

TOWN OF MELBOURNE BEACH  
POLICE OFFICERS' RETIREMENT TRUST FUND

ACTUARIAL VALUATION  
AS OF OCTOBER 1, 2020

CONTRIBUTIONS APPLICABLE TO THE  
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2022

GASB 67/68 DISCLOSURE INFORMATION  
AS OF SEPTEMBER 30, 2020



**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS

December 11, 2020

Board of Trustees  
Town of Melbourne Beach  
Police Officers' Pension Board

Re: Town of Melbourne Beach Police Officers' Retirement Trust Fund

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the Town of Melbourne Beach Police Officers' Retirement Trust Fund. 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 185, 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.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of its liabilities. 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 Town of Melbourne Beach, 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, 2019. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2020 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.

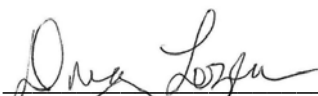
The undersigned are familiar with the immediate and long-term aspects of pension valuations, and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the 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 Town of Melbourne Beach, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Police Officers' Retirement Trust Fund. 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:   
Douglas H. Lozen, EA, MAAA  
Enrolled Actuary #20-7778

By:   
Drew D. Ballard, EA, MAAA  
Enrolled Actuary #20-8193

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SUMMARY OF REPORT

The regular annual actuarial valuation of the Town of Melbourne Beach Police Officers' Retirement Trust Fund, performed as of October 1, 2020, 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, 2022.

The contribution requirements, compared with those set forth in the October 1, 2019 actuarial valuation report, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2020 <u>9/30/2022</u>	10/1/2019 <u>9/30/2021</u>
Minimum Required Contribution % of Projected Annual Payroll	47.47%	54.04%
Member Contributions (Est.) % of Projected Annual Payroll	5.00%	5.00%
Town And State Required Contribution % of Projected Annual Payroll	42.47%	49.04%
State Contribution (Est.) <sup>1</sup> % of Projected Annual Payroll	\$42,206 7.45%	\$42,206 7.45%
Town Required Contribution <sup>2</sup> % of Projected Annual Payroll	35.02%	41.59%

<sup>1</sup> Represents the amount received in calendar 2020. Under the 'default' provisions of Chapter 2015-39, Laws of Florida, the Town has access to annual premium tax revenues up to \$54,044.91 (the amount received in calendar 2003). Annual state monies in excess of this amount will be allocated equally between the Town as a funding credit and the membership share plan.

<sup>2</sup> The required contribution from the combination of Town and State sources for the year ending September 30, 2022, is 42.47% of the actual payroll realized in that year. As a budgeting tool, the Town may contribute 35.02% of each Member's Salary and then make a one-time adjustment to account for the actual State Monies received. Please note that the Town has access to a prepaid contribution of \$12,464.29 that is available to offset a portion of the above stated requirements for the fiscal year ending September 30, 2021.

As you can see, the Minimum Required Contribution shows a significant decrease when compared to the results determined in the October 1, 2019 actuarial valuation report. The decrease is primarily attributable to an actuarial experience gain (described below) and full recognition of the amortization charge established in 2010.

Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial gain included more turnover than expected and an average salary increase of 3.39% which fell short of the 4.86% assumption. These gains were offset in part by a loss associated with inactive mortality experience.

## CHANGES SINCE PRIOR VALUATION

### Plan Changes

There have been no changes in benefits since the prior valuation.

### Actuarial Assumption/Method Changes

As mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2019 FRS valuation report for special risk employees, with appropriate adjustments made based on plan demographics.

Also, the investment return assumption was lowered from 7.50% to 7.25% per year, net of investment-related expenses.

There have been no method changes since the prior valuation.

## CONTRIBUTION IMPACT OF ANNUAL CHANGES

(1) Contribution Determined as of October 1, 2019	42.20%
(2) Summary of Contribution Impact by component:	
Change in State Contribution Percentage	-0.61%
Change in Normal Cost Rate	-0.08%
Change in Administrative Expense Percentage	-0.63%
Payroll Change Effect on UAAL Amortization	0.96%
Investment Return (Actuarial Asset Basis)	0.06%
Salary Increases	-1.36%
Active Decrements	-2.74%
Inactive Mortality	1.03%
Amortization Charge from 2010 Actuarial Loss Fully Paid	-2.57%
Greater Than Expected Decrease in UAAL	-1.24%
Assumption Changes	0.30%
Other	<u>-0.30%</u>
Total Change in Contribution	-7.18%
(3) Contribution Determined as of October 1, 2020	35.02%



COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Assump <u>10/1/2020</u>	Old Assump <u>10/1/2020</u>	<u>10/1/2019</u>
<b>A. Participant Data</b>			
Actives	10	10	10
Service Retirees	8	8	8
Beneficiaries	0	0	0
Disability Retirees	1	1	1
Terminated Vested	<u>3</u>	<u>3</u>	<u>1</u>
<b>Total</b>	<b>22</b>	<b>22</b>	<b>20</b>
Total Annual Payroll	\$566,447	\$566,447	\$592,259
Payroll Under Assumed Ret. Age	566,447	566,447	592,259
Annual Rate of Payments to:			
Service Retirees	253,047	253,047	252,463
Beneficiaries	0	0	0
Disability Retirees	16,697	16,697	16,697
Terminated Vested	0	0	0
<b>B. Assets</b>			
Actuarial Value (AVA) <sup>1</sup>	3,952,626	3,952,626	3,612,918
Market Value (MVA) <sup>1</sup>	3,755,659	3,755,659	3,451,721
<b>C. Liabilities</b>			
<b>Present Value of Benefits</b>			
<b>Actives</b>			
Retirement Benefits	2,968,844	2,872,538	2,899,409
Disability Benefits	215,808	198,662	217,271
Death Benefits	23,349	31,064	34,044
Vested Benefits	0	0	0
Refund of Contributions	10,104	10,043	11,005
Service Retirees	2,214,413	2,298,398	2,345,542
Beneficiaries	0	0	0
Disability Retirees	184,104	178,379	180,420
Terminated Vested	11,713	11,713	489
Share Plan Balances <sup>1</sup>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>5,628,335</b>	<b>5,600,797</b>	<b>5,688,180</b>

C. Liabilities - (Continued)	New Assump <u>10/1/2020</u>	Old Assump <u>10/1/2020</u>	<u>10/1/2019</u>
Present Value of Future Salaries	4,255,115	4,188,852	4,850,573
Present Value of Future Member Contributions	212,756	209,443	242,529
Normal Cost (Retirement)	119,465	114,163	121,942
Normal Cost (Disability)	20,856	19,443	18,176
Normal Cost (Death)	1,258	1,680	1,678
Normal Cost (Vesting)	0	0	0
Normal Cost (Refunds)	<u>3,103</u>	<u>3,097</u>	<u>3,350</u>
Total Normal Cost	144,682	138,383	145,146
Present Value of Future Normal Costs	1,057,627	990,889	1,153,802
Accrued Liability (Retirement)	2,067,450	2,028,299	1,903,468
Accrued Liability (Disability)	78,986	74,351	83,617
Accrued Liability (Death)	13,363	18,088	19,489
Accrued Liability (Vesting)	0	0	0
Accrued Liability (Refunds)	679	680	1,353
Accrued Liability (Inactives)	2,410,230	2,488,490	2,526,451
Share Plan Balances <sup>1</sup>	<u>0</u>	<u>0</u>	<u>0</u>
Total Actuarial Accrued Liability (EAN AL)	4,570,708	4,609,908	4,534,378
Unfunded Actuarial Accrued Liability (UAAL)	618,082	657,282	921,460
Funded Ratio (AVA / EAN AL)	86.5%	85.7%	79.7%

