

CITY OF HALLANDALE BEACH  
POLICE OFFICERS' AND FIREFIGHTERS'  
PERSONNEL RETIREMENT TRUST

ACTUARIAL VALUATION REPORT  
AS OF OCTOBER 1, 2017

CONTRIBUTIONS APPLICABLE TO THE CITY'S  
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2019

July 2, 2018

Board of Trustees  
City of Hallandale Beach  
Police Officers' and Firefighters' Personnel Retirement Trust  
2503 Del Prado Blvd. S., Suite 502  
Cape Coral, FL 33904

Re: City of Hallandale Beach  
Police Officers' and Firefighters' Personnel Retirement Trust

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Hallandale Beach Police Officers' and Firefighters' Personnel Retirement Trust. 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. Please note that these valuations may not be applicable for any other purposes.

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, 175, and 185, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the Board of Trustees, 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, 2016. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2017 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 is familiar with the immediate and long-term aspects of pension valuations, and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Hallandale Beach, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the City of Hallandale Beach Police Officers' and Firefighters' Personnel Retirement Trust. 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 me at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By:



Douglas H. Lozen, EA, MAAA  
Enrolled Actuary #17-7778

DHL/lke

Enclosures

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## SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Hallandale Beach Police Officers' and Firefighters' Personnel Retirement Trust, performed as of October 1, 2017, has been completed, and the results are presented in this Report. The contribution amounts developed in this valuation are applicable to the plan/fiscal year ended September 30, 2019.

The contribution requirements, compared with amounts developed in the October 1, 2016 Actuarial Valuation Report, are as follows:

Valuation Date	10/1/2017	10/1/2016
Applicable Plan/Fiscal Yr. End	<u>9/30/2019</u>	<u>9/30/2018</u>
Total Required Contribution % of Total Annual Payroll	\$12,777,218	\$10,666,322
Member Contributions % of Total Annual Payroll	\$1,417,690	\$1,388,754
City and State Required Contribution % of Total Annual Payroll	\$11,359,528	\$9,277,568
State Contribution <sup>1</sup> % of Total Annual Payroll	\$629,395	\$629,395
Balance from City <sup>1</sup> % of Total Annual Payroll	\$10,730,133	\$8,648,173

<sup>1</sup> The City may use up to \$1,534,241 in State Contributions for determining its minimum funding requirements, based on Mutual Consent between the City and Membership under Chapter 2015-39, Laws of Florida.

Please note the City has a shortfall contribution in the amount of \$52,705.54. Based on the valuation investment return assumption of 7.70% (as applicable for the 2017 fiscal year), an interest charge of \$338 is due for each full month after September 30, 2017 until this additional deposit is made.

Experience during the prior year was less favorable than expected, relative to the Plan's actuarial assumptions. Sources of material impact to the Unfunded Actuarial Accrued Liability (UAAL) since the prior valuation are as follows:

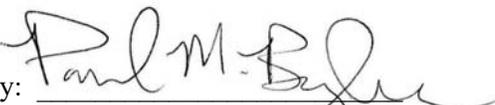
<u>Source</u>	UAAL Increase/(Decrease) <u>(Millions)</u>	<u>Additional Information/Explanation</u>
Legal Opinion	4.3	As adopted by the Board. See July 5, 2017 and January 24, 2018 Actuarial Studies.
Buybacks	5.6	Primarily due to AAS purchases based on results of the October 1, 2015 valuation (before assumption changes adopted with the October 1, 2016 valuation, and before adoption of benefit changes from the aforementioned Legal Opinion).
Retirements/Turnover	1.5	
Salary Increases	1.3	
Assumption Changes	1.2	Statutory mortality, in addition to a reduction in the investment return assumption from 7.70% to 7.65%.
Inactive Mortality	(0.5)	
Net Sponsor Contributions plus interest	(1.7)	
<u>Investment Return</u>	<u>(1.9)</u>	Five-year smoothed actuarial basis (8.99% vs the 7.70% assumption)
Total Increase	9.8	

The balance of this Report presents additional details of the actuarial valuation and the general operation of the Fund. The undersigned would be pleased to meet with the Board to discuss the Report and answer any pending questions concerning its contents.

Respectfully submitted,

FOSTER & FOSTER, INC.

By:   
Douglas H. Lozen, EA, MAAA

By:   
Paul M. Baugher, FSA, EA, MAAA

## CHANGES SINCE PRIOR VALUATION

### Plan Changes

There were no changes in benefits passed by the City since the prior valuation.

**Special note: Please refer to the July 5, 2017 and January 24, 2018 actuarial studies for a description of benefit changes resulting from legal opinions adopted by the Board that expand on provisions set forth in the governing Ordinance. The impact on Plan liabilities and funding requirements are set forth in the Comparative Summary of Principal Valuation Results section of this valuation. It is important to note that the City's funding requirement for the fiscal year ending September 30, 2018 is based on results of the original, i.e. pre-legal opinion, October 1, 2016 valuation. Funding requirements for the fiscal year ending September 30, 2019 fully incorporate changes resulting from these legal opinions.**

### Actuarial Assumption/Method Changes

This valuation of the plan incorporates the following assumption changes:

- The mortality table changed for compliance with Chapter 2015-157, Laws of Florida to be the same rates as used in the July 1, 2016 Florida Retirement System (FRS) valuation for special risk lives. Previously, the July 1, 2015 FRS rates for special risk lives were used.
- Investment Return – Lowered from 7.70% to 7.65% (adopted by the Board as the result of our September 27, 2016 Experience Study). Additional reductions will occur with future valuations according to the below table:

