CITY OF TAMPA
GENERAL EMPLOYEES' PENSION PLAN

ACTUARIAL VALUATION
AS OF OCTOBER 1, 2021

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2023

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

May 12, 2022

Board of Trustees
City of Tampa
General Employees' Pension Plan

Re: City of Tampa General Employees' Pension Plan

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Tampa General Employees' Pension Plan. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Chapter 112, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of its liabilities. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuations, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the City of Tampa, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

Additionally, we used third-party software to model (calculate) the underlying liabilities and costs. These results are reviewed in the aggregate and for individual sample lives. The output from the software is either used directly or input into internally developed models that apply the funding rules to generate the results. All internally developed models are reviewed as part of the valuation process. As a result of this review, we believe that the models have produced reasonable results. We do not believe there are any material inconsistencies among assumptions or unreasonable output produced due to the aggregation of assumptions.

Please note that we have relied upon actuarial reports provided by Aon for all historical information prior to January 1, 2019. We have not verified and cannot certify to the accuracy of this information.

The undersigned are familiar with the immediate and long-term aspects of pension valuations, and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Tampa, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the General Employees' Pension Plan. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By: ______________________________

Joseph Griffin, ASA, EA, MAAA
Enrolled Actuary #20-6938

Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Tampa General Employees' Pension Plan ("Plan"), performed as of October 1, 2021, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2023.

The contribution requirements, compared with those set forth in the October 1, 2020 actuarial valuation report, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2021 9/30/2023	10/1/2020 9/30/2022
Minimum Required Contribution		
% of Projected Annual Payroll	13.0%	12.7%
Member Contributions (Est.)		
% of Projected Annual Payroll	0.0%	0.0%
City Required Contribution		
% of Projected Annual Payroll	13.0%	12.7%

As displayed above, the Minimum Required Contribution reflects an increase compared to the results determined in the October 1, 2020 actuarial valuation report. The increase is attributable to a decrease in an assumed rate of investment return from 7.50% to 7.25%, resulting in an increase in the actuarial accrued liability by $23.0 million. The increase was offset by a net actuarial gain of $23.6 million. This gain was mainly attributable to an investment return of 9.88% on an Actuarial Asset Basis which exceeded the 7.50% assumption, and higher inactive mortality than expected.

CHANGES SINCE PRIOR VALUATION

Plan Changes

There have been no changes in benefits since the prior valuation.

Actuarial Assumption/Method Changes

The investment return assumption was decreased from 7.50% to 7.25% per year compounded annually, net of investment expenses.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Assump 10/1/2021	Old Assump 10/1/2021	10/1/2020
A. Participant Data			
Actives	2,524	2,524	2,571
Service Retirees	1,629	1,629	1,601
DROP Retirees	179	179	175
Beneficiaries	484	484	479
Disability Retirees	76	76	80
Terminated Vested	618	618	626
Total	5,510	5,510	5,532
Total Annual Payroll	$175,987,704	$175,987,704	$172,684,981
Payroll Under Assumed Ret. Age	175,012,505	175,012,505	171,747,575
Annual Rate of Payments to:			
Service Retirees	41,211,516	41,211,516	40,719,235
DROP Retirees	4,153,525	4,153,525	3,922,480
Beneficiaries	7,200,915	7,200,915	6,744,663
Disability Retirees	1,130,240	1,130,240	1,143,919
Terminated Vested	6,016,193	6,016,193	5,520,874
B. Assets			
Actuarial Value (AVA) [1]	797,524,134	797,524,134	757,720,855
Market Value (MVA) [1]	860,399,903	860,399,903	741,084,321
C. Liabilities			
Present Value of Benefits			
Actives			
Retirement Benefits	314,200,462	300,114,622	293,906,326
Disability Benefits	16,321,340	15,626,563	15,380,229
Death Benefits	3,555,270	3,438,691	3,424,960
Vested Benefits	20,007,917	18,607,991	18,326,574
Service Retirees	450,041,662	441,068,489	441,789,818
DROP Retirees [1]	63,398,287	62,189,726	60,164,645
Beneficiaries	64,925,260	63,747,308	58,866,567
Disability Retirees	11,460,479	11,229,206	11,469,891
Terminated Vested	45,757,521	44,012,741	41,670,897
Total	989,668,198	960,035,337	944,999,907

C. Liabilities - (Continued)	New Assump 10/1/2021	Old Assump 10/1/2021	10/1/2020
Present Value of Future Salaries	1,357,798,281	1,337,567,054	1,321,052,661
Present Value of Future Member Contributions	16,660	16,643	33,635
Normal Cost (Retirement)	8,904,224	8,373,771	8,154,441
Normal Cost (Disability)	627,618	595,624	583,859
Normal Cost (Death)	170,598	164,819	165,445
Normal Cost (Vesting)	1,608,474	1,495,294	1,473,651
Total Normal Cost	11,310,914	10,629,508	10,377,396
Present Value of Future Normal Costs	84,599,180	77,986,513	76,559,826
Accrued Liability (Retirement)	249,664,804	240,587,900	235,584,210
Accrued Liability (Disability)	11,280,703	10,928,606	10,749,223
Accrued Liability (Death)	2,282,745	2,229,645	2,205,557
Accrued Liability (Vesting)	6,257,557	6,055,203	5,939,273
Accrued Liability (Inactives) [1]	635,583,209	622,247,470	613,961,818
Total Actuarial Accrued Liability (EAN AL)	905,069,018	882,048,824	868,440,081
Unfunded Actuarial Accrued Liability (UAAL)	107,544,884	84,524,690	110,719,226
Funded Ratio (AVA / EAN AL)	88.1%	90.4%	87.3%

