



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

October 1, 2020 | Actuarial Valuation Report

Actuarial Certification	2
Executive Summary	4
Summary Results	4
Changes Since Prior Valuation and Key Notes	5
Five Year Valuation History	6
Plan Maturity Measures	7
Identification of Key Risks	8
Assets and Liabilities	9
Present Value of Future Benefits	9
Asset Information	10
Reconciliation of Gain/Loss	12
Contribution Requirements	13
Development of Recommended Contribution	13
Demographic Information	14
Participant Reconciliation	16
Plan Provisions	18
Actuarial Assumptions	25
Other Measurements	29
Market Value Reconciliation	30
Membership and Benefits Cost-of-Living Adjustment Account Summary	31
Investment Results	32
Florida State Requirements	34
Contribution Stabilization Trust	46

At the request of the plan sponsor, this report summarizes the City of Miami Fire Fighters' and Police Officers' Retirement Trust as of October 1, 2020. The purpose of this report is to communicate the following results of the valuation:

- Determine Funded Status; and
- Determine Recommended Contribution for the fiscal year October 1, 2021 through September 30, 2022.

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

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

The actuarial assumptions and methods were chosen by the Board. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period);
and
- changes in plan provisions or applicable law.

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

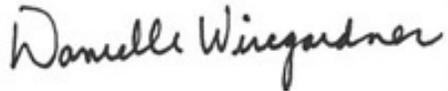
This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable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

With respect to reporting standards for defined benefit retirement plans or systems contained in Section 112.664(1), F.S., the actuarial disclosures required under this section were prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, meet the requirements of Section 112.664 (1), Florida Statutes, and Rule 60T-1.0035, Florida Administrative Code.

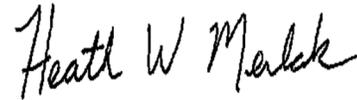
Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the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

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

Nyhart



Danielle Winegardner, FSA, EA, MAAA
Enrolled Actuary No. 20-08260



Heath W. Merlak, FSA, EA, MAAA
Enrolled Actuary No. 20-05967

April 15, 2021

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:

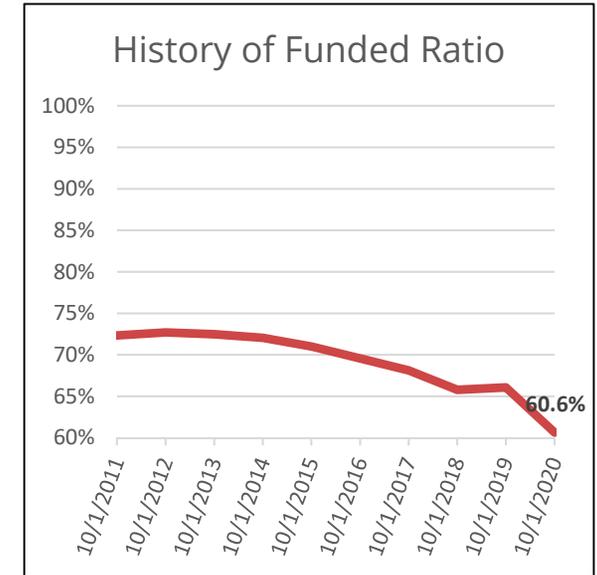
Mr. Steve Bardin
Benefits Administrator
Municipal Police Officers' &
Firefighters' Trust Funds
Division of Retirement
Post Office Box 3010
Tallahassee, FL 32315-3010

Mr. Keith Brinkman
Bureau Chief, Bureau of Local Retirement Systems
Florida Department of Management Services
Division of Retirement
Department of Management Services
P. O. Box 9000
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, 2019	October 1, 2020
Funded Status Measures		
Accrued Liability	\$1,822,559,347	\$1,940,883,223
Actuarial Value of Assets	1,189,509,806	1,176,911,870
Unfunded Accrued Liability	\$633,049,541	\$763,971,353
Funded Percentage (AVA)	65.3%	60.6%
Funded percentage (MVA)	63.0%	59.3%
Cost Measures ¹		
Recommended Contribution For Next Fiscal Year	\$62,773,727	\$65,889,915
Recommended Contribution (as a percentage of payroll)	37.4%	37.3%
Asset Performance		
Market Value of Assets (MVA)	\$1,149,117,960	\$1,150,108,084
Actuarial Value of Assets (AVA)	\$1,189,509,806	\$1,176,911,870
Actuarial Value/Market Value	103.5%	102.3%
Participant Information		
Active Participants	2,003	1,931
Terminated Vested Participants	22	27
Terminated, Due Refund	106	116
Retirees, Beneficiaries, and Disabled	2,072	2,080
DROP Participants	122	145
Total Participants	4,325	4,299
Valuation Payroll	\$168,059,448	\$176,712,600
Total Payroll	\$179,393,179	\$190,924,730



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

Changes Since Prior Valuation and Key Notes

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

The administrative expense has decreased from \$2,181,634 to \$2,137,199.

The interest rate was changed from 7.34% to 7.00% in accordance with the experience study completed January 2021. The contribution impact of this change will be phased in over three years via direct rate smoothing. This change resulted in an increase in the Accrued Liability and in the recommended contribution.

The asset valuation method was changed from the 20% write-up method to the 20% phase-in method, in which the market value of assets on the valuation date are adjusted for a 5-year phase-in of gains and losses on the fair market value of assets. This change was implemented retrospectively so that the phase-in of gains and losses starts with the gain or loss from the fiscal year ending September 30, 2017. This change resulted in a decrease in the Actuarial Value of Assets and an increase in the recommended contribution.

The retirement rates for participants vested as of 9/27/2010 and who are still eligible for the Forward DROP were changed in accordance with the experience study completed January 2021. The withdrawal and disability rates were changed for all active participants in accordance with the experience study completed January 2021. The demographic assumption changes resulted in a decrease in the Accrued Liability and in the recommended contribution.