10/1/18 - 7.60%

10/1/19 – 7.55%

10/1/20 – 7.50%

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	Legal Opinion New Assump <u>10/1/2017</u>	Legal Opinion Old Assump <u>10/1/2017</u>	Legal Opinion <u>10/1/2016</u>	Original <u>10/1/2016</u>
<b>A. Participant Data</b>				
Actives	147	147	150	150
Service Retirees	138	138	141	141
DROP Retirees	25	25	20	20
Beneficiaries	13	13	14	14
Disability Retirees	8	8	8	8
Terminated Vested	<u>9</u>	<u>9</u>	<u>8</u>	<u>8</u>
Total	340	340	341	341
Total Annual Payroll	\$14,174,443	\$14,174,443	\$13,709,376	\$13,709,376
Payroll Under Assumed Ret. Age	13,642,056	13,642,056	13,304,838	13,304,838
Annual Rate of Payments to:				
Service Retirees	7,864,434	7,864,434	7,855,694	7,863,548
DROP Retirees	2,030,968	2,030,968	1,565,054	1,577,479
Beneficiaries	273,343	273,343	301,225	301,225
Disability Retirees	294,925	294,925	294,925	294,925
Terminated Vested	187,010	187,010	131,810	131,810
<b>B. Assets</b>				
Actuarial Value (AVA) <sup>1</sup>	158,831,953	158,831,953	145,294,165	145,294,165
Market Value (MVA) <sup>1</sup>	160,522,701	160,522,701	143,198,929	143,198,929
<b>C. Liabilities</b>				
Present Value of Benefits				
Actives				
Retirement Benefits	77,629,098	75,825,750	68,553,093	62,963,347
Disability Benefits	2,847,854	2,797,134	2,748,438	2,747,778
Death Benefits	963,724	2,096,777	2,012,048	2,433,076
Vested Benefits	3,254,104	3,189,839	2,647,605	2,644,065
Refund of Contributions	239,717	238,560	377,298	377,298
Service Retirees	101,727,442	101,213,526	101,747,873	101,764,843
DROP Retirees <sup>1</sup>	59,846,822	59,664,253	49,625,736	49,660,029
Beneficiaries	2,476,779	2,466,639	2,765,766	2,765,766
Disability Retirees	2,924,926	2,913,010	2,953,055	2,953,055
Terminated Vested	1,992,018	1,981,136	1,158,746	1,158,746
Excess State Monies Reserve	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	253,902,484	252,386,624	234,589,658	229,468,003

C. Liabilities - (Continued)	Legal Opinion New Assump <u>10/1/2017</u>	Legal Opinion Old Assump <u>10/1/2017</u>	Legal Opinion <u>10/1/2016</u>	Original <u>10/1/2016</u>
Present Value of Future Salaries	109,167,920	108,093,817	109,038,571	109,038,571
Present Value of Future Member Contributions	10,370,952	10,268,913	10,358,664	10,358,664
Normal Cost (Retirement)	2,333,572	2,251,412	2,175,864	2,040,880
Normal Cost (Disability)	197,007	194,254	202,647	201,483
Normal Cost (Death)	62,292	136,007	141,870	165,475
Normal Cost (Vesting)	166,918	163,065	150,886	152,077
Normal Cost (Refunds)	<u>41,901</u>	<u>41,724</u>	<u>69,774</u>	<u>69,774</u>
Total Normal Cost	2,801,690	2,786,462	2,741,041	2,629,689
Present Value of Future Normal Costs	20,842,179	20,548,373	20,525,794	19,745,282
Accrued Liability (Retirement)	60,136,308	59,102,520	52,077,756	47,462,657
Accrued Liability (Disability)	1,315,700	1,301,669	1,124,498	1,129,570
Accrued Liability (Death)	489,163	1,073,356	911,025	1,146,301
Accrued Liability (Vesting)	2,063,439	2,034,416	1,563,066	1,545,411
Accrued Liability (Refunds)	87,708	87,726	136,343	136,343
Accrued Liability (Inactives) <sup>1</sup>	168,967,987	168,238,564	158,251,176	158,302,439
Excess State Monies Reserve	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Actuarial Accrued Liability (EAN AL)	233,060,305	231,838,251	214,063,864	209,722,721
Unfunded Actuarial Accrued Liability (UAAL)	74,228,352	73,006,298	68,769,699	64,428,556
Funded Ratio (AVA / EAN AL)	68.2%	68.5%	67.9%	69.3%

D. Actuarial Present Value of Accrued Benefits	Legal Opinion New Assump <u>10/1/2017</u>	Legal Opinion Old Assump <u>10/1/2017</u>	Legal Opinion <u>10/1/2016</u>	Original <u>10/1/2016</u>
Vested Accrued Benefits				
Inactives <sup>1</sup>	168,967,987	168,238,564	158,251,176	158,302,439
Actives	24,064,932	24,153,614	20,789,048	20,858,467
Member Contributions	<u>11,229,689</u>	<u>11,229,689</u>	<u>10,732,488</u>	<u>10,732,488</u>
Total	204,262,608	203,621,867	189,772,712	189,893,394
Non-vested Accrued Benefits	<u>12,631,463</u>	<u>12,372,797</u>	<u>11,396,306</u>	<u>9,940,278</u>
Total Present Value Accrued Benefits (PVAB)	216,894,071	215,994,664	201,169,018	199,833,672
Funded Ratio (MVA / PVAB)	74.0%	74.3%	71.2%	71.7%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:				
Plan Amendments	0	0		
Assumption Changes	899,407	0		
New Accrued Benefits	0	9,050,375		
Benefits Paid	0	(9,354,592)		
Interest	0	15,129,863		
Other	<u>0</u>	<u>0</u>		
Total	899,407	14,825,646		