D. Actuarial Present Value of Accrued Benefits

	New Assump 10/1/2021	Old Assump 10/1/2021	10/1/2020
Vested Accrued Benefits			
Inactives [1]	635,583,209	622,247,470	613,961,818
Actives	178,840,693	172,233,831	167,732,227
Member Contributions	284,782	284,782	505,183
Total	814,708,684	794,766,083	782,199,228
Non-vested Accrued Benefits	8,826,022	8,543,958	7,823,170
Total Present Value Accrued Benefits (PVAB)	823,534,706	803,310,041	790,022,398
Funded Ratio (MVA / PVAB)	104.5%	107.1%	93.8%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	20,224,665	0	
Plan Experience	0	9,557,668	
Benefits Paid	0	(53,514,896)	
Interest	0	57,244,871	
Other	0	0	
Total	20,224,665	13,287,643	

	New Assump	Old Assump	
Valuation Date	10/1/2021	10/1/2021	10/1/2020
Applicable to Fiscal Year Ending	9/30/2023	9/30/2023	9/30/2022
E. Pension Cost			
Normal Cost (with interest)			
% of Total Annual Payroll [2]	6.7	6.3	6.3
Administrative Expenses (with interest)			
% of Total Annual Payroll [2]	0.3	0.3	0.2
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 25 years (as of 10/1/2021, with interest)			
% of Total Annual Payroll [2]	6.0	5.0	6.2
Minimum Required Contribution			
% of Total Annual Payroll [2]	13.0	11.6	12.7
Expected Member Contributions			
% of Total Annual Payroll [2]	0.0	0.0	0.0
Expected City Contribution			
% of Total Annual Payroll [2]	13.0	11.6	12.7
F. Past Contributions			
Plan Years Ending:	9/30/2021		
Total Required Contribution	19,513,690		
City Requirement	19,492,760		
Actual Contributions Made:			
Members (excluding buyback)	20,930		
City	21,601,345		
Total	21,622,275		
G. Net Actuarial (Gain)/Loss	(23,587,248)		

[1] The asset values and liabilities include accumulated DROP Plan Balances as of 9/30/2021 and 9/30/2020.

[2] Contributions developed as of 10/1/2021 are expressed as a percentage of total annual payroll at 10/1/2021 of $175,012,505.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

Year	Projected Unfunded Actuarial Accrued Liability
2021	107,544,884
2022	104,460,776
2023	101,680,497
2029	84,331,811
2035	59,023,602
2040	28,099,819
2046	0

I. (i) 5 Year Comparison of Actual and Assumed Salary Increases

		Actual	Assumed
Year Ended	9/30/2021	5.85%	4.63%
Year Ended	9/30/2020	9.55%	4.62%
Year Ended	9/30/2019	11.19%	4.63%
Year Ended	12/31/2018	5.61%	4.67%
Year Ended	12/31/2017	6.10%	

(ii) 5 Year Comparison of Investment Return on Market Value and Actuarial Value

		Market Value	Actuarial Value	Assumed
Year Ended	9/30/2021	21.09%	9.88%	7.50%
Year Ended	9/30/2020	8.58%	7.53%	7.65%
Year Ended	9/30/2019	12.35%	9.25%	7.80%
Year Ended	12/31/2018	-4.31%	4.86%	7.90%
Year Ended	12/31/2017	17.50%	8.50%	8.00%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2021	$175,012,505
	1/1/2012	131,047,239
(b) Total Increase		33.55%
(c) Number of Years		9.75
(d) Average Annual Rate		3.01%

STATEMENT BY ENROLLED ACTUARY

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

Joseph L. Griffin, ASA, EA, MAAA
Enrolled Actuary #20-6938

Please let us know when the report is approved by the Board and unless otherwise directed we will provide a copy of the report to the following office to comply with Chapter 112, Florida Statutes:

Mr. Keith Brinkman
Bureau of Local
Retirement Systems
Post Office Box 9000
Tallahassee, FL 32315-9000

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

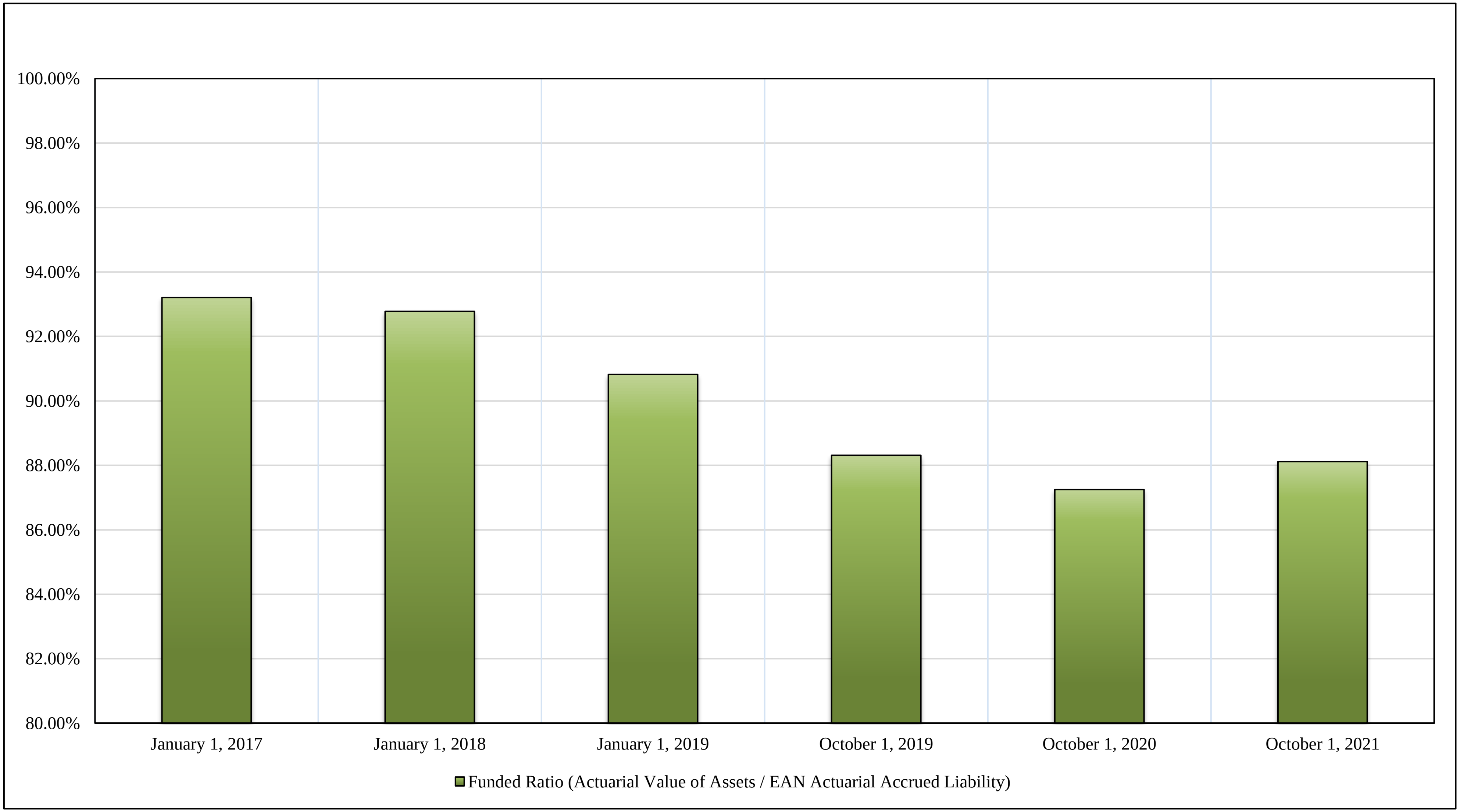
(1)	Unfunded Actuarial Accrued Liability as of October 1, 2020	$110,719,226
(2)	Sponsor Normal Cost developed as of October 1, 2020	10,356,466
(3)	Expected administrative expenses for the year ended September 30, 2021	353,117
(4)	Expected interest on (1), (2) and (3)	9,093,919
(5)	Sponsor contributions to the System during the year ended September 30, 2021	21,601,345
(6)	Expected interest on (5)	809,445
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2021 (1)+(2)+(3)+(4)-(5)-(6)	108,111,938
(8)	Change to UAAL due to Assumption Change	23,020,194
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(23,587,248)
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2021	107,544,884