D. Actuarial Present Value of Accrued Benefits	New Assump <u>10/1/2020</u>	Old Assump <u>10/1/2020</u>	<u>10/1/2019</u>
Vested Accrued Benefits			
Inactives + Share Plan Balances <sup>1</sup>	2,410,230	2,488,490	2,526,451
Actives	1,224,117	1,194,454	931,218
Member Contributions	<u>206,451</u>	<u>206,451</u>	<u>197,532</u>
Total	3,840,798	3,889,395	3,655,201
Non-vested Accrued Benefits	<u>151,736</u>	<u>146,820</u>	<u>192,154</u>
Total Present Value			
Accrued Benefits (PVAB)	3,992,534	4,036,215	3,847,355
Funded Ratio (MVA / PVAB)	94.1%	93.0%	89.7%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	(43,681)	0	
Plan Experience	0	188,813	
Benefits Paid	0	(278,077)	
Interest	0	278,124	
Other	<u>0</u>	<u>0</u>	
Total	(43,681)	188,860	

	New Assump	Old Assump	
Valuation Date	10/1/2020	10/1/2020	10/1/2019
Applicable to Fiscal Year Ending	<u>9/30/2022</u>	<u>9/30/2022</u>	<u>9/30/2021</u>

E. Pension Cost

Normal Cost (with interest) % of Total Annual Payroll <sup>2</sup>	26.47	25.35	25.43
Administrative Expenses (with interest) % of Total Annual Payroll <sup>2</sup>	3.01	3.01	3.64
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 21 years (as of 10/1/2020, with interest) % of Total Annual Payroll <sup>2</sup>	17.99	18.81	24.97
Minimum Required Contribution % of Total Annual Payroll <sup>2</sup>	47.47	47.17	54.04
Expected Member Contributions % of Total Annual Payroll <sup>2</sup>	5.00	5.00	5.00
Expected Town and State Contribution % of Total Annual Payroll <sup>2</sup>	42.47	42.17	49.04

F. Past Contributions

Plan Years Ending:	<u>9/30/2020</u>
Town and State Requirement	333,839
Actual Contributions Made:	
Town	291,633
State	<u>42,206</u>
Total	333,839

G. Net Actuarial (Gain)/Loss (133,583)

<sup>1</sup> The asset values and liabilities include accumulated Share Plan Balances as of 9/30/2020 and 9/30/2019.

<sup>2</sup> Contributions developed as of 10/1/2020 are expressed as a percentage of total annual payroll at 10/1/2020 of \$566,447.

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

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2020	618,082
2021	557,423
2022	523,843
2027	312,976
2032	187,768
2036	25,735
2041	0

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

	<u>Actual</u>	<u>Assumed</u>
Year Ended 9/30/2020	3.39%	4.86%
Year Ended 9/30/2019	5.39%	4.93%
Year Ended 9/30/2018	1.67%	5.59%
Year Ended 9/30/2017	16.99%	6.00%
Year Ended 9/30/2016	6.72%	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 9/30/2020	6.78%	7.43%	7.50%
Year Ended 9/30/2019	2.59%	7.89%	7.50%
Year Ended 9/30/2018	8.59%	6.97%	7.65%
Year Ended 9/30/2017	11.96%	7.56%	8.00%
Year Ended 9/30/2016	8.64%	7.40%	8.00%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2020	\$566,447
	10/1/2010	412,334
(b) Total Increase		37.38%
(c) Number of Years		10.00
(d) Average Annual Rate		3.23%

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.



Douglas H. Lozen, EA, MAAA  
Enrolled Actuary #20-7778

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, 2019	\$921,460
(2)	Sponsor Normal Cost developed as of October 1, 2019	115,533
(3)	Expected administrative expenses for the year ended September 30, 2020	20,780
(4)	Expected interest on (1), (2) and (3)	78,554
(5)	Sponsor contributions to the System during the year ended September 30, 2020	333,839
(6)	Expected interest on (5)	11,623
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2020 (1)+(2)+(3)+(4)-(5)-(6)	790,865
(8)	Change to UAAL due to Assumption Changes	(39,200)
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(133,583)
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2020	618,082