	Legal Opinion New Assump	Legal Opinion Old Assump	Legal Opinion	Original
Valuation Date	10/1/2017	10/1/2017	10/1/2016	10/1/2016
Applicable to Fiscal Year Ending	<u>9/30/2019</u>	<u>9/30/2019</u>	<u>9/30/2018</u>	<u>9/30/2018</u>
 E. Pension Cost				
Normal Cost <sup>2</sup>	\$3,064,769	\$3,048,845	\$3,011,672	\$2,889,326
Administrative Expenses <sup>2</sup>	201,088	201,137	162,722	162,722
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 29 years (as of 10/1/2017) <sup>2</sup>	9,511,361	9,411,104	7,996,586	7,614,274
Total Required Contribution	12,777,218	12,661,086	11,170,980	10,666,322
Expected Member Contributions <sup>2</sup>	1,417,690	1,418,031	1,388,754	1,388,754
Expected City and State Contribution	11,359,528	11,243,055	9,782,226	9,277,568
 F. Past Contributions				
Plan Years Ending:	<u>9/30/2017</u>			
City and State Requirement	8,563,004			
Actual Contributions Made:				
Members (excluding buyback)	1,300,838			
City	7,933,609			
State	<u>629,395</u>			
Total	9,863,842			
G. Net Actuarial (Gain)/Loss	6,063,133			

<sup>1</sup> The asset values and liabilities include accumulated DROP Plan Balances as of 9/30/2017 and 9/30/2016.

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

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2017	74,228,352
2018	70,546,755
2019	66,466,955
2026	31,287,311
2033	2,867,847
2039	1,111,487
2046	0

I. (i) 3 Year Comparison of Actual and Assumed Salary Increases

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2017	7.79%	5.84%
Year Ended	9/30/2016	5.89%	7.32%
Year Ended	9/30/2015	6.57%	7.10%

(ii) 3 Year Comparison of Investment Return on Actuarial Value

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2017	8.99%	7.70%
Year Ended	9/30/2016	9.98%	7.75%
Year Ended	9/30/2015	9.77%	7.75%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2017	\$14,174,443
	10/1/2007	10,925,018
(b) Total Increase		29.74%
(c) Number of Years		10.00
(d) Average Annual Rate		2.64%

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.



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Douglas H. Lozen, EA, MAAA  
Enrolled Actuary #17-7778

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, 2016 <sup>1</sup>	\$68,769,699
(2) Sponsor Normal Cost developed as of October 1, 2016 <sup>1</sup>	1,477,081
(3) Expected administrative expenses for the year ended September 30, 2017	148,100
(4) Expected interest on (1), (2) and (3)	5,414,704
(5) Sponsor contributions to the System during the year ended September 30, 2017	8,563,004
(6) Expected interest on (5)	303,415
(7) Expected Unfunded Actuarial Accrued Liability as of September 30, 2017 (1)+(2)+(3)+(4)-(5)-(6)	66,943,165
(8) Change to UAAL due to Assumption Change	1,222,054
(9) Change to UAAL due to Actuarial (Gain)/Loss	6,063,133
(10) Unfunded Actuarial Accrued Liability as of October 1, 2017	74,228,352

Type of Base	Date Established	Years Remaining	10/1/2017 Amount	Amortization Amount
Plan Amendment	10/1/1993	6	\$6,722,525	\$1,258,019
Assumption Change	10/1/1994	7	658,183	107,987
Method Change	10/1/1994	7	(1,511,940)	(248,061)
Assumption Change	10/1/1995	8	(697,856)	(102,454)
Assumption Change	10/1/1996	9	181,978	24,282
Plan Amendment	10/1/1997	10	2,763,819	339,302
Assumption Change	10/1/1999	12	293,893	31,404
Plan Amendment	10/1/2000	13	1,677,611	169,063
Plan Amendment	10/1/2001	14	5,304,423	507,059
Asset Method Change	10/1/2002	15	(2,841,971)	(258,966)
Assumption Change	10/1/2002	15	(1,561,916)	(142,325)
Plan Amendment	10/1/2002	15	11,003,106	1,002,625
Plan Amendment	10/1/2007	10	10,284,132	1,262,539
Plan Amendment	10/1/2009	22	(1,042,443)	(74,693)
Assumption Change	10/1/2010	13	2,239,606	225,699
Assumption Change	10/1/2011	14	1,339,904	147,921
Method Change	10/1/2011	14	25,984,334	2,868,591
Actuarial Loss	10/1/2012	5	3,214,523	740,999
Plan Amendment	10/1/2012	25	(3,712,332)	(313,450)

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	10/1/2017 <u>Amount</u>	Amortization <u>Amount</u>
Actuarial Gain	10/1/2013	6	(86,527)	(17,203)
Actuarial Gain	10/1/2014	7	(1,067,576)	(188,206)
Actuarial Loss	10/1/2015	8	(727,155)	(115,987)
Assumption Change	10/1/2016	19	8,240,336	777,109
Actuarial Gain	10/1/2016	9	(4,062,688)	(595,374)
Legal Opinion <sup>1</sup>	10/1/2016	29	4,347,196	350,227
Actuarial Loss	10/1/2017	10	6,063,133	826,171
Assum. Change	10/1/2017	20	<u>1,222,054</u>	<u>112,629</u>
			74,228,352	8,694,907

<sup>1</sup> Based on a Board adopted legal opinion after completion of the 10/1/2016 valuation.

## DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2016 <sup>1</sup>	\$68,769,699
(2) Expected UAAL as of October 1, 2017	66,943,165
 (3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(1,878,492)
Salary Increases	1,349,220
Active Decrements	1,453,248
Inactive Mortality	(498,220)
Impact of Member Buybacks (estimated)	5,600,790
Other	<u>36,587</u>
Increase in UAAL due to (Gain)/Loss	6,063,133
Assumption Changes	<u>1,222,054</u>
(4) Actual UAAL as of October 1, 2017	\$74,228,352

<sup>1</sup> Based on a Board adopted legal opinion after completion of the 10/1/2016 valuation.

