



City of Pompano Beach Police & Firefighters' Retirement Plan

October 1, 2019
Actuarial Valuation Report

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Actuarial Certification

At the request of the plan sponsor, this report summarizes the Police and Firefighters' Retirement System for the City of Pompano Beach as of October 1, 2019. The purpose of this report is to communicate the following results of the valuation:

- Determine Funded Status; and
- Determine Actuarial Contribution for the fiscal year October 1, 2020 through September 30, 2021

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

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

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

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

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

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.

Actuarial Certification

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

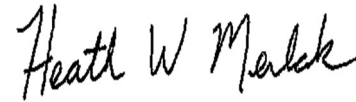
Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the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

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

Nyhart



Lawrence Watts, Jr., FSA, CFA, EA, MAAA
Enrolled Actuary No. 17-8496



Heath W. Merlak, FSA, EA, MAAA
Enrolled Actuary No. 17-5967

February 19, 2020
Date

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

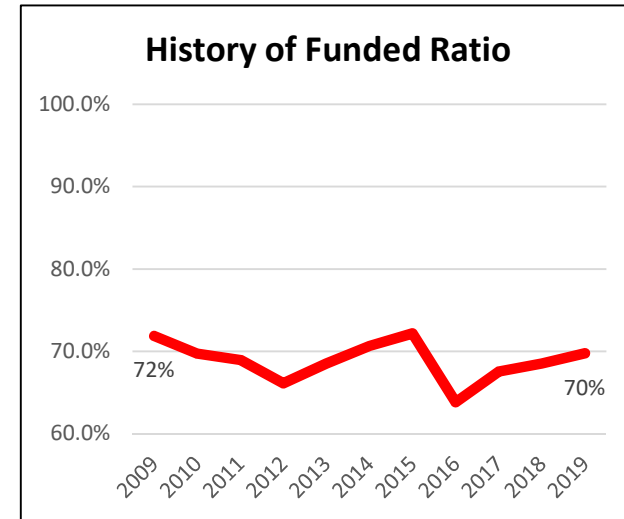
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Executive Summary

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, 2018	October 1, 2019
Funded Status Measures		
Accrued Liability	\$331,499,780	\$333,397,561
Actuarial Value of Assets	227,193,975	232,629,949
Unfunded Accrued Liability	\$104,305,805	\$100,767,612
Funded Percentage (AVA)	68.5%	69.8%
Funded percentage (MVA)	69.1%	69.1%
Cost Measures		
Recommended Contribution	\$10,902,279	\$11,023,272
Recommended Contribution (as a percentage of payroll)	72.8%	67.2%
Asset Performance		
Market Value of Assets	\$229,180,812	\$230,401,768
Actuarial Value of Assets	227,193,975	232,629,949
Actuarial Value/Market Value	99.1%	101.0%
Member Information		
Active Members	179	186
Terminated Vested Members	3	3
Retirees, Beneficiaries, and Disabled Members	374	379
DROP Participants	29	23
Total	585	591
Expected Payroll	\$14,705,355	\$16,107,844



Executive Summary

Changes Since Prior Valuation and Key Notes

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

The Police State Premium Tax Revenues were being reserved in the Trust based on proposed ordinances for allocation to a share plan. The balance of these premiums as of September 30, 2019 was \$201,644. It is our understanding that the share plan has been created and funded, with the first distribution occurring during the October 1, 2018 fiscal year.

The assumed rate of return has been lowered from 7.40% to 7.30% in this valuation report. It is our understanding that the Board intends to lower the rate in 10 basis point increments until reaching 7.00%.

An experience study was conducted for the period from 2012 to 2018. After presenting the results to the Board, the recommended changes to the inflation rate, salary scale, retirement rates (for firefighters only) and withdrawal rates (for firefighters only) were adopted. Please refer to the actuarial experience study report dated August 19, 2019 for more details.

The assumed mortality rates have been updated to match the Florida Retirement System mortality for Special Risk members after an experience study was conducted in 2019 and new mortality tables were adopted for the FRS Actuarial Valuation as of July 1, 2019.

Additional risk disclosures have been integrated into this report, in accordance with the new Actuarial Standard of Practice No. 51. Please read the pages immediately following to familiarize yourself with the information, and let us know if you have any questions or concerns.

Executive Summary

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 Pompano Beach Police & Firefighters' Retirement System. The risks are generally ordered with those we believe to have the most significance at the top. Also shown are possible methods by which a more detailed assessment of the risk can be performed.

Type of Risk	Additional Information
Investment Return	Portfolio risk and substantial equity position leave the plan open to adverse market results, which could increase costs in the future.
Participant Longevity	The plan has adopted FRS' most recent mortality tables for valuation purposes. These tables are modified from the standard tables, and, compared to the previous tables used by FRS, project a slightly shorter participant longevity overall. There is no guarantee FRS' anticipated mortality experience will mirror your plan's future experience. Deviation from expected mortality rates could impact long-term liabilities and plan cost.
Early Retirement	The plan allows for reduced early retirement benefits, creating an opportunity for anti-selection by plan participants. If more employees than expected avail themselves of the early retirement option, then this could impact estimated plan liabilities.
Salary Growth	The plan has experienced volatility in observed salary increases in the recent past; as benefits are based on final average salary, the salary growth assumption is key to accurately calculating liabilities and future costs.

Type of Risk	Method to Assess Risk
Investment Return	Scenario testing; asset/liability study
Participant Longevity	Benefit projections and contribution strategy
Early Retirement	Scenario testing; review population and retirement rates
Salary Growth	Review salary history and future budgets; scenario testing

Executive Summary

Plan Maturity Measures - October 1, 2019

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 Pompano Beach Police & Firefighters' Retirement System falls in its life-cycle.

Duration of Liabilities: 10.3

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: 31.5%

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: 7.0%

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: 10.5%

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

Assets and Liabilities

Present Value of Future Benefits

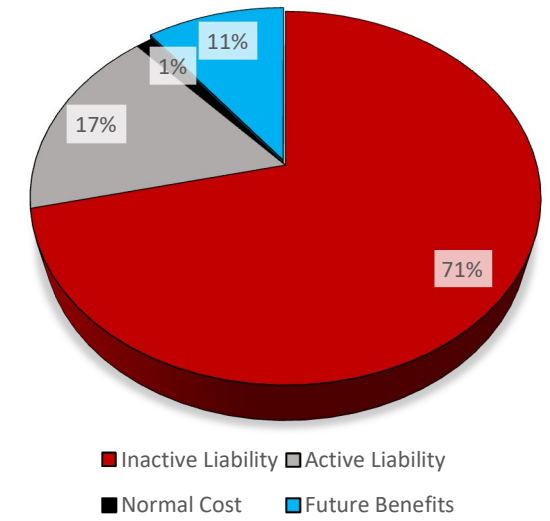
The Present Value of Future Benefits represents the discounted value of all future benefits expected to be payable to current members, considering future service and compensation not yet earned.

October 1, 2019

Present Value of Future Benefits

Active members	
Retirement	\$96,313,209
Disability	7,421,540
Death	1,918,171
Termination	2,119,989
Return of contributions	455,574
Total active	\$108,228,483
Inactive members	
Retired members	\$232,330,799
Beneficiaries	10,221,539
Disableds	25,283,725
Terminated vested members	1,277,448
Total inactive	\$269,113,511
Total	\$377,341,994
Present value of future payrolls	\$150,474,736

Breakdown of Present Value of Future Benefits



Assets and Liabilities

Accrued Liability

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

October 1, 2019

Accrued Liabilities

Active members

Retirement	\$60,877,921
Disability	2,193,626
Death	391,335
Termination	753,551
Refund of contributions	67,617
Total Active	\$64,284,050

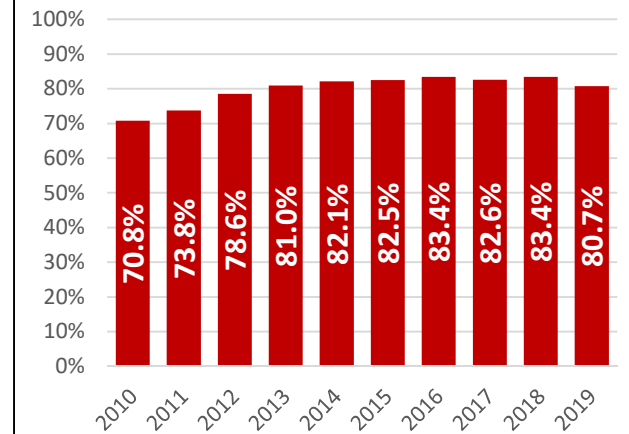
Inactive members

Retired members	\$232,330,799
Beneficiaries	10,221,539
Disableds	25,283,725
Terminated vested members	1,277,448
Total Inactive	\$269,113,511