Five Year Valuation Summary

	10/1/2016	10/1/2017	10/1/2018	10/1/2019	10/1/2020
Funding					
Accrued Liability	\$1,654,140,143	\$1,705,061,093	\$1,796,349,619	\$1,822,559,347	\$1,940,883,223
Actuarial Value of Assets	\$1,150,653,520	\$1,161,585,161	\$1,172,416,575	\$1,189,509,806	\$1,176,911,870
Unfunded Actuarial Accrued Liability	\$503,486,623	\$543,475,932	\$623,933,044	\$633,049,541	\$763,971,353
Funded Percentage	69.6%	68.1%	65.3%	65.3%	60.6%
Actual Employer Contribution ¹	\$50,591,604	\$56,030,260	\$60,633,239	TBD	TBD
Recommended Contribution	\$50,591,604	\$56,030,260	\$60,633,239	\$62,773,727	\$65,889,915
Recommended Contribution (% of Pay)	38.0%	39.6%	36.4%	37.4%	37.3%
Interest Rate	7.42%	7.42%	7.34%	7.34%	7.00%
Expense Load Assumption	\$2,086,709	\$2,128,469	\$2,210,096	\$2,181,634	\$2,137,199
Rate of Return					
Actuarial Value of Assets	6.5%	6.8%	6.7%	6.5%	6.3%
Market Value of Assets	8.4%	8.2%	6.9%	6.1%	5.7%
Demographic Information					
Active Participants	1,869	1,943	1,998	2,003	1,931
Terminated Vested Participants	15	16	15	22	27
Terminated, Due Refund	N/A	97	111	106	116
Retirees, Beneficiaries, and Disabled	2,014	2,059	2,120	2,072	2,080
DROP Participants	191	129	83	122	145
Total Participants	4,089	4,244	4,327	4,325	4,299
Covered Payroll	\$133,083,231	\$141,497,840	\$166,670,939	\$168,059,448	\$176,712,600
Average Covered Pay	\$71,206	\$72,824	\$83,419	\$83,904	\$91,514

¹ Recommended contribution is for the following fiscal year (e.g., the October 1, 2020 recommended contribution will be made in the fiscal year beginning October 1, 2021 and will be documented in the October 1, 2022 valuation report).

Plan Maturity Measures – October 1, 2020

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

Duration of Liabilities: 9.5

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

Demographic Distribution - Ratio of Actively Accruing Participants to All Participants: 44.9%

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: 15.4%

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

Benefit Payment Percentage - Ratio of Annual Benefit Payments to Market Value of Assets: 12.0%

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

Identification of Risks

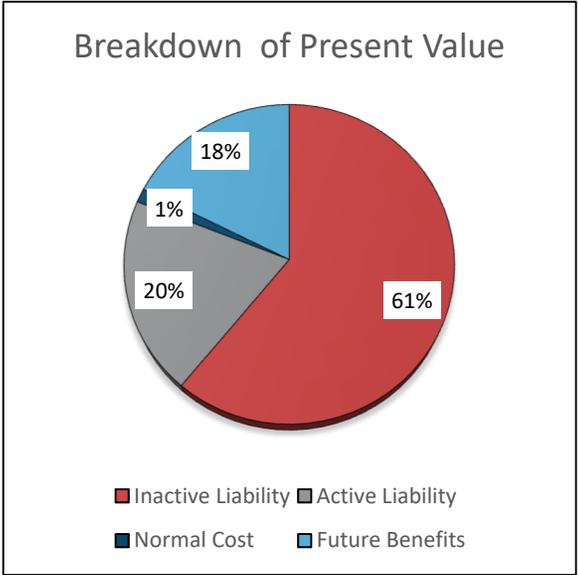
The results presented in this report are shown as single point values. However, these values are derived using assumptions about future markets and demographic behavior. If actual experience deviates from our assumptions, the actual results for the plan will consequently deviate from those presented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

Type of Risk	Method to Assess Risk
Investment Return	Scenario Testing; Asset Liability Study
Demographic	Scenario Testing
Participant Longevity	Stress Testing; Scenario Testing
Early Retirement	Stress Testing; Scenario Testing

Present Value of Future Benefits

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

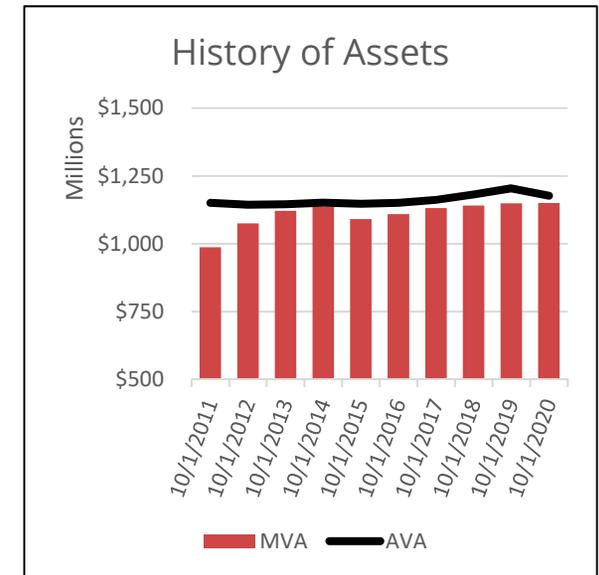
	October 1, 2020
Present Value of Future Benefits	
Active members	
Retirement	\$865,931,760
Disability	25,404,417
Death	12,530,384
Termination	28,627,156
Refund of contributions	2,686,085
Total active	\$935,179,802
Inactive members	
Retired members	\$1,205,235,070
DROP members	191,533,413
Beneficiaries	32,676,004
Disabled members	25,542,570
Terminated vested members	7,427,179
Total inactive	\$1,462,414,236
Total	\$2,397,594,038
 Present value of future payrolls	 \$2,781,538,694



Asset Information

The amount of assets backing the pension promise is 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, 2020
Market Value Reconciliation	
Market value of assets, beginning of prior year	\$1,149,117,960
Employer contributions (incl. discounted accrued items)	60,633,239
Member contributions	15,820,796
Investment income, net expenses	64,932,866
Benefit payments and refunds	(138,186,681)
Administrative expenses	(2,210,096)
Other expenses	0
Market value of asset, beginning of current year	\$1,150,108,084
Return on Market Value	5.65%
Actuarial value of assets	
Value at beginning of current year	\$1,176,911,870



Asset Information (continued)

