



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

October 1, 2018 | Actuarial Valuation Report

<b>Actuarial Certification</b>	<b>3</b>
<b>Executive Summary</b>	<b>5</b>
Summary Results	5
Changes Since Prior Valuation and Key Notes	6
<b>Assets and Liabilities</b>	<b>7</b>
Present Value of Future Benefits	7
Asset Information	8
Reconciliation of Gain/Loss	10
<b>Contribution Requirements</b>	<b>11</b>
Development of Recommended Contribution	11
<b>Demographic Information</b>	<b>12</b>
<b>Participant Reconciliation</b>	<b>14</b>
<b>Plan Provisions</b>	<b>16</b>
<b>Actuarial Assumptions</b>	<b>22</b>
<b>Other Measurements</b>	<b>25</b>
Market Value Reconciliation	26
Membership and Benefits Cost-of-Living Adjustment Account Summary	27
Investment Results	28
Florida State Requirements	30

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, 2018. 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, 2019 through September 30, 2020.

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.

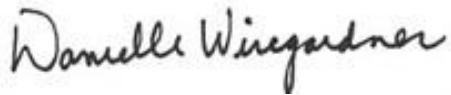
This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable 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.

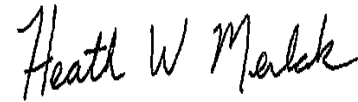
The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions.

Nyhart



---

Danielle Winegardner, FSA, EA, MAAA  
Enrolled Actuary No. 17-08260



---

Heath W. Merlak, FSA, EA, MAAA  
Enrolled Actuary No. 17-05967

May 1, 2019  
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:

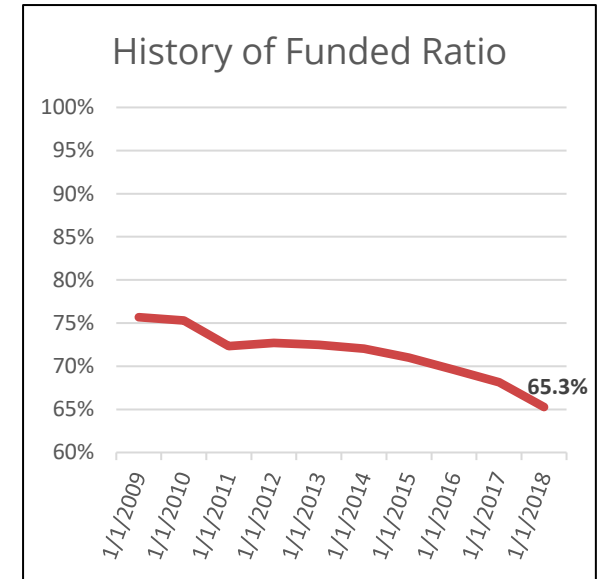
Mr. Steve Bardin  
Benefits Administrator  
Municipal Police Officers' &  
Firefighters' Trust Funds  
Division of Retirement  
Post Office Box 3010  
Tallahassee, FL 32315-3010

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, 2017	October 1, 2018
<b>Funded Status Measures</b>		
Accrued Liability	\$1,705,061,093	\$1,796,349,619
Actuarial Value of Assets	1,161,585,161	1,172,416,575
Unfunded Accrued Liability	\$543,475,932	\$623,933,044
Funded Percentage (AVA)	68.1%	65.3%
Funded percentage (MVA)	66.3%	63.5%
<b>Cost Measures</b>		
Recommended Contribution For Next Fiscal Year	\$56,030,260	\$61,668,247 <sup>1</sup>
Recommended Contribution (as a percentage of payroll)	39.6%	37.0%
<b>Asset Performance</b>		
Market Value of Assets (MVA)	\$1,131,066,046	\$1,140,506,121
Actuarial Value of Assets (AVA)	\$1,161,585,161	\$1,172,416,575
Actuarial Value/Market Value	102.70%	102.80%
<b>Participant Information</b>		
Active Members	1,943	1,998
Terminated Vested Members	16	15
Terminated Members, due a Refund of Employee Contributions	97	111
Retirees, Beneficiaries, and Disabled Members	2,059	2,120
DROP Participants	129	83
Total	4,244	4,327
Valuation Payroll	\$141,497,840	\$166,670,939
Total Payroll	\$159,787,486	\$176,975,203



<sup>1</sup>Recommended contribution includes \$1,035,008 contribution to the Pension Stabilization Fund.

### **Changes Since Prior Valuation and Key Notes**

This report reflects the settlement agreements that were approved by the city commission in October 2018. Plan provisions have been partially restored to the provisions that existed prior to 10/1/2010 as follows:

- Retroactively restore and uncap the FIPO pension plan benefits that were in effect prior to September 27, 2010, for all bargaining unit members who were vested in that plan before September 27, 2010; and
- Retroactively grandfather the select group of retirees that the FIPO Trust began payment to in January 2018, and assume the ongoing obligations for payment to those retirees based on their pension plan benefits to those that were in effect prior to September 27, 2010.

This change results in an increase in the Present Value of Future Benefits and the recommended contribution.

The mortality assumption was updated to match a recent change to the Florida Retirement System mortality for special risk members' pre-retirement mortality. The pre-retirement mortality was changed to apply the Combined Healthy tables rather than the Annuitant tables.

