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City of Marathon Firefighters' Pension Plan and Trust Plan

October 1, 2019 | Actuarial Valuation Report

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At the request of the plan sponsor, this report summarizes the City of Marathon Firefighters' Pension Plan and Trust Fund as of October 1, 2019. The purpose of this report is to communicate the following results of the valuation:

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

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

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

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

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law. We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

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

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

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

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

Nyhart



Lawrence Watts, Jr., FSA, CFA, EA, MAAA
Enrolled Actuary No. 20-8496



Kerry Sipe, ASA, EA
Enrolled Actuary No. 20-8613

October 15, 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:

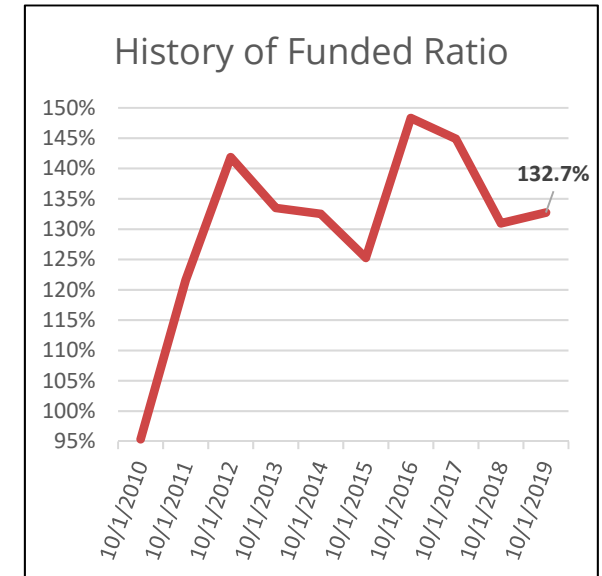
Mr. Steve Bardin
Benefits Administrator
Municipal Police Officers' &
Firefighters' Trust Funds
Division of Retirement
Post Office Box 3010
Tallahassee, FL 32315-3010

Mr. Keith Brinkman
Bureau Chief, Bureau of Local Retirement Systems
Florida Department of Management Services
Division of Retirement
Department of Management Services
P. O. Box 9000
Tallahassee, FL 32315-9000

Summary Results

The actuarial valuation's primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The accrued liability and funded percentage displayed are based on an entry age level percentage of pay for comparison purposes; however, the required contributions and funding concerns are based on the aggregate method.

	October 1, 2018	October 1, 2019
Funded Status Measures		
Accrued Liability	\$6,649,946	\$7,322,195
Actuarial Value of Assets	8,709,048	9,719,229
Unfunded Accrued Liability	(\$2,059,102)	(\$2,397,034)
Funded Percentage (AVA)	131.0%	132.7%
Funded percentage (MVA)	133.4%	132.9%
Cost Measures		
Recommended Contribution For Next Fiscal Year	\$271,823	\$199,270
Recommended Contribution (as a percentage of payroll)	13.3%	10.2%
Asset Performance		
Market Value of Assets (MVA)	\$8,874,070	\$9,733,882
Actuarial Value of Assets (AVA)	\$8,709,048	\$9,719,229
Actuarial Value/Market Value	98.1%	99.8%
Participant Information		
Active Members	27	26
Terminated Vested Members	5	7
Retirees, Beneficiaries, and Disabled Members	1	1
Inactive Due a Refund	1	6
Total	34	40
Expected Payroll	\$2,048,704	\$1,945,005
Total Payroll	\$1,969,908	\$1,870,197



Changes Since Prior Valuation and Key Notes

Assumed rates of mortality have been updated to match the Florida Retirement System (FRS) mortality assumptions for Special Risk Members. This adjustment was made after new mortality tables were adopted for the FRS Actuarial Valuation as of July 1, 2019.

The interest rate assumption was updated from 7.50% to 7.25% at the direction of the Board.

The City should plan to make the following contributions for the fiscal year starting October 1, 2021:

On or Before	Amount ⁽¹⁾
January 1, 2021	\$50,797
April 1, 2021	\$50,797
July 1, 2021	\$50,797
September 30, 2021	\$50,797

⁽¹⁾ These amounts assume that State Premium Tax Revenues received during the fiscal year is at least \$150,076. Any shortage in State Premium Tax Revenues will need to be made up for by additional contributions from the City.

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 Marathon Firefighters' Pension Plan. The risks are generally ordered with those we believe to have the most significance at the top. Also shown are possible methods by which a more detailed assessment of the risk can be performed.

Type of Risk	Method to Assess Risk
Investment Return	Scenario testing; asset/liability study
Participant Longevity	Benefit projections and contribution strategy
Early Retirement	Scenario testing; review population and retirement rates

Investment Return Risk

Currently, the plan assumes assets will return 7.25% annually. The plan's substantial equity position leaves the plan open to adverse market results. The potential exposure to this risk can be better understood by performing a stochastic asset-liability study and consulting your investment advisor. The asset mix could be adjusted to increase or decrease the investment-related risk of the plan; such adjustments could have funding implications.

Demographic Risk

The plan's liabilities are related to the present value of benefits expected to be paid to participants in the future. Those expected payments rely on assumptions about mortality, salary increases, retirement, and withdrawal rates, among others. Notably, the current mortality tables are mandated by State law, and there is no guarantee these tables will accurately reflect future mortality under your plan. It is important that the plan's demographic risks are well-understood and that assumptions remain up-to-date. Scenario testing and regular experience studies help analyze these risks.

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 Ocala Firefighters' Retirement Plan falls in its life-cycle.

Duration of Liabilities: 15.8

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: 65.0%

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: 19.2%

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: 0.2%

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.