Plan Assets are used to develop funded percentages and contribution requirements

October 1, 2020

1.	Expected market value of assets	
	(a) Market value of assets – beginning of prior year	\$1,149,117,960
	(b) City Contributions	60,633,239
	(c) Member Contributions	15,820,796
	(d) Benefits Payments and Administrative Expenses	(140,396,777)
	(e) Expected return	84,304,750
	(f) Expected market value of assets – beginning of current year	\$1,169,479,968
2.	Market value of assets – beginning of current year	\$1,150,108,084
3.	Present value of COLA transfers	
	(a) Current year	\$0
	(b) Next year	0
	(c) Total	\$0
4.	Market value net COLA transfer [(2)-(3)]	\$1,150,108,084
5.	Amount subject to phase in [(4)-(1f)]	(\$19,371,884)
6.	Phase in of asset gain/(loss)	
	(a) Current Year [80% x (\$19,371,884)]	(\$15,497,507)
	(b) First Prior Year [60% x (\$16,237,126)]	(9,742,276)
	(c) Second Prior Year [40% x (\$7,128,850)]	(2,851,540)
	(d) Third Prior Year [20% x \$6,437,685]	1,287,537
	(e) Total Phase-In	(\$26,803,786)
7.	Preliminary actuarial value of assets – beginning of current year [(1f)-(6e)]	\$1,176,911,870
8.	80% of Market value of assets	\$920,086,468
9.	120% of Market value of assets	\$1,380,129,700
10.	Adjusted actuarial value of assets	\$1,176,911,870
11.	Contribution surplus account balance	\$0
12.	Final actuarial value of assets – beginning of current year [(10)-(11)]	\$1,176,911,870
13.	Return on actuarial value of assets	6.25%

Reconciliation of Gain/Loss

October 1, 2020

Liability (gain)/loss

Present value of future benefits	\$2,231,572,700
Present value of employee contributions	(211,858,770)
Expected employee contribution	14,255,827
Benefit payments	(138,186,681)
Interest	144,311,724
Expected liability	\$2,040,094,800
Assumption change	95,992,415
Expected after changes	\$2,136,087,215
Actual liability	\$2,156,820,226
Liability (gain)/loss	\$20,733,011

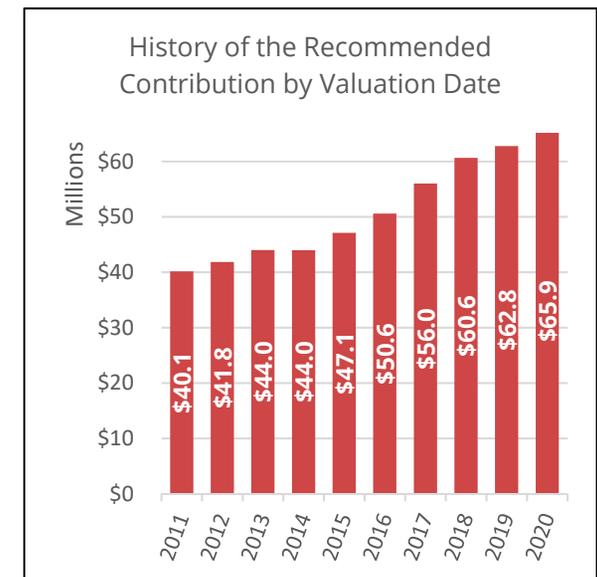
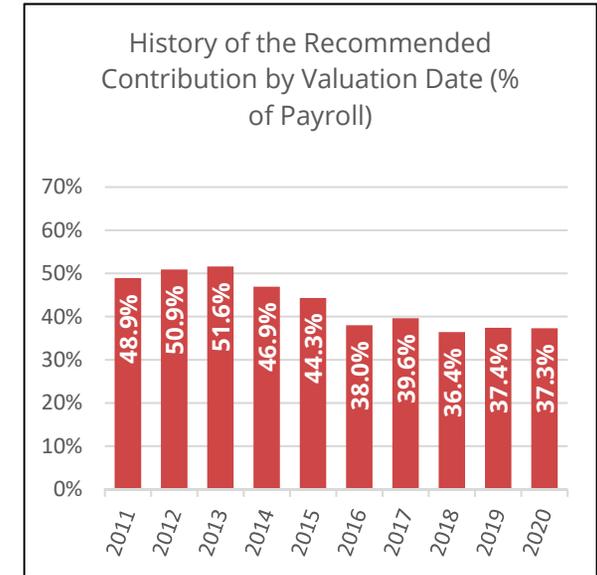
Asset (gain)/loss

Actuarial value of assets, beginning of prior year	\$1,189,509,806
Contributions	76,454,035
Benefit payments and expenses	(140,396,777)
Expected Investment return	87,269,511
Change in actuarial value of assets methodology	(23,379,007)
Expected actuarial value of assets, beginning of current year	\$1,189,457,568
Actual actuarial value of assets, beginning of current year	\$1,176,911,870
Asset (gain)/loss	\$12,545,698
Total (gain)/loss	\$33,278,709

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, 2020
1. Present value of future benefits	\$2,397,594,038
2. Actuarial value of assets	1,176,911,870
3. Present value of future member contributions	<u>240,773,812</u>
4. Present value of future normal Cost [(1)-(2)-(3)]	\$979,908,356
5. Present value of future payroll	\$2,781,538,694
6. Normal cost accrual rate [(4)/(5)]	35.23%
7. Administrative expenses	\$2,137,199
8. Valuation payroll	\$176,712,600
9. Applicable interest	7.00%
10. Normal cost	\$64,391,287
11. Interest to estimated payment date	\$4,507,390
12. Recommended contribution as of end of year at 7.00% [(10)+(11)]	\$68,898,677
13. As a percentage of valuation payroll	38.99%
14. As a percentage of total payroll	36.09%
15. Recommended contribution, prior discount rate of 7.34%	\$64,385,534
16. Recommended contribution, reflecting direct rate smoothing [(12) x (1/3) + (15) x (2/3)] ⁽¹⁾	\$65,889,915
17. As a percentage of valuation payroll	37.29%
18. As a percentage of total payroll	34.51%



