

CITY OF PUNTA GORDA  
FIREFIGHTERS' RETIREMENT SYSTEM

ACTUARIAL VALUATION  
AS OF OCTOBER 1, 2019

CONTRIBUTIONS APPLICABLE TO THE  
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2021

GASB 67/68 DISCLOSURE INFORMATION  
AS OF SEPTEMBER 30, 2019



**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS

December 18, 2019

Board of Trustees  
City of Punta Gorda  
Firefighters' Pension Board

Re: City of Punta Gorda Firefighters' Retirement System

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Punta Gorda Firefighters' Retirement System. Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflect laws and regulations issued to date pursuant to the provisions of Chapters 112 and 175, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuations, we did not perform an analysis of the potential range of such future measurements.

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

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of October 1, 2018. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2019 using generally accepted actuarial principles. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 67 and No. 68.

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

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

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

Respectfully submitted,

Foster & Foster, Inc.

By:   
Christine M. O'Neal, FSA, EA, MAAA  
Enrolled Actuary #17-7916

By:   
Patrick T. Donlan, EA, ASA, MAAA  
Enrolled Actuary #17-6595

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Enclosures

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## SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Punta Gorda Firefighters' Retirement System, performed as of October 1, 2019, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2021.

The contribution requirements, compared with those set forth in the December 18, 2019 Actuarial Impact Statement, determined as of October 1, 2018, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2019 <u>9/30/2021</u>	10/1/2018 <u>9/30/2020</u>
Minimum Required Contribution	\$719,807	\$654,267
Member Contributions (Est.)	191,671	177,504
City And State Required Contribution	528,136	476,763
State Contribution (Est.) <sup>1</sup>	192,206	192,206
City Required Contribution <sup>2</sup>	\$335,930	\$284,557

<sup>1</sup> Represents the amount received in calendar 2019. As per a Mutual Consent Agreement between the Membership and the City, all State Monies received each year up to \$209,406 will be available to offset the City's required contribution.

<sup>2</sup> The above requirements assume that the City makes the full contribution at the beginning of the fiscal year.

As you can see, the Minimum Required Contribution shows an increase when compared to the results determined as of October 1, 2018. The increase is attributable to the increase in the Total Annual Payroll. When expressed as a percentage of Total Annual Payroll, the Minimum Required Contribution actually has a slight reduction this year compared to last year.

Plan experience was unfavorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial loss included an average salary increase of 12.43% which exceeded the 6.00% assumption, less turnover than expected, and inactive mortality experience. These losses were offset in part by a gain associated with an investment return of 9.77% (Actuarial Asset Basis) which exceeded the 7.75% assumption.

## CHANGES SINCE PRIOR VALUATION

### Plan Changes

Chapter 2019-21, Laws of Florida was signed into effect granting certain death and disability benefits to firefighters participating in an employer-sponsored retirement plan. Effective July 1, 2019, "the retirement plan must consider the firefighter totally and permanently disabled or deceased in the line of duty if he or she meets the retirement plan's definition of totally and permanently disabled or dies due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer." For this purpose, "cancer" is as defined in Section 112.1816(1), Florida Statutes.

Please note that the benefit changes only relate to the death and disability benefits for the Pension Fund and do not provide for other additional benefits that are provided for in Florida Statutes Section 112.1816.

The impact of this change was outlined in our Actuarial Impact Statement dated December 18, 2019.

### Actuarial Assumption/Method Changes

There have been no changes of actuarial assumptions or methods since the prior valuation.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	<u>10/1/2019</u>	<u>10/1/2018</u>
A. Participant Data		
Actives	25	25
Service Retirees	13	13
DROP Retirees	2	2
Beneficiaries	0	0
Disability Retirees	5	5
Terminated Vested	<u>4</u>	<u>4</u>
 Total	 49	 49
 Total Annual Payroll	 \$1,981,821	 \$1,762,702
Payroll Under Assumed Ret. Age	1,981,821	1,762,702
 Annual Rate of Payments to:		
Service Retirees	436,693	436,693
DROP Retirees	192,126	192,126
Beneficiaries	0	0
Disability Retirees	126,340	126,340
Terminated Vested	41,187	41,187
 B. Assets		
Actuarial Value (AVA) <sup>1</sup>	15,295,588	13,759,453
Market Value (MVA) <sup>1</sup>	15,590,496	14,673,985
 C. Liabilities		
Present Value of Benefits		
Actives		
Retirement Benefits	11,300,051	9,642,449
Disability Benefits	120,792	106,740
Death Benefits	179,836	161,999
Vested Benefits	638,818	593,837
Refund of Contributions	6,138	7,129
Service Retirees	4,470,306	4,531,590
DROP Retirees <sup>1</sup>	2,893,991	2,687,342
Beneficiaries	0	0
Disability Retirees	1,208,646	1,223,765
Terminated Vested	207,497	192,073
Share Plan Balances <sup>1</sup>	402,150	383,255
Excess State Monies Reserve	<u>12,713</u>	<u>12,713</u>
 Total	 21,440,938	 19,542,892

C. Liabilities - (Continued)	<u>10/1/2019</u>	<u>10/1/2018</u>
Present Value of Future Salaries	17,135,206	15,862,302
Present Value of Future Member Contributions	1,563,421	1,506,919
Normal Cost (Retirement)	440,607	392,810
Normal Cost (Disability)	9,109	8,199
Normal Cost (Death)	15,029	13,618
Normal Cost (Vesting)	38,314	34,784
Normal Cost (Refunds)	<u>1,715</u>	<u>1,524</u>
Total Normal Cost	504,774	450,935
Present Value of Future Normal Costs	4,208,141	3,937,617
Accrued Liability (Retirement)	7,563,546	6,160,123
Accrued Liability (Disability)	44,922	35,049
Accrued Liability (Death)	54,702	42,915
Accrued Liability (Vesting)	372,300	334,591
Accrued Liability (Refunds)	2,024	1,859
Accrued Liability (Inactives) <sup>1</sup>	8,780,440	8,634,770
Share Plan Balances <sup>1</sup>	402,150	383,255
Excess State Monies Reserve	<u>12,713</u>	<u>12,713</u>
Total Actuarial Accrued Liability (EAN AL)	17,232,797	15,605,275
Unfunded Actuarial Accrued Liability (UAAL)	1,937,209	1,845,822
Funded Ratio (AVA / EAN AL)	88.8%	88.2%

D. Actuarial Present Value of	<u>10/1/2019</u>	<u>10/1/2018</u>
Accrued Benefits		
Vested Accrued Benefits		
Inactives + Share Plan Balances <sup>1</sup>	9,182,590	9,018,025
Actives	2,756,264	2,213,872
Member Contributions	<u>1,337,713</u>	<u>1,167,126</u>
Total	13,276,567	12,399,023
Non-vested Accrued Benefits	<u>507,050</u>	<u>426,157</u>
Total Present Value		
Accrued Benefits (PVAB)	13,783,617	12,825,180
Funded Ratio (MVA / PVAB)	113.1%	114.4%
Increase (Decrease) in Present Value of		
Accrued Benefits Attributable to:		
Plan Amendments	0	
Assumption Changes	0	
Plan Experience	549,336	
Benefits Paid	(563,033)	
Interest	972,134	
Other	<u>0</u>	
Total	958,437	

Valuation Date	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	<u>9/30/2021</u>	<u>9/30/2020</u>

E. Pension Cost

Normal Cost <sup>2</sup>	\$535,060	\$477,991
Administrative Expenses <sup>2</sup>	29,283	27,860
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 29 years (as of 10/1/2019) <sup>2</sup>	155,464	148,416
Minimum Required Contribution	719,807	654,267
Expected Member Contributions <sup>2</sup>	191,671	177,504
Expected City and State Contribution	528,136	476,763

F. Past Contributions

Plan Years Ending:	<u>9/30/2019</u>
City and State Requirement	572,534
Actual Contributions Made:	
Members (excluding buyback)	170,587
City	406,246
State	<u>198,399</u>
Total	775,232

G. Net Actuarial (Gain)/Loss	246,640
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<sup>1</sup> The asset values and liabilities include accumulated DROP and Share Plan Balances as of 9/30/2019 and 9/30/2018.