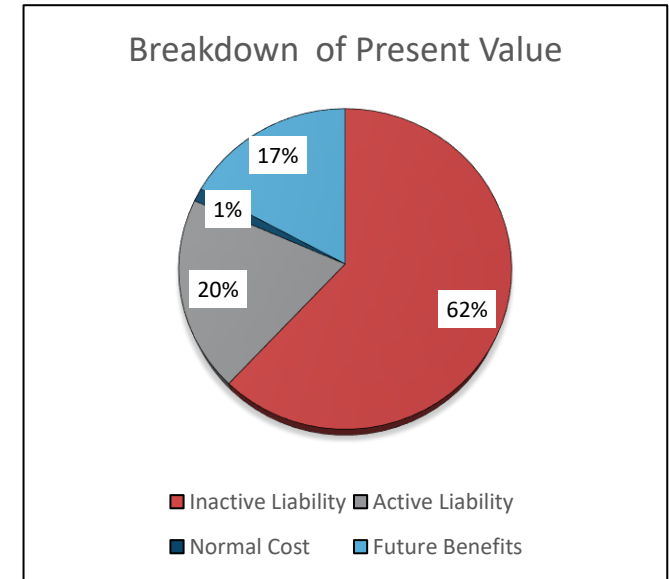
The withdrawal and disability assumptions were changed in accordance with the recent experience study dated December 2017.

The administrative expense has increased to \$2,210,096 from the prior year.

**Present Value of Future Benefits**

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

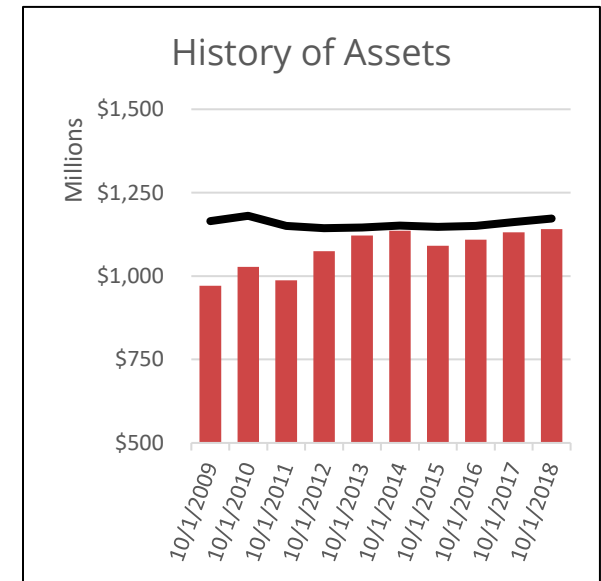
	<b>October 1, 2018</b>
<b>Present Value of Future Benefits</b>	
Active members	
Retirement	\$740,558,652
Disability	41,148,692
Death	16,314,460
Termination	35,887,030
Refund of contributions	4,170,824
Total active	\$838,079,658
Inactive members	
Retired members	\$1,221,572,695
DROP members	78,601,064
Beneficiaries	32,932,791
Disabled members	26,916,690
Terminated vested members	4,999,749
Total inactive	\$1,365,022,989
Total	\$2,203,102,647
 Present value of future payrolls	 \$2,508,636,036



**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.

	<b>October 1, 2018</b>
<b>Market Value Reconciliation</b>	
Market value of assets, beginning of prior year	\$1,131,066,046
Employer contributions (incl. discounted accrued items)	50,591,605
Member contributions	14,258,763
Investment income, net expenses	77,647,220
Benefit payments and refunds	(130,813,301)
Administrative expenses	(2,086,709)
Other expenses	(157,503)
Market value of asset, beginning of current year	\$1,140,506,121
Return on Market Value	6.90%
<b>Actuarial value of assets</b>	
Value at beginning of current year	\$1,172,416,575





**Asset Information (continued)**

Plan Assets are used to develop funded percentages and contribution requirements

**October 1, 2018**

1. Expected actuarial value of assets	
(a) Actuarial value of assets – beginning of prior year	\$1,161,585,161
(b) City Contributions	50,591,605
(c) Member Contributions	14,258,763
(d) Benefits payments and refunds	(130,813,301)
(e) Expected return	84,771,961
(f) Expected actuarial value of assets – beginning of current year	\$1,180,394,189
2. Market value of assets – beginning of current year	\$1,140,506,121
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)]	\$1,140,506,121
5. Amount subject to phase in [(4)-(1f)]	(\$39,888,068)
6. Phase in of asset gain loss [(5)x20%]	(\$7,977,614)
7. Preliminary actuarial value of assets – beginning of current year [(1f)+(6)]	\$1,172,416,575
8. 80% of Market value of assets	\$912,404,897
9. 120% of Market value of assets	\$1,368,607,345
10. Adjusted actuarial value of assets	\$1,172,416,575
11. Contribution surplus account balance	\$0
12. Final actuarial value of assets – beginning of current year [(10)-(11)]	\$1,172,416,575
13. Return on actuarial value of assets	6.66%

**Reconciliation of Gain/Loss**

**October 1, 2018**

**Liability (gain)/loss**

Present value of future benefits	\$2,072,629,507
Present value of employee contributions	(174,504,339)
Expected employee contribution	11,838,874
Benefit payments	(130,813,301)
Interest	135,475,516
Expected liability	\$1,914,626,257
Plan Change	63,084,010
Assumption change	(15,769,976)
Expected after changes	\$1,961,940,291
Actual liability	\$1,989,362,931
Liability (gain)/loss	\$27,422,640