Five Year Valuation Summary

	10/1/2015	10/1/2016	10/1/2017	10/1/2018	10/1/2019
Funding					
Accrued Liability	\$4,193,170	\$4,578,544	\$5,355,963	\$6,649,946	\$7,322,195
Actuarial Value of Assets	\$5,252,172	\$6,790,899	\$7,759,986	\$8,709,048	\$9,719,229
Unfunded Actuarial Accrued Liability	(\$1,059,002)	(\$2,212,355)	(\$2,404,023)	(\$2,059,102)	(\$2,397,034)
Funded Percentage	125.3%	148.3%	144.9%	131.0%	132.7%
Actual Employer Contribution ¹	\$143,206	\$175,817	\$223,687	\$157,911	\$185,139
Recommended Contribution	\$120,564	\$123,894	\$186,183	\$130,853	\$177,313
Recommended Contribution (% of Pay)	8.0%	7.4%	10.6%	6.6%	9.5%
Interest Rate	7.50%	7.50%	7.50%	7.50%	7.25%
Rate of Return					
Actuarial Value of Assets	6.08%	4.34%	8.40%	7.87%	7.28%
Market Value of Assets	(0.18%)	8.01%	13.21%	7.36%	5.39%
Demographic Information					
Active Members	25	25	27	27	26
Terminated Vested Members	2	5	5	5	7
Retirees, Beneficiaries, and Disabled Members	0	0	1	1	1
Inactive Due a Refund	4	5	1	1	6
Total Participants	31	35	34	34	40
Covered Payroll	\$1,502,540	\$1,676,752	\$1,759,178	\$1,969,908	\$1,870,197
Average Covered Pay	\$60,102	\$67,070	\$65,155	\$72,960	\$71,931

¹ Recommended contribution is for the following fiscal year (e.g., the October 1, 2019 recommended contribution will be made in the fiscal year beginning October 1, 2020 and will be documented in the October 1, 2021 valuation report).

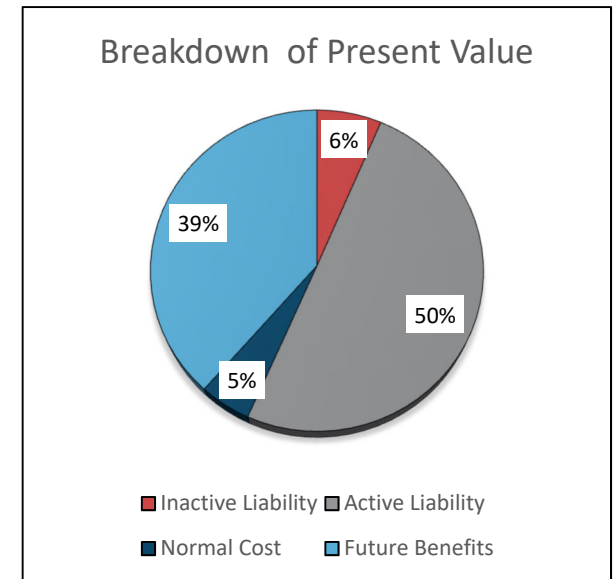
Present Value of Future Benefits

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

October 1, 2019

Present Value of Future Benefits

Active members	
Retirement	\$12,050,584
Disability	0
Death	44,377
Termination	0
Refund of contributions	0
Total active	\$12,094,961
Inactive members	
Retired members	\$337,058
DROP members	0
Beneficiaries	0
Disabled members	0
Terminated, Including members due a refund	500,733
Total inactive	\$837,791
Total	\$12,932,752
Present value of future payrolls	\$16,647,927



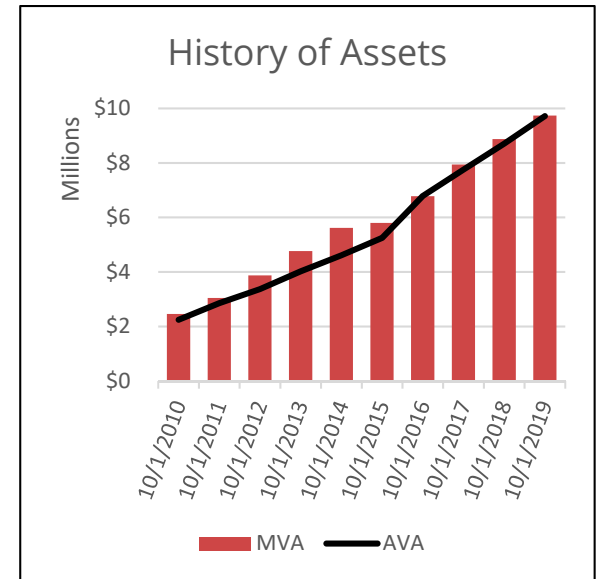
Asset Information

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

	October 1, 2019
Market Value Reconciliation	
Market value of assets, beginning of prior year	\$9,039,979
Employer contributions (incl. discounted accrued items)	185,139
Member contributions	99,496
Non-employer contributions	150,076
Investment income, net expenses	497,134
Benefit payments and refunds	(23,951)
Administrative expenses	(48,082)
Other expenses	0
Market value of assets, beginning of current year	\$9,899,791
Return on Market Value	5.39%
Accumulated Reserve	(\$165,909)
Prepaid Reserve	\$0
Market value of assets available	\$9,733,882
Actuarial value of assets	
Value at beginning of current year	\$9,719,229



Asset Information (continued)