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

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, 2019	October 1, 2020
Member Counts		
Active Members	2,003	1,931
Retired Members	1,684	1,706
Beneficiaries	267	258
Disabled Members	121	116
Terminated Vested Members, due a Monthly Benefit	22	27
Terminated Members, Due a Refund of Employee Contributions	106	116
DROP Members	122	145
Total	4,325	4,299
Active Participant Demographics		
Average Age	36.8	37.2
Average Service	9.8	10.1
Average Compensation	\$83,904	\$91,514
Valuation Payroll	\$168,059,448	\$176,712,600
Total Payroll	\$179,393,179	\$190,924,730



Demographic Information (continued)

	October 1, 2019	October 1, 2020
Retired Member Statistics		
Average Age	66.0	66.4
Average Monthly Benefit	\$5,624	\$5,669
Beneficiary Statistics		
Average Age	77.4	77.5
Average Monthly Benefit	\$1,208	\$1,275
Disabled Member Statistics		
Average Age	72.3	72.3
Average Monthly Benefit	\$2,020	\$2,083
Terminated Member Statistics		
Average Age	38.7	38.9
Average Monthly Benefit for Participants due Monthly Benefit	\$1,911	\$2,292
Average Remaining Contributions for Participants Due a Refund	\$8,426	\$8,635
DROP Member Statistics		
Average Age	51.4	51.4
Average Monthly Benefit	\$7,137	\$8,729
Payroll	\$11,333,731	\$14,212,130

Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	Totals
Prior Year	2,003	128	121	1,806	267	4,325
Active						
To Terminated Vested	(5)	5				
To Retired	(78)			78		
To Disabled	(1)		1			
To Refund	(9)					(9)
To Due Refund	(13)	13				
To Death						
Terminated Vested						
To Retired						
To Refund		(3)				(3)
To Active	1	(1)				
Disabled						
To Death			(6)			(6)
Retired						
To Death				(32)		(32)
Survivor						
To Death					(26)	(26)
Additions	33	1			17	51
Removed				(1)		(1)
Current Year	1,931	143	116	1,851	258	4,299

Active Participant Schedule

Active participant information grouped based on age and service.

Age Group	Years of Service										Total	Average Pay
	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		
Under 25	11	63									74	\$63,663
25 to 29	9	203	110	1							323	73,913
30 to 34	5	141	254	49	4						453	82,566
35 to 39	1	68	131	173	55	1					429	93,519
40 to 44	2	18	42	79	100	51	1				293	106,221
45 to 49		8	11	39	57	81	9				205	110,437
50 to 54		1	4	27	29	38	16	2			117	110,921
55 to 59			4	7	8	8	6				33	105,619
60 to 64		1			3						4	95,056
65 to 69											0	0
70 & up											0	0
Total	28	503	556	375	256	179	32	2	0	0	1931	91,514

Plan Status

January 1, 1994 amended January 1, 1995

Eligibility for Participation

Police officers and fire fighters.

Accrual of Benefits

The accrued benefit is determined as follows:

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

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

For all other Police Officers:

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

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

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

For all other Fire Fighters:

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

Benefits

Normal Retirement

Eligibility	Age plus Creditable Service equal to 64 (Rule of 64) for firefighters active 9/30/2009 who are eligible for Rule of 64 at 9/30/2009 and police officers who are vested at 9/27/2010. Age plus Creditable Service equal to 68 (Rule of 68) on 9/30/2010 for fire fighters vested at 9/27/2010 and not eligible for Rule of 64 at 9/30/2009. Age plus Creditable Service equal to 70 (Rule of 70) with attainment of age 50 for Firefighters and age 49 for Police Officers and 10 years of Creditable Service for all members hired on or after 10/1/2010 and police officers and fire fighters who were not eligible for the Rule of 64 or the Rule of 68 on the specified dates above.
Benefit	Unreduced Accrued Benefit payable immediately.

Early Retirement

Eligibility	Completion of 20 years of Creditable Service.
Benefit	Accrued Benefit adjusted with actuarial equivalence for early commencement.

Late Retirement

Eligibility	Participation continues after normal retirement date.
Benefit	Accrued Benefit

Ordinary Death before Retirement

Eligibility	Participant with 3 years of Creditable Service who dies off duty.
Benefit	Between 3 and 10 years of Creditable Service: Lump sum benefit equal to 50% of Compensation received in year preceding death. After 10 years of Creditable Service and before eligibility for Early Service or Rule of 64 Retirement: Accrued benefit, deferred to earlier of police officer member's 49th and firefighter member's 50th birthday or Rule of 64 eligibility, payable for 10 years.

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

If eligible for Service, Early Service, or Rule of 64 retirement, considered to have retired on the date of death. Surviving spouse would receive 40% of the member's monthly retirement allowance.

Accidental Death before Retirement

Eligibility	Member who dies during performance of duties.
Benefit	Pension of 50% of Average Final Compensation to spouse until death or remarriage. If there is no spouse, or if spouse dies or remarries before youngest child is 18, payable to child until attainment of age 18. If no spouse or no children under 18, benefit is payable to dependent parents. After 10 years of Creditable Service - Beneficiary receives benefit otherwise payable to member at early or normal retirement for a period of 10 years.

Termination Benefit

Eligibility	Fully vested after completion of 10 years of Creditable Service.
Benefit	Accrued Benefit payable at the member's Early or Normal Retirement Date. If the member terminates prior to 10 years of Creditable Service a refund of accumulated contributions with interest will be issued.

Ordinary Disability Benefit

Eligibility	Completion of 10 years of Creditable Service.
Benefit	90% of benefit rate times Average Final Compensation times Creditable Service, with a minimum benefit of 30% of Average Final Compensation. The normal form is a 10 year certain and life normal form.

Accidental Disability Benefit

Eligibility	Immediately upon permanent disability
Benefit	66 2/3% of Average Final Compensation, or 66 2/3% of Final Compensation, whichever is greater. The normal form is a 40% joint & survivor annuity, with a minimum of 10 years' certain and life.