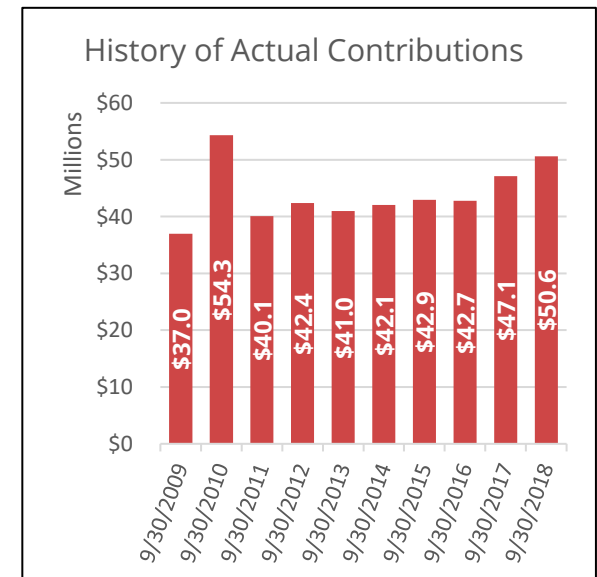
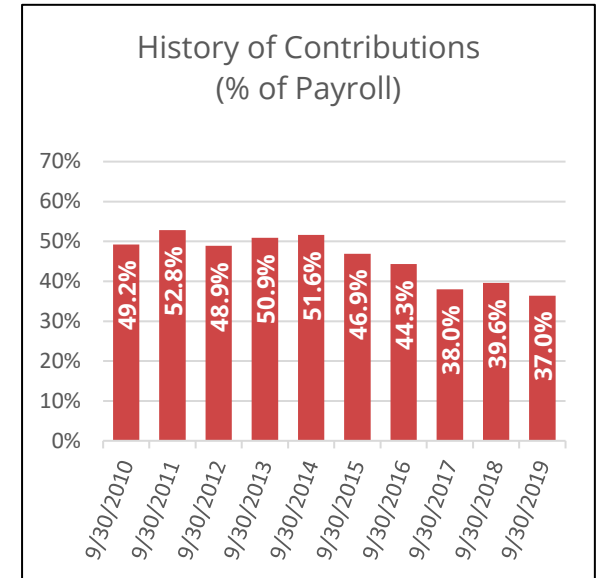
**Asset (gain)/loss**

Actuarial value of assets, beginning of prior year	\$1,161,585,161
Contributions	64,850,368
Benefit payments and expenses	(130,813,301)
Expected Investment return	84,771,961
Expected actuarial value of assets, beginning of current year	\$1,180,394,189
Actual actuarial value of assets, beginning of current year	\$1,172,416,575
Asset (gain)/loss	\$7,977,614
<b>Total (gain)/loss</b>	<b>\$35,400,254</b>

**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.

	<b>October 1, 2018</b>
1. Present value of future benefits	\$2,203,102,647
2. Actuarial value of assets	1,172,416,575
3. Present value of future member contributions	213,739,716
4. Present value of future normal Cost [(1)-(2)-(3)]	\$816,946,356
5. Present value of future payroll	\$2,508,636,036
6. Normal cost accrual rate [(4)/(5)]	32.57%
7. Administrative expenses	\$2,210,096
8. Valuation payroll	\$166,670,939
9. Applicable interest	7.34%
10. Normal cost	\$56,487,087
11. Interest to estimated payment date	\$4,146,152
12. Total recommended contribution as of end of year [(10)+(11)]	\$60,633,239
13. As a percentage of valuation payroll	36.38%
14. As a percentage of total payroll	34.26%
15. Pension Stabilization Fund Contribution	\$1,035,008
16. Total recommended contribution as of end of year	\$61,668,247
17. As a percentage of valuation payroll	37.00%



**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.

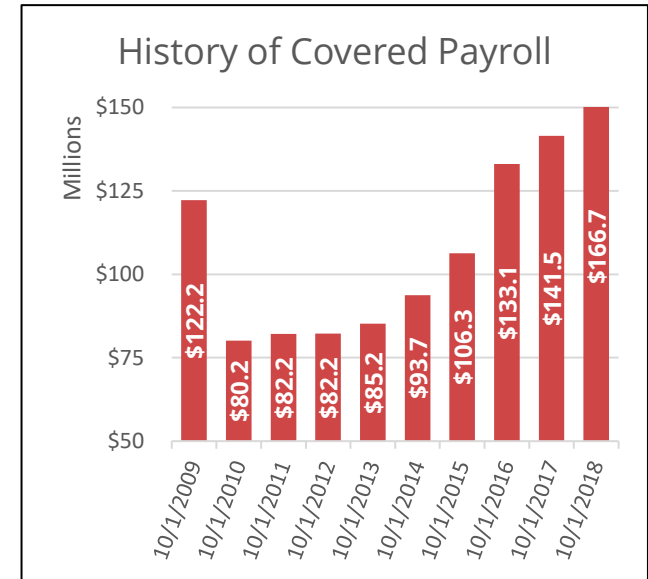
**October 1, 2018**

**Member Counts**

Active Members	1,998
Retired Members	1,711
Beneficiaries	279
Disabled Members	130
Terminated Vested Members, due a Monthly Benefit	15
Terminated Members, Due a Refund of Employee Contributions	111
DROP Members	83
<b>Total</b>	<b>4,327</b>

**Active Participant Demographics**

Average Age	36.35
Average Service	9.40
Average Compensation	\$74,549
Valuation Payroll	\$166,670,939
Total Payroll	\$176,975,203