Type of Base	Date Established	Years Remaining	10/1/2021 Amount	Amortization Amount
Benefit Change	1/1/2005	1.1566	674,483	586,324
Benefit Change	1/1/2006	3.25	1,746,838	580,389
Asmp/Mthd Change	1/1/2019	22	75,187,509	6,469,852
Actuarial Loss	10/1/2019	23	2,649,526	223,860
Assump Change	10/1/2019	23	12,294,847	1,038,800
Actuarial Loss	10/1/2020	24	2,719,681	225,971
Assump Change	10/1/2020	24	12,839,054	1,066,761
Actuarial Gain	10/1/2021	25	(23,587,248)	(1,929,908)
Assump Change	10/1/2021	25	23,020,194	1,883,511
			107,544,884	10,145,560

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1)	Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2020	$110,719,226
(2)	Expected UAAL as of October 1, 2021	108,111,938
(3)	Summary of Actuarial (Gain)/Loss, by component:	
	Investment Return (Actuarial Asset Basis)	(17,654,416)
	Salary Increases	23,968
	Active Decrements	4,063,713
	Inactive Mortality	(11,344,771)
	Other	1,324,258
	Increase in UAAL due to (Gain)/Loss	(23,587,248)
	Assumption Changes	23,020,194
(4)	Actual UAAL as of October 1, 2021	$107,544,884

HISTORY OF FUNDING PROGRESS



ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate	*Healthy Active Lives:* **Female:** PubG.H-2010 (Above Median) for Employees. **Male:** PubG.H-2010 for Employees, set back one year. *Healthy Retiree Lives:* **Female:** PubG.H-2010 for Healthy Retirees. **Male:** PubG.H-2010 for Healthy Retirees, set back one year. *Beneficiary Lives:* **Female:** PubG.H-2010 for Healthy Retirees. **Male:** PubG.H-2010 for Healthy Retirees, set back one year. *Disabled Lives:* PubG.H-2010 for Disabled Retirees, set forward three years. All rates are projected generationally with Mortality Improvement Scale MP-2018. This assumption sufficiently accommodates future mortality improvements. The previously described mortality assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2021 FRS valuation report for non-special-risk employees, with appropriate adjustments made based on plan demographics.
Interest Rate	7.25% (prior year 7.50%) per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.
Administrative Expenses	$446,501 annually, based on the average of actual expenses incurred in the prior two fiscal years, excluding one-time implementation expenses for the new administration system.
Inflation	2.50% annually.
Marital Assumptions	70% of active males and 55% of active females are assumed to be married, with males 3 years older than females. To reflect the impact of remarriage, Division A members are valued assuming a 73.63% survivor annuity for active, vested terminated, retired and disabled participants, and 99.16% of the actual monthly benefit for beneficiaries currently in receipt.

ACTUARIAL ASSUMPTIONS AND METHODS (CONTINUED)

Salary Increases

Rates of salary increases are shown below. The assumed salary increase rates are supported by an actuarial experience study dated September 10, 2018.

Age	Salary Increase	Age	Salary Increase
< 20	10.0%	45-49	4.5%
20-24	9.0	50-54	4.0
25-29	8.0	55-59	3.5
30-34	7.0	60-64	3.0
35-39	6.0	65+	2.5
40-44	5.0		

Retirement Rates

Rates of retirement are shown below. The assumed rates of retirement for Division B are based on an actuarial experience study dated September 10, 2018.

Division A:

Age	Retirement Rates	Age	Retirement Rates
55	95%	61	70%
56	85	62	90
57	40	63	10
58	50	64	10
59	20	65	70
60	60	66+	100

Division B:

Age	Retirement Rates	Age	Retirement Rates
55	7.0%	62	50%
56-58	4.0	63-65	35
59-60	10.0	66	45
61	25	67-69	30
		70+	100

Terminated vested participants are assumed to retire at age 62.