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

October 1, 2019

1.	Expected Market Value of Assets		
	(a) Market value of assets – beginning of year		\$9,039,979
	(b) Contributions		434,711
	(c) Benefit payments		(23,951)
	(d) Expenses		(48,082)
	(e) Expected Return (7.50%)		685,827
	(f) Expected market value end of year		\$10,088,484
2.	Market value of assets, beginning of current year		\$9,899,791
3.	Amount subject to phase-in ((2)-(1)(f))		(\$188,693)
4.	Phase in of asset gain/(loss)		
	(a) Current year [80% x (\$188,693)]		(\$150,954)
	(b) First prior year [60% x (\$6,096)]		(3,658)
	(c) Second prior year [40% x \$404,736]		161,894
	(d) Third prior year [20% x \$36,857]		7,371
	(e) Total phase-in		\$14,653
5.	Preliminary actuarial value of assets, beginning of current year [(2) - (4e)]		\$9,885,138
6.	80% Market value of assets		\$7,919,833
7.	120% Market value of assets		\$11,879,749
8.	Adjusted actuarial value of assets		\$9,885,138
9.	Reserved assets		(\$165,909)
10.	Final actuarial value of assets [(8) + (9)]		\$9,719,229
11.	Return on actuarial value of assets		7.28%

Reconciliation of Gain/Loss

October 1, 2019

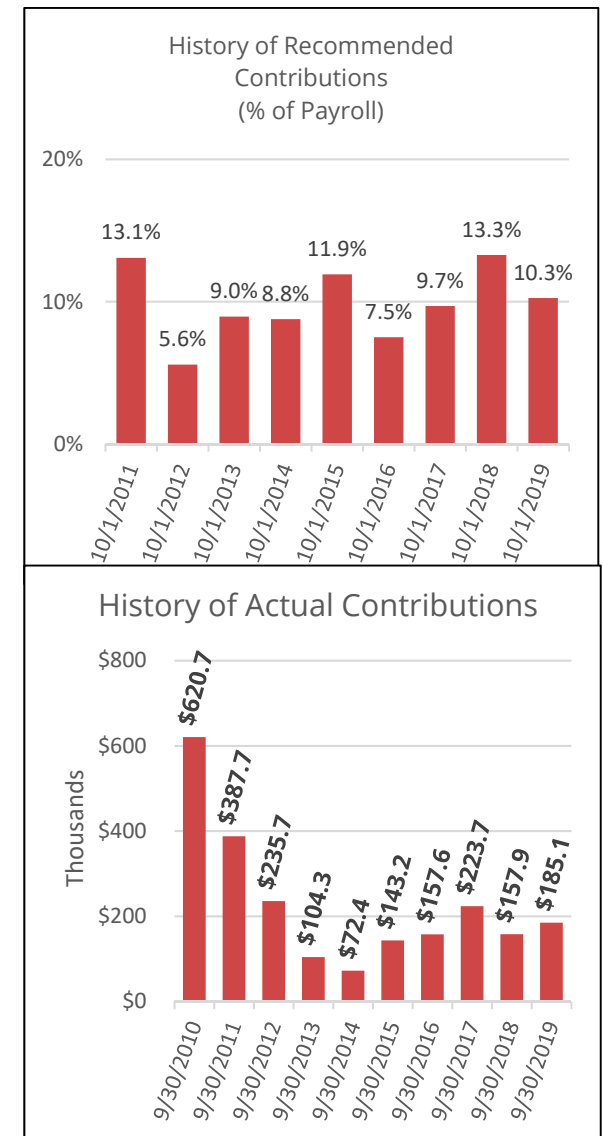
Liability (gain)/loss		
Present value of future benefits		\$12,696,896
Present value of employee contributions		(899,839)
Expected employee contribution		94,879
Benefit payments		(23,951)
Interest		891,013
Expected liability		\$12,758,998
Assumption change		460,066
Expected liability with assumption change		\$13,219,064
Actual liability		12,129,911
Liability (gain)/loss		(\$1,089,153)
Asset (gain)/loss		
Actuarial value of assets, beginning of prior year		\$8,709,048
Contributions		434,711
Benefit payments and expenses		(72,033)
Expected investment return		638,978
Expected actuarial value of assets, beginning of current year		\$9,710,704
Actual actuarial value of assets, beginning of current year		9,719,229
Asset (gain)/loss		(\$8,525)
Total (gain)/loss		(\$1,097,678)

Development of Recommended Contribution

The actuarial determined contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws.

October 1, 2019

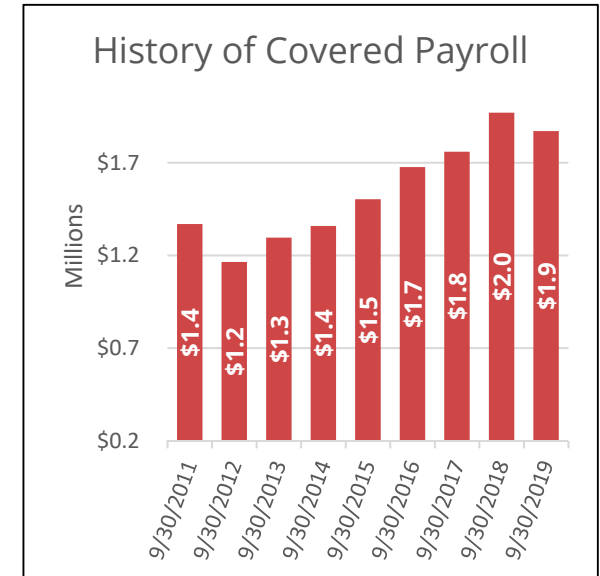
1.	Present value of future benefits	\$12,932,752
2.	Actuarial value of assets	9,719,229
3.	Present value of future member contributions	802,841
4.	Present value of future normal Cost [(1)-(2)-(3)]	\$2,410,682
5.	Present value of future payroll	\$16,647,927
6.	Normal cost actual rate [(4)/(5)]	14.48%
7.	Administrative expenses	\$30,211
8.	Expected payroll	\$1,945,005
9.	Applicable interest	7.25%
10.	Normal cost [(6)x(8)+(7)]	\$311,848
11.	Interest to estimated payment date	\$22,609
12.	Adjustment for quarterly contributions	\$14,889
13.	Total recommended contribution as of end of year [(10)+(11)+(12)]	\$349,346
14.	Expected State Contribution	\$150,076
15.	City recommended contribution [(13)-(14)]	\$199,270
16.	As a percentage of expected payroll	10.25%