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

*Healthy Active Lives:*

**Female:** RP2000 Generational, 100% Combined Healthy (previously annuitant) White Collar, Scale BB

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

*Healthy Inactive Lives:*

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

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

*Disabled Lives:*

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

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

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

Additionally, 75% of pre-retirement deaths are assumed to be service-incurred.

Termination Rate

See table below. The assumed rates of termination were approved in conjunction with an actuarial experience study dated September 27, 2016.

<u>Credited Service</u>	<u>% Terminating During the Year</u>
<5	7.0%
5-8	5.0%
9+	2.5%

Disability Rate

See table below. 75% of disabilities are assumed to be service-incurred. These rates were reviewed in conjunction with an actuarial experience study dated September 30, 2011 (no changes were made with the September 27, 2016 Experience Study).

<u>Age</u>	<u>% Becoming Disabled During the Year</u>
20	0.14%
25	0.15%
30	0.18%
35	0.23%
40	0.30%
45	0.51%
50+	1.00%

Retirement Rates

Early Retirement

Based on results of the September 27, 2016, Experience Study, no Members are assumed to elect Early Retirement.

Normal Retirement

Based on results of an Experience Study dated September 26, 2016, the below table reflects the assumed rates of retirement once a member attains Normal Retirement eligibility with at least 25 years of Credited Service:

<u>Credited Service</u>	<u>Prior Rates</u>	<u>New Rates – 25 or more Years of Credited Service</u>
25	100%	75%
26	100%	100%

Also as part of the September 26, 2016 Experience Study, the below table provides rates of retirement for members attaining Normal Retirement eligibility with less than 25 years of Credited Service:

<u>Years Following Attainment of 52/10</u>	<u>Prior Rates</u>	<u>New Rates – Less than 25 Years of Credited Service</u>
0	50%	10%
1	50%	10%
2	100%	10%
3+	100%	100%

Interest Rate

7.65% (previously 7.70%) per year compounded annually, net of investment related expenses. This assumption is approximately supported by the Fund's long-term expected rate of returns by asset class. We will continue to monitor this assumption to ensure it is in line with actual plan experience.

Salary Increases

According to the below table, based on the September 26, 2016 Experience Study.

<u>Credited Service</u>	<u>Assumed Salary Increase</u>
Less than 1 Year	10.0%
1-5 Years	7.5%
6-9 Years	6.0%
10 or more Years	4.5%

Payroll Growth

2.64% (previously 4.24%) per year for all bases created prior to 2011, 0.0% for all bases created thereafter. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Administrative Expenses

\$183,827 annually, based on prior year's actual expenses.

Funding Method

Entry Age Normal Actuarial Cost Method. The following loads are utilized for determination of the Total Required Contribution:

- Interest – A half-year, based on the current 7.65% assumption.
- Salary – A full-year, based on the current 5.36% average increase assumption.

Actuarial Asset Method

The Actuarial Value of Assets utilizes a five-year smoothing methodology. The annual difference between expected and actual investment earnings (Market Value, net of investment-related expenses), is phased-in over a five-year period.

Post Retirement COLA

*Retired Police Officers prior to March 20, 2013 and Retired Firefighters prior to August 7, 2013:*

2% per year for Normal Retirement.

*Police Officers eligible for Normal Retirement or with 24 years of service as of March 20, 2013, and Firefighters eligible for Normal Retirement as of August 7, 2013, or with 24 years of service as of December 28, 2013:*

2% per year for Normal Retirement.

*All other Police Officers hired prior to March 20, 2013 and all other Firefighters hired prior to August 7, 2013:*

2.0% per year for Normal Retirement, but limited to eight (8) adjustments once the \$95,000 maximum benefit is realized.

*Police Officers hired on or after March 20, 2013 and Firefighters hired on or after August 7, 2013:*

None.

**Special note: Please refer to the July 5, 2017 and January 24, 2018 actuarial studies for a description of the COLA assumption resulting from legal opinions adopted by the Board that differ from provisions set forth in the governing Ordinance.**

## VALUATION NOTES

Total Annual Payroll is the projected annual rate of pay as of the valuation date of all covered Members.

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

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.

(b) 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.

- (c) 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.

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 sponsor contributions during the year.

EXCESS STATE MONIES RESERVE <sup>1</sup>

	Firefighters' Distribution			Special Distribution			Police Officers' Distribution		
	Actual State Contribution	Applicable "Frozen" Amount	Excess State Monies Reserve	Actual State Contribution	Applicable "Frozen" Amount	Excess State Monies Reserve	Actual State Contribution	Applicable "Frozen" Amount	Excess State Monies Reserve
2010	393,106.07	759,862.66	0.00	4,719.34	4,719.34	0.00	244,679.51	769,659.00	0.00
2011	354,398.71	748,591.22	0.00	15,990.78	15,990.78	0.00	211,610.42	769,659.00	0.00
2012	361,394.93	718,657.42	0.00	45,924.58	45,924.58	0.00	227,691.58	769,659.00	0.00
2013	365,062.55	729,982.88	0.00	34,599.12	34,599.12	0.00	221,228.95	769,659.00	0.00
2014	371,628.34	713,492.77	0.00	51,089.23	51,089.23	0.00	240,198.33	769,659.00	0.00
2015	396,740.60	755,138.59	0.00	9,443.41	9,443.41	0.00	266,985.56	769,659.00	0.00
2016	326,863.35	764,582.00	0.00	0.00	0.00	0.00	274,843.21	769,659.00	0.00
2017	348,388.34	764,582.00	<u>0.00</u>	0.00	0.00	<u>0.00</u>	281,006.92	769,659.00	<u>0.00</u>
			0.00			0.00			0.00
Accumulated Firefighters' Regular Excess			0.00						
Accumulated Firefighters' Special Excess			0.00						
Accumulated Police Officers' Excess			<u>0.00</u>						
Equals Current State Monies Reserve			\$0.00						

<sup>1</sup> Accumulated Excess State Monies Prior to 2010 Utilized for Benefit Improvements.