<sup>2</sup> Contributions developed as of 10/1/2019 displayed above have been adjusted to account for assumed salary increase components.

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

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2019	1,937,209
2020	1,928,837
2021	1,925,952
2028	1,218,527
2048	0

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

	<u>Actual</u>	<u>Assumed</u>
Year Ended 9/30/2019	12.43%	6.00%
Year Ended 9/30/2018	3.70%	6.00%
Year Ended 9/30/2017	7.39%	6.00%
Year Ended 9/30/2016	4.51%	6.00%
Year Ended 9/30/2015	6.43%	6.00%

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

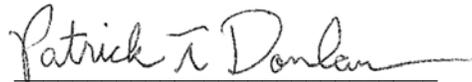
	<u>Market Value</u>	<u>Actuarial Value</u>	<u>Assumed</u>
Year Ended 9/30/2019	4.93%	9.77%	7.75%
Year Ended 9/30/2018	11.08%	8.45%	7.75%
Year Ended 9/30/2017	14.04%	7.82%	7.75%
Year Ended 9/30/2016	9.22%	7.98%	7.75%
Year Ended 9/30/2015	0.00%	9.77%	8.00%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2019	\$1,981,821
	10/1/2009	1,601,481
(b) Total Increase		23.75%
(c) Number of Years		10.00
(d) Average Annual Rate		2.15%

STATEMENT BY ENROLLED ACTUARY

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



Patrick T. Donlan, EA, ASA, MAAA  
Enrolled Actuary #17-6595

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

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

Mr. Steve Bardin  
Municipal Police and Fire  
Pension Trust Funds  
Division of Retirement  
Post Office Box 3010  
Tallahassee, FL 32315-3010

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

(1) Unfunded Actuarial Accrued Liability as of October 1, 2018	\$1,845,822
(2) Sponsor Normal Cost developed as of October 1, 2018	283,478
(3) Expected administrative expenses for the year ended September 30, 2019	26,283
(4) Expected interest on (1), (2) and (3)	166,039
(5) Sponsor contributions to the System during the year ended September 30, 2019	604,645
(6) Expected interest on (5)	33,550
(7) Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	1,683,427
(8) Change to UAAL due to Assumption Change	0
(9) Change to UAAL due to Actuarial (Gain)/Loss	253,782
(10) Unfunded Actuarial Accrued Liability as of October 1, 2019	1,937,209

<u>Type of Base</u>	<u>Date Established</u>	<u>Years Remaining</u>	<u>10/1/2019 Amount</u>	<u>Amortization Amount</u>
"B"	10/1/1994	5	54,896	12,365
"C"	10/1/1995	6	18,677	3,609
"D"	10/1/1999	10	107,380	13,934
"E"	10/1/2000	11	327,834	39,747
"F"	10/1/2002	13	37,237	4,032
"G"	10/1/2004	15	1,012,245	100,117
"H"	10/1/2005	16	419,820	39,948
"I"	10/1/2006	17	49,454	4,544
Actuarial Gain	10/1/2007	18	(74,451)	(6,626)
Benefit Improvement	10/1/2007	18	67,396	5,998
Method Change	10/1/2008	9	76,682	10,754
Actuarial Loss	10/1/2010	1	7,567	7,567
Assumption Change	10/1/2010	11	143,758	17,429
Actuarial Loss	10/1/2011	2	92,425	47,629
Actuarial Loss	10/1/2012	3	43,793	15,502
Benefit Change	10/1/2012	23	(196,709)	(15,479)
Actuarial Gain	10/1/2013	4	(196,485)	(53,728)
Actuarial Gain	10/1/2014	5	(683,938)	(154,059)
Actuarial Gain	10/1/2015	6	(219,914)	(42,493)

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2019 <u>Amount</u>	Amortization <u>Amount</u>
Assumption Change	10/1/2015	16	299,926	28,540
Assumption Change	10/1/2016	17	195,712	17,982
Actuarial Loss	10/1/2016	7	42,195	7,191
Actuarial Loss	10/1/2017	8	92,922	14,255
Actuarial Gain	10/1/2018	9	(30,287)	(4,247)
Benefits Change	10/1/2018	29	(4,708)	(337)
Actuarial Loss	10/1/2019	10	<u>253,782</u>	<u>32,931</u>
			1,937,209	147,105

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2018	\$1,845,822
(2) Expected UAAL as of October 1, 2019	1,683,427
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(279,720)
Salary Increases	391,024
Active Decrements	87,493
Inactive Mortality	65,947
Other	<u>(10,962)</u>
Increase in UAAL due to (Gain)/Loss	253,782
Assumption Changes	<u>0</u>
(4) Actual UAAL as of October 1, 2019	\$1,937,209

## ACTUARIAL ASSUMPTIONS AND METHODS

### Mortality Rate

#### *Healthy Active Lives:*

**Female:** RP2000 Generational, 100% Combined Healthy White Collar, Scale BB

**Male:** RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB

#### *Healthy Inactive Lives:*

**Female:** RP2000 Generational, 100% Annuitant White Collar, Scale BB

**Male:** RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

#### *Disabled Lives:*

**Female:** 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

**Male:** 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

90% of active deaths are assumed to be service-incurred.

### Interest Rate

7.75% per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

### Salary Increases

6.0% per year up to the assumed retirement age; see Table on following page. Final salary in year of retirement is increased individually to account for additional non-regular compensation. We feel that this assumption is reasonable on a long-term basis.

<u>Payroll Growth</u>	1.34% for purposes of amortizing the Unfunded Actuarial Accrued Liability. This assumption cannot exceed the ten-year average payroll growth, in compliance with Part VII of Chapter 112, Florida Statutes.
<u>Administrative Expenses</u>	\$27,625 annually, based on the average of actual expenses incurred in the prior two fiscal years. Previously, the actual expense in the prior fiscal year was used. Using a two-year average results in a less volatile estimate than the prior method.
<u>Amortization Method</u>	New UAAL amortization bases are established according to the following amortization periods:  Experience: 10 Years. Assumption/Method Changes: 20 Years. Benefit Changes: 30 Years.
<u>Termination Rates</u>	See Table on next page. This assumption was developed from those used by other plans containing Florida municipal Firefighters.
<u>Disability Rates</u>	See Table on next page. It is assumed that 90% of disablements are service related. This assumption was developed from those used by other plans containing Florida municipal Firefighters.
<u>Retirement Age</u>	Earlier of age 55 or the completion of 25 years of service. Also, any member who has reached Normal Retirement is assumed to continue employment for one additional year. We feel that this assumption is reasonable based on the plan provisions.
<u>Early Retirement</u>	Commencing upon a member's eligibility for Early Retirement (Age 45 with 10 years of credited service), members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. We feel that this assumption is reasonable based on the plan provisions.
<u>Cost Method</u>	Entry Age Normal Actuarial Cost Method.
<u>Asset Valuation Method</u>	Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.