Demographic Information

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

	October 1, 2018	October 1, 2019
Member Counts		
Active Members	27	26
Retired Members	1	1
Beneficiaries	0	0
Disabled Members	0	0
Terminated Vested Members	5	7
Inactive Members Due A Refund	1	6
Total	34	40



Active Participant Demographics

Average Age	37.3	38.0
Average Service	6.7	7.4
Average Compensation	\$72,960	\$71,931
Payroll	\$1,969,908	\$1,870,197

Demographic Information (continued)

	October 1, 2018	October 1, 2019
Retired Member Statistics		
Average Age	60.0	61.0
Average Monthly Benefit	\$1,967	\$1,996
Beneficiary Statistics		
Average Age	N/A	N/A
Average Monthly Benefit	N/A	N/A
Disabled Member Statistics		
Average Age	N/A	N/A
Average Monthly Benefit	N/A	N/A
Terminated Member Statistics		
Average Age	39.4	39.7
Average Monthly Benefit	\$1,296	\$1,421
Inactive Due A Refund Statistics		
Average Age	30.0	41.0
Total Refunds Due	\$1,219	\$11,509

Participant Reconciliation

	Active	Terminated	Disabled	Retired	Beneficiaries	Totals
Prior Year	27	6	0	1	0	34
Additions	1					1
Departures	(2)	2				0
Corrections		5				5
Current Year	26	13	0	1	0	40

¹ According to the data provided, 6 of the 13 terminated participants are due an employee contribution refund.

² Per email from Nicolle Bournival on 3/27/2020, there are 5 previously unconsidered former participants eligible for an employee contribution refund.

Active Participant Schedule

Active participant information grouped based on age and service.

Age Group	Years of Service										Total
	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	1										1
25 to 29		3									3
30 to 34		4	3	2							9
35 to 39		1		1							2
40 to 44		2		2	1						5
45 to 49		1			2						3
50 to 54			1	1							2
55 to 59		1									1
60 to 64											0
65 to 69											0
70 & up											0
Total	1	12	4	6	3	0	0	0	0	0	26

Plan Status

Established October 1, 2005

Eligibility for Participation

Any full time firefighter. Fire Chief may elect to participate within 10 days of employment.

Accrual of Benefits

The accrued benefit is determined as 3.50% of Average Final Compensation multiplied by Credited Service as of date of determination.

Benefits

Normal Retirement

Eligibility Attainment of age 55 and 6 Years of Credited Service, or 20 Years of Credited Service.

Benefit Unreduced Accrued Benefit payable immediately.

Early Retirement

Eligibility Attainment of Age 50 and 6 years of Credited Service.

Benefit Accrued Benefit reduced 3% for each year by which the member's early retirement date precedes normal retirement.

Late Retirement

Eligibility Participation continues after Normal Retirement Date.

Benefit Accrued retirement benefit.

Death before Retirement In Line of Duty

Eligibility Death during performance of duties.

Benefit Beneficiary receives a pension equal to 50% of the member's monthly compensation. If member is vested, beneficiary receives not less than Accrued Benefit reduced for timing of receipt.

Death before Retirement Not In Line of Duty

Eligibility	Death not during performance of duties
Benefit	Beneficiary receives the Accrued Benefit payable to the member beginning on the participant's Early or Normal Retirement Date; If not vested, beneficiary receives refund of member's accumulated contributions.

Termination Benefit

Eligibility	Fully vested after completion of 6 years of Credited Service
Benefit	Accrued Benefit payable at the participants Early or Normal Retirement Date. For termination prior to 6 years of credited service, refund of accumulated contributions.

Disability Benefit In Line of Duty

Eligibility	Immediately upon permanent disability
Benefit	Accrued retirement benefit based on Average Compensation and Credited Service at disability or 65% of Average Final Compensation if larger. Reduced by 100% Social Security disability benefit and workers' compensation benefits, not reduced below Average Final Compensation. Benefit terminates upon the earlier of death, recovery, or Normal Retirement eligibility.

Disability Benefit Not In Line of Duty

Eligibility	Completion of 8 years of Credited Service
Benefit	Accrued retirement benefit determined as of disability date offset by 100% of Social Security disability benefits and workers' compensation, but not reduced below 25% of Average Final Compensation. If permanently disabled prior to eligibility, refund of accumulated employee contributions.

Compensation

Compensation
An employee's pay, including pick-up contributions.

Average Final Compensation
Average Compensation during the highest 5 years of credited service, or career average.

Credited Service

For Vesting and Benefit Accrual

Continuous full-time service credited, from most recent date of employment, during which the required Contributions were made. Participant may purchase up to 5 additional years of governmental service, which cannot be used for eligibility or vesting, at full actuarial cost. Purchased service other than military service must be for employment as a firefighter, and the participant must not be eligible to receive benefits from another plan based on such service.

Employee Contributions

5% of Compensation

DROP

Eligibility	Retiree eligible for Normal Retirement
Benefit	Deferred Retirement Option Plan for up to 84 months with 6.5% annual interest credited.