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2017

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	4,622,626.02	4,622,626.02
Prepaid Expenses	7,988.53	7,988.53
Cash	1,981,008.65	1,981,008.65
 Total Cash and Equivalents	 6,611,623.20	 6,611,623.20
Receivables:		
Member Contributions in Transit	51,206.64	51,206.64
Member Buy-Back Contributions	8,159.23	8,159.23
Additional City Contributions	52,705.54	52,705.54
State Contributions	629,395.26	629,395.26
From Broker for Investments Sold	180,768.88	180,768.88
Investment Income	233,768.96	233,768.96
 Total Receivable	 1,156,004.51	 1,156,004.51
Investments:		
U. S. Bonds and Bills	5,925,278.90	5,859,194.47
Federal Agency Guaranteed Securities	10,115,005.53	10,150,451.71
Corporate Bonds	10,809,652.79	10,953,998.75
Municipal Obligations	99,718.00	102,159.00
Stocks	83,196,868.56	97,595,426.67
Hedge Fund of Funds	15,225,000.00	19,470,120.93
Mutual Funds:		
Equity	1,537,874.33	1,943,354.99
Pooled/Common/Commingled Funds:		
Real Estate	7,074,738.22	7,074,738.22
 Total Investments	 133,984,136.33	 153,149,444.74
 Total Assets	 141,751,764.04	 160,917,072.45
 <u>LIABILITIES</u>		
Payables:		
Investment Expenses	185,708.28	185,708.28
Administrative Expenses	20,418.09	20,418.09
To Broker for Investments Purchased	186,427.66	186,427.66
Prepaid Member Contribution	1,817.05	1,817.05
 Total Liabilities	 394,371.08	 394,371.08
 NET POSITION RESTRICTED FOR PENSIONS	 141,357,392.96	 160,522,701.37

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2017  
Market Value Basis

ADDITIONS

Contributions:			
Member		1,292,679.26	
Buy-Back		136,829.48	
City		7,933,608.74	
State		629,395.26	
Total Contributions			9,992,512.74
Investment Income:			
Net Realized Gain (Loss)	7,808,731.60		
Unrealized Gain (Loss)	7,340,288.50		
Net Increase in Fair Value of Investments		15,149,020.10	
Interest & Dividends		2,478,235.18	
Less Investment Expense <sup>1</sup>		(757,576.07)	
Net Investment Income			16,869,679.21
Total Additions			26,862,191.95

DEDUCTIONS

Distributions to Members:			
Benefit Payments		8,478,701.45	
Lump Sum DROP Distributions		811,455.00	
Refunds of Member Contributions		64,435.78	
Total Distributions			9,354,592.23
Administrative Expense			183,827.04
Total Deductions			9,538,419.27
Net Increase in Net Position			17,323,772.68

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year		143,198,928.69
End of the Year		160,522,701.37

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

**ACTUARIAL ASSET VALUATION**

September 30, 2017

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Plan Year Ending	Gain/(Loss)	<u>Gains/Losses Not Yet Recognized</u>				
		Amounts Not Yet Recognized by Valuation Year				
		2017	2018	2019	2020	2021
09/30/2013	9,866,705	0	0	0	0	0
09/30/2014	4,608,490	921,698	0	0	0	0
09/30/2015	(10,847,650)	(4,339,060)	(2,169,530)	0	0	0
09/30/2016	745,771	447,463	298,309	149,155	0	0
09/30/2017	5,825,809	4,660,647	3,495,485	2,330,323	1,165,161	0
<b>Total</b>		<b>1,690,748</b>	<b>1,624,264</b>	<b>2,479,478</b>	<b>1,165,161</b>	<b>0</b>

Development of Investment Gain/Loss

Market Value of Assets, 09/30/2016	143,198,929
Contributions Less Benefit Payments & Admin Expenses	455,911
Expected Investment Earnings*	11,043,870
Actual Net Investment Earnings	<u>16,869,679</u>
2017 Actuarial Investment Gain/(Loss)	5,825,809

\*Expected Investment Earnings =  $0.077 * (143,198,929 + 0.5 * 455,911)$

Development of Actuarial Value of Assets

(1) Market Value of Assets, 09/30/2017	160,522,701
(2) Gains/(Losses) Not Yet Recognized	1,690,748
(3) Actuarial Value of Assets, 09/30/2017, (1) - (2)	<u>158,831,953</u>

(A) 09/30/2016 Actuarial Assets: 145,294,165

(I) Net Investment Income:

1. Interest and Dividends	2,478,235
2. Realized Gains (Losses)	7,808,732
3. Change in Actuarial Value	3,554,305
4. Investment Expenses	<u>(757,576)</u>

Total 13,083,695

(B) 09/30/2017 Actuarial Assets, including Prepaid Contributions: 158,833,770

Actuarial Assets Rate of Return =  $2I/(A+B-I)$ : 8.99%

Market Value of Assets Rate of Return: 11.87%

Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis) 1,878,492

10/01/2017 Limited Actuarial Assets (not including Prepaid): 158,831,953

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 SEPTEMBER 30, 2017  
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	1,292,679.26	
Buy-Back	136,829.48	
City	7,933,608.74	
State	629,395.26	
 Total Contributions		 9,992,512.74
Earnings from Investments:		
Interest & Dividends	2,478,235.18	
Net Realized Gain (Loss)	7,808,731.60	
Change in Actuarial Value	3,554,304.50	
 Total Earnings and Investment Gains		 13,841,271.28