<u>Age</u>	<u>% Terminating During the Year</u>	<u>% Becoming Disabled During the Year</u>	<u>Current Salary as % of Salary at age 55</u>
20	6.0%	0.03%	13.0%
30	5.0	0.04	23.3
40	2.6	0.07	41.7
50	0.8	0.18	74.7

## GLOSSARY

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

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded.

Unfunded Actuarial Accrued Liability (UAAL) is a liability which arises when a pension plan is initially established or improved and such establishment or improvement is applicable to all years of past service. Under the Entry Age Normal Actuarial Cost Method, there is also a new UAAL created each year equal to the actuarial gain or loss for that year.

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

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

- (a) The normal cost accrual rate equals:
  - (i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by
  - (ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.
- (b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.
- (c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.
- (d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

## DISCUSSION OF RISK

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

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

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

- **Investment Return:** When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- **Salary Increases:** When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- **Payroll Growth:** The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can change significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- **Demographic Assumptions:** Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

### Impact of Plan Maturity on Risk

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

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

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 119.0% on October 1, 2016 to 108.7% on October 1, 2019, indicating that the plan has been maturing during the period.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 51.0%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in larger increases in contribution requirements than would be needed for a less mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 86.5% on October 1, 2016 to 88.8% on October 1, 2019.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, stayed approximately the same from October 1, 2016 to October 1, 2019. The current Net Cash Flow Ratio of 1.2% indicates that contributions are generally covering the plan's benefit payments and administrative expenses.

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

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Support Ratio</u>				
Total Actives	25	25	25	25
Total Inactives <sup>1</sup>	21	22	23	23
Actives / Inactives <sup>1</sup>	119.0%	113.6%	108.7%	108.7%
 <u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	11,884,346	13,321,103	14,673,985	15,590,496
Total Annual Payroll	1,735,502	1,774,117	1,762,702	1,981,821
MVA / Total Annual Payroll	684.8%	750.9%	832.5%	786.7%
 <u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	6,498,606	7,479,654	8,634,770	8,780,440
Total Accrued Liability (EAN)	13,965,930	14,769,573	15,605,275	17,232,797
Inactive AL / Total AL	46.5%	50.6%	55.3%	51.0%
 <u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	12,083,983	12,801,468	13,759,453	15,295,588
Total Accrued Liability (EAN)	13,965,930	14,769,573	15,605,275	17,232,797
AVA / Total Accrued Liability (EAN)	86.5%	86.7%	88.2%	88.8%
 <u>Net Cash Flow Ratio</u>				
Net Cash Flow <sup>2</sup>	187,151	(218,864)	(119,312)	183,233
Market Value of Assets (MVA)	11,884,346	13,321,103	14,673,985	15,590,496
Ratio	1.6%	-1.6%	-0.8%	1.2%

<sup>1</sup> Excludes terminated participants awaiting a refund of member contributions.

<sup>2</sup> Determined as total contributions minus benefit payments and administrative expenses.

PARTIAL HISTORY OF PREMIUM TAX REFUNDS

<u>Received During Fiscal Year</u>	<u>Amount</u>	<u>Increase from Previous Year</u>
1998	128,741.85	_____%
1999	101,023.50	-21.5%
2000	114,274.60	13.1%
2001	110,674.51	-3.2%
2002	125,656.36	13.5%
2003	146,662.83	16.7%
2004	158,815.24	8.3%
2005	177,708.11	11.9%
2006	204,756.03	15.2%
2007	248,220.06	21.2%
2008	337,691.75	36.0%
2009	322,614.68	-4.5%
2010	240,741.16	-25.4%
2011	220,454.06	-8.4%
2012	220,125.51	-0.1%
2013	235,936.60	7.2%
2014	247,645.74	5.0%
2015	247,181.15	-0.2%
2016	224,406.88	-9.2%
2017	197,070.15	-12.2%
2018	158,593.56	-19.5%
2019	198,398.80	25.1%

EXCESS STATE MONIES RESERVE

	Regular Distribution			Special Distribution		
	Actual <u>State Contribution</u>	Applicable "Frozen" Amount	Excess State <u>Monies Reserve</u>	Actual <u>State Contribution</u>	Applicable "Frozen" Amount	Excess State <u>Monies Reserve</u>
1999	\$70,819.16	\$67,383.60	\$3,435.56	\$30,204.34	\$30,204.34	\$0.00
2000	75,607.45	75,607.45	0.00	38,667.15	34,869.49	3,797.66
2001	67,533.87	130,674.30	0.00	43,140.64	43,140.64	0.00
2002	90,169.27	130,674.30	0.00	35,487.09	43,140.64	0.00
2003	96,677.44	110,674.30	0.00	49,985.39	68,508.64	0.00
2004	104,947.05	110,674.30	0.00	53,868.19	70,507.64	0.00
2005	114,680.97	138,898.30	0.00	63,027.14	70,507.64	0.00
2006	138,522.22	140,621.22	0.00	66,233.81	68,784.72	0.00
2007	165,096.45	165,096.45	0.00	83,123.61	44,309.49	38,814.12
2008	197,083.07	197,083.07	0.00	140,608.68	12,322.87	128,285.81
2009	167,921.20	167,921.20	0.00	154,693.48	41,484.74	113,208.74
2010	151,299.78	151,299.78	0.00	89,441.38	58,106.16	31,335.22
2011	145,914.51	145,914.51	0.00	74,539.55	63,491.43	11,048.12
2012	150,298.46	150,298.46	0.00	69,827.05	59,107.48	10,719.57
2013	154,326.03	154,326.03	0.00	81,610.57	55,079.97	26,530.60
2014	164,159.85	164,159.85	0.00	83,485.89	45,246.15	38,239.74
2015	156,394.77	156,394.77	0.00	90,786.38	53,011.23	37,775.15
2016	156,261.84	156,261.84	0.00	68,145.04	53,144.16	15,000.88
2017	157,707.41	157,707.41	0.00	39,362.74	51,698.59	0.00
2018	150,013.08	150,013.08	0.00	8,580.48	8,580.48	0.00
2019	192,206.04	192,206.04	<u>0.00</u>	6,192.76	6,192.76	<u>0.00</u>
			3,435.56			454,755.61
			3,435.56			
Accumulated Regular Excess			3,435.56			
Accumulated Special Excess			<u>454,755.61</u>			
Total Excess State Monies			458,191.17			
Less Excess Used in Funding Ordinance No. 1344-02 (3.0% Benefit Rate)			(7,233.22)			
Less Excess Used to Reduce UAAL, as Described in AIS Dated October 8, 2013			(114,500.00)			
Less Excess Used to Establish Share Plan, as Described in AIS Dated October 8, 2013			(206,199.00)			
Less 2013 Share Allocation			(26,530.60)			
Less 2014 Share Allocation			(38,239.74)			
Less 2015 Share Allocation			(37,775.15)			
Less 2016 Share Allocation			<u>(15,000.88)</u>			
Equals Current State Monies Reserve			\$12,712.58			