Total **\$333,397,561**

Normal Cost **\$4,782,737**

History of the Percentage of Inactive Liability



Assets and Liabilities

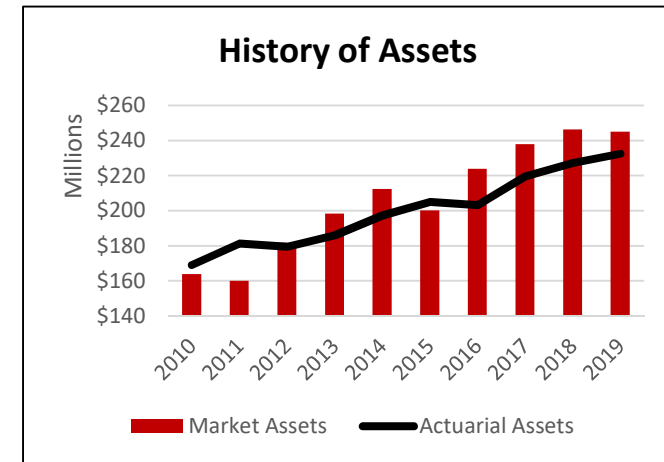
Asset Information

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, 2019

Market Value Reconciliation

Market value of assets, beginning of prior year	\$246,351,626
Employer contributions (incl. discounted accrued items)	11,050,554
Member contributions	1,857,469
Non-employer contributing entity	2,559,937
Investment income	11,098,173
Investment expenses	(1,375,399)
Benefit payments	(25,758,878)
Administrative expenses	(623,074)
Other expenses	0
Market value of asset, beginning of current year	\$245,160,408
Return on Market Value	4.04%
Reserve assets	\$660,973
DROP account	\$14,097,667
Market value of assets available for pension benefits	\$230,401,768
Actuarial value of plan assets	
Value at beginning of current year	\$232,629,949



Assets and Liabilities

Asset Information (continued)

Plan Assets are used to develop funded percentages and contribution requirements.

	October 1, 2019
1. Expected actuarial value of assets	
(a) Actuarial value of assets, beginning of prior year	\$244,364,789
(b) Contributions	15,467,960
(c) Benefit payments	(25,758,878)
(d) Expenses	(623,074)
(e) Expected return	17,686,384
(f) Expected actuarial value of assets, beginning of current year	<u>\$251,137,181</u>
2. Market value of assets, beginning of current year	\$245,160,408
3. Actual return on market value	\$9,722,774
4. Amount subject to phase in [(3)-(1e)]	\$(7,963,610)
5. Phase in of asset gain/(loss)	
(a) Current year (20% x (\$7,963,610))	\$(1,592,722)
(b) First prior year (20% x \$2,395,231)	479,046
(c) Second prior year (20% x \$6,827,672)	1,365,534
(d) Third prior year (20% x (\$127,551))	(25,510)
(e) Fourth prior year (20% x (\$19,874,699))	(3,974,940)
(f) Total phase-in	<u>\$(3,748,592)</u>
6. Preliminary actuarial value of assets, beginning of current year [(1f)+(5f)]	\$247,388,589
7. 80% Market value of assets	\$196,128,327
8. 120% Market value of assets	\$294,192,489
9. Adjusted actuarial value of assets	\$247,388,589
10. Reserved Assets	(\$14,758,640)
11. Final actuarial value of assets [(9+10)]	\$232,629,949
12. Return on actuarial value of assets	5.84%

Contribution Requirements

Reconciliation of Gain/Loss

	October 1, 2019
Liability (gain)/loss	
Actuarial liability, beginning of prior year	\$331,499,780
Normal cost	4,367,560
Total benefit payments	(25,758,878)
Benefit payments attributable to DROP and Share Plan	5,284,042
Interest	24,110,134
1-year lag adjustment	1,475,500
Assumption Changes	(7,145,658)
Expected actuarial liability, beginning of current year	\$333,832,480
Actual actuarial liability	\$333,397,561
Liability (gain)/loss	(\$434,919)
Asset (gain)/loss	
Actuarial value of assets, beginning of prior year	\$227,193,975
Contributions	15,467,960
Total benefit payments and expenses	(26,381,952)
Benefit payments attributable to DROP and Share Plan	5,284,042
Investment return	16,607,763
Expected actuarial value of assets, beginning of current year	\$238,171,788
Actual actuarial value of assets, beginning of current year (before accumulated reserve adjustment)	\$232,629,949
Asset (gain)/loss	\$5,541,839
Total (gain)/loss	\$5,106,920

Contribution Requirements

Development of Recommended Contribution

The minimum recommended contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws. The recommended contribution is composed of the normal cost, administrative expenses, plus an amortization charge.

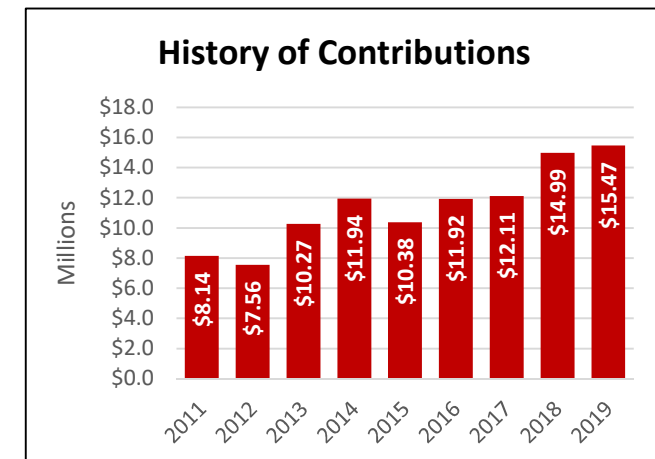
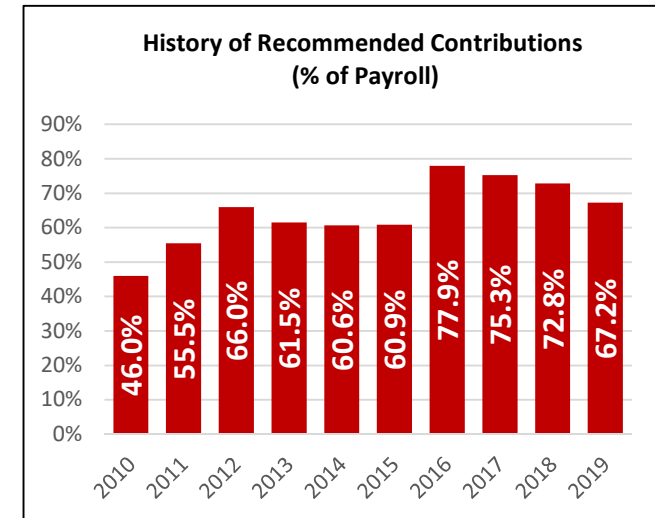
October 1, 2019

Funded Position

1. Entry age accrued liability	\$333,397,561
2. Actuarial value of assets	232,629,949
3. Unfunded actuarial accrued liability (UAAL)	\$100,767,612

Employer Contributions

1. Normal Cost	
(a) Total normal cost	\$4,782,737
(b) Expected participant contributions	1,966,312
(c) Net normal cost	\$2,816,425
2. Administrative expenses	624,922
3. Amortization of UAAL	8,422,974
4. Applicable interest	866,096
5. Total required contribution	\$12,730,417
6. Expected non-employer contributions	1,898,962
7. Total recommended contribution	\$10,831,455
As a percentage of expected payroll	67.24%
8. Recommended contributions to be paid on 12/31/2020	\$11,023,272

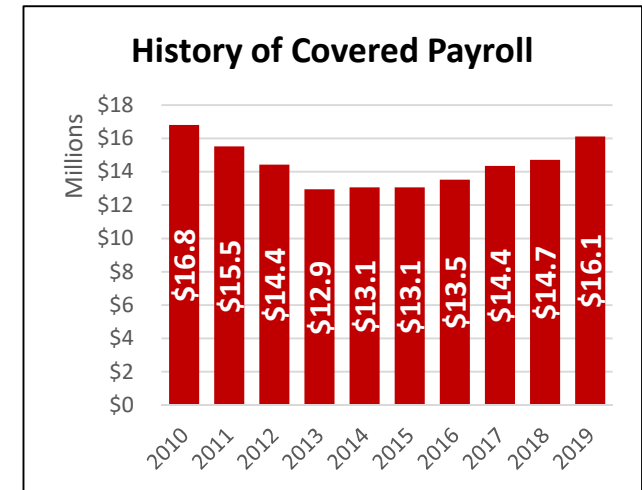


Demographic Information

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

October 1, 2019

Participant Counts	<u>Police</u>	<u>Fire</u>	<u>Total</u>
Active Participants	2	184	186
Retired Participants	189	123	312
Beneficiaries	20	12	32
Disabled Participants	17	18	35
Terminated Vested Participants	0	3	3
DROP Participants	<u>2</u>	<u>21</u>	<u>23</u>
Total Participants	230	361	591
Active Participant Demographics			
Average Age			38.78
Average Service			10.33
Average Compensation			\$86,601
Covered Payroll			\$16,107,844