Disability Rates

Sample rates of disability are shown below. The assumed rates of disability are based on an actuarial experience study dated September 1, 2018. (Current rates are 75% of previous rates at every age)

Age	Disability Rates	Age	Disability Rates
20	0.0675%	50	0.2475%
25	0.0750	55	0.435
30	0.0825	60	0.885
35	0.0900	65	1.785
40	0.1125	70	3.225
45	0.1613	75	3.225

ACTUARIAL ASSUMPTIONS AND METHODS (CONTINUED)

Termination Rates

Rates of termination are shown below. The assumed rates of termination are based on an actuarial experience study dated September 10, 2018.

Years of Service	**Termination Rates**
0-3	15.0%
4	8.0
5-8	6.5
9-11	5.0
12-20	4.0
21-24	3.0
25+	2.0

Payroll Growth

Not Applicable. Unfunded liabilities are amortized on a level dollar basis.

Funding Method

Entry Age Normal Actuarial Cost Method (previously Frozen Initial Liability).

Actuarial Asset Method

Assets are smoothed by recognizing investment gains or losses ratably over a five-year period. The investment gain or loss is determined based on the difference between the actual investment return for the year and the expected investment return by applying the assumed rate of return to the beginning of year market value of assets and cash flows during the year. The resulting asset value is constrained to no less than 80% nor greater than 120% of the market value of assets.

Amortization Periods

Changes in unfunded liability are amortized on a level dollar basis over 25 years. Outstanding bases established for benefit improvements (under the Frozen Initial Liability method) are continued to be amortized under the existing schedule as of January 1, 2018.

GLOSSARY

Actuarial Value of Assets is the asset value used in the valuation to determine contribution requirements. It represents the plan's Market Value of Assets (see below), with adjustments according to the plan's Actuarial Asset Method. These adjustments produce a "smoothed" value that is likely to be less volatile from year to year than the Market Value of Assets.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

(a) The normal cost accrual rate equals:

(i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by

(ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.

(b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.

(c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.

(d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

Market Value of Assets is the fair market value of plan assets as of the valuation date. This amount may be adjusted to produce an Actuarial Value of Assets for plan funding purposes.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded. Under the Entry Age Normal cost method, it is determined for each participant as the present value of future benefits, determined as of the Member's entry age, amortized as a level percentage of compensation over the anticipated number of years of participation, determined as of the entry age.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current plan participants.

Total Annual Payroll is the projected annual rate of pay for the fiscal year beginning on the valuation date of all covered Members.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over no more than 30 years. The required amount is adjusted for interest according to the timing of contributions during the year.

Unfunded Actuarial Accrued Liability (UAAL) is the difference between the actuarial accrued liability (described above) and the Actuarial Value of Assets. Under the Entry Age Normal Actuarial Cost Method, an actuarial gain or loss, based on actual versus expected UAAL, is determined in conjunction with each valuation of the plan.

DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined using various actuarial assumptions. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

1. Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.

2. Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.

3. Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

4. Contribution risk***:*** Risks associated with items 1 and 2 above will inherently create varying liabilities and assets resulting in volatility in contribution requirements. Actuarial losses on assets and liabilities will lead to higher contribution amounts, while actuarial gains on assets and liabilities will lead to lower contribution amounts. It should be noted that investment risk is generally a greater risk to most plans than demographic risk. Prolonged periods of investment performance below the assumed rate of return can result in a decrease in funded status (i.e. increases unfunded liabilities) and an increase in contributions required in future years.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, closed plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature closed plans with a substantial inactive liability. Similarly, mature closed plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled "Plan Maturity Measures and Other Risk Metrics". Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has stayed about the same from January 1, 2019 to October 1, 2021, indicating that the plan's maturity level has not significantly changed during the period.

- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 70.2%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in larger increases in contribution requirements than would be needed for a less mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.

- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has decreased from 90.8% on January 1, 2019 to 88.1% on October 1, 2021. Please note that the investment rate of return assumption decreased each year over that period from 7.80% to 7.25%.

- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, stayed approximately the same from January 1, 2019 to October 1, 2021. The current Net Cash Flow Ratio of -3.9% indicates that contributions are not currently covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks in this section as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	1/1/2019	10/1/2019	10/1/2020	10/1/2021
Support Ratio				
Total Actives	2,449	2,440	2,571	2,524
Total Inactives	2,865	2,934	2,961	2,986
Actives / Inactives	85.5%	83.2%	86.8%	84.5%
Asset Volatility Ratio				
Market Value of Assets (MVA)	677,298,665	715,148,873	741,084,321	860,399,903
Total Annual Payroll	147,518,672	158,847,890	172,684,981	175,987,704
MVA / Total Annual Payroll	459.1%	450.2%	429.2%	488.9%
Accrued Liability (AL) Ratio				
Inactive Accrued Liability	578,899,154	596,815,633	613,961,818	635,583,209
Total Accrued Liability (EAN) [1]	800,704,154	835,004,594	868,440,081	905,069,018
Inactive AL / Total AL	72.3%	71.5%	70.7%	70.2%
Funded Ratio				
Actuarial Value of Assets (AVA)	727,228,822	737,407,356	757,720,855	797,524,134
Total Accrued Liability (EAN)	800,704,154	835,004,594	868,440,081	905,069,018
AVA / Total Accrued Liability (EAN)	90.8%	88.3%	87.3%	88.1%
Net Cash Flow Ratio				
Net Cash Flow [2]	(30,333,112)	(22,941,353)	(32,600,392)	(33,426,700)
Market Value of Assets (MVA)	677,298,665	715,148,873	741,084,321	860,399,903
Ratio	-4.5%	-3.2%	-4.4%	-3.9%

[1] The investment rate of return assumption was 7.80%, 7.65%, 7.50%, 7.25% for 1/1/2019, 10/1/2019, 10/1/2020, and 10/1/2021, respectively.

[2] Determined as total contributions minus benefit payments and administrative expenses. For 10/1/2019, the net cash flow represents the 9 month period from 1/1/2019 to 9/30/2019.