EXPENDITURES

Distributions to Members:		
Benefit Payments	8,478,701.45	
Lump Sum DROP Distributions	811,455.00	
Refunds of Member Contributions	64,435.78	
 Total Distributions		 9,354,592.23
Expenses:		
Investment related <sup>1</sup>	757,576.07	
Administrative	183,827.04	
 Total Expenses		 941,403.11
 Change in Net Assets for the Year		 13,537,788.68
 Net Assets Beginning of the Year		 145,294,164.69
 Net Assets End of the Year <sup>2</sup>		 158,831,953.37

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

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

DEFERRED RETIREMENT OPTION PLAN ACTIVITY  
October 1, 2016 to September 30, 2017

Beginning of the Year Balance	25,717,073.81
Plus Additions	1,851,466.52
Investment Return Earned	2,122,512.50
Less Distributions	(811,455.00)
End of the Year Balance	28,879,597.83

RECONCILIATION OF CITY'S SHORTFALL/(PREPAID) CONTRIBUTION  
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2017

(1) Required City and State Contributions	\$8,563,004.00
(2) Less Allowable State Contribution	<u>(629,395.26)</u>
(3) Required City Contribution for Fiscal 2017	7,933,608.74
(4) Less 2016 Prepaid Contribution	0.00
(5) Less Actual City Contributions	<u>(7,880,903.20)</u>
(6) Equals City's Shortfall/(Prepaid) Contribution as of September 30, 2017	\$52,705.54

## STATISTICAL DATA

	<u>10/1/2014</u>	<u>10/1/2015</u>	<u>10/1/2016</u>	<u>10/1/2017</u>
<u>Actives</u>				
Number	146	147	150	147
Average Current Age	38.6	38.7	38.8	39.1
Average Age at Employment	27.5	27.2	27.7	26.5
Average Past Service	11.1	11.5	11.1	12.6
Average Annual Salary	\$87,436	\$91,793	\$91,396	\$96,425
<u>Service Retirees</u>				
Number	141	143	141	138
Average Current Age	62.1	63.0	63.2	64.1
Average Annual Benefit	\$53,774	\$54,713	\$55,770	\$56,989
<u>DROP Retirees</u>				
Number	17	17	20	25
Average Current Age	49.7	50.7	52.5	52.7
Average Annual Benefit	\$78,417	\$78,077	\$78,874	\$81,239
<u>Beneficiaries</u>				
Number	14	12	14	13
Average Current Age	74.4	75.2	75.3	76.6
Average Annual Benefit	\$21,422	\$22,388	\$21,516	\$21,026
<u>Disability Retirees</u>				
Number	8	9	8	8
Average Current Age	59.9	61.2	61.5	62.5
Average Annual Benefit	\$34,764	\$36,240	\$36,866	\$36,866
<u>Terminated Vested</u>				
Number	4	6	8	9
Average Current Age <sup>1</sup>	47.9	48.9	46.5	49.6
Average Annual Benefit <sup>1</sup>	\$27,180	\$27,180	\$32,953	\$37,402

<sup>1</sup> The Average Annual Benefit and Average Age 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	0	0	0	0	0	0	0	0	0	0	0
20 - 24	1	0	0	0	0	0	0	0	0	0	0	1
25 - 29	1	4	2	1	0	9	1	0	0	0	0	18
30 - 34	1	3	1	1	0	12	16	2	0	0	0	36
35 - 39	1	1	2	0	0	3	5	13	0	0	0	25
40 - 44	0	1	0	0	0	6	5	9	7	0	0	28
45 - 49	0	0	0	0	0	4	3	6	10	0	0	23
50 - 54	0	1	0	0	0	2	0	2	4	0	0	9
55 - 59	0	0	0	0	0	1	1	0	4	0	0	6
60 - 64	0	0	0	0	0	0	0	1	0	0	0	1
65+	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>4</b>	<b>10</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>37</b>	<b>31</b>	<b>33</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>147</b>

## VALUATION PARTICIPANT RECONCILIATION

### 1. Active lives

a. Number in prior valuation 10/1/2016	150
b. Terminations	
i. Vested (partial or full) with deferred benefits	(2)
ii. Non-vested or full lump sum distribution received	0
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	0
f. DROP	<u>(5)</u>
g. Continuing participants	143
h. New entrants	<u>4</u>
i. Total active life participants in valuation	147

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

	Service Retirees, Vested Receiving <u>Benefits</u>	DROP <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested <u>Deferred</u>	<u>Total</u>
a. Number prior valuation	141	20	14	8	8	191
Retired	0	0	0	0	0	0
DROP	0	5	0	0	0	5
Vested Deferred	0	0	0	0	2	2
Death, With Survivor	0	0	0	0	0	0
Death, No Survivor	(3)	0	(1)	0	0	(4)
Disabled	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	(1)	(1)
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	138	25	13	8	9	193

## SUMMARY OF PLAN PROVISIONS

**Special note: Please refer to the July 5, 2017 and January 24, 2018 actuarial studies for a description of benefit changes resulting from legal opinions adopted by the Board that expand on provisions set forth in the governing Ordinance.**