**Demographic Information (continued)**

	October 1, 2018
<b>Retired Member Statistics</b>	
Average Age	65.32
Average Monthly Benefit	\$5,576
<b>Beneficiary Statistics</b>	
Average Age	77.72
Average Monthly Benefit	\$1,149
<b>Disabled Member Statistics</b>	
Average Age	71.85
Average Monthly Benefit	\$1,975
<b>Terminated Member Statistics</b>	
Average Age	38.11
Average Monthly Benefit for Participants due Monthly Benefit	\$2,566
Average Remaining Contributions for Participants Due a Refund	\$9,926
<b>DROP Member Statistics</b>	
Average Age	50.69
Average Monthly Benefit	\$6,383
Payroll	\$10,304,264

**Participant Reconciliation**

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	Totals
<b>Prior Year</b>	1,943	113	136	1,795	257	4,244
<b>Active</b>						
To Terminated Vested	(1)	1				
To Retired	(34)			34		
To Disabled	(1)		1			
To Refund	(18)					(18)
To Due Refund	(22)	22				
<b>Terminated Vested</b>						
To Retired		(2)		2		
To Refund		(4)				(4)
To Active	4	(4)				
<b>Disabled</b>						
To Death			(7)			(7)
<b>Retired</b>						
To Death				(37)		(37)
<b>Survivor</b>						
To Death						
<b>Additions</b>	128				23	151
<b>Removed</b>	(1)				(1)	(2)
<b>Current Year</b>	1,998	126	130	1,794	279	4,327

**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	50	92									142	\$41,962
25 to 29	35	291	54	3							383	56,834
30 to 34	12	216	127	105	6						466	68,315
35 to 39	11	75	63	151	50						350	78,177
40 to 44		20	26	85	100	48					279	91,493
45 to 49		7	11	60	60	78	20				236	94,830
50 to 54		2	5	16	31	28	28	1			111	99,004
55 to 59		2	2	5	2	4	10	2			27	103,323
60 to 64				2	1		1				4	85,335
65 to 69											0	0
70 & up											0	0
<b>Total</b>	<b>108</b>	<b>705</b>	<b>288</b>	<b>427</b>	<b>250</b>	<b>158</b>	<b>59</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1998</b>	<b>74,549</b>

**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.

### **Pension Stabilization Fund**

Beginning October 1, 2008, any time the city's contributions to normal cost fall below 37% of valuation payroll, the difference will be deposited into the Pension Stabilization Fund to be used in subsequent years when the city's required contributions exceed 37%. No payment to this trust is required if the funded level of this trust exceeds 10% of the actuarial value of assets of the retirement system.

## Changes Since Prior Report

This report reflects the settlement agreements that were approved by the city commission in October 2018. Plan provisions have been partially restored to the provisions that existed prior to 10/1/2010 as follows:

- Retroactively restore and uncap the FIPO pension plan benefits that were in effect prior to September 27, 2010, for all bargaining unit members who were vested in that plan before September 27, 2010; and
- Retroactively grandfather the select group of retirees that the FIPO Trust began payment to in January 2018, and assume the ongoing obligations for payment to those retirees based on their pension plan benefits to those that were in effect prior to September 27, 2010.

Specifically, the following provisions were restored:

- Benefit accrual multiplier of 3.5% instead of 3.0% for Credited Service after 15 years (Note that the 3.5% multiplier was bargained back for membership in the years subsequent to the City's benefit cuts under financial urgency; however, this change impacts those who left the system during the interim period)
- Final Average Compensation based on one year instead of five years
- Normal form of benefit is Joint & 40% Contingent (married) and 105% Single Life Annuity (single) instead of Ten-Year Certain and Life
- Elimination of \$100,000 annual cap on benefits
- Retirement eligibility Rule of 68 (Fire) instead of Rule of 70. Age 50 with 10 years of service also defines eligibility for retirement
- Retirement eligibility Rule of 64 (Police) instead of Rule of 70. Age 50 with 10 years of service also defines eligibility for retirement

**Cost Method (CO)**

Aggregate Cost Method.

**Asset Valuation Method (CO)**

20% Write-Up Method: Expected actuarial value of assets, adjusted by 20% of the difference between expected actuarial value and actual market value (net of pending transfers to the COLA Fund).

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)**

7.34% net of investment expenses

Support for the discount rate assumption has been provided in the experience study report dated December 2017

**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 2015-2017. See the experience study report dated December 2017.

**Expense and/or Contingency Loading (FE)**

\$2,210,096

**Mortality Rates (CO)**

Pre-Retirement: RP2000 Generational, Females, 100% Combined Healthy White Collar Scale BB, Males, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB

Post-Retirement: RP2000 Generational, Females, 100% Annuitant White Collar, Scale BB, Males, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

Disability: RP2000, Females, 60% Disabled set forward two years, 40% Annuitant White Collar, no projection scale, Males, 60% Disabled setback four years, 40% Annuitant White Collar, no projection scale

**Retirement Rates (FE)**

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

The assumed retirement rates are based on a study of actual experience for the plan during 2015-2017. See the experience study report dated December 2017.

**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	0.1425%
40	0.195%
45	0.400%
50	0.605%

The disability rates are based on a study of actual experience for the plan during 2015-2017. See the experience study report dated December 2017.