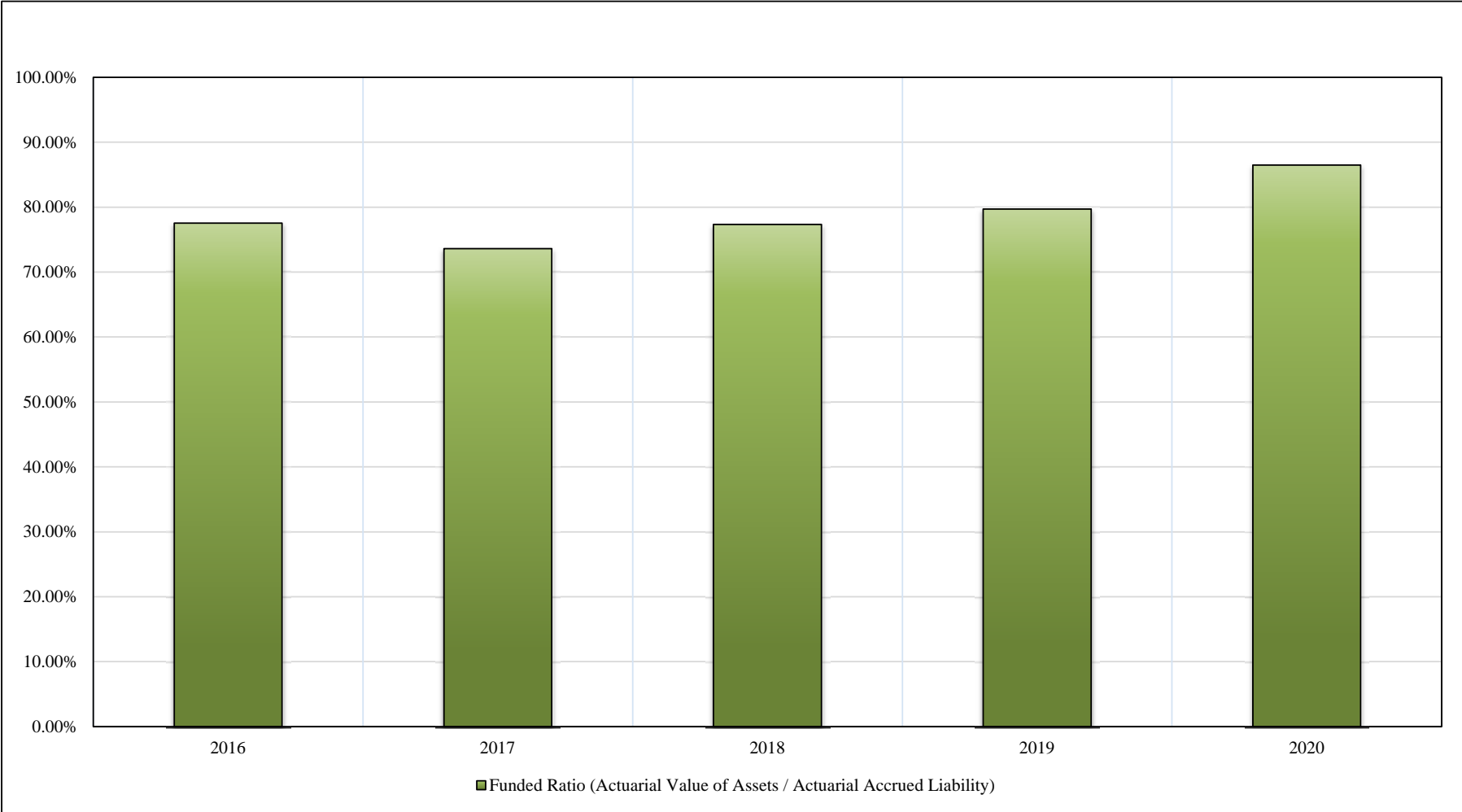
<u>Type of Base</u>	<u>Date Established</u>	<u>Years Remaining</u>	<u>10/1/2020 Amount</u>	<u>Amortization Amount</u>
	10/1/1995	5	39,478	9,038
	10/1/1998	8	9,703	1,530
	10/1/2001	11	28,813	3,627
	10/1/2003	13	19,966	2,259
	10/1/2007	17	50,083	4,866
Method Change	10/1/2007	17	125,815	12,224
Actuarial Loss	10/1/2007	8	88,791	13,999
Method Change	10/1/2008	8	11,758	1,854
Benefit Change	10/1/2011	21	(14,293)	(1,255)
Actuarial Loss	10/1/2011	1	29,350	29,350
Actuarial Loss	10/1/2012	2	10,781	5,579
Actuarial Gain	10/1/2013	3	(11,781)	(4,205)
Actuarial Gain	10/1/2014	4	(22,787)	(6,308)
Actuarial Gain	10/1/2015	5	(51,446)	(11,777)
Assump Change	10/1/2016	16	121,667	12,208
Actuarial Loss	10/1/2016	6	50,475	9,950
Assump Change	10/1/2017	17	161,249	15,667
Actuarial Loss	10/1/2017	7	171,587	29,946
Actuarial Gain	10/1/2018	8	(121,364)	(19,135)
Assump Change	10/1/2018	18	61,160	5,772
Actuarial Loss	10/1/2019	9	31,860	4,608
Actuarial Gain	10/1/2020	10	(133,583)	(17,939)
Assump Change	10/1/2020	20	<u>(39,200)</u>	<u>(3,517)</u>
			618,082	98,341

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2019	\$921,460
(2) Expected UAAL as of October 1, 2020	790,865
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	2,552
Salary Increases	(54,901)
Active Decrements	(110,537)
Inactive Mortality	41,456
Other	<u>(12,153)</u>
Increase in UAAL due to (Gain)/Loss	(133,583)
Assumption Changes	<u>(39,200)</u>
(4) Actual UAAL as of October 1, 2020	\$618,082



# HISTORY OF FUNDING PROGRESS



## ACTUARIAL ASSUMPTIONS AND METHODS

### Mortality Rate

#### *Healthy Active Lives:*

**Female:** PubS.H-2010 for Employees, set forward one year. Prior year assumption: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

**Male:** PubS.H-2010 (Below Median) for Employees, set forward one year. Prior year assumption: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

#### *Healthy Retiree Lives:*

**Female:** PubS.H-2010 for Healthy Retirees, set forward one year. Prior year assumption: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

**Male:** PubS.H-2010 (Below Median) for Healthy Retirees, set forward one year. Prior year assumption: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

#### *Beneficiary Lives:*

**Female:** PubG.H-2010 (Below Median) for Healthy Retirees. Prior year assumption: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

**Male:** PubG.H-2010 (Below Median) for Healthy Retirees, set back one year. Prior year assumption: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

#### *Disabled Lives:*

80% PubG.H-2010 for Disabled Retirees / 20% PubS.H-2010 for Disabled Retirees.

Prior year assumption (Female): 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

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

All rates are projected generationally with Mortality Improvement Scale MP-2018. We feel this assumption sufficiently accommodates future mortality improvements.

The previously described mortality 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, 2019 FRS valuation report for special risk employees, with appropriate adjustments made based on plan demographics.

Interest Rate

7.25% (prior year 7.50%) 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

Rates shown below. In addition, the projected salary at retirement is increased 15% to account for lump-sum payments.

Salary Scale	
Service	Rate
<2	8.50%
2+	4.50%

The assumed rates were approved in conjunction with an actuarial experience study dated October 2017.

Payroll Growth

0.00% 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.

Administrative Expenses

\$16,452 annually, based on the average of actual expenses incurred in the prior two fiscal years.

Amortization Method

New UAAL amortization amounts are amortized over the following amortization periods:

- Experience: 10 Years.
- Assumption/Method Changes: 20 Years.
- Benefit Changes: 30 Years.

Funding Method

Entry Age Normal Actuarial Cost Method.

Normal Retirement

100% assumed retirement at the earlier of: 1) age 55 and 10 years of credited service, or 2) age 52 and 20 years of credited service, regardless of age. This assumption was approved in conjunction with an actuarial experience study dated October 2017.

Early Retirement

Members are not assumed to take early retirement, as approved in conjunction with an actuarial experience study dated October 2017.

Disability Rate

Sample age-based rates below. It is assumed that 75% of disablements are service-related. The assumed rates were approved in conjunction with an actuarial experience study dated October 2017.

% Becoming Disabled During the Year	
Age	Rate
25	0.23%
30	0.27%
35	0.35%
40	0.45%
45	0.77%
50	1.50%
55	2.33%
60	3.14%

Termination Rate

% Terminating During the Year	
Service	Rate
0-3	18.0%
4-5	6.5%
6+	0.0%

The assumed rates were approved in conjunction with an actuarial experience study dated October 2017.

Actuarial Asset Method

Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric four-year average Market Value return (net of fees). It is possible that over time this technique will produce an insignificant bias above or below Market Value of Assets.

## GLOSSARY

Actuarial Value of Assets is the asset value used in the valuation to determine contribution requirements. It represents the plan's Market Value of Assets (see below), with adjustments according to the plan's Actuarial Asset Method. These adjustments produce a "smoothed" value that is likely to be less volatile from year to year than the Market Value of Assets.

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.

Market Value of Assets is the fair market value of plan assets as of the valuation date. This amount may be adjusted to produce an Actuarial Value of Assets for plan funding purposes.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded. Under the Entry Age Normal cost method, it is determined for each participant as the present value of future benefits, determined as of the Member's entry age, amortized as a level percentage of compensation over the anticipated number of years of participation, determined as of the entry age.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current plan participants.