Compensation

Earnable Compensation

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

Average Final Compensation

For members who retire or terminate employment with ten or more years of creditable service prior to 10/1/2010 or who were vested as of 9/27/2010: the annual earnable compensation of a member during either the last one year or the highest year of membership service, whichever is greater. For members not vested as of 9/27/2010, the following applies:

For members who retire on or after 10/1/2010: the Average Final Compensation shall mean the average of the highest 5 years of service, to be phased in effective 9/30/2010 over the next 4 years as follows:

For members who retire between 10/1/2010 and 9/30/2011: the average of the highest 2 years of membership service

For members who retire between 10/1/2011 and 9/30/2012: the average of the highest 3 years of membership service

For members who retire between 10/1/2012 and 9/30/2013: the average of the highest 4 years of membership service

For members who retire on or after 10/1/2013: the average of the highest 5 years of membership service.

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

Creditable Service

For Vesting and Benefit Accrual

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

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

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

Member Contributions

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

DROP

Eligibility	Election must be made within 10 years after eligibility for normal retirement. Members eligible for forward DROP as of 1/1/2013 or vested as of 1/1/2010 remain eligible for forward DROP.
Benefit	Effective 1/1/2013 members may elect the BackDROP option (maximum of 7 years). Members receive a monthly benefit based on an earlier retirement date and a lump sum of past payments compounded at 3%/year.

COLA

Eligibility	Participant or Beneficiary
Benefit	Amount varies annually with the adjustment on January 1

Payment Forms

Normal Form

For Police Officers who have reached Rule of 64 by 9/30/2010 or Fire Fighters who reached Rule of 64 by 9/30/2009 or members who were vested at 9/27/2010: Joint and 40% Contingent Survivor with a minimum 10 years Certain and Life

For Fire Fighters who have reached Rule of 68 by 9/30/2010 or members who were vested at 9/27/2010: Joint and 40% Contingent Survivor with a minimum of 10 years Certain and Life

For all others:

Benefits based on service prior to 10/1/2010: Joint and 40% Contingent Survivor with minimum of 10 years Certain and Life

Benefits based on service after 9/30/2010: 10 years Certain and Life

Optional Forms

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

Option 2 – Joint and 100% Contingent Annuity

Option 3 – Joint and 50% Contingent Annuity

Option 4 – Joint and Contingent Annuity approved by the Board

Option 5 – Determined by Board due to incapacity of member

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

Plan Provision Not Included

The COLA benefits and liabilities are not included in this report; these benefits are reported in a separate COLA report dated December 5, 2018. We are not aware of any other provisions not included in this report.

Adjustments Made for Subsequent Events

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

Changes Since Prior Report

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

Cost Method (CO)

Aggregate Cost Method.

Asset Valuation Method (CO)

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

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

Interest Rates (CO)

7.00% net of investment expenses

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

Annual Pay Increases (FE)

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

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

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

Expense and/or Contingency Loading (FE)

\$2,137,199.

Mortality Rates (CO)

Pre-Retirement: 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.

Post-Retirement: 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

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

The mortality rate assumptions were set in accordance with the Florida Retirement System Valuation report dated December 2019. The board adopted the new mortality tables for the October 1, 2019 valuation.

Retirement Rates (FE)

For participants non-vested as of 9/27/2010 and not eligible for the Forward DROP, the following decrements apply based on service.

<u>Years of Service</u>	<u>Police %</u>	<u>Fire %</u>
<20	0	0
20	10	10
21-24	3	3
25-29	40	5
30-34	50	25
35	100	25
36		25
37		100

All eligible for BackDROP retirement are assumed to elect a 5-year BackDROP when they reach five years following first retirement eligibility.

Retirement Rates (FE) (Continued)

For participants vested as of 9/27/2010 and eligible for the Forward DROP, the following decrements apply based on service.

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

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

Disability Rates (FE)

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

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

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

Withdrawal Rates (FE)

Based on Years of Creditable Service using the rates below

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

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

Marital Status and Ages

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

Compensated Absence Balance Transfers

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

Withdrawal of Employee Contributions

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

COLA

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

Changes Since Prior Report

The administrative expenses decreased to \$2,137,199.

The interest rate was changed from 7.34% to 7.00% in accordance with the experience study completed January 2021. The contribution impact of this change will be phased in over three years via direct rate smoothing.

The asset valuation method was changed from the 20% write-up method to the 20% phase-in method, in which the market value of assets on the valuation date are adjusted for a 5-year phase-in of gains and losses on the fair market value of assets. This change was implemented retrospectively so that the phase-in of gains and losses starts with the gain or loss from the fiscal year ending September 30, 2017.

The retirement rates for participants vested as of 9/27/2010 and who are still eligible for the Forward DROP were changed in accordance with the experience study completed January 2021. The withdrawal and disability rates were also changed in accordance with this experience study.

FE indicates an assumption representing an estimate of future experience.

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

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

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

- ✓ Market Value Reconciliation
- ✓ Membership and Benefits Cost-Of-Living Adjustment Account Summary
- ✓ Investment Results
- ✓ Florida State Requirements
 - Comparative Summary of Principal Valuation Results
 - Separation for Police & Fire
 - Comparison of payroll growth, salary increases and investment returns
 - Requirements under Florida Statute 112.664 and F.A.C. 60T-1.0035

Market Value Reconciliation

The amount of assets backing the pension promise is 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, 2020	
	Membership and Benefit Accounts	COLA Account
1. Market value – beginning of prior year	\$1,149,117,960	\$412,090,602
2. Book value – beginning of prior year	\$965,414,471	\$346,211,829
3. Income		
(a) City contributions	\$60,633,239	\$6,931,175
(b) Member contributions	15,820,796	0
(c) Other contributions	0	0
(d) Interest and dividends	19,130,703	6,713,833
(e) Net realized gains (losses)	135,587,006	48,390,479
(f) Securities lending income	351,747	123,653
(g) Rental and other income	201,280	70,376
(h) Income transfer	0	0
(i) Total	<u>\$231,724,771</u>	<u>\$62,229,516</u>
4. Disbursements		
(a) Benefit payments and refunds	\$138,186,681	\$26,230,313
(b) Custodial and investment expenses	4,902,955	1,735,631
(c) Administrative expense	2,210,096	0
(d) Other expense	0	0
(e) Securities lending fees	87,875	30,892
(f) Building depreciation	14,981	5,393
(g) Total	<u>\$145,402,588</u>	<u>\$28,002,229</u>
5. Book value – beginning of current year [(2)+(3i)-(4g)]	\$1,051,736,654	\$380,439,116
6. Net change in unrealized gains (losses)	(\$85,332,059)	(\$30,295,398)
7. Unrealized gains (losses)	\$98,371,430	\$35,583,375
8. Market value – beginning of current year [(1)+(3i)-(4g)+(6)]	\$1,150,108,084	\$416,022,491
9. Current year allocation to COLA II (discounted)	N/A	\$0
10. Net market value – beginning of current year	<u>\$1,150,108,084</u>	<u>\$416,022,491</u>