COLA

Eligibility	Participant or Beneficiary
Benefit	1.5% adjustment on October 1

Payment Forms

Normal Form
10 years Certain and Life

Optional Forms
50%, 66 2/3%, 75%, and 100% Joint and Survivor Annuity
Lump Sum

Actuarial Equivalence

7.00%; 1994 Group Annuity Reserving Table projected to 2002 using Scale AA

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 Valuation

None

Cost Method (CO)

Aggregate Cost Method: The excess of the present value of projected benefits over the actuarial value of assets and present value of future member contributions is allocated over the earnings of the current active population between the valuation date and assumed exit. The allocation is performed for the population as a whole, not as a sum of individual allocations. The Normal Cost is the portion of the present value allocated to the valuation year. Administrative expenses are added to the Normal Cost.

Asset Valuation Method (CO)

20% Phase-In Method: Actuarial value of assets is equal to expected market value adjusted by phase-in of 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. The actuarial value of assets are also offset by the undistributed Share Plan assets held by the plan.

Interest Rates (CO)

7.25% net of investment expenses

This assumption has been set by the plan sponsor in conjunction with their asset advisors. Detailed evaluation of this assumption was outside the scope of our engagement.

Annual Pay Increases (FE)

4.00% per annum.

The annual pay increases reflect the employers average target increase for a career employee.

Expense and/or Contingency Loading (FE)

2% of the present value of projected benefits adjusted by the expected future salary increases.

Mortality Rates (CO)

Pre-Retirement:

Pub-2010 Generational using scale MP-2018; Females, Headcount Weighted Safety Employee Female Table, set forward 1 year; Males, Headcount Weighted Safety Below Median Employee Male Table, set forward 1 year.

Post-Retirement:

Pub-2010 Generational using scale MP-2018; Females, Headcount Weighted Safety Healthy Retiree Female Table, set forward 1 year; Males, Headcount Weighted Safety Below Median Healthy Retiree Male Table, set forward 1 year

Mortality Rates (CO) (continued)

Disabled:

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

These are the same mortality rates used by the Florida Retirement System in their July 1, 2019 Actuarial Valuation Report.

Retirement Rates (FE)

100% at Normal Retirement Age (Age 55 and 6 years of credited service) or 20 years of credited service.

As the plan is not large enough to have credible experience, retirement rates are based on professional judgement and expectation for the general population adjusted as necessary for the specific provisions of the plan.

Disability Rates (FE)

None assumed

Not applicable.

Withdrawal Rates (FE)

None assumed

Not applicable.

Marital Status and Ages

100% of Members are assumed to be married. Female spouses assumed to be the same age as male spouses.

State Contributions

Premium tax revenues are assumed to be the same as in prior year.

Withdrawal of Employee Contributions

It is assumed that employees withdraw their contribution balances upon employment termination at the end of the current fiscal year.

DROP Participation

No distinction is made between retirement and DROP entry

Changes Since Prior Report

The mortality rates have been updated to match the Florida Retirement System's Special Risk mortality tables defined in their actuarial valuation as of July 1, 2019.

The interest rate assumption was changed from 7.50% to 7.25% at the direction of the Board.

FE indicates an assumption representing an estimate of future experience.

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

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

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

- ✓ Statement of Changes on Value of Assets
- ✓ Distribution of Assets
- ✓ Shortage/(Prepaid) Position Development
- ✓ Florida State Requirements
 - Comparative Summary of Principal Valuation Results
 - Comparison of payroll growth, salary increases and investment returns
 - Requirements under Florida Statute 112.664 and F.A.C. 60T-1.0035
 - Reserve amount for benefit improvements under F.L. 99-1

Statement of Changes in Plan Net Assets

	September 30, 2018	September 30, 2019
1. Additions		
(a) Contributions:		
(i) Employer	157,911	185,139
(ii) Member	89,805	99,496
(iii) Non-employer contributing entity	140,288	150,076
(iv) Total	\$388,004	\$434,711
(b) Investment income		
(i) Net increase in fair value of investments	608,666	497,134
(ii) Interest and dividends	0	0
(iii) Investment expense, other than from securities lending	0	0
(iv) Securities lending income	0	0
(v) Securities lending expense	0	0
(vi) Total	\$608,666	\$497,134
(c) Other	\$0	\$0
(d) Total additions [(a)+(b)+(c)]	\$996,670	\$931,845
2. Deductions		
(a) Benefit payments, including refunds of member contributions	\$28,124	\$23,951
(b) Administrative expense	34,576	48,082
(c) Other	0	0
(d) Total deductions	\$62,700	\$72,033
3. Net increase [(1d)-(2d)]	\$933,970	\$859,812
4. Net assets held in trust for pension benefits, beginning of year	7,940,100	8,874,070
5. Net assets held in trust for pension benefits, end of year [(3)+(4)]	\$8,874,070	\$9,733,882

Distribution of Assets

	September 30, 2018	September 30, 2019
Cash and deposits	\$35,948	\$88,621
Securities lending cash collateral	0	0
Total cash	\$35,948	\$88,621
Receivables		
Contributions	\$53,008	\$53,025
Other	0	0
Total receivables	\$53,008	\$53,025
Investments		
Core Bonds	\$1,303,111	\$1,417,934
Multi-Sector	1,545,759	1,408,088
U.S. Large Cap Equity	2,938,739	3,416,828
U.S. Small Cap Equity	1,078,437	1,132,378
Non-U.S. Equity	1,276,150	1,427,781
Real Estate	808,827	955,136
Total investments	\$8,951,023	\$9,758,145
Payables		
Investment management fees	\$0	\$0
Due to broker for investments purchased	0	0
Collateral payable for securities lending	0	0
Other	0	0
Total liabilities	\$0	\$0
Reserved Assets		
Accumulated Reserve	(\$165,909)	(\$165,909)
Assets available for benefits	\$8,874,070	\$9,733,882

Stabilization Fund Balance Reconciliation

(1) Payroll for FYE 9/30/2019:	\$1,922,035
(2) Target Required Contribution Percentage	12%
(3) Targeted Employer Contribution:	\$230,644
(3) Employer Contributions to Pension Fund	
Quarterly contributions throughout FYE 9/30/2019:	\$187,535
Shortage payment at and/or around 12/31/2019 (1):	(2,351)
	\$185,184
(4) Amount required for Stabilization Fund for FYE 9/30/2019:	\$45,460