Demographic Information

October 1, 2019

Retiree Statistics

Average Age	65.48
Average Monthly Benefit	\$4,731

Beneficiary Statistics

Average Age	69.91
Average Monthly Benefit	\$2,683

Disabled Participants Statistics

Average Age	60.55
Average Monthly Benefit	\$4,982

Terminated Participants Statistics

Average Age	42.24
Average Monthly Benefit	\$2,606

DROP Participants Statistics

Average Age	54.08
Average Monthly Benefit	\$5,746

Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	DROP	Totals
Prior Year	179	3	34	308	32	29	585
Active							
To Terminated Vested							
To Disabled	(1)		1				
To Retired							
To DROP	(1)					1	
To Death							
To Lump Sum	(3)						(3)
Terminated Vested							
To Retired							
Retired							
To Forfeiture							
To Death				(3)			(3)
Beneficiaries							
To Death					(2)		(2)
To End of Certain Period					(1)		(2)
DROP							
To Retired				7		(7)	
To Disabled							
Additions	12				3		16
Departures							
Current Year	186	3	35	312	32	23	591

Participant Reconciliation

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	2	3									5	58,058
25 to 29	4	15	4								23	65,719
30 to 34	5	15	12	7							39	75,721
35 to 39	1	10	7	12	10						40	86,481
40 to 44		4	1	9	20	2					36	95,105
45 to 49				6	19	1	2				28	103,691
50 to 54		2		1	8	1					12	104,017
55 to 59				1	2						3	106,120
60 to 64												
65 to 69												
70 & up												
Total	12	49	24	36	59	4	2				186	86,601

Plan Provisions

Plan Status

Plan established under the Code of Ordinances for the City of Pompano Beach, Florida, Sections 34.045-34.073 and was most recently stated under Ordinance No. 2018-23, passed and adopted on January 9, 2018. The Plan is also governed by certain provisions of Chapters 175 and 185, Florida Statutes, Part VII, Chapter 112, Florida Statutes and the Internal Revenue Code.

Eligibility for Participation

- (1) All Police Officers and Dispatchers who were participants of the prior Employees' Pension Plan and
- (2) Police Officers and Dispatchers who elected to remain in the Plan prior to the takeover of the police department by the Broward Sheriff's Office on 8/1/99.
- (3) All Firefighters who were participants in the prior Employees' Pension Plan; and
- (4) All regular, full time Firefighters (20 hours per week and 5 months per year) from age 18, upon date of employment.

Benefits

Normal Retirement

Eligibility	<p>A member hired before May 27, 2014 may retire on the first day of the month coincident with or next following the earlier of:</p> <ol style="list-style-type: none">(1) age 47 with 20 years of Continuous Service, or(2) age 55 with 10 years of Continuous Service. <p>A Firefighter member hired on or after May 27, 2014 may retire on the first day of the month coincident with or next following the earlier of:</p> <ol style="list-style-type: none">(1) age 50 with 20 years of Continuous Service, or(2) age 55 with 10 years of Continuous Service.
Police Benefit:	3.0% of Average Monthly Earnings (AME) multiplied by years of Continuous Service up to a maximum of 25 years, plus 2.0% of AME multiplied by years of Continuous Service in excess of 37.5.
Firefighter Benefit:	3.0% of AME multiplied by the first 10 years Continuous Service, plus 4.0% of AME multiplied by the next 10 years, plus 2.0% of AME multiplied by the next 5 years with a maximum benefit equal to 80% of AME; plus 2% of AME multiplied by each year of service in excess of 40.
Normal Form of Benefit	10 Years Certain and Life; other options are also available.
COLA	Beginning five years after benefit payments begin, retirees receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met

Plan Provisions

Early Retirement

Eligibility	A member may elect to retire earlier than the Normal Retirement Eligibility upon the completion of 20 years of Continuous Service or the attainment of age 50 with 10 years of Continuous Service.
Benefit	The member's accrued Normal Retirement Benefit based upon the member's AME and Continuous Service as of the date of termination. Benefit is actuarially reduced for each year by which the Early Retirement date precedes the member's Normal Retirement date. The Early Retirement reduction is 3% per year if early retirement occurs after age 50.
Normal Form of Benefit	10 Years Certain and Life; other options are also available.
COLA	Beginning five years after benefit payments begin, retirees receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met.

Late Retirement

Eligibility	Same as Normal Retirement taking into account compensation earned and service credited until the date of actual retirement.
Benefit	Accrued Benefit
Normal Form of Benefit	10 Years Certain and Life; other options are also available.
COLA	Beginning five years after benefit payments begin, retirees receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met.

Plan Provisions

Ordinary Death before Retirement

Eligibility	Any member with 1 or more years of Continuous Service who dies while employed by the City is eligible for survivor benefits.
Benefit	<p>(A) For members with less than 1 year of Continuous Service, no survivor benefits are payable.</p> <p>(B) For members with 1 year, but less than 5 years, of Continuous Service, the designated beneficiary will be paid a \$5,000 lump sum.</p> <p>(C) For members with 5 years, but less than 10 years, of Continuous Service:</p> <ol style="list-style-type: none"> (1) \$5,000 lump sum paid to the member's designated beneficiary; plus (2) Member's spouse will receive 65% of member's accrued pension as of the date of death subject to a minimum of 20% of AME; plus (3) Each unmarried child under age 18 (22 if full-time student) will receive 7 ½% of member's Earnings. If there is no spouse, benefits increase to 15% of member's Earnings per child. <p>Maximum benefit to spouse and children is 50% of earnings.</p> <p>(D) For members with 10 or more years of Continuous Service, the designated beneficiary can elect to receive benefits described under subsection (C) above or the member's accrued benefit as of the date of death. Benefits are payable at the member's Normal or Early Retirement date and will be reduced for Early Retirement, when applicable.</p>
Normal Form of Benefit	Spouse's benefits are paid until death or remarriage; children's benefits are paid until the earlier of age 18 (22 if full-time student), marriage or death.
COLA	Beginning five years after benefit payments begin, beneficiaries receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met.

Plan Provisions

Accidental Death before Retirement

Eligibility	Any member who dies as a direct result of an occurrence arising in the performance of service for the City is eligible for survivor benefits.
Benefit	<p>(1) \$5,000 lump sum paid to the member's designated beneficiary; plus</p> <p>(2) Member's spouse will receive 75% of member's Earnings; plus</p> <p>(3) Each unmarried child under age 18 (22 if full-time student) will receive 7 ½% of member's Earnings. If there is no spouse, benefits increase to 15% per child.</p> <p>Maximum benefit to spouse and children is 90% of earnings; if no spouse, maximum for children is 50% of Earnings.</p>
Normal Form of Benefit	Spouse's benefits are paid until death or remarriage; children's benefits are paid until the earlier of age 18 (22 if full-time student), marriage or death.
COLA	Beginning five years after benefit payments begin, beneficiaries receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met.

Termination Benefit

Eligibility	A member has earned a non-forfeitable right to Plan benefits after the completion of 10 years of Credited Service (See vesting table below).	
	<div><div>Years of Credited Service</div><div>Less Than 10</div><div>10 or more</div></div>	<div><div>% of Normal Retirement Benefits</div><div>0%</div><div>100%</div></div>
Benefit	The member's accrued Normal Retirement Benefit as of the date of termination. Benefit begins on the member's Normal Retirement date. Alternatively, members may elect to receive an actuarially reduced Early Retirement Benefit.	
Normal Form of Benefit	10 Years Certain and Life thereafter; other options are also available.	
COLA	Beginning five years after benefit payments begin, beneficiaries receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met.	
Plan members with less than 10 years of Credited Service will receive a refund of accumulated contributions with interest		

Plan Provisions

Ordinary Disability Benefit

Eligibility	Any member who becomes totally and permanently disabled and unable to perform regular duties or any other duties available in the Department from an act occurring in the performance of duty for the City is eligible for a disability benefit.
Benefit	75% of rate of Earnings in effect on the date of disability (for Firefighters, not to be less than the accrued benefit).
Normal Form of Benefit	Benefits begin on the first day of the month following the date the Board approves the disability and are payable until death or recovery from disability. If the member dies before receiving payments for 10 years, the member's designated beneficiary will receive the same monthly benefit for the remainder of the 10 year period. Other options are also available.
COLA	Beginning five years after benefit payments begin, retirees receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met.