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2021

ASSETS	MARKET VALUE
Cash and Cash Equivalents:	
Cash	408,219
Total Cash and Equivalents	408,219
Receivables:	
Accounts Receivable, Net	242,795
Investment Income	1,004,797
Total Receivable	1,247,592
Investments:	
Debt and Other Interest Bearing Investments	197,893,227
Equities	562,909,372
Real Estate Investments	99,102,981
Total Investments	859,905,580
Total Assets	861,561,391
LIABILITIES	
Payables:	
Accounts Payable	1,161,488
Total Liabilities	1,161,488
NET POSITION RESTRICTED FOR PENSIONS	860,399,903

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2021
Market Value Basis

ADDITIONS		
Contributions:		
Member	20,930	
City	21,601,345	
Total Contributions		21,622,275
Investment Income:		
Net Increase in Fair Value of Investments	152,070,324	
Interest & Dividends	9,682,888	
Less Investment Expense[1]	(2,640,272)	
Net Investment Income		159,112,940
Total Additions		180,735,215
DEDUCTIONS		
Distributions to Members:		
Benefit Payments	48,676,514	
Lump Sum DROP Distributions	4,838,382	
Refunds of Member Contributions	0	
Total Distributions		53,514,896
Administrative Expense		1,534,079
Total Deductions		55,048,975
Net Increase in Net Position		125,686,240
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		741,084,321
Prior period adjustment to match Audit BOY		(6,370,658)
End of the Year		860,399,903

[1]Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
September 30, 2021

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Gains/Losses Not Yet Recognized

Plan Year Ending	Gain/(Loss)	Amounts Not Yet Recognized by Valuation Year 2021	2022	2023	2024	2025
09/30/2017	37,811,924	0	0	0	0	0
09/30/2018	(8,622,963)	(1,724,591)	0	0	0	0
09/30/2019	(42,179,565)	(16,871,826)	(8,435,913)	0	0	0
09/30/2020	5,697,506	3,418,504	2,279,003	1,139,502	0	0
09/30/2021	97,567,103	78,053,682	58,540,261	39,026,840	19,513,419	0
Total		62,875,769	52,383,351	40,166,342	19,513,419	0

Development of Investment Gain/(Loss)

Market Value of Assets, 09/30/2020	741,084,321
Contributions Less Benefit Payments & Admin Expenses	(33,426,700)
Expected Investment Earnings	55,175,179
Actual Net Investment Earnings, including adjmt to 9/30/20 MV	152,742,282
2021 Actuarial Investment Gain/(Loss)	97,567,103

Development of Actuarial Value of Assets

(1) Market Value of Assets, 09/30/2021	860,399,903
(2) Gains/(Losses) Not Yet Recognized	62,875,769
(3) Actuarial Value of Assets, 09/30/2021, (1) - (2)	797,524,134
(A) 09/30/2020 Actuarial Assets:	757,720,855
(I) Net Investment Income:	
1. Interest and Dividends	9,682,888
2. Realized & Unrealized Gains (Losses)	145,699,666
3. Change in Actuarial Value	(79,512,303)
4. Investment Expenses	(2,640,272)
Total	73,229,979
(B) 09/30/2021 Actuarial Assets:	797,524,134
Actuarial Assets Rate of Return for the Fiscal Year Ending 09/30/2019 = 2I/(A+B-I):	9.88%
Market Value of Assets Rate of Return for the Fiscal Year Ending 09/30/2019:	21.09%
Actuarial Gain/(Loss) due to Investment Return (actuarial Asset Basis)	17,654,416
10/01/2021 Limited Actuarial Assets:	797,524,134

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
SEPTEMBER 30, 2021
Actuarial Asset Basis