<u>Eligibility</u>	Full-time employees who are classified as Police Officers or Firefighters participate as a condition of employment.
<u>Tier 1 Member</u>	Police Officers hired prior to March 20, 2013, or Firefighters hired prior to August 7, 2013.
<u>Tier 2 Member</u>	Police Officers hired on or after March 20, 2013, or Firefighters hired on or after August 7, 2013.
<u>Credited Service</u>	Total years and fractional parts of years of employment with the City as a Police Officer or Firefighter.
<u>Pensionable Earnings</u>	Base salary, including Pick-Up Amounts, for all straight time hours worked, overtime, assignment pay, premium pay, state educational incentive payments and payments received for vacation, sick leave and bereavement leave taken in lieu of pay for actual services rendered. Basic Compensation shall not include bonuses, commissions, uniform or expense allowance, Outside Service Duty Detail Compensation, or payments for accrued sick leave, vacation, sick leave buyback amounts, or compensatory leave paid as a lump sum upon separation of service.
<u>Final Average Compensation</u>	<i>Tier 1:</i> Average of Pensionable Earnings for the two most recent completed calendar years prior to retirement or termination with the City.  <i>Tier 2:</i> Average of Pensionable Earnings for the five most recent completed calendar years prior to retirement or termination with the City.
<u>Member Contributions</u>	9.5% of Salary.
<u>City and State Contributions</u>	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII, Chapter 112, F.S.

Normal Retirement

Date Earlier of: 1) Age 52 with 10 years of Credited Service, or 2) the completion of 25 years of Credited Service, regardless of age.

Benefit *Tier 1:* 3.20% of Final Average Compensation for all years of Credited Service.

*Tier 2:* 3.00% of Final Average Compensation for all years of Credited Service.

Maximum Benefit *Tier 1:* 80% of Final Average Compensation.

*Tier 2:* 75% of Final Average Compensation.

Additionally, any Police Officer who was not eligible for Normal Retirement or who had not completed 24 years of service as of March 20, 2013, or any Firefighter who was not eligible for Normal Retirement as of August 7, 2013 or who will not have completed 24 years of service as December 28, 2013 is subject to a \$95,000 annual maximum benefit, determined on the basis of the Normal Form of Benefit.

Form of Benefit Ten Year Certain and Life Annuity (options available).

Early Retirement

Eligibility Age 45 with 10 years of Credited Service.

Benefit Accrued benefit, reduced 6% per year that the benefit commencement date precedes age 52.

Vesting

Less than 5 Years Refund of Member contributions without interest.

5-10 years Refund of Member contributions with 3% interest through the termination date.

10 or more years Greater of a refund of Member contributions with 3% interest and the accrued benefit, payable at the Normal Retirement Date.

Disability

Eligibility

Service Incurred

Covered from Date of Employment.

Non-Service Incurred

10 years of Credited Service.

Exclusions

Disability resulting from use of drugs, illegal participation in riots, service in military, etc.

Benefit

Service Incurred

75% of Pensionable Earnings, less 64% of Social Security Disability Benefits received, further reduced by 33% of Workers' Compensation Benefits received, plus outside income to the extent that the sum of the Workers' Compensation Benefit and Disability Retirement benefit exceed 100% of Basic Compensation.

In no case will the Disability Retirement Benefit be less than the greater of the accrued Normal Retirement Benefit and 42% of Basic Compensation.

Non-Service Incurred

Accrued Benefit, less 64% of Social Security Disability Benefits received.

In no case will the Disability Retirement Benefit be less than 25% of Final Average Compensation, nor more than 50% of Final Average Compensation as of the date of disability.

Duration

Payable for life (with 120 payments guaranteed) or until recovery (as determined by the Board). Optional forms of payment are available.

## Death Benefits

### Eligibility

Service Incurred Covered from Date of Employment.

Non-Service Incurred 10 years of Credited Service.

### Benefit (Pre-Retirement)

Service Incurred Accrued Benefit, but not less than 30% of Basic Compensation.

Non-Service Incurred Accrued Benefit.

### Benefit (Post-Retirement)

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

### Form of Benefit

10 Year Certain and Life Annuity.

## Health Care Stipend

### Eligibility

Date of Employment prior to January 1, 1996.

The stipend is payable for all types of retirement benefits; DROP retirees do not receive the stipend while participating in the DROP.

### Benefit

\$10 per month for each year of Credited Service, up to a maximum of \$200 per month.

### Form of Benefit

Payable for the life of the retiree and any survivor, if a joint and survivor option is chosen by the Retiree.

Cost of Living Increases

*Retired Police Officers prior to March 20, 2013 and Retired Firefighters prior to August 7, 2013:*

2% increase effective each January provided that the CPI-U is greater than or equal to 0.5% for the preceding 12 month period ending September 30, applied to Normal and DROP Retirees. The Health Care Stipend is not subject to the COLA.

*Police Officers eligible for Normal Retirement or with 24 years of service as of March 20, 2013, and Firefighters eligible for Normal Retirement as of August 7, 2013, or with 24 years of service as of December 28, 2013:*

2.0% increase effective each January as previously described.

*All other Police Officers hired prior to March 20, 2013 and all other Firefighters hired prior to August 7, 2013:*

2.0% increase effective each January as previously described. However, these Members are subject to a limitation of eight (8) total adjustments once the \$95,000 maximum annual benefit is realized. Also, these Members are not entitled to receive any adjustments while participating in the DROP.

*Police Officers hired on or after March 20, 2013 and Firefighters hired on or after August 7, 2013:*

Not entitled to any automatic COLA structure.

Deferred Retirement Option Plan (Tier 1 Only)

Eligibility	Earlier of: 1) Age 52 with 20 years of Credited Service, 2) the completion of 25 years of Credited Service, regardless of age, or 3) the date when the maximum benefit is earned.
Participation	Not to exceed 60 months.
Rate of Return	Plan Earnings, less 0.5% per year for administrative expenses. A one-time election to credit DROP accounts with the valuation assumption for investment return has been allowed since 2002. Upon exit from the DROP, interest credit reverts to Plan earnings on DROP balances.
Form of Distribution	Cash lump sum (options available) at termination of employment.