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

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.

Unfunded Actuarial Accrued Liability (UAAL) is the difference between the actuarial accrued liability (described above) and the Actuarial Value of Assets. Under the Entry Age Normal Actuarial Cost Method, an actuarial gain or loss, based on actual versus expected UAAL, is determined in conjunction with each valuation 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 increase 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 stayed about the same from October 1, 2010 to October 1, 2020, indicating that the plan's maturity level has not significantly changed 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 52.7%. 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 67.8% on October 1, 2010 to 86.5% on October 1, 2020, largely due to the normal operation of the plan, including full funding of the required contribution.
- 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, increased from -3.7% on October 1, 2010 to 1.8% on October 1, 2020. The current Net Cash Flow Ratio of 1.8% 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>10/1/2010</u>	<u>10/1/2015</u>	<u>10/1/2019</u>	<u>10/1/2020</u>
<u>Support Ratio</u>				
Total Actives	9	9	10	10
Total Inactives <sup>1</sup>	8	8	9	9
Actives / Inactives <sup>1</sup>	112.5%	112.5%	111.1%	111.1%

Asset Volatility Ratio

Market Value of Assets (MVA)	1,779,123	2,570,543	3,451,721	3,755,659
Total Annual Payroll	412,334	451,868	592,259	566,447
MVA / Total Annual Payroll	431.5%	568.9%	582.8%	663.0%

Accrued Liability (AL) Ratio

Inactive Accrued Liability	2,508,871	2,365,852	2,526,451	2,410,230
Total Accrued Liability (EAN)	2,967,296	3,432,799	4,534,378	4,570,708
Inactive AL / Total AL	84.6%	68.9%	55.7%	52.7%

Funded Ratio

Actuarial Value of Assets (AVA)	2,012,245	2,733,793	3,612,918	3,952,626
Total Accrued Liability (EAN)	2,967,296	3,432,799	4,534,378	4,570,708
AVA / Total Accrued Liability (EAN)	67.8%	79.6%	79.7%	86.5%

Net Cash Flow Ratio

Net Cash Flow <sup>2</sup>	(65,315)	(29,427)	29,121	68,833
Market Value of Assets (MVA)	1,779,123	2,570,543	3,451,721	3,755,659
Ratio	-3.7%	-1.1%	0.8%	1.8%

<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	35,351.93	_____%
1999	39,576.78	12.0%
2000	37,232.70	-5.9%
2001	40,146.67	7.8%
2002	47,539.23	18.4%
2003	54,044.91	13.7%
2004	48,344.89	-10.5%
2005	42,790.49	-11.5%
2006	42,790.49	0.0%
2007	42,790.49	0.0%
2008	42,790.49	0.0%
2009	36,379.23	-15.0%
2010	39,265.10	7.9%
2011	33,669.10	-14.3%
2012	32,943.06	-2.2%
2013	31,709.36	-3.7%
2014	32,043.51	1.1%
2015	-	-100.0%
2016	32,270.58	N/A
2017	36,786.85	14.0%
2018	78,809.00	114.2%
2019	40,536.00	-48.6%
2020	42,205.96	4.1%

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2020

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	83,759.81	83,759.81
Total Cash and Equivalents	83,759.81	83,759.81
Receivables:		
Member Contributions	1,044.62	1,044.62
Total Receivable	1,044.62	1,044.62
Investments:		
Mutual Funds:		
Fixed Income	1,112,327.32	1,163,233.14
Equity	1,866,224.53	2,521,460.53
Total Investments	2,978,551.85	3,684,693.67
Total Assets	3,063,356.28	3,769,498.10
 <u>LIABILITIES</u>		
Payables:		
Investment Expenses	1,375.00	1,375.00
Prepaid Town Contribution	12,464.29	12,464.29
Total Liabilities	13,839.29	13,839.29
NET POSITION RESTRICTED FOR PENSIONS	3,049,516.99	3,755,658.81

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
 FOR THE YEAR ENDED SEPTEMBER 30, 2020  
 Market Value Basis

ADDITIONS

Contributions:			
Member		29,059.82	
Town		291,633.25	
State		42,205.96	
Total Contributions			362,899.03
Investment Income:			
Net Realized Gain (Loss)	0.00		
Unrealized Gain (Loss)	159,848.49		
Net Increase in Fair Value of Investments		159,848.49	
Interest & Dividends		98,180.41	
Less Investment Expense <sup>1</sup>		(22,925.00)	
Net Investment Income			235,103.90
Total Additions			598,002.93
<u>DEDUCTIONS</u>			
Distributions to Members:			
Benefit Payments		269,159.76	
Refunds of Member Contributions		8,916.82	
Total Distributions			278,076.58
Administrative Expense			15,988.50
Total Deductions			294,065.08
Net Increase in Net Position			303,937.85
NET POSITION RESTRICTED FOR PENSIONS			
Beginning of the Year			3,451,720.96
End of the Year			3,755,658.81

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

ACTUARIAL ASSET VALUATION  
SEPTEMBER 30, 2020

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>	
09/30/2017	11.96%	
09/30/2018	8.59%	
09/30/2019	2.59%	
09/30/2020	6.78%	
Annualized Rate of Return for prior four (4) years:		7.43%
(A) 10/01/2019 Actuarial Assets:		\$3,612,918.22
(I) Net Investment Income:		
1. Interest and Dividends	98,180.41	
2. Realized Gain (Loss)	0.00	
3. Unrealized Gain (Loss)	159,848.49	
4. Change in Actuarial Value	35,769.88	
5. Investment Related Expenses	(22,925.00)	
Total		270,873.78
(B) 10/01/2020 Actuarial Assets:		\$3,952,625.95
Actuarial Asset Rate of Return = 2I/(A+B-I):		7.43%
10/01/2020 Limited Actuarial Assets:		\$3,952,625.95
10/01/2020 Market Value of Assets:		\$3,755,658.81
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)		(\$2,551.97)

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

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 SEPTEMBER 30, 2020  
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	29,059.82	
Town	291,633.25	
State	42,205.96	
 Total Contributions		 362,899.03
Earnings from Investments:		
Interest & Dividends	98,180.41	
Net Realized Gain (Loss)	0.00	
Unrealized Gain (Loss)	159,848.49	
Change in Actuarial Value	35,769.88	
 Total Earnings and Investment Gains		 293,798.78

EXPENDITURES

Distributions to Members:		
Benefit Payments	269,159.76	
Refunds of Member Contributions	8,916.82	
 Total Distributions		 278,076.58
Expenses:		
Investment related <sup>1</sup>	22,925.00	
Administrative	15,988.50	
 Total Expenses		 38,913.50
 Change in Net Assets for the Year		 339,707.73
 Net Assets Beginning of the Year		 3,612,918.22
 Net Assets End of the Year <sup>2</sup>		 3,952,625.95