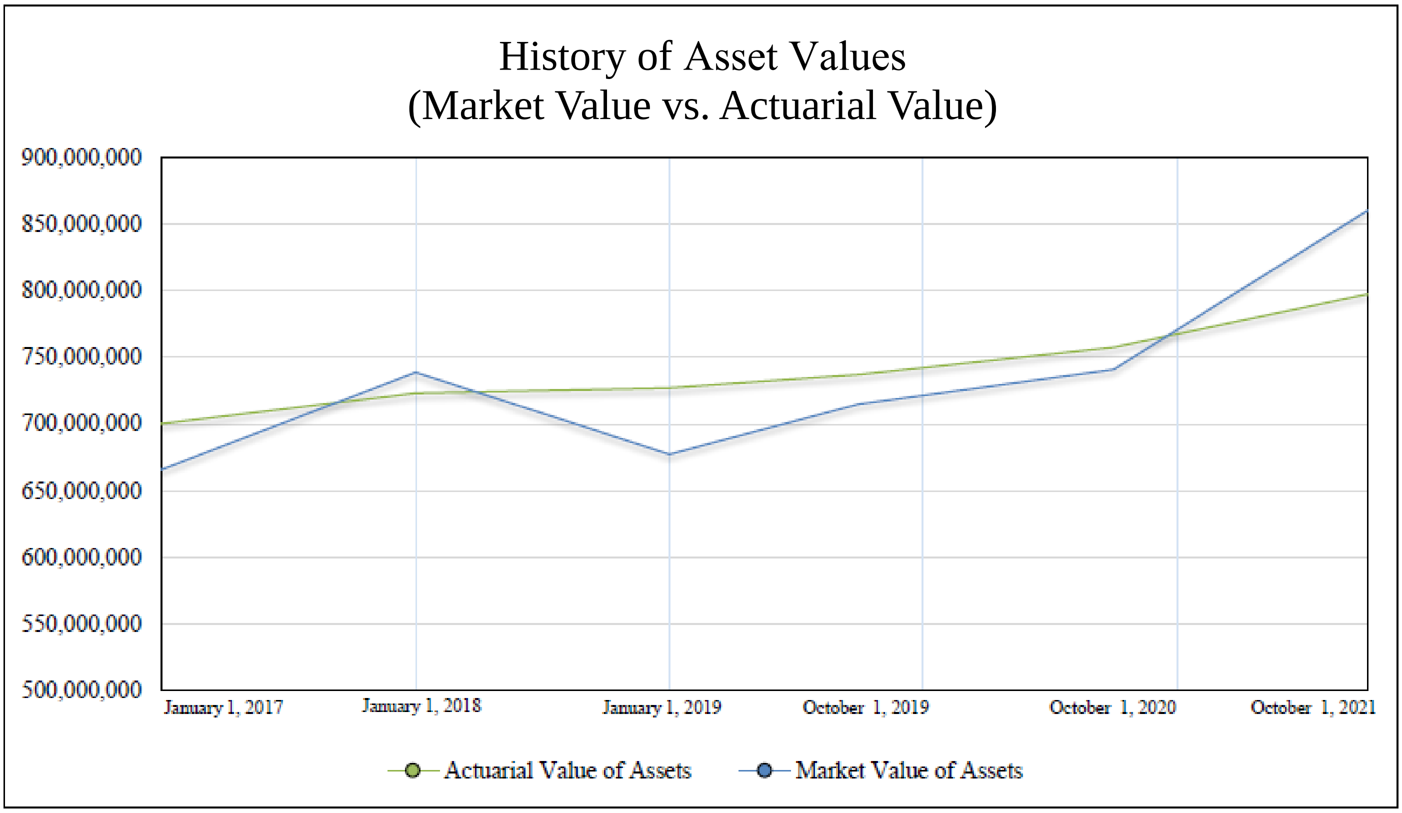
REVENUES		
Contributions:		
Member	20,930	
City	21,601,345	
Total Contributions		21,622,275
Earnings from Investments:		
Interest & Dividends	9,682,888	
Realized & Unrealized Gain (Loss)	145,699,666	
Change in Actuarial Value	(79,512,303)	
Total Earnings and Investment Gains		75,870,251
EXPENDITURES		
Distributions to Members:		
Benefit Payments	48,676,514	
Lump Sum DROP Distributions	4,838,382	
Refunds of Member Contributions	0	
Total Distributions		53,514,896
Expenses:		
Investment related[1]	2,640,272	
Administrative	1,534,079	
Total Expenses		4,174,351
Change in Net Assets for the Year		39,803,279
Net Assets Beginning of the Year		757,720,855
Net Assets End of the Year[2]		797,524,134

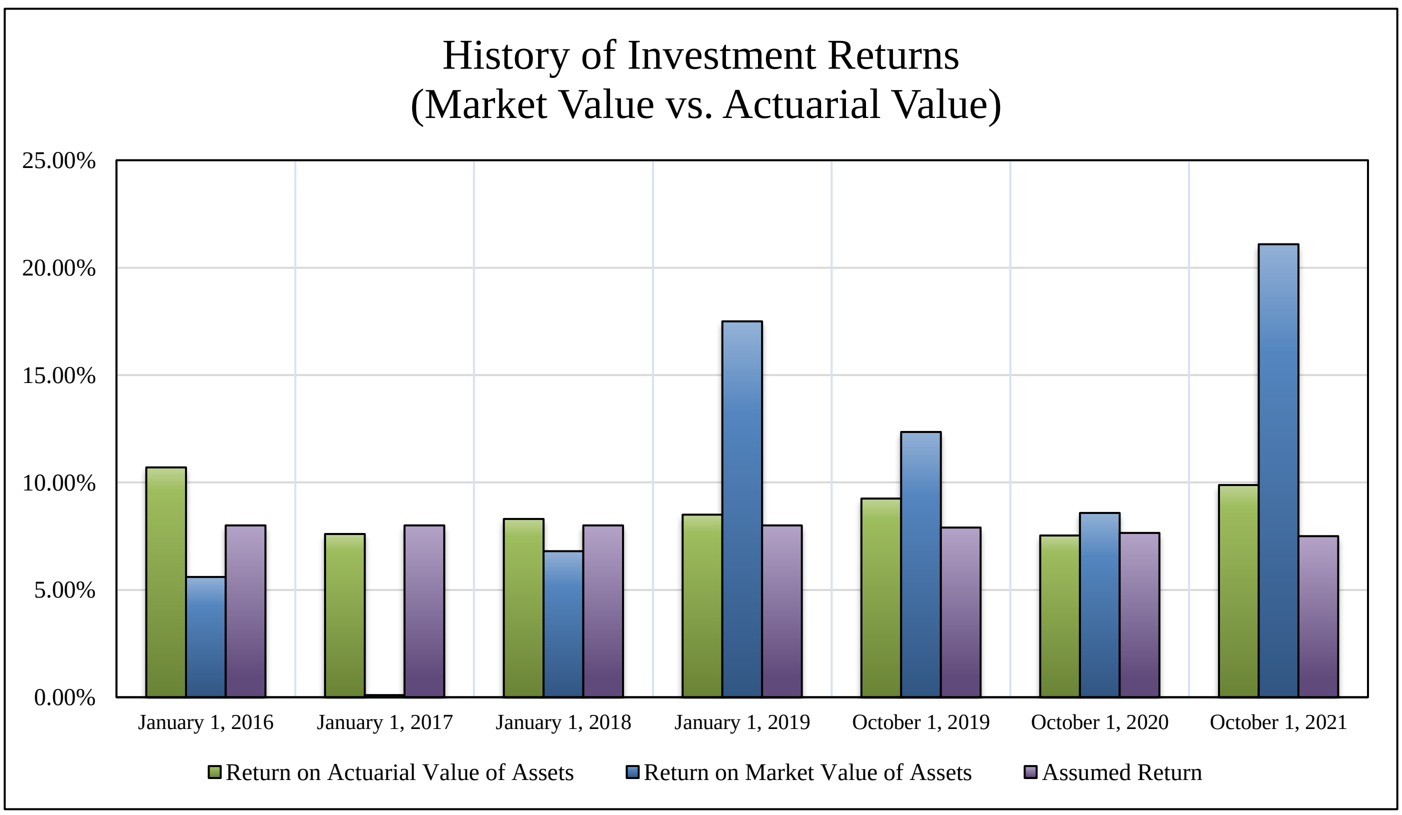
[1]Investment related expenses include investment advisory, custodial and performance monitoring fees.
[2]Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
October 1, 2020 to September 30, 2021

Beginning of the Year Balance	10,890,404.92
Plus Additions	4,098,017.81
Investment Return Earned	736,177.75
Less Distributions	(4,838,381.79)
Less Admin Fee	(3,270.00)
End of the Year Balance	10,882,948.69

HISTORY OF ASSET VALUES AND INVESTMENT RETURNS





For 10/1/2019, the return on Market Value and Actuarial Value represents the 9 month period from 1/1/2019 to 9/30/2019.