Accidental Disability Benefit

Eligibility	Any active member with 10 or more years of Continuous Service who becomes totally and permanently disabled and unable to perform regular duties or any other duties available in the Department from an act not directly caused by the performance of duty for the City is eligible for a disability benefit.
Benefit	3.0% of AME multiplied by years of Continuous Service subject to a maximum of 60% of the rate of Earnings on the date of disability, plus 2.0% of AME multiplied by years of Continuous Service in excess of 25. Disability benefit is guaranteed to be no less than 25% of AME.
Normal Form of Benefit	Benefits begin on the first day of the month following the date the Board approves the disability and are payable until death or recovery from disability. If the member dies before receiving payments for 10 years, the member's designated beneficiary will receive the same monthly benefit for the remainder of the 10 year period. Other options are also available.
COLA	Beginning five years after benefit payments begin, retirees receive an automatic annual increase of 2% on each October 1. An additional annual increase of up to 1% is payable if certain conditions are met.

Plan Provisions

Compensation

Earnable Compensation

Police Officers: Basic compensation and regular longevity pay, increased for temporary upgrade pay. Also includes up to 25 hours per year of overtime pay.

Firefighters: Basic compensation and regular longevity pay, increased for temporary upgrade pay.

Average Monthly Earnings (AME)

For members hired before May 27, 2014:

The average of Earnings during the highest 3 years preceding termination; not including lump sum payments of unused leave

For members hired after May 27, 2014:

The average of Earnings during the highest 5 years preceding termination; not including lump sum payments of unused leave

Continuous Service

For Vesting and Benefit Accrual, total number of years and completed months from date of employment to date of termination or retirement

No service is credited for any periods of employment for which a member received a refund of contributions.

Employee Contributions

Police: 8.6% of Earnings, paid by BSO.

Firefighters: 11.6% of Earnings "picked up" by the City, reduced to 0.5% after 25 years of service and reaching maximum benefit of 80%, reverting back to 11.6% if member does not enter DROP.

Plan Provisions

DROP

Eligibility	<p>Plan members hired before May 27, 2014 are eligible for the DROP on the first day of the month coincident with or next following the earlier of:</p> <ul style="list-style-type: none">(1) age 47 with 20 years of Continuous Service, or(2) age 55 with 10 years of Continuous Service. <p>Plan members hired after May 27, 2014 are eligible for DROP on the first day of the month coincident with or next following the earlier of:</p> <ul style="list-style-type: none">(1) age 50 with 20 years of Continuous Service, or(2) age 55 with 10 years of Continuous Service. <p>Members who meet eligibility must submit a written election to participate in the DROP.</p>
Benefit	<p>The member's Credited Service and AME are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and AME.</p> <p>In addition, the members accumulated sick and annual leave pay will be paid in 5 equal annual installments on the member's DROP participation anniversary dates.</p>
Maximum Period	60 months (police) & 96 months (firefighters)
Interest Credited	<p>The member's DROP account is credited or debited quarterly at a rate equal to one of the following elected by the member:</p> <ul style="list-style-type: none">(1) the actual net rate of investment return realized by the Plan for that quarter, or(2) a rate set quarterly by the Board of Trustees, or(3) the actual net rate of investment return realized by a separate investment account made available by the Board of Trustees but the investment proportions designated by the member.
Normal Form of Benefit	<p>The member's DROP account is paid out under one of the following options as elected by the member:</p> <ul style="list-style-type: none">(1) a full single lump sum payment, or(2) annual installments in amounts as requested by the member by June 30th of each year, or(3) equal monthly installments as requested by the member by June 30th of each year, or(4) a single lump sum of the remaining balance after any annual or monthly installments have been made under options (2) or (3) above.
COLA	<p>Beginning five years after benefit payments begin, retirees receive an automatic annual increase of 2% on each October 1. An additional increase of up to 1% is payable if certain conditions are met. For Firefighters, if participant leaves the DROP after five years, the COLA begins when participant leaves the DROP.</p>

Plan Provisions

Payment Forms

Normal Form:	10 Years Certain and Life Annuity
Optional Forms:	Single Life Annuity Joint and 100% Contingent Survivor Annuity Joint and 75% Contingent Survivor Annuity Joint and 66 2/3% Contingent Survivor Annuity Joint and 50% Contingent Survivor Annuity Any Board-approved, actuarially equivalent benefit

Plan Provisions Not Included

We are not aware of any plan provisions not included in the valuation.

Adjustments Made for Subsequent Events

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

Changes Since Prior Report

None

Actuarial Assumptions

Cost Method

Individual Entry Age Normal Cost Method; all new bases are to be amortized over 20 years from the date established using a level dollar amortization for police and a level percentage of pay amortization, with a 2.75% payroll growth assumption, for firefighters.

Asset Valuation Method

20% Phase-In Method: Actuarial value of assets is equal to expected value phase in the difference between the expected investment earnings and actual investment earnings at the rate of 20% per year. The result cannot be greater than 120% of market value or less than 80% of market value.

Interest Rates

7.3%, compounded annually, net of investment expenses. Nyhart's professional judgment is that the rate is reasonable and has no significant bias.

Annual Pay Increases

2.0%, compounded annually for inflation plus a seniority/merit scale using the following representative rates, updated based on a study of experience for the plan during 2012-2018. See the experience study report dated August 19, 2019.

Years of Service	Merit and Seniority
1	9.03%
2	8.03%
3	7.52%
4	6.52%
5	5.01%
6	5.01%
7	4.01%
8-20	2.00%
21 and Higher	0.99%

Expense and/or Contingency Loading

One-year term cost method; average of prior two years' expenses

Actuarial Assumptions

Mortality Rates

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
Disability	Pub-2010 Generational using scale MP-2018, 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

These are the same mortality rates used by FRS in the July 1, 2019 Actuarial Valuation Report.

Retirement Rates

If eligible for Retirement, the following decrements apply, based on service, updated based on a study of experience for the plan during 2012-2018. See the experience study report dated August 19, 2019.

After First Eligibility for Normal Retirement	Police	Fire
0	80%	50%
1	50	20
2	75	30
3	100	40
4		50
5+		100

Disability Rates

Specimen rates for all groups are shown below:

Sample Ages	% Becoming Disabled Within Next Year
25	0.15%
30	0.18
35	0.23
40	0.30
45	0.51
50	1.00
55	1.59

Type of Disability or Death:

75% of disabilities and deaths are assumed to be service-related

Actuarial Assumptions

Workers' Compensation Offsets

Current offsets are assumed to continue.

Withdrawal Rates

0.5% per year for the remaining active police officers in the plan

For firefighters, withdrawal rates below are updated based on a study of experience for the plan during 2012-2018. See the experience study report dated August 19, 2019.

<u>Service</u>	<u>Fire Withdrawal Rate</u>
0	5.00%
1	5.00
2	4.00
3	4.00
4	4.00
5	2.00
6	2.00
7	2.00
8	1.25
9	1.25
10	1.25
11	1.25
12	1.25
13+	0.50

Withdrawal of Employee Contributions

Non-vested terminated employees are assumed to withdraw their contribution balances upon termination. Vested terminated employees are assumed to defer commencement of benefits.

Marital Status and Ages

100% of employees are assumed to be married. Females are assumed to be 3 years younger than males

State Contributions

Assumed to be the same as in the prior year

Changes Since Prior Report

The assumed discount rate has been lowered to 7.3% from 7.4%. The inflation rate, salary scale, retirement rates (for firefighters only) and withdrawal rates (for firefighters only) have been updated after an experience study covering the years 2012-2018 was performed.

The assumed mortality rates have been updated to match the Florida Retirement System mortality for Special Risk members after an experience study was conducted in 2019 and new mortality tables were adopted for the FRS Actuarial Valuation as of July 1, 2019.