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	62,875.57	62,875.57
Total Cash and Equivalents	62,875.57	62,875.57
Receivables:		
Investment Income	88.84	88.84
Total Receivable	88.84	88.84
Investments:		
Mutual Funds:		
Fixed Income	3,837,082.14	3,818,039.57
Equity	9,541,781.58	10,375,740.26
Pooled/Common/Commingled Funds:		
Real Estate	688,187.32	1,333,752.00
Total Investments	14,067,051.04	15,527,531.83
Total Assets	14,130,015.45	15,590,496.24
 <u>LIABILITIES</u>		
Total Liabilities	0.00	0.00
 NET POSITION RESTRICTED FOR PENSIONS	 14,130,015.45	 15,590,496.24

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2019  
Market Value Basis

ADDITIONS

Contributions:

Member	170,586.90
City	406,246.00
State	198,398.80

Total Contributions 775,231.70

Investment Income:

Net Realized Gain (Loss)	378,793.77
Unrealized Gain (Loss)	(431,169.35)
Net Increase in Fair Value of Investments	(52,375.58)
Interest & Dividends	825,479.79
Less Investment Expense <sup>1</sup>	(39,826.69)

Net Investment Income 733,277.52

Total Additions 1,508,509.22

DEDUCTIONS

Distributions to Members:

Benefit Payments	563,032.80
Lump Sum DROP Distributions	0.00
Lump Sum Share Distributions	0.00
Refunds of Member Contributions	0.00

Total Distributions 563,032.80

Administrative Expense 28,965.50

Total Deductions 591,998.30

Net Increase in Net Position 916,510.92

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year 14,673,985.32

End of the Year 15,590,496.24

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION  
SEPTEMBER 30, 2019

Actuarial Assets for funding purposes are developed by increasing the Actuarial Assets used in the most recent actuarial valuation of the Fund by the average annual market value rate of return (net of investment related expenses) for the past four years. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Details of the derivation are set forth as follows:

Plan Year End	Rate of Return <sup>1</sup>	
09/30/2016	9.22%	
09/30/2017	14.04%	
09/30/2018	11.08%	
09/30/2019	4.93%	
Annualized Rate of Return for prior four (4) years:		9.77%
(A) 10/01/2018 Actuarial Assets:		\$13,759,452.52
(I) Net Investment Income:		
1. Interest and Dividends	825,479.79	
2. Realized Gains (Losses)	378,793.77	
3. Unrealized Gains (Losses)	(431,169.35)	
4. Change in Actuarial Value	619,624.20	
5. Investment Related Expenses	(39,826.69)	
Total		1,352,901.72
(B) 10/01/2019 Actuarial Assets:		\$15,295,587.64
Actuarial Asset Rate of Return = 2I/(A+B-I):		9.77%
10/01/2019 Limited Actuarial Assets:		\$15,295,587.64
10/01/2019 Market Value of Assets:		\$15,590,496.24
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)		\$279,719.70

<sup>1</sup>Market Value Basis, net of investment related expenses.

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 SEPTEMBER 30, 2019  
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	170,586.90	
City	406,246.00	
State	198,398.80	
 Total Contributions		 775,231.70
Earnings from Investments:		
Interest & Dividends	825,479.79	
Net Realized Gain (Loss)	378,793.77	
Unrealized Gain (Loss)	(431,169.35)	
Change in Actuarial Value	619,624.20	
 Total Earnings and Investment Gains		 1,392,728.41

EXPENDITURES

Distributions to Members:		
Benefit Payments	563,032.80	
Lump Sum DROP Distributions	0.00	
Lump Sum Share Distributions	0.00	
Refunds of Member Contributions	0.00	
 Total Distributions		 563,032.80
Expenses:		
Investment related <sup>1</sup>	39,826.69	
Administrative	28,965.50	
 Total Expenses		 68,792.19
 Change in Net Assets for the Year		 1,536,135.12
 Net Assets Beginning of the Year		 13,759,452.52
 Net Assets End of the Year <sup>2</sup>		 15,295,587.64

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

<sup>2</sup>Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY  
October 1, 2018 to September 30, 2019

Beginning of the Year Balance	231,502.03
Plus Additions	192,126.36
Investment Return Earned	23,263.12
Less Distributions	0.00
End of the Year Balance	446,891.51

SUPPLEMENTAL CHAPTER 175 SHARE PLAN ACTIVITY  
October 1, 2018 through September 30, 2019

9/30/2018 Balance	383,255.10
Prior Year Adjustment	(0.02)
Plus Additions	0.00
Investment Return Earned	18,894.46
Less Distributions	0.00
9/30/2019 Balance	402,149.54

CITY CONTRIBUTIONS IN EXCESS OF MINIMUM REQUIREMENT  
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2019

(1) Required City and State Contributions	\$572,534.00
(2) Less Allowable State Contribution	<u>(198,398.80)</u>
(3) Required City Contribution for Fiscal 2019	374,135.20
(4) Less 2018 Prepaid Contribution	0.00
(5) Less Actual City Contributions	<u>(406,246.00)</u>
(6) City Contributions in Excess of Minimum Requirement Applied to Reduce Unfunded Actuarial Accrued Liability as of September 30, 2019	(\$32,110.80)

STATISTICAL DATA

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Actives - Members Hired Before 10/1/12</u>				
Number	20	18	17	17
Average Current Age	39.3	40.2	40.5	41.5
Average Age at Employment	27.2	27.6	27.7	27.7
Average Past Service	12.1	12.6	12.8	13.8
Average Annual Salary	\$72,675	\$76,929	\$77,432	\$87,358

Actives - Members hired After 10/1/12

Number	5	7	8	8
Average Current Age	33.5	34.4	34.8	35.8
Average Age at Employment	31.4	31.9	31.7	31.7
Average Past Service	2.1	2.5	3.1	4.1
Average Annual Salary	\$56,402	\$55,627	\$55,795	\$62,092

Service Retirees

Number	11	12	13	13
Average Current Age	61.5	61.8	62.5	63.5
Average Annual Benefit	\$24,419	\$30,449	\$33,592	\$33,592

DROP Retirees

Number	2	2	2	2
Average Current Age	54.6	53.2	51.1	52.1
Average Annual Benefit	\$84,041	\$83,857	\$96,063	\$96,063

Beneficiaries

Number	1	0	0	0
Average Current Age	91.2	N/A	N/A	N/A
Average Annual Benefit	\$12,594	N/A	N/A	N/A

Disability Retirees

Number	5	5	5	5
Average Current Age	53.8	54.8	55.8	56.8
Average Annual Benefit	\$25,268	\$25,268	\$25,268	\$25,268

Terminated Vested

Number	3	4	4	4
Average Current Age <sup>1</sup>	38.3	37.8	38.9	39.9
Average Annual Benefit <sup>2</sup>	\$12,134	\$13,729	\$13,729	\$13,729

<sup>1</sup> Effective 10/1/2018, the Average Current Age excludes participants awaiting a refund of contributions.