Shortage/(Prepaid) Position

(1)	<u>Shortage/(Prepaid) Position 9/30/2018:</u>		\$2,351
(2)	<u>Costs</u>		
	Minimum Required City Contribution (2018/2019) on 10/01/2018:		\$306,230
(3)	<u>Contributions</u>		
	(a) City Contribution Received on 1/28/2019:	\$45,955	
	(b) City Contribution Received on 3/29/2019:	\$3,577	
	(b) City Contribution Received on 4/01/2019:	\$138	
	(d) City Contribution Received on 4/12/2019:	\$45,955	
	(e) City Contribution Received on 7/16/2019:	\$45,955	
	(f) City Contribution Received on 10/21/2019:	\$45,955	
	(g) State Contribution Received on 9/16/2019:	\$150,076	
	Total Contributions, Adjusted with Interest to 10/01/2018:	\$319,296	
(4)	<u>Shortage/(Prepaid) Position 10/01/2018 [(1)+(2)-(3)]:</u>		(\$10,715)
(5)	<u>Shortage/(Prepaid) Position, interest adjusted to 9/30/2019:</u>		(\$11,492)
(6)	<u>Shortage Position, as communicated:</u>		\$0

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

Comparative Summary Of Principal Valuation Results

	10/1/2019 7.25% (assumption changes)	10/1/2019 7.50% (prior assumptions)	10/1/2018 7.50%
Participant Data			
Active members	26	26	27
Total annual payroll	\$1,870,197	\$1,870,197	\$1,969,908
Retired members and beneficiaries			
Total annualized benefit	\$23,951	\$23,951	\$23,597
Disabled members receiving benefits			
Total annualized benefit	\$0	\$0	\$0
Terminated vested members, Including members due a refund			
Total annualized benefit	\$102,302	\$102,302	\$77,765
Assets			
Actuarial value of assets	\$9,719,229	\$9,719,229	\$8,709,048
Market value of assets	\$9,733,882	\$9,733,882	\$8,874,070

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

Comparative Summary Of Principal Valuation Results (continued)

	10/1/2019 7.25% (assumption changes)	10/1/2019 7.50% (prior assumptions)	10/1/2018 7.50%
Liabilities, present value of all future expected benefit payments			
Active members			
Retirement benefits	\$12,050,584	\$11,588,707	\$11,942,760
Vesting benefits	0	0	0
Disability benefits	0	0	0
Death benefits	44,377	53,903	60,073
Return of contribution	0	0	0
Total	\$12,094,961	\$11,642,610	\$12,002,833
Terminated vested members	\$500,733	\$478,948	\$356,363
Retired members and beneficiaries	\$337,058	\$339,019	\$337,700
Disabled members	\$0	\$0	\$0
Total	\$12,932,752	\$12,460,577	\$12,696,896
Liabilities due and unpaid	\$0	\$0	\$0
Actuarial accrued liability	N/A	N/A	N/A
Unfunded actuarial accrued liability	N/A	N/A	N/A

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

Comparative Summary Of Principal Valuation Results (continued)

	10/1/2019 7.25% (assumption changes)	10/1/2019 7.50% (prior assumptions)	10/1/2018 7.50%
Actuarial present value of accrued benefits			
Statement of actuarial present value of all accrued benefits			
Vested accrued benefits			
Inactive members and beneficiaries	\$837,791	\$817,967	\$694,063
Active members	2,647,942	2,580,628	2,121,055
Total value of all vested accrued benefits	\$3,485,733	\$3,398,595	\$2,815,118
Non-vested accrued benefits	1,776,723	1,721,864	1,595,335
Total actuarial present value of all accrued benefits	\$5,262,456	\$5,120,459	\$4,410,453
Statement of changes in total actuarial present value of all accrued benefits (ASC 960)			
Actuarial present value of accrued benefits, beginning of year	\$4,410,453	\$4,410,453	\$3,574,531
Increase (decrease) during year			
Benefits accumulated	\$415,052	\$404,055	\$597,862
Plan amendment	0	0	0
Changes in actuarial assumptions	141,997	0	(870)
Interest	318,905	329,902	267,054
Benefits paid	(23,951)	(23,951)	(28,124)
Other changes	0	0	0
Net increase (decrease)	\$852,003	\$710,006	\$835,922
Actuarial present value of accrued benefits, end of year	\$5,262,456	\$5,120,459	\$4,410,453

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

Comparative Summary Of Principal Valuation Results (continued)

	10/1/2019 7.25% (assumption changes)	10/1/2019 7.50% (prior assumptions)	10/1/2018 7.50%
Pension cost			
Normal Cost	\$446,596	\$392,196	\$514,546
Member contributions	\$97,250	\$97,250	\$102,435
Expected plan sponsor contribution	\$199,270	\$144,870	\$271,823
As % of payroll	10.25%	7.45%	13.27%
Member Contributions as % of payroll	5.00%	5.00%	5.00%
Past contributions			
Required plan sponsor contribution	9/30/2019 \$177,313		9/30/2018 \$130,849
Required member contribution	\$93,510		\$98,495
Actual contributions made by:			
Plan's sponsor	\$185,139		\$157,911
Members	\$99,496		\$89,805
Other	\$150,076		\$140,288
Other disclosures			
Present value of active member			
Future salaries at attained age	\$16,647,927		\$18,686,043
Future contributions at attained age	\$802,841		\$899,839