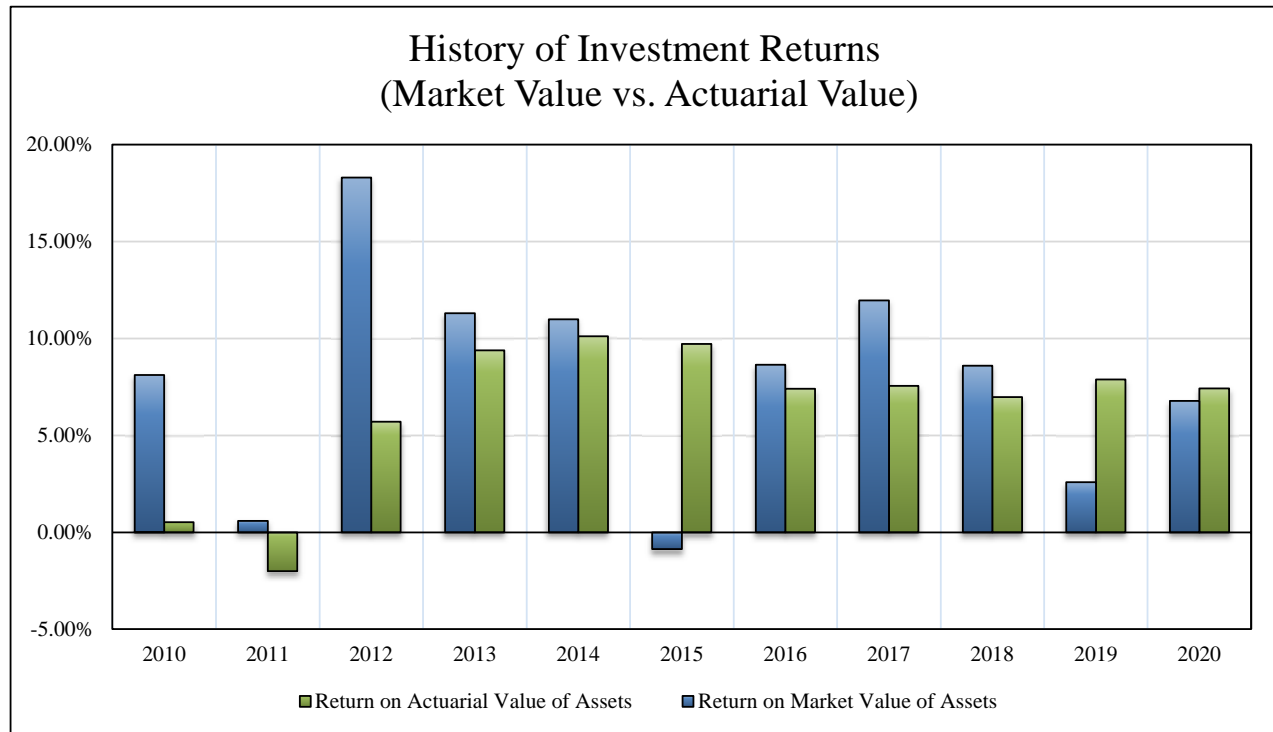
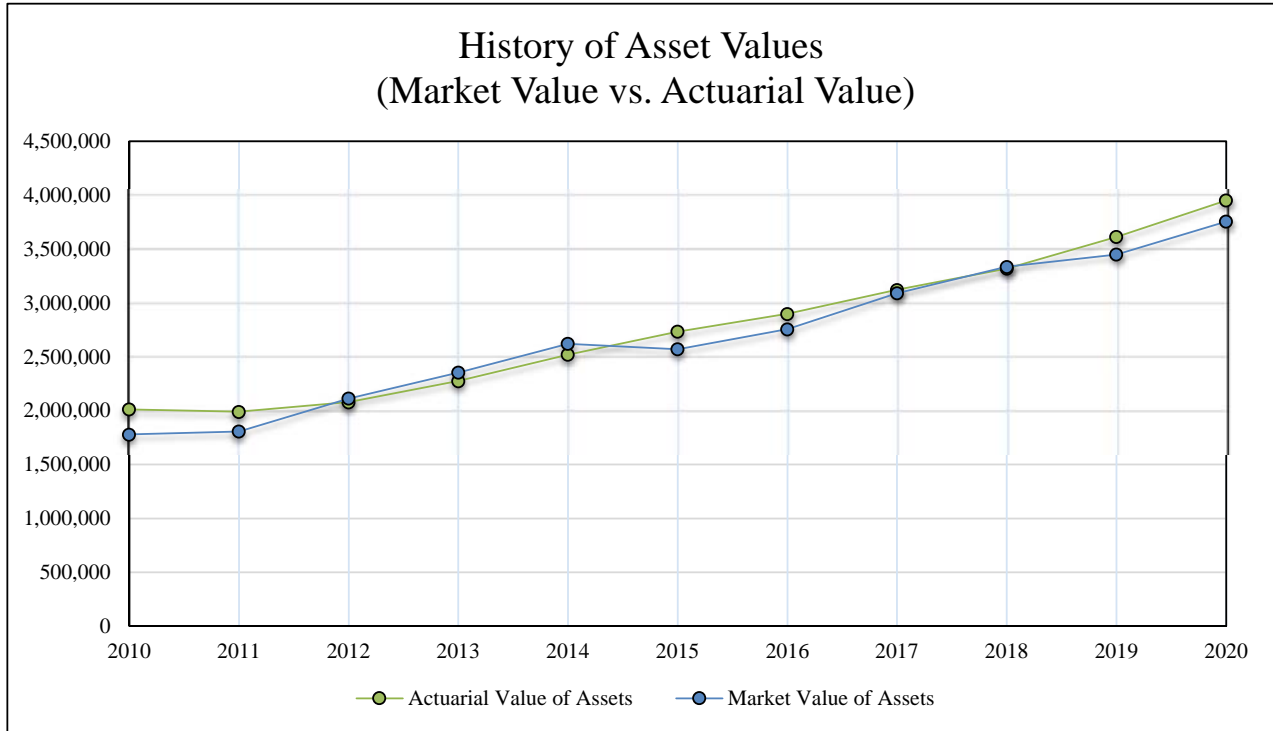
<sup>1</sup>Investment related expenses include investment advisory, custodial and performance monitoring fees.