Membership and Benefits Cost-Of-Living Adjustment Account Summary

	September 30, 2020	
	Market	Book
1. Investments		
(a) Bill, bonds, notes	\$392,118,825	\$382,603,882
(b) Domestic stocks	514,274,743	485,797,116
(c) International stocks	306,712,000	267,639,281
(d) Private equity	183,008,109	168,604,272
(e) Money market fund and time deposit	12,195,492	8,743,460
(f) Mutual fund	126,274,230	87,240,583
(g) Real estate	2,075,138	2,075,138
(h) Securities lending adjustment	0	0
(i) Total investment	\$1,536,658,537	\$1,402,703,732
2. Cash	\$30,136,737	\$30,136,737
3. Receivables		
(a) City contributions	\$0	\$0
(b) Member contributions	0	0
(c) Accounts receivable	5,648	5,648
(d) Accrued interest and dividend	2,521,699	2,521,699
(e) Securities sold	10,945,195	10,945,195
(f) Total receivables	\$13,472,542	\$13,472,542
4. Payables:		
(a) Budget advance	\$0	\$0
(b) Accrual expense	0	0
(c) Transfer	0	0
(d) Tax withheld	0	0
(e) Accounts payable	10,759,526	10,759,526
(f) Securities purchased	3,377,715	3,377,715
(g) Total payables	\$14,137,241	\$14,137,241
5. Total [(1i)+(2)+(3f)-(4g)]	\$1,566,130,575	\$1,432,175,770
6. COLA account	\$416,022,491	\$380,439,116
7. Current year COLA	\$0	\$0
8. Membership & benefits account [(5)-(6)-(7)]	\$1,150,108,084	\$1,051,736,654

Investment Results - Membership and Benefits Accounts

September 30, 2020

<u>Membership and Benefits Accounts</u>	<u>Dollar Return</u>	<u>Market Return</u>	<u>Book Return</u>
Interest	\$11,822,307	1.0%	1.3%
Dividends	7,308,396	0.6%	0.8%
Rental and Other Income, less Depreciation	186,299	0.0%	0.0%
Realized Gains	135,587,006	11.8%	14.5%
Securities Lending (Net)	263,872	0.0%	0.0%
Increase in Unrealized Gains	(85,332,059)	(7.4%)	(9.1%)
Custodial and Investment Expenses	(4,902,955)	(0.3%)	(0.5%)
	\$64,932,866	5.7%	7.0%

Investment Results - COLA Account

September 30, 2020

COLA Accounts

	<u>Dollar Return</u>	<u>Market Return</u>	<u>Book Return</u>
Interest	\$4,139,883	1.0%	1.2%
Dividends	2,573,950	0.6%	0.8%
Rental and Other Income, less Depreciation	64,983	0.0%	0.0%
Realized Gains	48,390,479	12.0%	14.4%
Securities Lending (Net)	92,761	0.0%	0.0%
Increase in Unrealized Gains	(30,295,398)	(7.5%)	(9.0%)
Custodial and Investment Expenses	(1,735,631)	(0.3%)	(0.5%)
	\$23,231,027	5.8%	6.9%

Information to Comply with Florida 60T-1.003(4)(i)

Comparative Summary of Principal Valuation Results

	10/1/2020 7.00% (assumption & plan changes)	10/1/2020 7.34% (prior methods & assumptions)	10/1/2019 7.34%
Participant Data			
Active members	1,931	1,931	2,003
Total annual payroll	\$176,712,600	\$176,712,600	\$168,059,448
Members in DROP	145	145	122
DROP Payroll	\$14,212,130	\$14,212,130	\$11,333,731
Projected Total Payroll	\$190,924,730	\$190,924,730	\$179,393,179
Retired members and beneficiaries	1,964	1,964	1,951
Total annualized benefit	\$120,004,620	\$120,004,620	\$117,511,844
Disabled members receiving benefits	116	116	121
Total annualized benefit	\$2,899,768	\$2,899,768	\$2,932,916
Terminated vested members	143	143	128
Total annualized benefit	\$639,662	\$639,662	\$504,464
Assets			
Actuarial value of assets	\$1,176,911,870	\$1,200,290,877	\$1,189,509,806
Market value of assets	\$1,150,108,084	\$1,150,108,084	\$1,149,117,960

Information to Comply with Florida 60T-1.003(4)(i)

Comparative Summary of Principal Valuation Results (continued)

	10/1/2020 7.00% (assumption & plan changes)	10/1/2020 7.34% (prior methods & assumptions)	10/1/2019 7.34%
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$865,931,760	\$764,180,141	\$790,121,210
Vesting benefits	28,627,156	39,385,760	36,699,188
Disability benefits	25,404,417	45,228,486	41,777,104
Death benefits	12,530,384	11,878,952	11,657,697
Return of contribution	2,686,085	4,009,112	4,016,711
Total	\$935,179,802	\$864,682,451	\$884,271,910
Terminated vested members	7,427,179	7,102,359	5,249,040
Retired members and beneficiaries	1,429,444,487	1,389,544,713	1,316,879,009
Disabled members	25,542,570	24,938,389	25,172,741
Total	\$2,397,594,038	\$2,286,267,912	\$2,231,572,700
Liabilities due and unpaid	\$0	\$0	\$0
Actuarial accrued liability	N/A	N/A	N/A
Unfunded actuarial accrued liability	N/A	N/A	N/A

Information to Comply with Florida 60T-1.003(4)(i)

Comparative Summary of Principal Valuation Results (continued)