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

Historical Salary Increases and Asset Performance ¹

Year Ending	Payroll Growth	Salary Growth	Expected Salary Growth	Asset Return (Market)	Asset Return (Actuarial)	Asset Return (Expected)
9/30/2019	(5.06%)	1.13%	4.00%	5.39%	7.28%	7.25%
9/30/2018	11.98%	12.13%	4.00%	7.36%	7.87%	7.50%
9/30/2017	4.92%	9.52%	4.00%	13.21%	8.40%	7.50%
9/30/2016	11.60%	22.94%	4.00%	8.01%	4.34%	7.50%
9/30/2015	10.61%	13.04%	4.00%	(0.18%)	6.08%	7.50%
9/30/2014	4.85%	0.88%	4.00%	8.27%	7.68%	7.50%
9/30/2013	11.27%	7.30%	4.00%	11.62%	9.38%	7.50%
9/30/2012	(14.95%)	(7.00%)	5.00%	16.33%	4.00%	7.50%
9/30/2011	0.29%	0.29%	5.00%	(0.30%)	0.64%	7.50%
9/30/2010	N/A	0.12%	5.00%	7.98%	3.04%	7.50%
Averages						
3-year				8.60%	7.85%	
5-year				6.67%	6.78%	
10-year	3.95% ²			7.65%	5.84%	

¹ Numbers for years prior to 9/30/2011 are from Southern Actuarial Services.

² This is an average of the nine years listed; a 10-year average will be reported as data becomes available.

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.003

	October 1, 2019			
	GASB 67/68	- 200 bp ¹	Funding Rate ¹	+ 200 bp ¹
	7.50%	5.25%	7.25%	9.25%
Total pension liability				
Service Cost	\$646,079	\$641,056	\$641,056	\$641,056
Interest	523,895	382,149	527,729	673,310
Benefit changes	0	0	0	0
Difference between expected and actual experience	366,599	(644,854)	(644,854)	(644,854)
Changes in assumptions	(50,801)	3,209,355	172,269	(1,842,194)
Benefit payments	(23,951)	(23,951)	(23,951)	(23,951)
Contribution refunds	0	0	0	0
Net change in pension liability	\$1,461,821	\$3,563,755	\$672,249	(\$1,196,633)
Total pension liability, beginning of year	\$6,351,157	\$6,649,946	\$6,649,946	\$6,649,946
Total pension liability, end of year	\$7,812,978	\$10,213,701	\$7,322,195	\$5,453,313
Plan fiduciary net position				
Contributions - Employer	\$185,139	\$185,139	\$185,139	\$185,139
Contributions - State	150,076	150,076	150,076	150,076
Contributions - Member	99,496	99,496	99,496	99,496
Net investment income	497,134	497,134	497,134	497,134
Benefit payments	(23,951)	(23,951)	(23,951)	(23,951)
Contribution refunds	0	0	0	0
Administrative expense	(48,082)	(48,082)	(48,082)	(48,082)
Other	0	0	0	0
Net change in plan fiduciary net position	\$859,812	\$859,812	\$859,812	\$859,812
Plan fiduciary net position, beginning of year	8,874,070	\$8,874,070	\$8,874,070	\$8,874,070
Plan fiduciary net position, end of year	\$9,733,882	\$9,733,882	\$9,733,882	\$9,733,882
Net pension liability/(asset)	(\$1,920,904)	\$479,819	(\$2,411,687)	(\$4,280,569)
Funded ratio	124.59%	95.30%	132.94%	178.49%
Years that Assets support expected benefit payments	30	22	29	100
Estimated city contribution				
Annual dollar value	\$119,069	\$995,928	\$199,270	\$0
Percentage of payroll	6.12%	51.20%	10.25%	0.00%

¹ Based on valuation assumption with the following changes
-Interest rate (as noted)

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality GASB 67/68
Interest 7.50%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>	<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$9,733,882	\$728,700	\$36,431	30	\$3,340,092	\$170,834	\$2,163,716
2	10,426,151	780,315	44,723	31	\$1,347,210		\$2,166,356
3	11,161,743	835,441	45,890				
4	11,951,294	894,106	60,857				
5	12,784,543	951,803	191,122				
6	13,545,224	1,002,544	362,505				
7	14,185,263	1,050,332	368,331				
8	14,867,264	1,101,262	374,300				
9	15,594,226	1,143,702	702,421				
10	16,035,507	1,175,076	749,195				
11	16,461,388	1,203,238	851,819				
12	16,812,807	1,229,186	862,909				
13	17,179,084	1,253,666	944,153				
14	17,488,597	1,275,164	990,739				
15	17,773,022	1,290,220	1,161,174				
16	17,902,068	1,294,101	1,318,609				
17	17,877,560	1,287,739	1,441,486				
18	17,723,813	1,266,733	1,698,802				
19	17,291,744	1,227,386	1,887,313				
20	16,631,817	1,174,525	1,978,749				
21	15,827,593	1,110,714	2,073,626				
22	14,864,681	1,037,709	2,094,997				
23	13,807,393	957,827	2,110,882				
24	12,654,338	870,173	2,142,810				
25	11,381,701	774,423	2,151,003				
26	10,005,121	670,989	2,156,170				
27	8,519,940	559,331	2,163,487				
28	6,915,784	439,051	2,162,641				
29	5,192,194	309,809	2,161,911				

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Generational
Interest 5.25%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$9,733,882	\$510,090	\$36,228
2	10,207,744	534,754	44,459
3	10,698,039	560,468	45,512
4	11,212,995	587,114	60,532
5	11,739,577	611,377	191,033
6	12,159,921	628,993	362,827
7	12,426,087	642,818	368,565
8	12,700,340	657,065	374,408
9	12,982,997	663,379	703,404
10	12,942,972	660,060	750,386
11	12,852,646	652,654	853,183
12	12,652,117	641,843	864,130
13	12,429,830	628,053	945,940
14	12,111,943	610,159	992,413
15	11,729,689	585,671	1,162,988
16	11,152,372	551,224	1,322,636
17	10,380,960	507,541	1,445,496
18	9,443,005	451,626	1,702,978
19	8,191,653	380,948	1,895,237
20	6,677,364	299,092	1,986,139
21	4,990,317	208,066	2,080,944
22	3,117,439	109,215	2,101,186
23	1,125,468		2,115,444