**Withdrawal Rates (FE)**

Based on Years of Creditable Service using the rates below

<u>Age</u>	<u>&lt;2</u>	<u>Between 2 to 5</u>	<u>5+</u>
30	3.60%	2.40%	1.92%
35	3.60%	2.40%	1.92%
40	2.70%	1.80%	1.44%
45	1.80%	1.20%	0.96%
50	0.00%	0.00%	0.00%

The withdrawal rates are based on a study of actual experience for the plan during 2015-2017. See the experience study report dated December 2017.

**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 increased to \$2,210,096.

The withdrawal and disability rate assumptions were changed in accordance with the recent experience study report dated December 2017.

The mortality rate assumptions were changed in accordance with the Florida Retirement System Valuation report dated October 2016.

**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.

	<b>October 1, 2018</b>		
	Membership and Benefits Accounts	COLA I Account	COLA II Account
1. Market value – beginning of prior year	\$1,131,066,046	\$66,630,918	\$353,653,497
2. Book value – beginning of prior year	\$993,901,213	\$59,946,723	\$292,031,090
3. Income			
(a) City contributions	\$50,591,605	\$0	\$6,408,261
(b) Member contributions	14,258,763	0	0
(c) Other contributions	0	0	0
(d) Interest and dividends	20,272,270	1,042,919	4,955,023
(e) Net realized gains (losses)	43,953,509	2,259,076	10,754,512
(f) Securities lending income	498,878	25,670	121,919
(g) Rental and other income	180,669	9,284	44,027
(h) Income transfer	0	0	0
(i) Total	<u>\$129,755,694</u>	<u>\$3,336,949</u>	<u>\$22,283,742</u>
4. Disbursements			
(a) Benefit payments and refunds	\$130,813,301	\$119,866	\$25,160,119
(b) Custodial and investment expenses	5,739,653	297,678	1,413,941
(c) Administrative expense	2,086,709	0	0
(d) Other expense	0	0	0
(e) Securities lending fees	124,636	6,413	30,459
(f) Building depreciation	32,867	1,758	8,101
(g) Total	<u>\$138,797,166</u>	<u>\$425,715</u>	<u>\$26,612,620</u>
5. Book value – beginning of current year [(2)+(3i)-(4g)]	\$984,859,741	\$62,857,957	\$287,702,212
6. Net change in unrealized gains (losses)	\$18,481,547	\$976,919	\$6,332,565
7. Unrealized gains (losses)	\$155,646,380	\$7,661,114	\$67,954,972
8. Market value – beginning of current year [(1)+(3i)-(4g)+(6)]	\$1,140,506,121	\$70,519,071	\$355,657,184
9. Current year allocation to COLA II (discounted)	\$0	N/A	\$0
10. Net market value – beginning of current year	<u>\$1,140,506,121</u>	<u>\$70,519,071</u>	<u>\$355,657,184</u>

**Membership and Benefits Cost-Of-Living Adjustment Account Summary**

	<b>September 30, 2018</b>	
	Market	Book
1. Investments		
(a) Bill, bonds, notes	\$441,580,206	\$430,845,515
(b) Domestic stocks	478,187,606	375,807,717
(c) International stocks	249,053,003	208,437,363
(d) Private equity	156,839,046	140,680,308
(e) Money market fund and time deposit	11,016,179	12,249,592
(f) Mutual fund	179,279,484	116,672,563
(g) Real estate	1,743,558	1,743,558
(h) Securities lending adjustment	0	0
(i) Total investment	\$1,517,699,082	\$1,286,436,616
2. Cash	\$51,915,682	\$51,915,682
3. Receivables		
(a) City contributions	\$0	\$0
(b) Member contributions	0	0
(c) Accounts receivable	5,952	5,952
(d) Accrued interest and dividend	3,307,674	3,307,674
(e) Securities sold	1,132,406	1,132,406
(f) Total receivables	\$4,446,032	\$4,446,032
4. Payables:		
(a) Budget advance	\$0	\$0
(b) Accrual expense	421,618	421,618
(c) Transfer	0	0
(d) Tax withheld	19,769	19,769
(e) Accounts payable	809,214	809,214
(f) Securities purchased	6,127,819	6,127,819
(g) Total payables	\$7,378,420	\$7,378,420
5. Total [(1i)+(2)+(3f)-(4g)]	\$1,566,682,376	\$1,335,419,910
6. COLA I account	\$70,519,071	\$62,857,957
7. COLA II account	\$355,657,184	\$287,702,212
8. Current year COLA II transfer	\$0	\$0
9. Membership & benefits account [(5)-(6)-(7)-(8)]	\$1,140,506,121	\$984,859,741

**Investment Results - Membership and Benefits Accounts**

**September 30, 2018**

<u>Membership and Benefits Accounts</u>	<u>Dollar Return</u>	<u>Market Return</u>	<u>Book Return</u>
Interest	\$12,877,132	1.1%	1.3%
Dividends	7,395,137	0.7%	0.8%
Rental and Other Income, less Depreciation	147,802	0.0%	0.0%
Realized Gains	43,953,509	3.9%	4.6%
Securities Lending (Net)	374,242	0.0%	0.0%
Increase in Unrealized Gains	18,481,547	1.6%	1.9%
Custodial and Investment Expenses	(5,739,653)	(0.4%)	(0.5%)
	\$77,489,716	6.9%	8.1%