	10/1/2020 7.00% (assumption & plan changes)	10/1/2020 7.34% (prior methods & assumptions)	10/1/2019 7.34%
Actuarial present value of accrued benefits			
Statement of actuarial present value of all accrued benefits			
Vested accrued benefits			
Inactive members and beneficiaries	\$1,462,414,236	\$1,421,585,461	\$1,347,300,790
Active members	343,130,715	314,372,155	341,343,811
Total value of all vested accrued benefits	\$1,805,544,951	\$1,735,957,616	\$1,688,644,601
Non-vested accrued benefits	58,079,278	50,423,476	46,228,070
Total actuarial present value of all accrued benefits	\$1,863,624,229	\$1,786,381,092	\$1,734,872,671
Statement of changes in total actuarial present value of all accrued benefits (ASC 960)			
Actuarial present value of accrued benefits, beginning of year	\$1,734,872,671	\$1,734,872,671	\$1,701,756,265
Increase (decrease) during year			
Benefits accumulated	\$67,337,104	\$67,337,104	\$93,533,663
Plan amendment	0	0	0
Changes in actuarial assumptions	77,243,137	0	(49,421,575)
Interest	122,357,998	122,357,998	120,180,001
Benefits paid	(138,186,681)	(138,186,681)	(131,175,683)
Other changes	0	0	0
Net increase (decrease)	\$128,751,558	\$51,508,421	\$33,116,406
Actuarial present value of accrued benefits, end of year	\$1,863,624,229	\$1,786,381,092	\$1,734,872,671

Information to Comply with Florida 60T-1.003(4)(i)

Comparative Summary of Principal Valuation Results (continued)

	10/1/2020 7.00% (assumption & plan changes)	10/1/2020 7.34% (prior methods & assumptions)	10/1/2019 7.34%
Pension cost			
Normal Cost	82,057,134	80,797,378	\$78,004,958
Member contributions	16,167,219	16,167,219	\$15,231,231
Expected plan sponsor contribution	\$65,889,915	\$64,630,159	\$62,773,727
As % of payroll	37.29%	36.57%	37.35%
As % of Total Payroll	34.51%	33.85%	34.99%
Member Contributions as % of payroll	9.15%	9.15%	9.06%
Past contributions			
Required plan sponsor contribution	9/30/2020		9/30/2019
	\$60,633,239		\$56,030,260
Required member contribution	\$15,820,796		\$16,309,563
Actual contributions made by:			
Plan's sponsor	\$60,633,239		\$56,030,260
Members	\$15,820,796		\$16,309,563
Other	\$0		\$0
Net actuarial gain (loss) (if applicable)	N/A	N/A	N/A
Other disclosures (where applicable)			
Present value of active member			
Future salaries at attained age	\$2,781,538,694	\$2,618,539,150	\$2,478,236,384
Future contributions at attained age	\$240,773,812	\$225,440,101	\$211,858,770

Information to Comply with Florida 60T-1.003(4)(i)

Hypothetical City Contribution Requirement for 2020/2021 Fiscal Year

	Police	Fire	Total
Unfunded actuarial accrued liability	\$0	\$0	\$0
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$496,347,688	\$369,584,072	\$865,931,760
Vesting benefits	19,493,347	9,133,809	\$28,627,156
Disability benefits	15,740,008	9,664,409	\$25,404,417
Death benefits	6,528,448	6,001,936	\$12,530,384
Return of contribution	2,049,585	636,500	2,686,085
Total	\$540,159,076	\$395,020,726	\$935,179,802
Terminated vested members	5,559,202	1,867,977	7,427,179
Retired members and beneficiaries	815,569,061	613,875,426	1,429,444,487
Disabled members	22,718,998	2,823,572	25,542,570
Total	\$1,384,006,337	\$1,013,587,701	\$2,397,594,038
Entry age reserve			
Active	\$254,049,786	\$224,419,201	\$478,468,987
Inactive	843,847,262	618,566,974	1,462,414,236
Total	\$1,097,897,048	\$842,986,175	\$1,940,883,223
Actuarial asset value ¹	\$665,742,304	\$511,169,566	\$1,176,911,870

¹Allocated based on Entry Age Reserve

Information to Comply with Florida 60T-1.003(4)(i)

Hypothetical City Contribution Requirement for 2020/2021 Fiscal Year (continued)

	Police	Fire	Total
Normal cost			
Total present value of future benefits	\$1,384,006,337	\$1,013,587,701	\$2,397,594,038
Present value of future member contributions	(132,966,902)	(107,806,910)	(240,773,812)
Actuarial asset value	(665,742,304)	(511,169,566)	(1,176,911,870)
Present value of future normal costs	\$585,297,131	\$394,611,225	\$979,908,356
Present value of future payrolls	\$1,608,318,534	\$1,173,220,160	\$2,781,538,694
Administrative expense ¹	\$1,208,947	\$928,252	\$2,137,199
Current payroll	\$102,133,646	\$74,578,954	\$176,712,600
Interest rate	7.00%	7.00%	7.00%
Normal Cost	\$38,377,287	\$26,012,796	\$64,391,287
Interest to End of Year	\$2,686,410	\$1,820,896	\$4,507,390
Recommended contribution at end of year at 7.00%	\$41,063,697	\$27,833,692	\$68,898,677
Recommended contribution, prior discount rate of 7.34%	\$38,374,576	\$26,010,958	\$64,385,534
Recommended contribution, reflecting direct rate smoothing	\$39,270,950	\$26,618,536	\$65,889,915
As a percentage of payroll	38.45%	35.69%	37.29%
Hypothetical Total			\$65,889,486

¹Allocated based on Entry Age Reserve

Information to Comply with Florida 60T-1.003(4) (i)

Historical Salary Increases and Asset Performance

September 30, 2020

Year Ending	Payroll Growth	Salary Growth	Expected Salary Growth	Asset Return (Market)	Asset Return (Actuarial)	Asset Return (Expected)
9/30/2020	5.15%	11.24%	8.05%	5.65%	6.25%	7.34%
9/30/2019	0.83%	8.21%	7.74%	6.11%	6.48%	7.34%
9/30/2018	5.27%	7.39%	7.85%	6.90%	6.66%	7.34%
9/30/2017	6.32%	7.02%	7.85%	8.24%	6.76%	7.42%
9/30/2016	25.22%	10.46%	7.85%	8.42%	6.51%	7.42%
9/30/2015	13.42%	12.60%	7.79%	2.80%	6.18%	7.42%
9/30/2014	10.00%	1.38%	7.72%	8.60%	7.18%	7.50%
9/30/2013	3.70%	3.64%	7.77%	11.20%	6.95%	7.50%
9/30/2012	0.10%	(0.75%)	7.92%	17.40%	5.98%	7.50%
9/30/2011	2.50%	7.14%	7.48%	3.60%	3.98%	7.50%
Averages						
3-year				6.22%	6.46%	
5-year				7.06%	6.53%	
10-year	7.25%			7.82%	6.29%	