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Generational
Interest 7.25%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>	<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$9,733,882	\$704,416	\$36,228	30	\$156,128		\$2,153,308
2	10,402,070	752,567	44,459				
3	11,110,178	803,867	45,512				
4	11,868,533	858,313	60,532				
5	12,666,314	911,504	191,033				
6	13,386,785	957,620	362,827				
7	13,981,578	1,000,538	368,565				
8	14,613,551	1,046,148	374,408				
9	15,285,291	1,083,131	703,404				
10	15,665,018	1,108,988	750,386				
11	16,023,620	1,131,326	853,183				
12	16,301,763	1,151,101	864,130				
13	16,588,734	1,168,993	945,940				
14	16,811,787	1,183,509	992,413				
15	17,002,883	1,191,288	1,162,988				
16	17,031,183	1,187,654	1,322,636				
17	16,896,201	1,173,492	1,445,496				
18	16,624,197	1,144,601	1,702,978				
19	16,065,820	1,097,272	1,895,237				
20	15,267,855	1,036,182	1,986,139				
21	14,317,898	963,933	2,080,944				
22	13,200,887	882,229	2,101,186				
23	11,981,930	793,347	2,115,444				
24	10,659,833	696,414	2,145,787				
25	9,210,460	591,044	2,153,942				
26	7,647,562	477,613	2,157,348				
27	5,967,827	355,650	2,162,463				
28	4,161,014	224,787	2,158,785				
29	2,227,016	84,686	2,155,574				

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2019

Sustainment of Expected Benefit Payments

Mortality FRS Special Risk Generational
Interest 9.25%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>	<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$9,733,882	\$898,746	\$36,228	30	\$33,531,609	\$3,004,286	\$2,153,308
2	10,596,400	978,156	44,459	31	34,382,587	3,083,131	2,150,427
3	11,530,097	1,064,476	45,512	32	35,315,291	3,169,594	2,146,283
4	12,549,061	1,158,050	60,532	33	36,338,602	3,264,565	2,139,329
5	13,646,579	1,253,669	191,033	34	37,463,838	3,369,102	2,129,318
6	14,709,215	1,344,193	362,827	35	38,703,622	3,484,385	2,115,992
7	15,690,581	1,434,710	368,565	36	40,072,015	3,611,725	2,099,088
8	16,756,726	1,533,064	374,408	37	41,584,652	3,752,582	2,078,360
9	17,915,382	1,625,360	703,404	38	43,258,874	3,908,566	2,053,619
10	18,837,338	1,708,516	750,386	39	45,113,821	4,081,455	2,024,731
11	19,795,468	1,792,494	853,183	40	47,170,545	4,273,200	1,991,618
12	20,734,779	1,878,885	864,130	41	49,452,127	4,485,936	1,954,253
13	21,749,534	1,969,050	945,940	42	51,983,810	4,721,997	1,912,682
14	22,772,644	2,061,585	992,413	43	54,793,125	4,983,926	1,866,978
15	23,841,816	2,152,769	1,162,988	44	57,910,073	5,274,495	1,817,190
16	24,831,597	2,237,104	1,322,636	45	61,367,378	5,596,728	1,763,421
17	25,746,065	2,316,135	1,445,496	46	65,200,685	5,953,914	1,705,824
18	26,616,704	2,385,024	1,702,978	47	69,448,775	6,349,630	1,644,617
19	27,298,750	2,439,418	1,895,237	48	74,153,788	6,787,761	1,580,122
20	27,842,931	2,485,644	1,986,139	49	79,361,427	7,272,515	1,512,731
21	28,342,436	2,527,560	2,080,944	50	85,121,211	7,808,456	1,442,838
22	28,789,052	2,567,956	2,101,186	51	91,486,829	8,400,532	1,370,848
23	29,255,822	2,610,488	2,115,444	52	98,516,513	9,054,110	1,297,169
24	29,750,866	2,654,907	2,145,787	53	106,273,454	9,775,020	1,222,156
25	30,259,986	2,701,632	2,153,942	54	114,826,318	10,569,597	1,146,146
26	30,807,676	2,752,139	2,157,348	55	124,249,769	11,444,733	1,069,513
27	31,402,467	2,806,926	2,162,463	56	134,624,989	12,407,913	992,727
28	32,046,930	2,866,705	2,158,785	57	146,040,175	13,467,270	916,404
29	32,754,850	2,932,333	2,155,574	58	158,591,041	14,631,628	841,163

Reserve Amount for Benefit Improvement Under F.L. 99-1

Adjusted Base Amount at 10/1/2019

<u>Year Established</u>	<u>Description</u>	<u>Ch. 175 Fire</u>	<u>Suppl. Fire</u>	<u>Total</u>
1998	Base Year Premium Tax Distribution	\$ 0	\$ 0	\$ 0
2005	Ordinance 2005 21			193,515
	Adjusted Base Amount			<u>\$ 193,515</u>

Reserve Account for 2018/2019

			<u>Total</u>
1.	Reserve Account at September 30, 2018		\$ 165,909
2.	Increase in Reserve Account		
	(a) Premium Tax Distribution for 2018		150,076
	(b) Adjusted Base Amount		193,515
	(c) Increase in Reserve Distribution		0
3.	Reserve Account at September 30, 2019 [(1)+ (2c)]		\$ 165,909