Investment Results - COLA I and II Accounts

September 30, 2018

COLA I Account

	<u>Dollar Return</u>	<u>Market Return</u>	<u>Book Return</u>
Interest	\$661,884	1.0%	1.1%
Dividends	381,035	0.6%	0.6%
Rental and Other Income, less Depreciation	7,526	0.0%	0.0%
Realized Gains	2,259,076	3.4%	3.8%
Securities Lending (Net)	19,257	0.0%	0.0%
Increase in Unrealized Gains	976,919	1.5%	1.6%
Custodial and Investment Expenses	(297,678)	(0.5%)	(0.4%)
	\$4,008,019	6.0%	6.7%

COLA II Account

	<u>Dollar Return</u>	<u>Market Return</u>	<u>Book Return</u>
Interest	\$3,146,468	0.9%	1.1%
Dividends	1,808,556	0.5%	0.6%
Rental and Other Income, less Depreciation	35,926	0.0%	0.0%
Realized Gains	10,754,512	3.1%	3.8%
Securities Lending (Net)	91,460	0.0%	0.0%
Increase in Unrealized Gains	6,332,565	1.8%	2.2%
Custodial and Investment Expenses	(1,413,941)	(0.3%)	(0.4%)
	\$20,755,546	6.0%	7.3%

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

**Comparative Summary of Principal Valuation Results**

	10/1/2018 7.34% (assumption & plan changes)	10/1/2018 7.34% (plan changes)	10/1/2018 7.34% (prior methods & assumptions)	10/1/2017 7.34%
<b>Participant Data</b>				
Active members	1,998	1,998	1,998	1,943
Total annual payroll	166,670,939	166,670,939	166,670,939	141,497,840
Members in DROP	83	83	83	129
DROP Payroll	\$10,304,264	\$10,304,264	\$10,304,264	\$18,289,646
Projected Total Payroll	\$176,975,203	\$176,975,203	\$176,975,203	\$159,787,486
Retired members and beneficiaries	1,990	1,990	1,990	1,923
Total annualized benefit	\$118,333,631	\$118,333,631	\$118,313,785	\$113,476,000
Disabled members receiving benefits	130	130	130	136
Total annualized benefit	\$3,081,300	\$3,081,300	\$3,048,043	\$3,120,659
Terminated vested members	126	126	126	113
Total annualized benefit	\$461,951	\$461,951	\$461,951	\$560,510
<b>Assets</b>				
Actuarial value of assets	\$1,172,416,575	\$1,172,416,575	\$1,172,416,575	\$1,161,585,161
Market value of assets	\$1,140,506,121	\$1,140,506,121	\$1,140,506,121	\$1,131,066,046

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

**Comparative Summary of Principal Valuation Results (continued)**

	10/1/2018 7.34% (assumption & plan changes)	10/1/2018 7.34% (plan changes)	10/1/2018 7.34% (prior methods & assumptions)	10/1/2017 7.34%
<b>Liabilities, present value of all future expected benefit payments</b>				
Active members				
Retirement benefits	\$740,558,652	\$697,129,836	\$632,287,297	\$584,030,682
Vesting benefits	35,887,030	35,009,929	38,642,655	33,406,118
Disability benefits	41,148,692	80,052,842	86,570,241	74,196,482
Death benefits	16,314,460	29,939,522	28,392,047	25,871,816
Return of contribution	4,170,824	4,141,985	3,740,774	3,670,136
Total	<u>\$838,079,658</u>	<u>\$846,274,114</u>	<u>\$789,633,014</u>	<u>\$721,175,234</u>
Terminated vested members	4,999,749	4,999,754	4,999,754	5,333,777
Retired members and beneficiaries	1,333,106,550	1,333,106,726	1,328,740,188	1,318,787,233
Disabled members	26,916,690	26,940,725	26,560,881	27,333,263
Total	<u>\$2,203,102,647</u>	<u>\$2,211,321,319</u>	<u>\$2,149,933,837</u>	<u>\$2,072,629,507</u>
Liabilities due and unpaid	\$0	\$0	\$0	\$0
Actuarial accrued liability	N/A	N/A	N/A	N/A
Unfunded actuarial accrued liability	N/A	N/A	N/A	N/A



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

**Comparative Summary of Principal Valuation Results (continued)**

	10/1/2018 7.34% (assumption & plan changes)	10/1/2018 7.34% (plan changes)	10/1/2018 7.34% (prior methods & assumptions)	10/1/2017 7.34%
<b>Actuarial present value of accrued benefits</b>				
Statement of actuarial present value of all accrued benefits				
Vested accrued benefits				
Inactive members and beneficiaries	\$1,365,022,989	\$1,365,047,205	\$1,360,300,823	\$1,351,454,273
Active members	303,678,632	325,997,840	316,012,180	272,600,025
Total value of all vested accrued benefits	<u>\$1,668,701,621</u>	<u>\$1,691,045,045</u>	<u>\$1,676,313,003</u>	<u>\$1,624,054,298</u>
Non-vested accrued benefits	33,054,644	27,776,051	23,956,046	25,311,006
Total actuarial present value of all accrued benefits	<u>\$1,701,756,265</u>	<u>\$1,718,821,096</u>	<u>\$1,700,269,049</u>	<u>\$1,649,365,304</u>
Statement of changes in total actuarial present value of all accrued benefits (ASC 960)				
Actuarial present value of accrued benefits, beginning of year	\$1,649,365,304	\$1,649,365,304	\$1,649,365,304	\$1,633,506,841
Increase (decrease) during year				
Benefits accumulated	\$65,369,477	\$65,369,477	\$65,369,477	\$12,460,248
Plan amendment	18,552,047	18,552,047	0	0
Changes in actuarial assumptions	(17,064,831)	0	0	13,293,852
Interest	116,347,569	116,347,569	116,347,569	116,597,286
Benefits paid	(130,813,301)	(130,813,301)	(130,813,301)	(126,492,923)
Other changes	0	0	0	0
Net increase (decrease)	<u>\$52,390,961</u>	<u>\$69,455,792</u>	<u>\$50,903,745</u>	<u>\$15,858,463</u>
Actuarial present value of accrued benefits, end of year	<u>\$1,701,756,265</u>	<u>\$1,718,821,096</u>	<u>\$1,700,269,049</u>	<u>\$1,649,365,304</u>