City of Miami Fire Fighters' and Police Officers' Retirement Trust
Actuarial Valuation as of October 1, 2020
Other Measurements

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035¹

October 1, 2020

	Valuation 7.34%	- 200 bp ² 5.00%	Funding Rate ² 7.00%	+ 200 bp ² 9.00%
Total pension liability				
Service Cost	\$30,979,982	\$30,664,877	\$30,664,877	\$30,664,877
Interest	131,073,712	131,045,002	131,045,002	131,045,002
Benefit changes	0	0	0	0
Difference between expected and actual experience	(1,733,011)	28,019,167	28,019,167	28,019,167
Changes in assumptions	0	502,502,736	66,781,511	(246,901,754)
Benefit payments	(137,866,491)	(137,866,491)	(137,866,491)	(137,866,491)
Contribution refunds	(320,190)	(320,190)	(320,190)	(320,190)
Net change in pension liability	\$22,134,002	\$554,045,101	\$118,323,876	(\$195,359,389)
Total pension liability, beginning of year	\$1,823,858,748	\$1,822,559,347	\$1,822,559,347	\$1,822,559,347
Total pension liability, end of year	1,845,992,750	\$2,376,604,448	\$1,940,883,223	\$1,627,199,958
Plan fiduciary net position				
Contributions - Employer	\$60,633,239	\$60,633,239	\$60,633,239	\$60,633,239
Contributions - State	0	0	0	0
Contributions - Member	15,820,796	15,820,796	15,820,796	15,820,796
Net investment income	64,932,866	64,932,866	64,932,866	64,932,866
Benefit payments	(137,866,491)	(137,866,491)	(137,866,491)	(137,866,491)
Contribution refunds	(320,190)	(320,190)	(320,190)	(320,190)
Administrative expense	(2,210,096)	(2,210,096)	(2,210,096)	(2,210,096)
Other	0	0	0	0
Net change in plan fiduciary net position	\$990,124	\$990,124	\$990,124	\$990,124
Plan fiduciary net position, beginning of year	\$1,149,117,960	\$1,149,117,960	\$1,149,117,960	\$1,149,117,960
Plan fiduciary net position, end of year	\$1,150,108,084	\$1,150,108,084	\$1,150,108,084	\$1,150,108,084
Net pension liability/(asset)	\$695,884,666	\$1,226,496,364	\$790,775,139	\$477,091,874
Funded ratio	62.30%	48.39%	59.26%	70.68%
Years that Assets support expected benefit payments	11	9	10	12
Estimated city contribution				
Annual dollar value	\$64,630,159	\$75,782,138	\$65,889,915	\$57,533,989
Percentage of payroll	36.57%	42.88%	37.29%	32.56%

¹ Does not include DROP assets and liabilities

² Based on valuation assumption with the following changes

- interest rate (as noted)
- update to FRS Mortality

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035¹

October 1, 2020

Sustainment of Expected Benefit Payments

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

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,150,108,084	\$53,917,243	\$145,298,649
2	1,058,726,678	49,323,999	146,277,531
3	961,773,146	44,465,819	146,702,872
4	859,536,093	39,310,930	148,445,586
5	750,401,437	33,816,454	149,973,954
6	634,243,937	27,997,232	150,433,412
7	511,807,757	21,865,851	150,821,041
8	382,852,567	15,415,071	150,943,343
9	247,324,295	8,591,074	152,870,159
10	103,045,210		156,505,032

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035¹

October 1, 2020

Sustainment of Expected Benefit Payments

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

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,150,108,084	\$75,508,124	\$145,298,649
2	1,080,317,559	70,589,106	146,277,531
3	1,004,629,134	65,276,281	146,702,872
4	923,202,543	59,516,456	148,445,586
5	834,273,413	53,238,829	149,973,954
6	737,538,288	46,451,561	150,433,412
7	633,556,437	39,159,494	150,821,041
8	521,894,890	31,338,977	150,943,343
9	402,290,524	22,900,374	152,870,159
10	272,320,739	13,677,420	156,505,032
11	129,493,127		158,743,916

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035¹

October 1, 2020

Sustainment of Expected Benefit Payments

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

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,150,108,084	\$97,112,133	\$145,298,649
2	1,101,921,568	92,732,246	146,277,531
3	1,048,376,283	87,894,443	146,702,872
4	989,567,854	82,524,951	148,445,586
5	923,647,219	76,524,799	149,973,954
6	850,198,064	69,894,145	150,433,412
7	769,658,797	62,628,543	150,821,041
8	681,466,299	54,685,833	150,943,343
9	585,208,789	45,937,818	152,870,159
10	478,276,448	36,153,862	156,505,032
11	357,925,278	25,223,677	158,743,916
12	224,405,039	13,086,471	161,478,033
13	76,013,477		164,703,107

Contribution Stabilization Trust

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

	October 1, 2020	October 1, 2019
1. City Contribution	\$65,889,915	\$62,773,727
2. Valuation Payroll	\$176,712,600	\$168,059,448
3. City Contribution as a % of Valuation Payroll	37.29%	37.35%
4. Pension Stabilization Contribution, $[(37\% - (1)/(2)) \times (2)]$ (not less than \$0)	\$0	\$0
5. Amount of City Contribution that may be paid from the Stabilization Trust (if funds available), $[(1)/(2) - 37\% \times (2)]$ (not less than \$0)	\$506,253	\$591,731

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

Valuation Date	Pension Stabilization Contribution	Amount used to satisfy recommended City contribution	Current Stabilization Trust Balance
10/1/2018	\$1,035,008	N/A	\$1,035,008
10/1/2019	\$0	\$0	\$1,035,008
10/1/2020	\$0	To be decided	\$1,035,008