<sup>2</sup> The Average Annual Benefit excludes participants awaiting a refund of contributions.

## AGE AND SERVICE DISTRIBUTION

### PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19												0
20 - 24												0
25 - 29			1		1							2
30 - 34		1				1	3					5
35 - 39						2	1	1				4
40 - 44					1	2	1	1				5
45 - 49			1		1		3	2	1			8
50 - 54								1				1
55 - 59												0
60 - 64												0
65+												0
<b>Total</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>25</b>

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2018	25
b. Terminations	
i. Vested (partial or full) with deferred annuity	0
ii. Vested in refund of member contributions only	0
iii. Refund of member contributions or full lump sum distribution received	0
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	0
f. DROP	<u>0</u>
g. Continuing participants	25
h. New entrants	<u>0</u>
i. Total active life participants in valuation	25

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

	Service Retirees, Vested Receiving <u>Benefits</u>	DROP <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested (Deferred Annuity)	Vested (Due Refund)	<u>Total</u>
a. Number prior valuation	13	2	0	5	3	1	24
Retired	0	0	0	0	0	0	0
DROP	0	0	0	0	0	0	0
Vested (Deferred Annuity)	0	0	0	0	0	0	0
Vested (Due Refund)	0	0	0	0	0	0	0
Hired/Terminated in Same Year	0	0	0	0	0	0	0
Death, With Survivor	0	0	0	0	0	0	0
Death, No Survivor	0	0	0	0	0	0	0
Disabled	0	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0	0
Rehires	0	0	0	0	0	0	0
Expired Annuities	0	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0	0
b. Number current valuation	13	2	0	5	3	1	24

SUMMARY OF CURRENT PLAN  
(Through Ordinance No. 1859-16)

<u>ORIGINAL EFFECTIVE DATE</u>	2/16/1977
<u>LATEST AMENDMENT</u>	10/19/2016
<u>CREDITED SERVICE</u>	Years and fractional parts of years of service with the City as a Firefighter.
<u>AVERAGE FINAL COMPENSATION (AFC)</u>	1/12 <sup>th</sup> of the average total cash compensation paid during the three (3) highest years of the last fifteen (15) years of Credited Service.
<u>NORMAL RETIREMENT</u>	
Eligibility	Earlier of age 55 or the completion of 25 years of Credited Service.
Benefit Amount	3.50% of Average Final Compensation times Credited Service for Members hired before 10/1/2012.  3.00% of Average Final Compensation times Credited Service for Members hired on and after 10/1/2012.
Form of Benefit	10 year certain and life thereafter (options available)
<u>EARLY RETIREMENT</u>	
Eligibility	Age 45 and 10 years of Credited Service.
Benefit Amount	Accrued benefit, reduced 3% per year early.
<u>DISABILITY</u>	
Eligibility	a) 10 years of service for non-service related; coverage from date of hire for service-incurred.  b) Total and permanent disability prior to Normal Retirement Date.

Benefit Amount

3.50% (3.00% if hired on or after 10/1/2012) of Average Final Compensation times Credited Service, but not less than 60% of AFC for service related disabilities, or 25% of AFC for non-service related disabilities.

DEATH

Pre-Retirement  
Service-Incurred

With Spouse or  
Dependent Child

To Spouse:  
60% of Member's Average Final  
Compensation.

To each Child (if no Spouse):  
15% of Member's AFC. Overall maximum  
benefit to children is 60% of AFC.

Pre-Retirement  
Non-Service-Incurred  
or no Spouse or Children

Value of accrued pension benefit paid  
to designated beneficiary.

VESTING (TERMINATION)

Less than 5 years of  
Credited Service

5 years or more

Refund of Member Contributions.

Accrued benefit payable at age 45 or  
later, on an actuarially reduced basis  
if to commence prior to Normal Retirement  
Date.

Or

Refund of Member Contributions.

CONTRIBUTIONS

Employee

8.0% of total pay for Members hired on or  
after 10/1/2012.  
For Members hired prior to 10/1/2012: 9.0%  
for the fiscal year ending 9/30/2014 9.5%  
for each fiscal year thereafter.

City	Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability as provided in Part VII of Chapter 112, Florida Statutes. Notwithstanding the previous sentence, the City's total annual contribution shall be at least 12% of the covered payroll.
Premium Tax	1.85% tax on premiums for insurance policies.
<u>BOARD OF TRUSTEES</u>	<ul style="list-style-type: none"> <li>a) Two City Council appointees,</li> <li>b) Two Members of the System elected by a majority of the other covered Firefighters, and</li> <li>c) A fifth Member elected by the other 4 and appointed by Council.</li> </ul>
<u>DEFERRED RETIREMENT OPTION PLAN</u>	
Eligibility	25 years of Credited Service with the City or Normal Retirement Age.
Participation	Not to exceed 60 months
Distribution	Lump sum (options available) at termination of employment.
<u>CHAPTER 175 SHARE PLAN</u>	
Allocation	Each year premium tax monies received pursuant to Chapter 175, Florida Statutes in excess of \$209,406 will be allocated to individual Member Share accounts based on full years of credited service with the City.
Investment Earnings	Net rate of investment return, for each firefighter employed on the preceding September 30.
Distribution	Lump sum payment at retirement, termination, disability, or death.
Vesting Service Requirement	Same as for other benefits (see above).

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	62,875
Total Cash and Equivalents	62,875
Receivables:	
Investment Income	89
Total Receivable	89
Investments:	
Mutual Funds:	
Fixed Income	3,818,040
Equity	10,375,740
Pooled/Common/Commingled Funds:	
Real Estate	1,333,752
Total Investments	15,527,532
Total Assets	15,590,496
Total Liabilities	0
NET POSITION RESTRICTED FOR PENSIONS	15,590,496

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2019  
Market Value Basis

ADDITIONS

## Contributions:

Member	170,587	
City	406,246	
State	198,399	
 Total Contributions		 775,232
 Investment Income:		
Net Increase in Fair Value of Investments	(52,376)	
Interest & Dividends	825,480	
Less Investment Expense <sup>1</sup>	(39,827)	
 Net Investment Income		 733,277
 Total Additions		 1,508,509

DEDUCTIONS

## Distributions to Members:

Benefit Payments	563,033	
Lump Sum DROP Distributions	0	
Lump Sum Share Distributions	0	
Refunds of Member Contributions	0	
 Total Distributions		 563,033
 Administrative Expense		 28,965
 Total Deductions		 591,998
 Net Increase in Net Position		 916,511
 NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		14,673,985
 End of the Year		 15,590,496

<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

**NOTES TO THE FINANCIAL STATEMENTS**  
(For the Year Ended September 30, 2019)

*Plan Administration*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of:

- a) Two City Council appointees,
- b) Two Members of the System elected by a majority of the other covered Firefighters, and a
- c) Fifth Member elected by the other four and appointed by Council.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	20
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	4
Active Plan Members	25
	49

*Benefits Provided*

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Punta Gorda Firefighters' Retirement System prepared by Foster & Foster Actuaries and Consultants.

Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

*Contributions*

Employee: 8.0% of total pay for Members hired on or after 10/1/2012. For Members hired prior to 10/1/2012: 9.0% for the fiscal year ending 9/30/2014. 9.5% for each fiscal year thereafter.

Premium Tax: 1.85% tax on premiums for insurance policies.

City: Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability as provided in Part VII of Chapter 112, Florida Statutes. Notwithstanding the previous sentence, the City's total annual contribution shall be at least 12% of the covered payroll.

*Investment Policy:*

The following was the Board's adopted asset allocation policy as of September 30, 2019:

Asset Class	Target Allocation
Domestic Equity	50.00%
International Equity	15.00%
Broad Market Fixed Income	20.00%
Global Fixed Income	5.00%
Real Estate	10.00%
Total	100.00%

*Concentrations:*

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

*Rate of Return:*

For the year ended September 30, 2019, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 4.93 percent.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deferred Retirement Option Program

Eligibility: 25 years of Credited Service with the City or Normal Retirement Age.

Participation: Not to exceed 60 months.

The DROP balance as September 30, 2019 is \$446,892.

## NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2019 were as follows:

Total Pension Liability	\$ 16,556,847
Plan Fiduciary Net Position	\$ (15,590,496)
Sponsor's Net Pension Liability	<u>\$ 966,351</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	<u>94.16%</u>

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	6.00%
Discount Rate	7.75%
Investment Rate of Return	7.75%

*Mortality Rate Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

*Mortality Rate Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Mortality Rate Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2016 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

The most recent actuarial experience study was dated July 23rd, 2010, for the period 1987-2009. Other than the mortality tables, no assumption changes were adopted as a result of this study

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019 the inflation rate assumption of the investment advisor was 2.50%.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return
Domestic Equity	7.50%
International Equity	8.50%
Broad Market Fixed Income	2.50%
Global Fixed Income	3.50%
Real Estate	4.50%

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### Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.75 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

	1% Decrease 6.75%	Current Discount Rate 7.75%	1% Increase 8.75%
Sponsor's Net Pension Liability	\$ 2,950,374	\$ 966,351	\$ (683,260)

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	460,863	461,830	455,334
Interest	1,208,636	1,128,827	1,065,754
Share Plan Allocation	-	-	-
Changes of benefit terms	(5,618)	-	-
Differences between Expected and Actual Experience	21,713	118,281	96,635
Changes of assumptions	-	-	-
Benefit Payments, including Refunds of Employee Contributions	(563,033)	(782,099)	(838,640)
Net Change in Total Pension Liability	1,122,561	926,839	779,083
Total Pension Liability - Beginning	15,434,286	14,507,447	13,728,364
Total Pension Liability - Ending (a)	<u>\$ 16,556,847</u>	<u>\$ 15,434,286</u>	<u>\$ 14,507,447</u>
Plan Fiduciary Net Position			
Contributions - Employer	406,246	378,656	284,402
Contributions - State	198,399	158,594	197,070
Contributions - Employee	170,587	151,820	161,260
Net Investment Income	733,277	1,472,194	1,655,621
Benefit Payments, including Refunds of Employee Contributions	(563,033)	(782,099)	(838,640)
Administrative Expense	(28,965)	(26,283)	(22,956)
Net Change in Plan Fiduciary Net Position	916,511	1,352,882	1,436,757
Plan Fiduciary Net Position - Beginning	14,673,985	13,321,103	11,884,346
Plan Fiduciary Net Position - Ending (b)	<u>\$ 15,590,496</u>	<u>\$ 14,673,985</u>	<u>\$ 13,321,103</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 966,351</u>	<u>\$ 760,301</u>	<u>\$ 1,186,344</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	94.16%	95.07%	91.82%
Covered Payroll <sup>1</sup>	\$ 1,869,643	\$ 1,702,646	\$ 1,752,641
Net Pension Liability as a percentage of Covered Payroll	51.69%	44.65%	67.69%

**Notes to Schedule:**

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82.

*Changes of benefit terms:*

For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the Plan's definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer will be treated as duty-related.

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2016	09/30/2015	09/30/2014
Total Pension Liability			
Service Cost	411,823	353,613	433,718
Interest	997,747	1,018,193	949,706
Share Plan Allocation	15,001	37,775	38,240
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(169,539)	(1,226,224)	-
Changes of assumptions	202,057	324,227	-
Benefit Payments, including Refunds of Employee Contributions	(407,546)	(430,563)	(540,379)
Net Change in Total Pension Liability	1,049,543	77,021	881,285
Total Pension Liability - Beginning	12,678,821	12,601,800	11,720,515
Total Pension Liability - Ending (a)	<u>\$ 13,728,364</u>	<u>\$ 12,678,821</u>	<u>\$ 12,601,800</u>
Plan Fiduciary Net Position			
Contributions - Employer	238,589	399,158	460,347
Contributions - State	224,407	247,181	247,646
Contributions - Employee	157,379	146,058	140,886
Net Investment Income	1,000,732	(311)	799,801
Benefit Payments, including Refunds of Employee Contributions	(407,546)	(430,563)	(540,379)
Administrative Expense	(25,679)	(27,006)	(39,889)
Net Change in Plan Fiduciary Net Position	1,187,882	334,517	1,068,412
Plan Fiduciary Net Position - Beginning	10,696,464	10,361,947	9,293,535
Plan Fiduciary Net Position - Ending (b)	<u>\$ 11,884,346</u>	<u>\$ 10,696,464</u>	<u>\$ 10,361,947</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 1,844,018</u>	<u>\$ 1,982,357</u>	<u>\$ 2,239,853</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	86.57%	84.36%	82.23%
Covered Payroll <sup>1</sup>	\$ 1,700,238	\$ 1,686,074	\$ 1,575,575
Net Pension Liability as a percentage of Covered Payroll	108.46%	117.57%	142.16%

**Notes to Schedule:**

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

*Changes of Assumptions:*

For measurement date 09/30/2016, as a result of Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the assumptions used by the Florida Retirement System for special risk employees.

The inflation assumption rate was lowered from 3.00% to 2.50%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

For measurement date 09/30/2015 the investment rate of return has been lowered from 8.00% to 7.75% per year, net of investment related expenses.

**SCHEDULE OF CONTRIBUTIONS**  
Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll <sup>1</sup>	Contributions as a percentage of Covered Payroll
09/30/2019	\$ 572,534	\$ 604,645	\$ (32,111)	\$ 1,869,643	32.34%
09/30/2018	\$ 537,250	\$ 537,250	\$ -	\$ 1,702,646	31.55%
09/30/2017	\$ 481,012	\$ 481,472	\$ (460)	\$ 1,752,641	27.47%
09/30/2016	\$ 447,995	\$ 447,995	\$ -	\$ 1,700,238	26.35%
09/30/2015	\$ 608,564	\$ 608,564	\$ -	\$ 1,686,074	36.09%
09/30/2014	\$ 609,088	\$ 669,753	\$ (60,665)	\$ 1,575,575	42.51%

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rates:

*Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

*Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The assumed rates of mortality were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in the July 1, 2016 FRS actuarial valuation report for special risk employees. 75% of active deaths are assumed to occur in the line of duty.