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

**Comparative Summary of Principal Valuation Results (continued)**

	10/1/2018 7.34% (assumption & plan changes)	10/1/2018 7.34% (plan changes)	10/1/2018 7.34% (prior methods & assumptions)	10/1/2017 7.34%
<b>Pension cost</b>				
Normal Cost	76,703,765	78,790,257	76,703,765	\$68,623,567
Member contributions	15,035,518	15,035,518	15,035,518	\$12,593,307
Expected plan sponsor contribution	\$61,668,247	\$63,754,739	\$61,668,247	\$56,030,260
As % of payroll	37.00%	38.25%	37.00%	39.60%
As % of Total Payroll	34.85%	36.02%	34.85%	35.07%
Member Contributions as % of payroll	9.02%	9.02%	9.02%	8.90%
<b>Past contributions</b>				
Required plan sponsor contribution	9/30/2018			9/30/2017
	\$50,591,605			\$47,102,220
Required member contribution	\$14,258,763			\$13,206,378
Actual contributions made by:				
Plan's sponsor	\$50,591,605			\$47,102,220
Members	\$14,258,763			\$13,206,378
Other	\$0			\$0
<b>Net actuarial gain (loss) (if applicable)</b>	N/A	N/A	N/A	N/A
<b>Other disclosures (where applicable)</b>				
Present value of active member				
Future salaries at attained age	\$2,508,636,036	\$2,427,026,588	\$2,448,324,716	\$2,081,445,994
Future contributions at attained age	\$213,739,716	\$206,188,412	\$207,884,940	\$174,504,339

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

**Hypothetical City Contribution Requirement for 2019/2020 Fiscal Year**

	Police	Fire	Total
Unfunded actuarial accrued liability	N/A	N/A	N/A
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$421,950,926	\$318,607,726	\$740,558,652
Vesting benefits	20,966,657	14,920,373	\$35,887,030
Disability benefits	25,056,065	16,092,627	\$41,148,692
Death benefits	8,015,635	8,298,825	\$16,314,460
Return of contribution	2,803,373	1,367,451	4,170,824
Total	\$478,792,656	\$359,287,002	\$838,079,658
Terminated vested members	4,208,376	791,373	4,999,749
Retired members and beneficiaries	754,563,385	578,543,165	1,333,106,550
Disabled members	23,522,653	3,394,037	26,916,690
Total	\$1,261,087,070	\$942,015,577	\$2,203,102,647
Entry age reserve			
Active	\$229,445,168	\$201,881,462	\$431,326,630
Inactive	782,294,414	582,728,575	1,365,022,989
Total	\$1,011,739,582	\$784,610,037	\$1,796,349,619
Actuarial asset value <sup>1</sup>	\$660,328,169	\$512,088,406	\$1,172,416,575

<sup>1</sup>Allocated based on Entry Age Reserve

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

**Hypothetical City Contribution Requirement for 2019/2020 Fiscal Year (continued)**

	Police	Fire	Total
Normal cost			
Total present value of future benefits	\$1,261,087,070	\$942,015,577	\$2,203,102,647
Present value of future member contributions	(113,504,740)	(100,234,976)	(213,739,716)
Actuarial asset value	(660,328,169)	(512,088,406)	(1,172,416,575)
Present value of future normal costs	\$487,254,161	\$329,692,195	\$816,946,356
Present value of future payrolls	\$1,415,852,973	\$1,092,783,063	\$2,508,636,036
Administrative expense <sup>1</sup>	\$1,244,770	\$965,326	\$2,210,096
Current payroll	\$95,021,825	\$71,649,114	\$166,670,939
Interest rate	7.34%	7.34%	7.34%
Normal Cost	\$33,945,750	\$22,581,834	\$56,487,087
Interest to End of Year	\$2,491,618	\$1,657,507	\$4,146,152
Contribution Requirement at end of year	\$36,437,368	\$24,239,341	\$60,633,239
As a percentage of payroll	38.35%	33.83%	36.38%
Hypothetical Total			\$60,676,709

<sup>1</sup>Allocated based on Entry Age Reserve

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

**Historical Salary Increases and Asset Performance**

**September 30, 2018**

Year Ending	Payroll Growth	Salary Growth	Expected Salary Growth	Asset Return (Market)	Asset Return (Actuarial)	Asset Return (Expected)
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%
9/30/2010	(34.40%)	(9.33%) <sup>(1)</sup>	7.51%	9.80%	4.48%	7.75%
9/30/2009	(5.50%)	6.35%	7.26%	(0.30%)	(1.31%)	7.75%
<b>Averages</b>						
3-year				7.85%	6.64%	
5-year				6.97%	6.66%	
10-year	2.66%			7.57%	5.31%	

<sup>1</sup>Including impact of change in valuation pay definition

**City of Miami Fire Fighters' and Police Officers' Retirement Trust**  
**Actuarial Valuation as of October 1, 2018**  
**Other Measurements**

**Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035<sup>1</sup>**

**October 1, 2018**

	Valuation 7.34%	- 200 bp <sup>2</sup> 5.34%	Funding Rate <sup>2</sup> 7.34%	+ 200 bp <sup>2</sup> 9.34%
Total pension liability				
Service Cost	\$25,496,400	\$25,928,241	\$25,928,241	\$25,928,241
Interest	121,263,887	122,253,769	122,253,769	122,253,769
Benefit changes	0	51,527,751	51,527,751	51,527,751
Difference between expected and actual experience	1,321,678	28,195,930	28,195,930	28,195,930
Changes in assumptions	13,154,329	406,188,500	(5,803,864)	(300,629,786)
Benefit payments	(130,598,647)	(130,598,647)	(130,598,647)	(130,598,647)
Contribution refunds	(214,654)	(214,654)	(214,654)	(214,654)
Net change in pension liability	\$30,422,993	\$503,280,890	\$91,288,526	(\$203,537,396)
Total pension liability, beginning of year	\$1,692,006,809	\$1,705,061,093	\$1,705,061,093	\$1,705,061,093
Total pension liability, end of year	\$1,722,429,802	\$2,208,341,983	\$1,796,349,619	\$1,501,523,697
Plan fiduciary net position				
Contributions - Employer	\$50,591,605	\$50,591,605	\$50,591,605	\$50,591,605
Contributions - State	0	0	0	0
Contributions - Member	14,258,763	14,258,763	14,258,763	14,258,763
Net investment income	77,647,220	77,647,220	77,647,220	77,647,220
Benefit payments	(130,598,647)	(130,598,647)	(130,598,647)	(130,598,647)
Contribution refunds	(214,654)	(214,654)	(214,654)	(214,654)
Administrative expense	(2,086,709)	(2,086,709)	(2,086,709)	(2,086,709)
Other	(157,503)	(157,503)	(157,503)	(157,503)
Net change in plan fiduciary net position	\$9,440,075	\$9,440,075	\$9,440,075	\$9,440,075
Plan fiduciary net position, beginning of year	\$1,131,066,046	\$1,131,066,046	\$1,131,066,046	\$1,131,066,046
Plan fiduciary net position, end of year	\$1,140,506,121	\$1,140,506,121	\$1,140,506,121	\$1,140,506,121
Net pension liability/(asset)	\$581,923,681	\$1,067,835,862	\$655,843,498	\$361,017,576
Funded ratio	66.21%	51.65%	63.49%	75.96%
Years that Assets support expected benefit payments	12	10	12	14
Estimated city contribution				
Annual dollar value	\$58,611,079	\$90,787,903	\$60,633,239	\$34,995,117
Percentage of payroll	35.17%	54.47%	36.38%	21.00%

<sup>1</sup>Does not include DROP assets and liabilities

<sup>2</sup>Based on valuation assumption with the following changes

- interest rate (as noted)
- update to FRS mortality, termination rates, and disability rates



Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035<sup>1</sup>

October 1, 2018

**Sustainment of Expected Benefit Payments**

Mortality FRS Special Risk Generational with Scale BB  
Interest 5.34%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,140,506,121	\$57,431,511	\$131,732,518
2	1,066,205,114	53,463,069	131,761,662
3	987,906,521	49,233,982	133,580,887
4	903,559,616	44,670,223	135,843,819
5	812,386,020	39,736,186	138,324,295
6	713,797,911	34,344,703	143,138,868
7	605,003,746	28,468,040	145,683,384
8	487,788,402	22,210,695	145,609,207
9	364,389,890	15,630,572	145,254,126
10	234,766,336	8,699,394	145,606,290
11	97,859,440		149,105,601



Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035<sup>1</sup>

October 1, 2018

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Generational with Scale BB  
Interest 7.34%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,140,506,121	\$78,964,167	\$131,732,518
2	1,087,737,770	75,089,919	131,761,662
3	1,031,066,027	70,864,630	133,580,887
4	968,349,770	66,179,677	135,843,819
5	898,685,628	60,976,908	138,324,295
6	821,338,241	55,126,043	143,138,868
7	733,325,416	48,574,172	145,683,384
8	636,216,204	41,449,030	145,609,207
9	532,056,027	33,816,473	145,254,126
10	420,618,374	25,624,254	145,606,290
11	300,636,338	16,691,422	149,105,601
12	168,222,159	6,739,603	155,558,202
13	19,403,560		162,386,782

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035<sup>1</sup>

October 1, 2018

**Sustainment of Expected Benefit Payments**

Mortality FRS Special Risk Generational with Scale BB  
Interest 9.34%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$1,140,506,121	\$100,508,670	\$131,732,518
2	1,109,282,273	97,591,031	131,761,662
3	1,075,111,642	94,316,433	133,580,887
4	1,035,847,188	90,545,813	135,843,819
5	990,549,182	86,201,726	138,324,295
6	938,426,613	81,113,656	143,138,868
7	876,401,401	75,204,324	145,683,384
8	805,922,341	68,624,967	145,609,207
9	728,938,101	61,450,851	145,254,126
10	645,134,826	53,607,546	145,606,290
11	553,136,082	44,855,093	149,105,601
12	448,885,574	34,823,485	155,558,202
13	328,150,857	23,235,085	162,386,782
14	188,999,160	10,109,274	165,213,093
15	33,895,341		168,655,851