STATISTICAL DATA

	1/1/2019	10/1/2019	10/1/2020	10/1/2021
Actives				
Number	2,449	2,440	2,571	2,524
Average Current Age	46.7	46.8	46.8	47.1
Average Age at Employment	34.2	34.4	35.0	35.2
Average Past Service	12.5	12.4	11.8	11.9
Average Annual Salary	$60,236	$65,102	$67,166	$69,726
Service Retirees				
Number	1,517	1,563	1,601	1,629
Average Current Age	72.4	72.6	72.8	72.9
Average Annual Benefit	$25,353	$25,261	$25,434	$25,299
DROP Retirees				
Number	181	184	175	179
Average Current Age	64.3	64.4	64.6	64.6
Average Annual Benefit	$20,611	$21,017	$22,414	$23,204
Beneficiaries				
Number	467	480	479	484
Average Current Age	76.6	77.1	76.8	75.8
Average Annual Benefit	$13,471	$13,727	$14,081	$14,878
Disability Retirees				
Number	78	79	80	76
Average Current Age	61.5	61.7	62.4	62.8
Average Annual Benefit	$13,289	$13,500	$14,299	$14,872
Terminated Vested				
Number	622	628	626	618
Average Current Age	51.3	51.5	51.6	51.5
Average Annual Benefit	$8,552	$8,766	$8,819	$9,735

STATISTICAL DATA BY DIVISION

	Division A		Division B	
	10/1/2020	10/1/2021	10/1/2020	10/1/2021
Actives				
Number	5	3	2,566	2,521
Average Current Age	61.9	62.9	46.7	47.1
Average Age at Employment	21.6	22.1	34.9	35.2
Average Past Service	40.3	40.8	11.8	11.9
Average Annual Salary	$71,421	$83,287	$67,158	$69,710
Service Retirees [1]				
Number	641	602	960	1,027
Average Current Age	75.7	75.9	70.9	71.1
Average Annual Benefit	$42,889	$44,408	$13,778	$14,097
DROP Retirees				
Number	10	5	165	174
Average Current Age	60.7	61.4	64.9	64.7
Average Annual Benefit	$53,198	$56,192	$20,548	$22,256
Beneficiaries				
Number	318	305	161	179
Average Current Age	80.3	79.2	69.9	70.0
Average Annual Benefit	$18,396	$20,143	$5,558	$5,907
Disability Retirees				
Number	14	12	66	64
Average Current Age	74.3	74.1	59.8	60.7
Average Annual Benefit	$23,086	$26,279	$12,435	$12,733
Terminated Vested [2]				
Number	0	0	626	618
Average Current Age	N/A	N/A	51.6	51.6
Average Annual Benefit	N/A	N/A	$8,819	$9,735

[1] There are 8 retirees who are receiving Service Retiree benefits in both Division A and Division B.
[2] Includes deferred beneficaries.

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19	6											6
20 - 24	25	17	14	9	5	3						73
25 - 29	42	25	25	15	9	27	1					144
30 - 34	26	36	17	19	25	45	23	1				192
35 - 39	32	34	22	30	25	60	39	32	2			276
40 - 44	29	30	12	17	20	60	40	52	17	3		280
45 - 49	22	17	19	23	19	73	48	56	42	22		341
50 - 54	22	27	14	16	20	58	30	72	62	40	41	402
55 - 59	15	26	15	18	12	57	33	74	75	45	99	469
60 - 64	6	18	10	11	8	39	23	40	30	34	51	270
65+		1	2	2	6	9	14	16	6	4	11	71
Total	225	231	150	160	149	431	251	343	234	148	202	2,524

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2020	2,571
b. Terminations	
i. Vested (partial or full) with deferred annuity	(43)
ii. Terminated Nonvested	(152)
c. Deaths	
i. Beneficiary receiving benefits	(5)
ii. No future benefits payable	(3)
d. Disabled	(1)
e. Retired	(29)
f. DROP	(50)
g. Continuing participants	2,288
h. New entrants / rehires	236
i. Total active life participants in valuation	2,524

2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving Benefits	DROP Benefits	Receiving Death Benefits	Receiving Disability Benefits	Vested (Deferred Annuity)	Total
a. Number prior valuation	1,601	175	479	80	626	2,961
Retired	112	(46)	50		(38)	78
DROP		50				50
Vested (Deferred Annuity)			1		43	44
Hired/Terminated in Same Year						
Death, With Survivor	(41)			(3)	(1)	(45)
Death, No Survivor	(38)		(46)	(2)	(4)	(90)
Disabled				1		1
Rehires					(9)	(9)
Data Corrections	(5)				1	(4)
b. Number current valuation	1,629	179	484	76	618	2,986