Termination Rates:

See Table on next page. This assumption was developed from those used by other plans containing Florida municipal Firefighters.

Disability Rates:

See Table on next page. It is assumed that 75% of disablements are service related. This assumption was developed from those used by other plans containing Florida municipal Firefighters.

Retirement Age:

Earlier of age 55 or the completion of 25 years of service. Also, any member who has reached Normal Retirement is assumed to continue employment for one additional year. We feel that this assumption is reasonable based on the plan provisions.

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Early Retirement:	Commencing upon a member's eligibility for Early Retirement (Age 45 with 10 years of credited service), members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. We feel that this assumption is reasonable based on the plan provisions.
Interest Rate:	7.75% per year, compounded annually, net of investment related expenses. We feel this is reasonable based on asset allocation and long term expectations.
Salary Increases:	6.0% per year up to the assumed retirement age. Final salary in year of retirement is increased individually to account for additional nonregular compensation. We feel that this assumption is reasonable on a long-term basis.
Payroll Growth:	1.90% per year, in compliance with Part VII of Chapter 112, Florida Statutes.
Cost Method:	Entry Age Normal Actuarial Cost Method.
Asset Valuation Method:	Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.

Termination and Disability Rate Table:

Age	% Terminating During the Year	% Becoming Disabled During the Year
20	6.0%	0.03%
30	5.0%	0.04%
40	2.6%	0.07%
50	0.8%	0.18%

**SCHEDULE OF INVESTMENT RETURNS**  
Last 10 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2019	4.93%
09/30/2018	11.08%
09/30/2017	14.04%
09/30/2016	9.22%
09/30/2015	0.00%
09/30/2014	8.50%

**NOTES TO THE FINANCIAL STATEMENTS**  
(For the Year Ended September 30, 2019)

General Information about the Pension Plan

*Plan Description*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of:

- a) Two City Council appointees,
- b) Two Members of the System elected by a majority of the other covered Firefighters, and a
- c) Fifth Member elected by the other four and appointed by Council.

All Firefighters as of the Effective Date, and all future new Firefighters, shall become Members of this System as a condition of employment.

*Plan Membership as of October 1, 2018:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	20
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	4
Active Plan Members	25
	49
	49

*Benefits Provided*

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Punta Gorda Firefighters' Retirement System prepared by Foster & Foster Actuaries and Consultants.

Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

*Contributions*

Employee: 8.0% of total pay for Members hired on or after 10/1/2012. For Members hired prior to 10/1/2012: 9.0% for the fiscal year ending 9/30/2014. 9.5% for each fiscal year thereafter.

Premium Tax: 1.85% tax on premiums for insurance policies.

City: Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability as provided in Part VII of Chapter 112, Florida Statutes. Notwithstanding the previous sentence, the City's total annual contribution shall be at least 12% of the covered payroll.

Net Pension Liability

The measurement date is September 30, 2019.

The measurement period for the pension expense was October 1, 2018 to September 30, 2019.

The reporting period is October 1, 2018 through September 30, 2019.

The Sponsor's Net Pension Liability was measured as of September 30, 2019.

The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	6.00%
Discount Rate	7.75%
Investment Rate of Return	7.75%

*Mortality Rate Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

*Mortality Rate Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

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*Mortality Rate Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman’s July 1, 2016 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

The most recent actuarial experience study was dated July 23rd, 2010, for the period 1987-2009. Other than the mortality tables, no assumption changes were adopted as a result of this study

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019 the inflation rate assumption of the investment advisor was 2.50%.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	50.00%	7.50%
International Equity	15.00%	8.50%
Broad Market Fixed Income	20.00%	2.50%
Global Fixed Income	5.00%	3.50%
Real Estate	10.00%	4.50%
Total	<u>100.00%</u>	

*Discount Rate:*

The Discount Rate used to measure the Total Pension Liability was 7.75 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Balances as of September 30, 2018	\$ 15,434,286	\$ 14,673,985	\$ 760,301
Changes for a Year:			
Service Cost	460,863	-	460,863
Interest	1,208,636	-	1,208,636
Differences between Expected and Actual Experience	21,713	-	21,713
Changes of assumptions	-	-	-
Changes of benefit terms	(5,618)	-	(5,618)
Contributions - Employer	-	406,246	(406,246)
Contributions - State	-	198,399	(198,399)
Contributions - Employee	-	170,587	(170,587)
Net Investment Income	-	733,277	(733,277)
Benefit Payments, including Refunds of Employee Contributions	(563,033)	(563,033)	-
Administrative Expense	-	(28,965)	28,965
Net Changes	1,122,561	916,511	206,050
Balances as of September 30, 2019	\$ 16,556,847	\$ 15,590,496	\$ 966,351

*Sensitivity of the Net Pension Liability to changes in the Discount Rate.*

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.75%	7.75%	8.75%
Sponsor's Net Pension Liability	\$ 2,950,374	\$ 966,351	\$ (683,260)

*Pension Plan Fiduciary Net Position.*

Detailed information about the pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

**PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED  
INFLOWS OF RESOURCES RELATED TO PENSIONS**  
FISCAL YEAR SEPTEMBER 30, 2019

For the year ended September 30, 2019, the Sponsor will recognize a Pension Expense of \$252,794.

On September 30, 2019, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	145,269	260,885
Changes of assumptions	121,390	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	267,941
<b>Total</b>	<b>\$ 266,659</b>	<b>\$ 528,826</b>

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:			
2020	\$	(293,664)	
2021	\$	(110,430)	
2022	\$	32,764	
2023	\$	105,544	
2024	\$	3,619	
Thereafter	\$	-	

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	460,863	461,830	455,334
Interest	1,208,636	1,128,827	1,065,754
Share Plan Allocation	-	-	-
Changes of benefit terms	(5,618)	-	-
Differences between Expected and Actual Experience	21,713	118,281	96,635
Changes of assumptions	-	-	-
Benefit Payments, including Refunds of Employee Contributions	(563,033)	(782,099)	(838,640)
Net Change in Total Pension Liability	1,122,561	926,839	779,083
Total Pension Liability - Beginning	15,434,286	14,507,447	13,728,364
Total Pension Liability - Ending (a)	<u>\$ 16,556,847</u>	<u>\$ 15,434,286</u>	<u>\$ 14,507,447</u>
Plan Fiduciary Net Position			
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Plan Fiduciary Net Position - Beginning	14,673,985	13,321,103	11,884,346
Plan Fiduciary Net Position - Ending (b)	<u>\$ 15,590,496</u>	<u>\$ 14,673,985</u>	<u>\$ 13,321,103</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 966,351</u>	<u>\$ 760,301</u>	<u>\$ 1,186,344</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	94.16%	95.07%	91.82%
Covered Payroll <sup>1</sup>	\$ 1,869,643	\$ 1,702,646	\$ 1,752,641
Net Pension Liability as a percentage of Covered Payroll	51.69%	44.65%	67.69%

**Notes to Schedule:**

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82.

Effective for the City's fiscal year ending 09/30/2017, the GASB 68 measurement date of the Pension Expense has been approved and changed from 09/30/2016 to 09/30/2017.