Other Measurements

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

- Reconciliation of unfunded actuarial liability
- Statement of changes on value of assets
- Distribution Assets
- Schedule of amortizations
- Florida State requirements
 - Corporative 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
 - Reserve account for benefit improvements under 99-1 and SB 172

Other Measurements

Reconciliation of Unfunded Actuarial Liability

	October 1, 2019
1. Unfunded Actuarial Accrued Liability beginning of prior year	\$104,305,805
2. Normal Cost	4,367,560
3. Expenses	623,074
4. Employer Contributions	(11,050,554)
5. Employee Contributions	(1,857,469)
6. Non-Employer Contributions	(2,559,937)
7. Interest	7,502,371
8. 1-year lag adjustment	1,475,500
9. Expected Unfunded Actuarial Accrued Liability, beginning of current year	\$102,806,350
10. Accumulated Reserve Adjustment	\$0
11. Liability changes due to:	
(a) Amendments	\$0
(b) Assumptions	(7,145,658)
(c) Funding Methods	0
(d) (Gain)/Loss	5,106,920
(e) Total	(\$2,038,738)
12. Unfunded Actuarial Liability beginning of current year	\$100,767,612

Other Measurements

Statement of Changes on Value of Assets

Additions

Contributions:

Employer	\$10,775,021	\$11,050,554
Member	1,708,166	1,857,469
Nonemployer contributing entity	2,501,946	2,559,937
Total contributions	\$14,985,133	\$15,467,960

Investment income

Net increase in fair value of investments	\$15,816,895	\$5,394,048
Interest and dividends	5,492,691	5,611,510
Less investment expense, other than from securities lending	(1,423,132)	(1,375,399)
Net income other than from securities lending	\$19,886,454	\$9,630,159
Securities lending income	\$0	\$0
Less securities lending expense	0	0
Net income from securities lending	\$0	\$0
Net investment income	\$19,886,454	\$9,630,159

Other	18,569	92,615
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Total additions	\$34,890,156	\$25,190,734
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Deductions

Benefit payments, including refunds of member contributions	\$25,849,524	\$25,758,878
Administrative expense	626,768	623,074
Other	0	0
Total deductions	\$26,476,292	\$26,381,952

Net increase in market value	\$8,413,864	\$(1,191,218)
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Market Value as of

Beginning of year	237,937,762	246,351,626
End of year	\$246,351,626	\$245,160,408

Other Measurements

Distribution of Assets	September 30, 2018	September 30, 2019
Cash and deposits	\$1,721,281	\$1,868,645
Securities lending cash collateral	0	0
Total cash	\$1,721,281	\$1,868,645
Receivables:		
Contributions	\$0	\$0
Due from broker for investments sold	586,097	1,975,978
Investment income	384,179	358,120
Other	186,494	221,493
Total receivables	\$1,156,770	\$2,555,591
Investments:		
Equity	\$133,349,238	\$128,011,413
Fixed Income	52,166,853	55,530,498
Real Estate	3,224,587	3,194,035
Hedge Funds & Private Equity	49,106,322	49,464,217
Short Term Investments	6,554,212	7,432,835
Total investments	\$244,401,212	\$243,632,998
Sub-total	\$247,279,263	\$248,057,234
Payables:		
Investment management fees	\$265,525	\$255,759
Due to broker for investments purchased	662,112	2,641,067
Collateral payable for securities lending	0	0
Other	0	0
Total liabilities	\$927,637	\$2,896,826
Total	\$246,351,626	\$245,160,408

Other Measurements

Schedule of Amortizations - Police

				October 1, 2019	
				Total	
				\$55,748,837	\$4,939,979
<u>Date Established</u>	<u>Description</u>	<u>Original Amount</u>	<u>Remaining Period Years</u>	<u>Remaining Balance</u>	<u>Annual Payment</u>
10/1/1990	Actuarial Loss (Gain)	(173,266)	1	(17,796)	(17,796)
10/1/1991	Assumption Change	(4,082)	2	(837)	(433)
10/1/1991	Actuarial Loss (Gain)	(298,306)	2	(61,163)	(31,658)
10/1/1992	Assumption Change	(3,250)	3	(943)	(337)
10/1/1992	Actuarial Loss (Gain)	(721,063)	3	(209,316)	(74,742)
10/1/1993	Assumption Change	(53,335)	4	(19,776)	(5,478)
10/1/1993	Actuarial Loss (Gain)	(301,531)	4	(111,799)	(30,969)
10/1/1994	Assumption Change	768,410	5	310,067	71,045
10/1/1994	Actuarial Loss (Gain)	422,754	5	170,588	39,086
10/1/1995	Assumption Change	(311,136)	6	(163,017)	(32,169)
10/1/1995	Actuarial Loss (Gain)	(271,042)	6	(142,009)	(28,024)
10/1/1996	Assumption Change	(374,561)	7	(227,568)	(39,766)
10/1/1996	Actuarial Loss (Gain)	(276,460)	7	(167,964)	(29,350)
10/1/1997	Assumption Change	1,345,971	8	898,257	141,829
10/1/1997	Actuarial Loss (Gain)	(3,074,778)	8	(2,288,124)	(361,280)
10/1/1998	Plan Amendment	(337,295)	9	(264,859)	(38,371)
10/1/1998	Actuarial Loss (Gain)	(3,155,507)	9	(2,477,837)	(358,977)
10/1/1999	Actuarial Loss (Gain)	(2,565,536)	10	(2,108,084)	(283,616)

Other Measurements

Schedule of Amortizations - Police

October 1, 2019

<u>Date Established</u>	<u>Description</u>	<u>Original Amount</u>	<u>Remaining Period Years</u>	<u>Remaining Balance</u>	<u>Annual Payment</u>
10/1/2000	Assumption Change	(18,775,480)	11	(15,416,850)	(1,944,802)
10/1/2000	Plan Amendment	11,651,128	11	9,566,930	1,206,847
10/1/2000	Actuarial Loss (Gain)	3,153,187	11	2,589,135	326,614
10/1/2001	Variable COLA	484,615	12	411,416	49,049
10/1/2001	Plan Amendment	377,521	12	320,497	38,209
10/1/2001	Actuarial Loss (Gain)	5,917,320	12	5,023,500	598,899
10/1/2002	Actuarial Loss (Gain)	13,547,635	13	12,648,857	1,434,561
10/1/2003	Actuarial Loss (Gain)	8,453,577	14	7,117,372	772,170
10/1/2004	Actuarial Loss (Gain)	7,733,735	15	6,419,337	669,359
10/1/2005	Plan Amendment	528,766	16	366,215	36,851
10/1/2005	Actuarial Loss (Gain)	1,811,918	16	1,504,776	151,419
10/1/2006	Actuarial Loss (Gain)	(2,245,390)	17	(1,900,579)	(185,211)
10/1/2007	Actuarial Loss (Gain)	(3,930,059)	18	(3,426,344)	(324,355)
10/1/2008	Assumption Change	(2,460,748)	19	(2,228,222)	(205,463)
10/1/2008	Actuarial Loss (Gain)	4,312,669	19	3,905,147	360,091
10/1/2009	Assumption Change	2,211,808	20	2,034,290	183,153
10/1/2009	Actuarial Loss (Gain)	4,953,816	20	4,556,228	410,209
10/1/2010	Assumption Change	2,351,731	21	2,162,531	190,507
10/1/2010	Actuarial Loss (Gain)	4,329,632	21	3,981,309	350,732

Other Measurements

Schedule of Amortizations - Police

October 1, 2019

<u>Date Established</u>	<u>Description</u>	<u>Original Amount</u>	<u>Remaining Period Years</u>	<u>Remaining Balance</u>	<u>Annual Payment</u>
10/1/2011	Assumption Change	2,628,245	22	2,359,292	203,754
10/1/2011	Actuarial Loss (Gain)	2,882,428	22	2,587,466	223,459
10/1/2012	Valuation Software	(955,577)	23	(872,497)	(73,995)
10/1/2012	Assumption Change	2,734,348	23	2,496,615	211,732
10/1/2012	Actuarial Loss (Gain)	7,401,751	23	6,758,219	573,149
10/1/2013	Assumption Change	(2,014,446)	24	(1,868,670)	(155,863)
10/1/2013	Actuarial Loss (Gain)	1,279,029	24	1,186,474	98,962
10/1/2014	Actuarial Loss (Gain)	(1,640,207)	25	(1,544,241)	(126,853)
10/1/2015	Actuarial Loss (Gain)	(532,193)	26	(509,068)	(41,236)
10/1/2016	Assumption Change	14,723,929	27	14,261,127	1,140,398
10/1/2016	Actuarial Loss (Gain)	(1,637,449)	27	(1,585,981)	(126,824)
10/1/2017	Actuarial Loss (Gain)	289,192	28	283,335	22,390
10/1/2018	Actuarial Loss (Gain)	(28,169)	19	(27,512)	(2,537)
10/1/2018	Assumption Change	1,526,587	19	1,490,945	137,479
10/1/2019	Actuarial Loss (Gain)	2,419,119	20	2,419,119	217,800
10/1/2019	Assumption Change	(4,439,151)	20	(4,439,151)	(399,669)