SUMMARY OF CURRENT PLAN

Plan Effective Date	Created as Chapter 23559, Laws of Florida of 1945. Restated in its present form as of October 1, 1981. Summary includes all amendments through Chapter 2013-253, Special Act of 2013
Plan Year	October 1 to September 30
Eligibility	Full-time, part-time, or temporary employees who have taken the required physical exam. Elective officers, department heads, and appointive officers eligible to participate in the Plan. Division A covers those hired before October 1, 1981. Division B covers employees hired on or after October 1, 1981 or former Division A employees who made an election to participate in Division B
Salaries	Salaries shall equal the base amounts earned plus regular longevity bonuses, overtime, and shift premiums. Salaries shall also include elective amounts that are excludible from the Employee's gross income under Sections 125, 403(b), 457, and 132(f)(4) of the Internal Revenue Code. Salaries shall exclude other premiums, other than shift premiums, allowances, special payments, or any casual nonrecurring or unpredictable bonuses; payments for unused accrued bona fide sick, vacation, or other leave; payments received by an Employee pursuant to a nonqualified unfunded deferred salary plan; and severance pay that is paid after an Employee severs employment with the City (provided it was not earned by the severance date).
Member Contributions	Division A: 7.0% of Salaries Division B: None
Continuous Service	Continuous Service ("Service") is unbroken service by an employee credited in completed months. Temporary interruptions due to Military Service, illness or involuntary severance through no fault of the employee, provided the employee is reinstated, shall not be deemed to be breaks in service. Certain time spent on authorized leave of absence shall be recognized. Military service for up to five years, or as required by the Uniformed Services Employee and Re-Employment Rights Act may be counted as years of Service.
Average Monthly Salary ("AMS")	The average of an employee's salary for the highest three (3) of the last six (6) years of Service, divided by twelve (12).

SUMMARY OF CURRENT PLAN (CONTINUED)

<u>Accrued Pension</u>	Division A: 2.0% of AMS times years of Service plus an additional 0.5% of AMS times years of Service in excess of 15 years, for years after January 1, 1975, with a maximum of 30 years of Service. Division B: 1.2% of AMS times years of Service.
<u>Vesting</u>	
Schedule	100% after six (6) years of Service.
Benefit Amount	Accrued Pension payable at Normal Retirement Date, provided no refund of contributions occurred for a Division A member.
Refund of Contributions	Division A members who terminate with less than six (6) years of Service are eligible for refund of employee contributions without interest.
<u>Retirement – Division A</u>	
Normal Retirement Date	Attainment of age fifty-five (55) and completion of at least six (6) years of Service.
Normal Retirement Benefit	Accrued Pension.
Early Retirement Date	None.
Cost-of-Living Adjustment (“COLA”)	2.2% commencing January 1st for each retiree or beneficiary (whether attributable to retirement, termination, death, or disability benefits)
<u>Retirement – Division B</u>	
Normal Retirement Date	Attainment of age sixty-two (62) and completion of at least six (6) years of Service.
Normal Retirement Benefit	Accrued Pension.
Early Retirement Date	Attainment of age fifty-five (55) and completion of at least six (6) years of Service.
Early Retirement Benefit	Accrued Pension reduced 5/12 of 1.0% for each month the Early Retirement date precedes the Normal Retirement date.
Cost-of-Living Adjustment	1.2% commencing January 1st for each retiree or beneficiary (whether attributable to retirement, termination, death, or disability benefits)
<u>Disability</u>	
Eligibility	Total and permanent disability after the completion of at least six (6) years of Service. DROP members are not eligible for disability benefits.
Benefit	Accrued Pension, payable immediately.

SUMMARY OF CURRENT PLAN (CONTINUED)

Death Benefits – Division A

Post-Retirement Death	The following benefits are payable: 1. Spouse shall receive monthly benefit of 75% of the member's Accrued Pension. The benefit ceases upon death of the spouse and reduces to 50% of the member's benefit upon remarriage of spouse. 2. Dependent children under 18 shall receive $100 a month until marriage or the attainment of age 18. Total benefit payable to spouse and children shall not exceed the amount of the member's Accrued Pension. 3. If there is no spouse or dependent children, dependent parents, who are solely dependent on the earnings of the member, shall receive spouse's benefit until their death or withdraw employee contributions in lieu of the monthly benefit. 4. Orphaned children under 18 shall receive monthly benefit of 75% of the member's Accrued Pension until marriage or the attainment of age 18. 5. If a member dies and is not survived by a spouse, children, or dependent parents, the excess, if any, of member's total contributions without interest over total benefits received until death shall be paid in a lump sum to the legal heirs.
Pre-Retirement Death Benefits	
Active Non-Vested Death	The full amount of the contributions without interest shall be paid to the legal heirs.
Active Vested Death	The spouse, children, or dependent parents of an active vested member who dies shall receive the immediate survivor annuity payable as of the date of death as if the death occurred under the Post-Retirement Death section above. If the member is not survived by a spouse, children, or dependent parents, the full amount of contributions without interest shall be paid to the legal heirs.
Terminated Vested Death	The death benefits, as described in the Post-Retirement Death section above, is payable on or after the date the member would have attained age fifty-five (55).

SUMMARY OF CURRENT PLAN (CONTINUED)

Death Benefits – Division B

Post-Retirement	Spouse shall receive monthly benefit of 50% of the member's benefit.
Pre-Retirement Death Benefits	
Active Vested Death	A lump sum equal to member's annual salary is paid to the legal heirs. Additionally, a surviving spouse shall receive a monthly benefit equal to 50% of the member's Accrued Pension payable at the member's normal or early retirement date.
Terminated Vested	Upon death of terminated vested member, a surviving spouse shall receive a monthly benefit equal to 50% of the member's Accrued Pension payable at the date the member would have attained age sixty-two (62).

Deferred Retirement Option Plan ("DROP")

Eligibility	Attainment of age fifty-five (55) and completion of at least six (6) years of Service .
Participation	A maximum of 7 years.
DROP Accrued Benefit	Accrued Pension calculated as of the date of entry into DROP.
Balance Accumulation	Member's accrued monthly normal or early retirement pension, calculated at the beginning of the DROP period, accumulated with interest (positive of negative), including annual COLAs, less the cost of administering the DROP program.
Rate of Return	Members elect to have interest accumulate annually during the DROP calculation period at either: 1. Rate reflecting the Fund's net investment performance, as determined by the Board of Trustees, or 2. Rate reflective of low risk variable rate selected annually by the Board of Trustees, in its sole discretion.