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

RECONCILIATION OF TOWN'S SHORTFALL/(PREPAID) CONTRIBUTION  
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2020

(1)	Town and State Required Contribution Rate	57.44%
(2)	Pensionable Payroll Derived from Member Contributions	\$581,196.40
(3)	Town and State Required Contribution (1) x (2)	333,839.21
(4)	Less Allowable State Contribution	<u>(42,205.96)</u>
(5)	Equals Required Town Contribution for Fiscal 2020	291,633.25
(6)	Less 2019 Prepaid Contribution	(8,161.72)
(7)	Less Actual Town Contributions	<u>(295,935.82)</u>
(8)	Equals Town's Shortfall/(Prepaid) Contribution as of September 30, 2020	(\$12,464.29)

# HISTORY OF ASSET VALUES AND INVESTMENT RETURNS





STATISTICAL DATA

	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>	<u>10/1/2020</u>
<u>Actives</u>				
Number	10	10	10	10
Average Current Age	40.7	37.4	38.8	40.6
Average Age at Employment	33.0	29.5	30.3	32.0
Average Past Service	7.7	7.9	8.5	8.6
Average Annual Salary	\$59,221	\$54,955	\$59,226	\$56,645
<u>Service Retirees</u>				
Number	8	8	8	8
Average Current Age	66.6	67.6	68.6	69.6
Average Annual Benefit	\$31,487	\$31,487	\$31,558	\$31,631
<u>Beneficiaries</u>				
Number	0	0	0	0
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
<u>Disability Retirees</u>				
Number	1	1	1	1
Average Current Age	49.0	50.0	51.0	52.0
Average Annual Benefit	\$16,697	\$16,697	\$16,697	\$16,697
<u>Terminated Vested</u>				
Number	0	0	1	3
Average Current Age <sup>1</sup>	N/A	N/A	N/A	N/A
Average Annual Benefit <sup>1</sup>	N/A	N/A	N/A	N/A

<sup>1</sup> 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	1											1
25 - 29		1										1
30 - 34						1						1
35 - 39							2					2
40 - 44	1							1				2
45 - 49												0
50 - 54								2				2
55 - 59	1											1
60 - 64												0
65+												0
<b>Total</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

## VALUATION PARTICIPANT RECONCILIATION

### 1. Active lives

a. Number in prior valuation 10/1/2019	10
b. Terminations	
i. Vested (partial or full) with deferred annuity	0
ii. Vested in refund of member contributions only	(2)
iii. Refund of member contributions received	(1)
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	0
f. Continuing participants	7
g. New entrants	3
h. Total active life participants in valuation	10

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

	Service Retirees, Vested Receiving <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	8	0	1	0	1	10
Retired	0	0	0	0	0	0
Vested (Deferred Annuity)	0	0	0	0	0	0
Vested (Due Refund)	0	0	0	0	2	2
Hired/Terminated in Same Year	0	0	0	0	0	0
Death, With Survivor	0	0	0	0	0	0
Death, No Survivor	0	0	0	0	0	0
Disabled	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0
Rehires	0	0	0	0	0	0
Expired Annuities	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0
b. Number current valuation	8	0	1	0	3	12

## SUMMARY OF CURRENT PLAN

<u>Eligibility</u>	Full-time employees who are classified as full-time sworn Police Officers participate in the System as a condition of employment.
<u>Credited Service</u>	Total years and fractional parts of years of employment with the Town as a Police Officer.
<u>Salary</u>	Total cash compensation for services rendered. Effective July 1, 2011, Salary shall not include more than three hundred (300) hours of overtime per calendar year. Additionally, Salary will include the lesser of the amount of sick or annual leave time accrued as of July 1, 2011, or the actual amount of sick or annual leave time for which the retiree receives payment at the time of retirement.
<u>Average Final Compensation</u>	Average Earnings for the highest 5 years during the 10 years immediately preceding retirement or termination.
<u>Member Contributions</u>	5% of Salary.
<u>Town and State Contributions</u>	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, over 30 years.
<u>Normal Retirement</u>	
Date	Earlier of: 1) age 55 and 10 years of Credited Service, or 2) age 52 and 20 years of Credited Service.
Benefit	3.0% of Average Final Compensation for each year of Credited Service
Benefit Supplement	In addition, members retiring after 10/1/98 with 20 or more years of service, or on or after 10/1/02 at Normal Retirement, receive a monthly benefit supplement equal to \$10 for each full year of Credited Service.
Form of Benefit	Ten Year Certain and Life Annuity (options available).
<u>Early Retirement</u>	
Eligibility	Age 50 and 10 Years of Credited Service.
Benefit	Accrued benefit, reduced 3% per year prior to Normal Retirement.

Vesting

Schedule 100% after 10 years of Credited Service.

Benefit Amount Member will receive the vested portion of his (her) accrued benefit payable at the otherwise Normal Retirement Date.

Cost-of-Living Adjustments

Members (including terminated vested members, but excluding disability retirees) who begin receiving payments after 10/1/2001 receive a 3% per year increase beginning on the 10/1 following the otherwise normal retirement date (or the date of termination, if later) and ending on the 10/1 preceding age 62.

Disability

Eligibility

Service Incurred Covered from Date of Employment.

Non-Service Incurred 10 years of Credited Service.

Benefit

Service Incurred 50% of rate of regular base pay.

Non-Service Incurred Benefit accrued to date of disability but not less than 25% of Average Monthly Earnings.

Duration Payable for life with ten years certain or until recovery (as determined by the Board).

Death Benefits

Pre-Retirement

Not vested Refund of accumulated contributions.

Vested Accrued benefit payable to beneficiary for 10 years at otherwise Normal Retirement Date.

Post-Retirement

Benefits payable to beneficiary in accordance with option selected at retirement.

Board of Trustees

- a. Two Commission appointees,
- b. Two Members of the Department elected by the membership, and
- c. Fifth Member elected by other 4 and appointed by the Commission.

Chapter 185 Share Plan

Established with Ordinance 2017-04. When the Chapter 185 Premium Tax Monies exceeds \$54,044.91, 50% of the excess will fund this Share Plan. Details will be established by the Board of Trustees once the Share Plan is funded.

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2020

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	83,760
Total Cash and Equivalents	83,760
Receivables:	
Member Contributions	1,045
Total Receivable	1,045
Investments:	
Mutual Funds:	
Fixed Income	1,163,233
Equity	2,521,460
Total Investments	3,684,693
Total Assets	3,769,498
<u>LIABILITIES</u>	
Payables:	
Investment Expenses	1,375
Total Liabilities	1,375
NET POSITION RESTRICTED FOR PENSIONS	3,768,123

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2020  
Market Value Basis

ADDITIONS

## Contributions:

Member	29,060	
Town	295,935	
State	42,206	
<b>Total Contributions</b>		<b>367,201</b>
<b>Investment Income:</b>		
Net Increase in Fair Value of Investments	159,850	
Interest & Dividends	98,180	
Less Investment Expense <sup>1</sup>	(22,925)	
<b>Net Investment Income</b>		<b>235,105</b>
<b>Total Additions</b>		<b>602,306</b>

DEDUCTIONS

## Distributions to Members:

Benefit Payments	269,160	
Refunds of Member Contributions	8,917	
<b>Total Distributions</b>		<b>278,077</b>
Administrative Expense		15,989
<b>Total Deductions</b>		<b>294,066</b>
<b>Net Increase in Net Position</b>		<b>308,240</b>

## NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		3,459,883
End of the Year		3,768,123

<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, 2020)

*Plan Administration*

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

- a. Two Commission appointees,
- b. Two Members of the Department elected by the membership, and
- c. A fifth Member elected by other 4 and appointed by the Commission.

*Plan Membership as of October 1, 2019:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	9
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	10
	20

*Benefits Provided*

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

A summary of the benefit provisions can be found in the October 1, 2019 Actuarial Valuation Report for the Town of Melbourne Beach Police Officers' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

*Contributions*

Member Contributions: 5% of Salary.

Town and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, over 30 years.