Other Measurements

Schedule of Amortizations - Fire

				October 1, 2019	
				Total	
				\$45,018,775	\$3,482,995
<u>Date Established</u>	<u>Description</u>	<u>Original Amount</u>	<u>Remaining Period Years</u>	<u>Remaining Balance</u>	<u>Annual Payment</u>
10/1/1990	Actuarial Loss (Gain)	(137,729)	1	(13,786)	(13,786)
10/1/1991	Assumption Change	(3,244)	2	(661)	(338)
10/1/1991	Actuarial Loss (Gain)	(237,123)	2	(48,280)	(24,663)
10/1/1992	Assumption Change	(2,583)	3	(757)	(263)
10/1/1992	Actuarial Loss (Gain)	(573,171)	3	(168,065)	(58,466)
10/1/1993	Assumption Change	(42,396)	4	(16,125)	(4,297)
10/1/1993	Actuarial Loss (Gain)	(239,687)	4	(91,170)	(24,295)
10/1/1994	Assumption Change	610,808	5	256,487	55,836
10/1/1994	Actuarial Loss (Gain)	336,046	5	141,107	30,718
10/1/1995	Assumption Change	(247,322)	6	(136,632)	(25,308)
10/1/1995	Actuarial Loss (Gain)	(215,450)	6	(119,025)	(22,047)
10/1/1996	Assumption Change	(297,737)	7	(193,085)	(31,295)
10/1/1996	Actuarial Loss (Gain)	(219,757)	7	(142,514)	(23,098)
10/1/1997	Assumption Change	1,069,910	8	770,897	111,591
10/1/1997	Actuarial Loss (Gain)	(2,444,135)	8	(1,963,697)	(284,256)
10/1/1998	Plan Amendment	(268,116)	9	(229,749)	(30,170)
10/1/1998	Actuarial Loss (Gain)	(2,508,306)	9	(2,149,392)	(282,248)
10/1/1999	Plan Amendment	114,009	10	103,266	12,453
10/1/1999	Actuarial Loss (Gain)	(2,039,340)	10	(1,847,139)	(222,752)

Other Measurements

Schedule of Amortizations - Fire

October 1, 2019

<u>Date Established</u>	<u>Description</u>	<u>Original Amount</u>	<u>Remaining Period Years</u>	<u>Remaining Balance</u>	<u>Annual Payment</u>
10/1/2000	Assumption Change	(13,798,204)	11	(12,435,419)	(1,390,875)
10/1/2000	Plan Amendment	8,646,272	11	7,792,319	871,554
10/1/2000	Actuarial Loss (Gain)	676,828	11	609,983	68,225
10/1/2000	Plan Amendment	299,541	11	269,960	30,194
10/1/2001	Actuarial Loss (Gain)	7,539,001	12	6,999,301	732,023
10/1/2002	Actuarial Loss (Gain)	9,466,755	13	11,495,354	1,131,863
10/1/2003	Actuarial Loss (Gain)	7,616,087	14	8,625,440	804,202
10/1/2004	Actuarial Loss (Gain)	6,692,396	15	7,442,225	660,318
10/1/2005	Plan Amendment	4,413,733	16	4,861,150	412,216
10/1/2005	Actuarial Loss (Gain)	2,591,529	16	2,854,225	242,032
10/1/2006	Actuarial Loss (Gain)	(2,040,207)	17	(2,243,300)	(182,491)
10/1/2007	Actuarial Loss (Gain)	(868,128)	18	(961,652)	(75,297)
10/1/2008	Assumption Change	(2,812,893)	19	(3,125,930)	(236,279)
10/1/2008	Actuarial Loss (Gain)	3,519,341	19	3,910,998	295,619
10/1/2009	Assumption Change	2,293,100	20	2,541,635	185,944
10/1/2009	Plan Amendment	23,114	20	25,620	1,874
10/1/2009	Actuarial Loss (Gain)	3,014,143	20	3,340,827	244,412
10/1/2010	Assumption Change	2,377,230	21	2,606,366	184,990
10/1/2010	Actuarial Loss (Gain)	(904,732)	21	(991,938)	(70,404)

Other Measurements

Schedule of Amortizations - Fire

October 1, 2019

<u>Date Established</u>	<u>Description</u>	<u>Original Amount</u>	<u>Remaining Period Years</u>	<u>Remaining Balance</u>	<u>Annual Payment</u>
10/1/2011	Actuarial Loss (Gain)	(1,874,268)	22	(1,995,249)	(137,682)
10/1/2011	Assumption Change	2,629,741	22	2,799,487	193,178
10/1/2012	Valuation Software	(2,713,381)	23	(2,869,297)	(192,865)
10/1/2012	Assumption Change	2,714,228	23	2,870,193	192,925
10/1/2012	Actuarial Loss (Gain)	1,168,034	23	1,235,152	83,023
10/1/2013	Assumption Change	(3,541,424)	24	(3,715,557)	(243,701)
10/1/2013	Actuarial Loss (Gain)	(1,830,796)	24	(1,920,819)	(125,985)
10/1/2014	Actuarial Loss (Gain)	(1,597,600)	25	(1,668,113)	(106,931)
10/1/2014	Plan Amendment	589	25	615	39
10/1/2015	Actuarial Loss (Gain)	(1,680,516)	26	(1,743,754)	(109,406)
10/1/2016	Assumption Changes	14,229,829	27	14,653,904	901,085
10/1/2016	Actuarial Loss (Gain)	(228,270)	27	(235,072)	(14,455)
10/1/2017	Actuarial Loss (Gain)	1,124,272	28	1,147,648	69,248
10/1/2018	Actuarial Loss (Gain)	(3,291,760)	19	(3,274,757)	(247,528)
10/1/2018	Assumption Change	1,994,558	19	1,984,256	149,983
10/1/2019	Actuarial Loss (Gain)	2,687,801	20	2,687,801	196,637
10/1/2019	Assumption Change	(2,706,507)	20	(2,706,507)	(198,006)

Other Measurements

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

Comparative Summary Of Principal Valuation Results

	10/1/2019 7.30% (current methods & assumptions)	10/1/2019 7.40% (prior methods & assumptions)	10/1/2018 7.40%
Participant Data			
Active members	186	186	179
Total annual payroll	\$16,107,844	\$16,107,844	\$14,705,355
Members in DROP	23	23	29
Total annualized benefit	\$1,585,759	\$1,585,759	\$2,013,136
Retired members and beneficiaries	344	344	340
Total annualized benefit	\$18,742,481	\$18,742,481	\$18,058,434
Disabled members receiving benefits	35	35	34
Total annualized benefit	\$2,092,527	\$2,092,527	\$1,984,906
Terminated vested members	3	3	3
Total annualized benefit	\$93,824	\$93,824	\$93,824
Assets			
Actuarial value of assets	\$232,629,949	\$232,629,949	\$227,193,975
Market value of assets	\$230,401,768	\$230,401,768	\$229,180,812

Other Measurements

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

	10/1/2019 7.30% (current methods & assumptions)	10/1/2019 7.40% (prior methods & assumptions)	10/1/2018 7.40%
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$96,313,209	\$96,467,192	\$86,315,882
Vesting benefits	\$2,119,989	\$1,559,399	\$1,497,269
Disability benefits	\$7,421,540	\$7,199,263	\$6,736,194
Death benefits	\$1,918,171	\$2,577,982	\$2,416,407
Return of contribution	455,574	389,302	358,133
Total	\$108,228,483	\$108,193,138	\$97,323,885
Terminated vested members	\$1,277,448	\$1,292,954	\$732,569
Retired members and beneficiaries	\$242,552,338	\$251,306,664	\$252,277,093
Disabled members	\$25,283,725	\$24,498,696	\$23,524,826
Total	\$377,341,994	\$385,291,452	\$373,858,373
Liabilities due and unpaid	\$0	\$0	\$0
Actuarial accrued liability	\$333,397,561	\$340,543,218	\$331,499,781
Unfunded actuarial accrued liability	\$100,767,612	\$107,913,269	\$104,305,806

Other Measurements

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

Comparative Summary Of Principal Valuation Results (continued)

