772,269	2,063,756	8,727,690
15	27,108,335	1,592,526	8,865,890
16	19,834,971	1,081,324	8,925,945
17	11,990,350	527,542	9,061,337
18	3,456,555		9,148,577



October 1, 2022

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Generational Interest 5.00%

<u>Year</u>	Market Value of Assets	Investment Return	Benefit Payments
1	\$76,775,260	\$3,585,590	\$10,251,983
2	70,108,867	3,367,410	5,589,516
3	67,886,761	3,249,350	5,871,116
4	65,264,995	3,109,640	6,220,259
5	62,154,376	2,947,920	6,470,870
6	58,631,426	2,765,146	6,739,225
7	54,657,347	2,561,492	6,939,643
8	50,279,196	2,336,753	7,175,803
9	45,440,146	2,087,141	7,485,957
10	40,041,330	1,809,592	7,794,028
11	34,056,894	1,503,789	8,060,554
12	27,500,129	1,170,049	8,299,522
13	20,370,656	808,989	8,485,246
14	12,694,399	419,189	8,727,690
15	4,385,898		8,865,890



3,456,555

October 1, 2022

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Generational Interest 7.00%

Market Value of Assets Investment Return Benefit Payments <u>Year</u> \$76,775,260 \$5,021,518 \$10,251,983 1 2 71,544,795 4,815,811 5,589,516 3 70,771,090 4,751,963 5,871,116 4 69,651,937 6,220,259 4,661,609 5 68,093,287 4,543,880 6,470,870 6 66,166,297 4,399,757 6,739,225 7 63,826,829 4,229,098 6,939,643 8 4,031,235 7,175,803 61,116,284 9 57,971,716 3,800,443 7,485,957 10 54,286,202 3,531,857 7,794,028 11 8,060,554 50,024,031 3,224,334 12 45,187,811 2,877,576 8,299,522 13 39,765,865 2,491,650 8,485,246 14 2,063,756 33,772,269 8,727,690 15 27,108,335 1,592,526 8,865,890 16 19,834,971 1,081,324 8,925,945 17 11,990,350 527,542 9,061,337



9,148,577

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October 1, 2022

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Generational Interest 9.00%

<u>Year</u>	Market Value of Assets	<u>Investment Return</u>	Benefit Payments
1	\$76,775,260	\$6,458,372	\$10,251,983
2	72,981,649	6,322,238	5,589,516
3	73,714,371	6,375,784	5,871,116
4	74,219,039	6,405,831	6,220,259
5	74,404,611	6,411,498	6,470,870
6	74,345,239	6,394,339	6,739,225
7	74,000,353	6,354,475	6,939,643
8	73,415,185	6,291,411	7,175,803
9	72,530,793	6,198,160	7,485,957
10	71,242,996	6,068,694	7,794,028
11	69,517,662	5,901,678	8,060,554
12	67,358,786	5,696,857	8,299,522
13	64,756,121	5,454,440	8,485,246
14	61,725,315	5,170,992	8,727,690
15	58,168,617	4,844,805	8,865,890
16	54,147,532	4,480,263	8,925,945
17	49,701,850	4,074,190	9,061,337
18	44,714,703	3,621,505	9,148,577
19	39,187,631	3,119,053	9,262,490
20	33,044,194	2,560,695	9,386,244
21	26,218,645	1,940,997	9,508,865
22	18,650,777	1,250,993	9,710,899
23	10,190,871	485,151	9,811,961
24	864,061		9,958,392



Accrued/(Prepaid) Position

1.	Accrued/(Prepaid) Position 10/01/2021		(\$835,129)
2.	<u>Costs</u>		
	Minimum Required City Contribution (2021/2022 Plan Year)	\$3,334,160	
	State Contribution	\$200,000	
	Interest to September 30, 2022	\$0	
	Total Costs with Interest		\$3,534,160
3.	Contributions		
	City Biweekly Contributions	(\$3,334,160)	
	State Contribution September 30, 2022	(\$200,000)	
	Interest to September 30, 2021	\$12,149	
	Total Contributions with Interest		(\$3,522,011)
4.	Interest on Beginning of Year Amount		(\$58,459)
5.	Accrued/(Prepaid) Position 10/01/2022		(\$881,439)



Determination of COLA Fund Assets

	September 30, 2022
COLA Fund Assets, beginning of Prior Year	\$7,868,177
Distributions	(\$179,075)
Investment Return	(\$1,167,834)
Asset Transfers	\$0
Member Contributions	\$41,227
State Contribution Allocation	\$207,359
COLA Fund Assets, beginning of current year	\$6,769,854