*Investment Policy:*

The following was the Board's adopted asset allocation policy as of September 30, 2020:

Asset Class	Target Allocation
Domestic Equity	55%
International Equity	10%
Broad Market Fixed Income	30%
GTAA	5%
Total	100%

*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, 2020 the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 6.78 percent.

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

## NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2020 were as follows:

Total Pension Liability	\$ 4,684,144
Plan Fiduciary Net Position	\$ (3,768,123)
Sponsor's Net Pension Liability	\$ 916,021
Plan Fiduciary Net Position as a percentage of Total Pension Liability	80.44%

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2019 updated to September 30, 2020 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	Service based
Discount Rate	7.25%
Investment Rate of Return	7.25%

*Mortality Rate Active Healthy Lives:*

Female: PubS.H-2010 for Employees, set forward one year.  
 Male: PubS.H-2010 (Below Median) for Employees, set forward one year.

*Mortality Healthy Retiree Lives:*

Female: PubS.H-2010 for Healthy Retirees, set forward one year.  
 Male: PubS.H-2010 (Below Median) for Healthy Retirees, set forward one year.

*Mortality Rate Beneficiary Lives:*

Female: PubG.H-2010 (Below Median) for Healthy Retirees.  
 Male: PubG.H-2010 (Below Median) for Healthy Retirees, set back one year.

*Mortality Rate Disabled Lives:*

80% PubG.H-2010 for Disabled Retirees / 20% PubS.H-2010 for Disabled Retirees.

All rates are projected generationally with Mortality Improvement Scale MP-2018. We feel this assumption sufficiently accommodates future mortality improvements.

The above described mortality 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, 2019 FRS valuation report for special risk employees, with appropriate adjustments made based on plan demographics.

The most recent actuarial experience study used to review the other significant assumptions was dated October 9, 2017.

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 2020 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 arithmetic real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2020 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return <sup>1</sup>
Domestic Equity	7.50%
International Equity	8.50%
Broad Market Fixed Income	2.50%
GTAA	3.50%

<sup>1</sup> Source: AndcO Consulting

**GASB 67**

**Discount Rate:**

The Discount Rate used to measure the Total Pension Liability was 7.25 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 6.25%	Current Discount Rate 7.25%	1% Increase 8.25%
Sponsor's Net Pension Liability	\$ 1,462,712	\$ 916,021	\$ 457,111

**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
Last 2 Fiscal Years

	09/30/2020	09/30/2019
Total Pension Liability		
Service Cost	146,094	139,118
Interest	334,765	333,851
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	57,872	(189,455)
Changes of assumptions	(32,993)	-
Benefit Payments, including Refunds of Employee Contributions	(278,077)	(278,532)
Net Change in Total Pension Liability	227,661	4,982
Total Pension Liability - Beginning	4,456,483	4,451,501
Total Pension Liability - Ending (a)	\$ 4,684,144	\$ 4,456,483
Plan Fiduciary Net Position		
Contributions - Employer	295,935	262,309
Contributions - State	42,206	40,536
Contributions - Employee	29,060	28,033
Net Investment Income	235,105	86,314
Benefit Payments, including Refunds of Employee Contributions	(278,077)	(278,532)
Administrative Expense	(15,989)	(16,914)
Net Change in Plan Fiduciary Net Position	308,240	121,746
Plan Fiduciary Net Position - Beginning	3,459,883	3,338,137
Plan Fiduciary Net Position - Ending (b)	\$ 3,768,123	\$ 3,459,883
Net Pension Liability - Ending (a) - (b)	\$ 916,021	\$ 996,600
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	80.44%	77.64%
Covered Payroll	\$ 581,196	\$ 560,662
Net Pension Liability as a percentage of Covered Payroll	157.61%	177.75%

**Notes to Schedule:***Changes of assumptions:*

For measurement date 09/30/2020, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2019 FRS valuation report for special risk employees, with appropriate adjustments made based on plan demographics.

Additionally, the investment return assumption was lowered from 7.50% to 7.25% per year, net of investment-related expenses.

**SCHEDULE OF CONTRIBUTIONS**  
Last 2 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
09/30/2020	\$ 333,839	\$ 338,141	\$ (4,302)	\$ 581,196	58.18%
09/30/2019	\$ 296,534	\$ 302,845	\$ (6,311)	\$ 560,662	54.02%

Notes to Schedule

Valuation Date: 10/01/2018

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 can be found in the October 1, 2018 Actuarial Valuation for the Town of Melbourne Beach Police Officers' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

SCHEDULE OF INVESTMENT RETURNS  
Last 2 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2020	6.78%
09/30/2019	2.59%

NOTES TO THE FINANCIAL STATEMENTS  
(For the Year Ended September 30, 2020)

*Plan Description*

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

- a. Two Commission appointees,
- b. Two Members of the Department elected by the membership, and
- c. A fifth Member elected by other 4 and appointed by the Commission.

Full-time employees who are classified as full-time sworn Police Officers participate in the System as a condition of employment.

*Plan Membership as of October 1, 2019:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	9
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	10
	20
	20

*Benefits Provided*

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

A summary of the benefit provisions can be found in the October 1, 2019 Actuarial Valuation Report for the Town of Melbourne Beach Police Officers' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

*Contributions*

Member Contributions: 5% of Salary.

Town and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, over 30 years.

**Net Pension Liability**

The measurement date is September 30, 2020.

The measurement period for the pension expense was October 1, 2019 to September 30, 2020.

The reporting period is October 1, 2019 through September 30, 2020.

The Sponsor's Net Pension Liability was measured as of September 30, 2020.

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, 2019 updated to September 30, 2020 using the following actuarial assumptions:

Inflation	2.50%	
Salary Increases	Service based	
Discount Rate	7.25%	
Investment Rate of Return	7.25%	

*Mortality Rate Active Healthy Lives:*

Female: PubS.H-2010 for Employees, set forward one year.

Male: PubS.H-2010 (Below Median) for Employees, set forward one year.

*Mortality Healthy Retiree Lives:*

Female: PubS.H-2010 for Healthy Retirees, set forward one year.

Male: PubS.H-2010 (Below Median) for Healthy Retirees, set forward one year.

*Mortality Rate Beneficiary Lives:*

Female: PubG.H-2010 (Below Median) for Healthy Retirees.

Male: PubG.H-2010 (Below Median) for Healthy Retirees, set back one year.

*Mortality Rate Disabled Lives:*

80% PubG.H-2010 for Disabled Retirees / 20% PubS.H-2010 for Disabled Retirees.

All rates are projected generationally with Mortality Improvement Scale MP-2018. We feel this assumption sufficiently accommodates future mortality improvements.

The above described mortality 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, 2019 FRS valuation report for special risk employees, with appropriate adjustments made based on plan demographics.

The most recent actuarial experience study used to review the other significant assumptions was dated October 9, 2017.