	10/1/2019 7.30% (current methods & assumptions)	10/1/2019 7.40% (prior methods & assumptions)	10/1/2018 7.40%
Actuarial present value of accrued benefits			
Statement of actuarial present value of all accrued benefits			
Vested accrued benefits			
Inactive members and beneficiaries	\$283,211,178	\$291,195,981	\$276,534,488
Active members	45,675,164	45,430,954	38,190,211
Total value of all vested accrued benefits	\$328,886,342	\$336,626,935	\$314,724,699
Non-vested accrued benefits	8,303,350	7,463,814	6,859,666
Total actuarial present value of all accrued benefits	\$337,189,692	\$344,090,749	\$321,584,365
Statement of changes in total actuarial present value of all accrued benefits (ASC 960)			
Actuarial present value of accrued benefits, beginning of year	\$321,584,365	\$321,584,365	\$314,908,726
Increase (decrease) during year			
Benefits accumulated	\$10,645,449	\$10,645,449	\$7,746,602
Plan amendment	0	0	0
Changes in actuarial assumptions	(6,901,057)	0	2,112,239
Interest	22,861,173	22,861,173	22,666,322
Benefits paid	(25,758,878)	(25,758,878)	(25,849,524)
Other changes*	14,758,640	14,758,640	0
Net increase (decrease)	\$15,605,327	\$22,506,384	\$6,675,639
Actuarial present value of accrued benefits, end of year	\$337,189,692	\$344,090,749	\$321,584,365

* Change in method to include DROP balance and Share Plan Reserve balance in the total Present Value of Accrued Benefits

Other Measurements

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

	10/1/2019 7.30% (current methods & assumptions)	10/1/2019 7.40% (prior methods & assumptions)	10/1/2018 7.40%
Pension cost			
Normal Cost	\$4,782,737	\$4,762,331	\$4,367,560
Member contributions	\$1,966,312	\$1,970,090	\$1,803,258
Expected plan sponsor contribution	\$11,023,272	\$11,733,141	\$10,902,279
As % of payroll	67.24%	71.56%	72.83%
Member Contributions as % of payroll	12.21%	12.23%	12.26%
Past contributions	9/30/2019		9/30/2018
Required plan sponsor contribution	\$12,677,918		\$12,844,513
Required member contribution	\$1,857,469		\$1,708,166
Actual contributions made by:			
Plan's sponsor	\$12,677,918		\$12,844,513
Members	\$1,857,469		\$1,708,166
Other	\$0		\$0
Net actuarial gain (loss) (if applicable)	\$(5,106,920)		\$3,319,929
Other disclosures (where applicable)			
Present value of active member			
Future salaries at attained age	\$150,474,736	\$153,698,965	\$145,028,682
Future contributions at attained age	\$15,495,452	\$15,972,623	\$15,102,998

Other Measurements

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	\$55,748,837	\$45,018,775	\$100,767,612
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$1,994,986	\$94,318,223	\$96,313,209
Vesting benefits	\$17,212	\$2,102,777	\$2,119,989
Disability benefits	\$50,595	\$7,370,945	\$7,421,540
Death benefits	\$9,641	\$1,908,530	\$1,918,171
Return of contribution	\$0	\$455,574	\$455,574
Total	\$2,072,434	\$106,156,049	\$108,228,483
Terminated vested members	\$0	\$1,277,448	\$1,277,448
Retired members and beneficiaries	\$139,725,959	\$102,826,379	\$242,552,338
Disabled members	\$11,320,144	\$13,963,581	\$25,283,725
Total	\$153,118,537	\$224,223,457	\$377,341,994
Entry age reserve			
Active	\$1,801,591	\$62,482,459	\$64,284,050
Inactive	\$151,046,103	\$118,067,408	\$269,113,511
Total	\$152,847,694	\$180,549,867	\$333,397,561
Accumulated Employee Contributions	\$334,052	\$17,832,172	\$18,166,224
Present Value of Future Salaries	\$927,623	\$149,547,113	\$150,474,736
Present Value of Future Member Contributions	\$60,191	\$15,435,261	\$15,495,452
Annual Inactive Benefits	\$12,252,131	\$10,108,974	\$22,361,105
Valuation Payroll	\$234,713	\$15,873,131	\$16,107,844
ASC 960 Information			
Present Value of Vested Benefits	\$159,177,743	\$169,708,599	\$328,886,342
Present Value of Accrued Benefits	\$159,658,330	\$177,531,362	\$337,189,692

Other Measurements

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

Hypothetical City Contribution Requirement for 2020/2021 Fiscal Year

	Police	Fire	Total
Actuarial Value at 10/1/2018	\$105,033,308	\$139,331,481	\$244,364,789
Contribution by			
- Members	20,352	1,837,117	1,857,469
- City	0	6,082,680	6,082,680
- BSO	4,967,874	0	4,967,874
- State	1,279,376	1,280,561	2,559,937
- Total	\$6,267,602	\$9,200,358	\$15,467,960
Net Earnings Recognized ¹	\$5,928,867	\$8,008,925	\$13,937,792
Disbursements			
- Benefit Payment	12,815,658	12,881,226	25,696,884
- Refunds	0	61,994	61,994
- Administrative Expenses ²	265,044	358,030	623,074
- Total	\$13,080,702	\$13,301,250	\$26,381,952
Actuarial Value at 10/1/2019	\$104,149,075	\$143,239,514	\$247,338,589
DROP Account Balance	\$6,848,576	\$7,249,091	\$14,097,667
State Contribution Reserve	\$201,642	\$459,331	\$660,973
Member Plan	\$0	\$0	\$0
Adjusted Actuarial Value at 10/1/2019	\$97,098,857	\$135,531,092	\$232,629,949
Market Value of Assets ³	\$96,168,823	\$134,232,945	\$230,401,768

¹Allocated based on Return of Actuarial Value of Assets

²Allocated based on Net Earnings Recognized

³Allocation based on Adjusted Actuarial Value as of 10/1/2019

Other Measurements

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

Hypothetical City Contribution Requirement for 2020/2021 Fiscal Year

	Police	Fire	Total
Employer Contributions			
Normal Cost	\$68,530	\$4,714,207	\$4,782,737
Expected Member Contributions	(\$23,071)	(\$1,943,241)	(\$1,966,312)
Net Normal Cost	\$45,459	\$2,770,966	\$2,816,425
Administrative expense ¹	\$265,830	\$359,092	\$624,922
Amortization of UAAL	\$4,939,979	\$3,482,995	\$8,422,974
Applicable Interest	383,343	482,753	866,096
Total Recommended Contribution	\$5,634,611	\$7,095,806	\$12,730,417
Expected Non-Employer Contributions	(1,077,732)	(821,230)	(1,898,962)
Total Recommended Contribution	\$4,556,879	\$6,274,576	\$10,831,455
As a percentage of payroll	1941.47%	39.53%	67.24%
Hypothetical Total			10,831,455
Total Recommended Contribution (paid in Lump Sum)	\$4,637,578	\$6,385,694	\$11,023,272
Total Recommended Contribution (paid in Quarterly Installments)	\$4,761,109	\$6,555,789	\$11,316,898

¹Allocated based on Net Earnings Recognized

Other Measurements

Information to Comply with Florida 60T-1.003(3)(f)

September 30, 2019

Historical Salary Increases and Asset Performance

Year Ending	Payroll Growth	Salary Growth	Expected Salary Growth	Asset Return (Market)	Asset Return (Actuarial)	Asset Return (Expected)
9/30/2019	9.54%	7.15%	6.06%	4.04%	5.84%	7.40%
9/30/2018	2.45%	2.52%	5.55%	8.59%	7.19%	7.50%
9/30/2017	6.11%	4.43%	5.41%	10.88%	7.91%	7.50%
9/30/2016	3.56%	6.06%	5.27%	7.63%	8.54%	7.50%
9/30/2015	(0.03%)	4.84%	5.41%	(1.71%)	7.46%	7.50%
9/30/2014	0.90%	5.50%	5.20%	10.00%	9.60%	7.50%
9/30/2013	(9.00%)	1.40%	7.00%	13.70%	8.00%	7.70%
9/30/2012	(7.00%)	1.60%	6.90%	16.80%	2.80%	7.90%
9/30/2011	(7.70%)	(1.50%)	6.40%	1.70%	1.20%	8.10%
9/30/2010	(7.60%)	5.00%	6.50%	10.40%	5.60%	8.30%
9/30/2009	(4.00%)	3.00%	7.00%	1.80%	2.30%	8.50%
9/30/2008	(1.40%)	7.40%	7.00%	(14.30%)	3.60%	8.50%
9/30/2007	2.80%	6.20%	6.00%	12.80%	10.00%	8.50%
Averages						
3-year				7.80%	6.98%	
5-year				5.79%	7.38%	
10-year				8.07%	6.38%	
20-year				5.90%	5.14%	
43-year				8.35%	7.50%	