*Changes of benefit terms:*

For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the Plan's definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer will be treated as duty-related.

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
Last 10 Fiscal Years

	09/30/2016	09/30/2015	09/30/2014
Total Pension Liability			
Service Cost	411,823	353,613	433,718
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Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(169,539)	(1,226,224)	-
Changes of assumptions	202,057	324,227	-
Benefit Payments, including Refunds of Employee Contributions	(407,546)	(430,563)	(540,379)
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Plan Fiduciary Net Position - Beginning	10,696,464	10,361,947	9,293,535
Plan Fiduciary Net Position - Ending (b)	<u>\$ 11,884,346</u>	<u>\$ 10,696,464</u>	<u>\$ 10,361,947</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 1,844,018</u>	<u>\$ 1,982,357</u>	<u>\$ 2,239,853</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	86.57%	84.36%	82.23%
Covered Payroll <sup>1</sup>	\$ 1,700,238	\$ 1,686,074	\$ 1,575,575
Net Pension Liability as a percentage of Covered Payroll	108.46%	117.57%	142.16%

**Notes to Schedule:**

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

*Changes of Assumptions:*

For measurement date 09/30/2016, as a result of Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the assumptions used by the Florida Retirement System for special risk employees.

The inflation assumption rate was lowered from 3.00% to 2.50%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

For measurement date 09/30/2015 the investment rate of return has been lowered from 8.00% to 7.75% per year, net of

**SCHEDULE OF CONTRIBUTIONS**  
Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll <sup>1</sup>	Contributions as a percentage of Covered Payroll
09/30/2019	\$ 572,534	\$ 604,645	\$ (32,111)	\$ 1,869,643	32.34%
09/30/2018	\$ 537,250	\$ 537,250	\$ -	\$ 1,702,646	31.55%
09/30/2017	\$ 481,012	\$ 481,472	\$ (460)	\$ 1,752,641	27.47%
09/30/2016	\$ 447,995	\$ 447,995	\$ -	\$ 1,700,238	26.35%
09/30/2015	\$ 608,564	\$ 608,564	\$ -	\$ 1,686,074	36.09%
09/30/2014	\$ 609,088	\$ 669,753	\$ (60,665)	\$ 1,575,575	42.51%

<sup>1</sup> The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rates:

*Healthy Active Lives:*

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

*Healthy Inactive Lives:*

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Disabled Lives:*

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The assumed rates of mortality were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in the July 1, 2016 FRS actuarial valuation report for special risk employees. 75% of active deaths are assumed to occur in the line of duty.

Termination Rates:

See Table on next page. This assumption was developed from those used by other plans containing Florida municipal Firefighters.

Disability Rates:

See Table on next page. It is assumed that 75% of disablements are service related. This assumption was developed from those used by other plans containing Florida municipal Firefighters.

Retirement Age:

Earlier of age 55 or the completion of 25 years of service. Also, any member who has reached Normal Retirement is assumed to continue employment for one additional year. We feel that this assumption is reasonable based on the plan provisions.

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Early Retirement:	Commencing upon a member's eligibility for Early Retirement (Age 45 with 10 years of credited service), members are assumed to retire with an immediate subsidized benefit at the rate of 2% per year. We feel that this assumption is reasonable based on the plan provisions.
Interest Rate:	7.75% per year, compounded annually, net of investment related expenses. We feel this is reasonable based on asset allocation and long term expectations.
Salary Increases:	6.0% per year up to the assumed retirement age. Final salary in year of retirement is increased individually to account for additional nonregular compensation. We feel that this assumption is reasonable on a long-term basis.
Payroll Growth:	1.90% per year, in compliance with Part VII of Chapter 112, Florida Statutes.
Cost Method:	Entry Age Normal Actuarial Cost Method.
Asset Valuation Method:	Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.

Termination and Disability Rate Table:

Age	% Terminating During the Year	% Becoming Disabled During the Year
20	6.00%	0.03%
30	5.00%	0.04%
40	2.60%	0.07%
50	0.80%	0.18%

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

**The following information is not required to be disclosed but is provided for informational purposes.**

**COMPONENTS OF PENSION EXPENSE**  
FISCAL YEAR SEPTEMBER 30, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 760,301	\$ 1,360,698	\$ 540,630	\$ -
Total Pension Liability Factors:				
Service Cost	460,863	-	-	460,863
Interest	1,208,636	-	-	1,208,636
Changes in benefit terms	(5,618)	-	-	(5,618)
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	21,713	-	21,713	-
Current year amortization of experience difference	-	(232,628)	(39,438)	(193,190)
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(87,714)	87,714
Benefit Payments, including Refunds of Employee Contributions	(563,033)	-	-	-
Net change	<u>1,122,561</u>	<u>(232,628)</u>	<u>(105,439)</u>	<u>1,558,405</u>
Plan Fiduciary Net Position:				
Contributions - Employer	406,246	-	-	-
Contributions - State	198,399	-	-	-
Contributions - Employee	170,587	-	-	(170,587)
Projected Net Investment Income	1,144,334	-	-	(1,144,334)
Difference between projected and actual earnings on Pension Plan investments	(411,057)	-	411,057	-
Current year amortization	-	(270,400)	(250,745)	(19,655)
Benefit Payments, including Refunds of Employee Contributions	(563,033)	-	-	-
Administrative Expenses	(28,965)	-	-	28,965
Net change	<u>916,511</u>	<u>(270,400)</u>	<u>160,312</u>	<u>(1,305,611)</u>
Ending Balance	<u>\$ 966,351</u>	<u>\$ 857,670</u>	<u>\$ 595,503</u>	<u>\$ 252,794</u>

AMORTIZATION SCHEDULE - INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments

Plan Year Ending	Differences Between Projected and Actual Earnings	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ 411,057	5	\$ 82,213	\$ 82,211	\$ 82,211	\$ 82,211	\$ 82,211	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (444,432)	5	\$ (88,886)	\$ (88,886)	\$ (88,886)	\$ (88,886)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (743,065)	5	\$ (148,613)	\$ (148,613)	\$ (148,613)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (164,504)	5	\$ (32,901)	\$ (32,901)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 842,660	5	\$ 168,532	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (19,655)	\$ (188,189)	\$ (155,288)	\$ (6,675)	\$ 82,211	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Plan Year Ending	Changes of Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2016	\$ 202,057	6	\$ 33,676	\$ 33,676	\$ 33,676	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 324,227	6	\$ 54,038	\$ 54,038	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 87,714	\$ 87,714	\$ 33,676	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ 21,713	6	\$ 3,618	\$ 3,619	\$ 3,619	\$ 3,619	\$ 3,619	\$ 3,619	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 118,281	6	\$ 19,714	\$ 19,714	\$ 19,714	\$ 19,714	\$ 19,714	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 96,635	6	\$ 16,106	\$ 16,106	\$ 16,106	\$ 16,106	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (169,539)	6	\$ (28,257)	\$ (28,257)	\$ (28,257)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ (1,226,224)	6	\$ (204,371)	\$ (204,371)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (193,190)	\$ (193,189)	\$ 11,182	\$ 39,439	\$ 23,333	\$ 3,619	\$ -	\$ -	\$ -	\$ -	\$ -