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 2020 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 arithmetic real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2020 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return <sup>1</sup>
Domestic Equity	55.00%	7.50%
International Equity	10.00%	8.50%
Broad Market Fixed Income	30.00%	2.50%
GTAA	5.00%	3.50%
Total	100.00%	

<sup>1</sup> Source: AndcO Consulting

*Discount Rate:*

The Discount Rate used to measure the Total Pension Liability was 7.25 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)
Balance at September 30, 2019	\$ 4,456,483	\$ 3,459,883	\$ 996,600
Changes for a Year:			
Service Cost	146,094	-	146,094
Interest	334,765	-	334,765
Differences between Expected and Actual Experience	57,872	-	57,872
Changes of assumptions	(32,993)	-	(32,993)
Changes of benefit terms	-	-	-
Contributions - Employer	-	295,935	(295,935)
Contributions - State	-	42,206	(42,206)
Contributions - Employee	-	29,060	(29,060)
Net Investment Income	-	235,105	(235,105)
Benefit Payments, including Refunds of Employee Contributions	(278,077)	(278,077)	-
Administrative Expense	-	(15,989)	15,989
Net Changes	227,661	308,240	(80,579)
Balance at September 30, 2020	\$ 4,684,144	\$ 3,768,123	\$ 916,021

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.25%	7.25%	8.25%
Sponsor's Net Pension Liability	\$ 1,462,712	\$ 916,021	\$ 457,111

*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**

For the year ended September 30, 2020 the Sponsor will recognize a Pension Expense of \$278,798.

On September 30, 2020 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	186,853	126,304
Changes of assumptions	97,456	27,495
Net difference between Projected and Actual Earnings on Pension Plan investments	87,407	-
<b>Total</b>	<b>\$ 371,716</b>	<b>\$ 153,799</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:			
2021		\$	76,689
2022		\$	98,404
2023		\$	60,682
2024		\$	(22,004)
2025		\$	4,146
Thereafter		\$	-

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS  
Last 2 Fiscal Years

	09/30/2020	09/30/2019
Total Pension Liability		
Service Cost	146,094	139,118
Interest	334,765	333,851
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	57,872	(189,455)
Changes of assumptions	(32,993)	-
Benefit Payments, including Refunds of Employee Contributions	(278,077)	(278,532)
Net Change in Total Pension Liability	227,661	4,982
Total Pension Liability - Beginning	4,456,483	4,451,501
Total Pension Liability - Ending (a)	<u>\$ 4,684,144</u>	<u>\$ 4,456,483</u>
Plan Fiduciary Net Position		
Contributions - Employer	295,935	262,309
Contributions - State	42,206	40,536
Contributions - Employee	29,060	28,033
Net Investment Income	235,105	86,314
Benefit Payments, including Refunds of Employee Contributions	(278,077)	(278,532)
Administrative Expense	(15,989)	(16,914)
Net Change in Plan Fiduciary Net Position	308,240	121,746
Plan Fiduciary Net Position - Beginning	3,459,883	3,338,137
Plan Fiduciary Net Position - Ending (b)	<u>\$ 3,768,123</u>	<u>\$ 3,459,883</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 916,021</u>	<u>\$ 996,600</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	80.44%	77.64%
Covered Payroll	\$ 581,196	\$ 560,662
Net Pension Liability as a percentage of Covered Payroll	157.61%	177.75%

**Notes to Schedule:***Changes of assumptions:*

For measurement date 09/30/2020, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2019 FRS valuation report for special risk employees, with appropriate adjustments made based on plan demographics.

Additionally, the investment return assumption was lowered from 7.50% to 7.25% per year, net of investment-related expenses.

**SCHEDULE OF CONTRIBUTIONS**  
Last 2 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
09/30/2020	\$ 333,839	\$ 338,141	\$ (4,302)	\$ 581,196	58.18%
09/30/2019	\$ 296,534	\$ 302,845	\$ (6,311)	\$ 560,662	54.02%

Notes to Schedule

Valuation Date: 10/01/2018

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 can be found in the October 1, 2018 Actuarial Valuation for the Town of Melbourne Beach Police Officers' Retirement Trust Fund prepared by Foster & Foster Actuaries and Consultants.

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, 2020**

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 996,600	\$ 222,467	\$ 461,620	\$ -
Total Pension Liability Factors:				
Service Cost	146,094	-	-	146,094
Interest	334,765	-	-	334,765
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	57,872	-	57,872	-
Current year amortization of experience difference	-	(31,576)	(59,916)	28,340
Change in assumptions about future economic or demographic factors or other inputs	(32,993)	32,993	-	-
Current year amortization of change in assumptions	-	(5,498)	(42,967)	37,469
Benefit Payments, including Refunds of Employee Contributions	(278,077)	-	-	-
Net change	<u>227,661</u>	<u>(4,081)</u>	<u>(45,011)</u>	<u>546,668</u>
Plan Fiduciary Net Position:				
Contributions - Employer	295,935	-	-	-
Contributions - State	42,206	-	-	-
Contributions - Employee	29,060	-	-	(29,060)
Projected Net Investment Income	262,234	-	-	(262,234)
Difference between projected and actual earnings on Pension Plan investments	(27,129)	-	27,129	-
Current year amortization	-	(31,065)	(38,500)	7,435
Benefit Payments, including Refunds of Employee Contributions	(278,077)	-	-	-
Administrative Expenses	(15,989)	-	-	15,989
Net change	<u>308,240</u>	<u>(31,065)</u>	<u>(11,371)</u>	<u>(267,870)</u>
Ending Balance	<u>\$ 916,021</u>	<u>\$ 187,321</u>	<u>\$ 405,238</u>	<u>\$ 278,798</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)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020	\$ 27,129	5	\$ 5,425	\$ 5,426	\$ 5,426	\$ 5,426	\$ 5,426	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ 165,375	5	\$ 33,075	\$ 33,075	\$ 33,075	\$ 33,075	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (29,521)	5	\$ (5,904)	\$ (5,904)	\$ (5,904)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (108,571)	5	\$ (21,714)	\$ (21,714)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (17,237)	5	\$ (3,447)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 7,435	\$ 10,883	\$ 32,597	\$ 38,501	\$ 5,426	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020	\$ (32,993)	6	\$ (5,498)	\$ (5,499)	\$ (5,499)	\$ (5,499)	\$ (5,499)	\$ (5,499)	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 69,128	6	\$ 11,521	\$ 11,521	\$ 11,521	\$ 11,521	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 188,677	6	\$ 31,446	\$ 31,446	\$ 31,447	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 37,469	\$ 37,468	\$ 37,469	\$ 6,022	\$ (5,499)	\$ (5,499)	\$ -	\$ -	\$ -	\$ -	\$ -



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)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020	\$ 57,872	6	\$ 9,647	\$ 9,645	\$ 9,645	\$ 9,645	\$ 9,645	\$ 9,645	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ (189,455)	6	\$ (31,576)	\$ (31,576)	\$ (31,576)	\$ (31,576)	\$ (31,576)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 228,539	6	\$ 38,090	\$ 38,090	\$ 38,090	\$ 38,090	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 73,071	6	\$ 12,179	\$ 12,179	\$ 12,179	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 28,340	\$ 28,338	\$ 28,338	\$ 16,159	\$ (21,931)	\$ 9,645	\$ -	\$ -	\$ -	\$ -	\$ -