Other Measurements

Information to Comply with Florida 60T-1.003(3)(f)

September 30, 2019

Amortization of Unfunded Actuarial Accrued Liability

	UAAL	Amortization
10/1/2019	\$100,767,612	\$8,422,974
10/1/2020	\$99,085,762	\$8,550,726
10/1/2021	\$97,144,128	\$8,708,012
10/1/2022	\$94,891,949	\$8,949,054
10/1/2046	\$166,441	\$166,441

Other Measurements

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

	October 1, 2019			
	Valuation	- 200 bp ²	Funding Rate ²	+ 200 bp ²
	7.40%	5.30%	7.30%	9.30%
Total pension liability				
Service Cost	\$4,367,560	\$4,367,560	\$4,367,560	\$4,367,560
Interest	25,340,433	25,340,433	25,340,433	25,340,433
Benefit changes	0	0	0	0
Difference between expected and actual experience	(3,449,843)	(3,449,843)	(3,449,843)	(3,449,843)
Changes in assumptions	0	78,885,873	(3,954,211)	(61,791,176)
Benefit payments	(25,696,884)	(25,696,884)	(25,696,884)	(25,696,884)
Contribution refunds	(61,994)	(61,994)	(61,994)	(61,994)
Net change in pension liability	\$499,272	\$79,385,145	(\$3,454,939)	(\$61,291,904)
Total pension liability, beginning of year	\$350,950,167	\$350,950,167	\$350,950,167	\$350,950,167
Total pension liability, end of year	\$351,449,439	\$430,335,312	\$347,495,228	\$289,658,263
Plan fiduciary net position				
Contributions - Employer	\$11,050,554	\$11,050,554	\$11,050,554	\$11,050,554
Contributions - State	1,857,469	1,857,469	1,857,469	1,857,469
Contributions - Member	2,559,937	2,559,937	2,559,937	2,559,937
Net investment income	9,533,689	9,630,159	9,630,159	9,630,159
Benefit payments	(25,696,884)	(25,696,884)	(25,696,884)	(25,696,884)
Contribution refunds	(61,994)	(61,994)	(61,994)	(61,994)
Administrative expense	(623,074)	(623,074)	(623,074)	(623,074)
Other	92,615	92,615	92,615	92,615
Net change in plan fiduciary net position	(\$1,287,688)	(\$1,191,218)	(\$1,191,218)	(\$1,191,219)
Plan fiduciary net position, beginning of year	\$246,351,626	\$246,351,626	\$246,351,626	\$246,351,626
Plan fiduciary net position, end of year	\$245,063,938	\$245,160,408	\$245,160,408	\$245,160,408
Net pension liability/(asset)	\$106,385,501	\$185,174,904	\$102,334,820	\$44,497,855
Funded ratio	69.73%	56.97%	70.55%	84.64%
Years that Assets support expected benefit payments	13	12	14	17
Estimated city contribution				
Annual dollar value	\$11,526,296	\$18,306,675	\$10,831,455	\$4,763,471
Percentage of payroll	71.56%	113.65%	67.24%	29.57%

¹Includes DROP assets and liabilities

²Based on valuation assumption with the following changes
-interest rate (as noted)

Other Measurements

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

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Scale BB Generational
Interest 7.40%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$245,063,938	\$16,802,248	\$36,667,408 ¹
2	225,198,778	15,820,744	23,224,325
3	217,795,197	15,251,362	23,816,439
4	209,230,120	14,592,622	24,502,303
5	199,320,439	13,836,810	25,121,346
6	188,035,903	12,973,826	25,889,885
7	175,119,844	11,988,739	26,696,133
8	160,412,450	10,873,073	27,447,884
9	143,837,639	9,621,484	28,137,297
10	125,321,826	8,226,537	28,819,117
11	104,729,246	6,678,178	29,493,528
12	81,913,896	4,970,358	30,029,678
13	56,854,576	3,095,623	30,589,561
14	29,360,638		30,998,887

¹Benefit payments include the DROP balance at 9/30/2019

Other Measurements

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

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality 2019 FRS Special Risk Scale MP-2018 Generational
Interest 5.30%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$245,160,408	\$12,033,392	\$36,704,427 ¹
2	220,489,373	11,075,492	23,336,921
3	208,227,944	10,412,224	23,849,690
4	194,790,478	9,682,937	24,503,435
5	179,969,980	8,881,292	25,121,196
6	163,730,076	7,999,995	25,908,018
7	145,822,053	7,033,152	26,585,365
8	126,269,840	5,979,885	27,235,267
9	105,014,458	4,837,137	27,855,042
10	81,996,553	3,602,096	28,432,001
11	57,166,648	2,272,219	28,963,108
12	30,475,759	847,639	29,343,970
13	1,979,428		29,815,788

¹Benefit payments include the DROP balance at 9/30/2019

Other Measurements

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

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality 2019 FRS Special Risk Scale MP-2018 Generational
Interest 7.30%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$245,160,408	\$16,580,594	\$36,704,427 ¹
2	225,036,575	15,590,875	23,336,921
3	217,290,529	15,007,027	23,849,690
4	208,447,866	14,338,071	24,503,435
5	198,282,502	13,573,849	25,121,196
6	186,735,155	12,702,679	25,908,018
7	173,529,816	11,714,402	26,585,365
8	158,658,853	10,605,518	27,235,267
9	142,029,104	9,369,323	27,855,042
10	123,543,385	7,999,177	28,432,001
11	103,110,561	6,488,537	28,963,108
12	80,635,990	4,834,237	29,343,970
13	56,126,257	3,028,108	29,815,788
14	29,338,577	1,064,094	30,053,218
15	349,453		30,347,944

¹Benefit payments include the DROP balance at 9/30/2019

Other Measurements

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

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality 2019 FRS Special Risk Scale MP-2018 Generational
Interest 9.30%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$245,160,408	\$21,131,100	\$36,704,427 ¹
2	229,587,081	20,290,553	23,336,921
3	226,540,713	19,983,927	23,849,690
4	222,674,950	19,594,687	24,503,435
5	217,766,202	19,110,086	25,121,196
6	211,755,092	18,515,279	25,908,018
7	204,362,353	17,796,958	26,585,365
8	195,573,946	16,950,087	27,235,267
9	185,288,766	15,965,387	27,855,042
10	173,399,111	14,833,417	28,432,001
11	159,800,527	13,544,601	28,963,108
12	144,382,020	12,093,363	29,343,970
13	127,131,413	10,467,605	29,815,788
14	107,783,230	8,657,429	30,053,218
15	86,387,441	6,654,220	30,347,944
16	62,693,717	4,433,961	30,716,201
17	36,411,477	1,977,685	30,980,726
18	7,408,436		31,397,562

¹Benefit payments include the DROP balance at 9/30/2019

Other Measurements

Reserve Account For Future Benefit Improvements Under F.L. 99-1

1. Adjusted Base Amount at 10/1/2019

Year <u>Established</u>	<u>Description</u>	Ch. 185 <u>Police</u>	Ch. 175 <u>Fire</u>	Suppl. <u>Fire</u>	Total <u>Fire</u>
		-\$-	-\$-	-\$-	-\$-
	Adjusted Base Amount as of 10/1/10	798,463	704,031	28,723	732,754
2012	Ordinances 2012-30/31	0	88,476	0	88,476
2017	Ordinance 2017-30	77,625	0	0	0
	Adjusted Base Amount	876,088	792,507	28,723	821,230

2. Reserve Account for 2018/2019

	Ch. 185 <u>Police</u>	Total <u>Fire</u>
	-\$-	-\$-
(a) Reserve Account at September 30, 2018	500,119	432,454
(b) Share Plan Allocation Paid Out	(500,119)	(432,454)
(c) Share Plan Allocation for Reserve	201,642	459,331
(d) Reserve Account at September 30, 2019 (a + b + c)	201,642	459,331
(e) City Contribution Receivable for State Premium Shortfall		
i. Premium Tax Distribution for 2018	1,279,376	1,280,561
ii. Adjusted Base Amount	876,088	821,230
iii. Shortfall of State Premium Tax Distribution	0	0

3. Allocation of Accumulated Reserve Account under SB 172

	Ch. 185 <u>Police</u>	Total <u>Fire</u>
	-\$-	-\$-
(a) Amount allocated to contribution	(201,646)	0
(b) Amount allocated to Member Plan	0	0
(c) Total	(201,646)	0
(d) Final Reserve Account at September 30, 2019	201,642	459,331
(e) Amount to be allocated to Member Plan	201,642	459,331