STATEMENT OF FIDUCIARY NET POSITION  
SEPTEMBER 30, 2017

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	4,622,626
Prepaid Expenses	7,988
Cash	1,981,009
 Total Cash and Equivalents	 6,611,623
 Receivables:	
Member Contributions in Transit	51,207
Member Buy-Back Contributions	8,159
Additional City Contributions	52,705
State Contributions	629,395
From Broker for Investments Sold	180,769
Investment Income	233,769
 Total Receivable	 1,156,004
 Investments:	
U. S. Bonds and Bills	5,859,194
Federal Agency Guaranteed Securities	10,150,452
Corporate Bonds	10,953,999
Municipal Obligations	102,159
Stocks	97,595,427
Hedge Fund of Funds	19,470,121
Mutual Funds:	
Equity	1,943,355
Pooled/Common/Commingled Funds:	
Real Estate	7,074,738
 Total Investments	 153,149,445
 Total Assets	 160,917,072
 <u>LIABILITIES</u>	
Payables:	
Investment Expenses	185,708
Administrative Expenses	20,418
To Broker for Investments Purchased	186,428
 Total Liabilities	 392,554
 NET POSITION RESTRICTED FOR PENSIONS	 160,524,518

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED SEPTEMBER 30, 2017  
Market Value Basis

ADDITIONS

## Contributions:

Member	1,294,496	
Buy-Back	136,829	
City	7,933,609	
State	629,395	
 Total Contributions		 9,994,329
 Investment Income:		
Net Increase in Fair Value of Investments	15,149,020	
Interest & Dividends	2,478,235	
Less Investment Expense <sup>1</sup>	(757,576)	
 Net Investment Income		 16,869,679
 Total Additions		 26,864,008

DEDUCTIONS

## Distributions to Members:

Benefit Payments	8,478,701	
Lump Sum DROP Distributions	811,455	
Refunds of Member Contributions	64,436	
 Total Distributions		 9,354,592
 Administrative Expense		 183,827
 Total Deductions		 9,538,419
 Net Increase in Net Position		 17,325,589
 NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		143,198,929
 End of the Year		 160,524,518

<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, 2017)

Plan Description

*Plan Administration*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of: Five persons; two of whom shall be legal residents of the City of Hallandale Beach and who shall be appointed by the City Commission. One Member of the Board of Trustees shall be a police officer who shall be elected by a majority of police officers who are active members of the Plan. One member shall be a firefighter who shall be elected by a majority of the firefighters who are active employee members of the Plan. A fifth member of the Board shall be chosen by a majority of the previous four persons, and such person's name shall be submitted to the City Commission for appointment. The City Commission shall appoint the fifth member selected by the other four as ministerial duty.

*Plan Membership as of October 1, 2016:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	183
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	8
Active Plan Members	150
	341
	341

*Benefits Provided*

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

Normal Retirement:

Eligibility: Earlier of: 1) Age 52 with 10 years of Credited Service, or 2) the completion of 25 years of Credited Service, regardless of age.

Benefit: Tier 1: 3.20% of Final Average Compensation for all years of Credited Service.  
Tier 2: 3.00% of Final Average Compensation for all years of Credited Service. □

Maximum Benefit: Tier 1: 80% of Final Average Compensation.  
Tier 2: 75% of Final Average Compensation.

Additionally, any Police Officer who was not eligible for Normal Retirement or who had not completed 24 years of service as of March 20, 2013, or any Firefighter who was not eligible for Normal Retirement as of August 7, 2013 or who will not have completed 24 years of service as December 28, 2013 is subject to a \$95,000 annual maximum benefit, determined on the basis of the Normal Form of Benefit.

Early Retirement:

Eligibility: Age 45 with 10 years of Credited Service.

Benefit: Accrued benefit, reduced 6% per year that the benefit commencement date precedes age 52.

Vesting:

Less than 5 Years: Refund of Member contributions without interest.

5-10 years: Refund of Member contributions with 3% interest through the termination date.

10 or more years: Greater of a refund of Member contributions with 3% interest and the accrued benefit, payable at the Normal Retirement Date.

Disability:

Service Incurred: Covered from Date of Employment.

Non-Service Incurred: 10 years of Credited Service.

Benefit Service Incurred: 75% of Pensionable Earnings, less 64% of Social Security Disability Benefits received, further reduced by 33% of Workers' Compensation Benefits received, plus outside income to the extent that the sum of the Workers' Compensation Benefit and Disability Retirement benefit exceed 100% of Basic Compensation. In no case will the Disability Retirement Benefit be less than the greater of the accrued Normal Retirement Benefit and 42% of Basic Compensation.

Benefit Non-service Incurred: Accrued Benefit, less 64% of Social Security Disability Benefits received. In no case will the Disability Retirement Benefit be less than 25% of Final Average Compensation, nor more than 50% of Final Average Compensation as of the date of disability.

Pre-Retirement Death Benefits:

Service Incurred: Covered from Date of Employment.

Non-Service Incurred: 10 years of Credited Service.

Service Incurred Benefit: Accrued Benefit, but not less than 30% of Basic Compensation.

Non-Service Incurred Benefit: Accrued Benefit.

Health Care Stipend

Eligibility: Date of Employment prior to January 1, 1996.

The stipend is payable for all types of retirement benefits; DROP retirees do not receive the stipend while participating in the DROP.

Benefit: \$10 per month for each year of Credited Service, up to a maximum of \$200 per month.

Cost-Of-Living Increases:

*Retired Police Officers prior to March 20, 2013 and Retired Firefighters prior to August 7, 2013:*

2% increase effective each January provided that the CPI-U is greater than or equal to 0.5% for the preceding 12 month period ending September 30, applied to Normal and DROP Retirees. The Health Care Stipend is not subject to the COLA. *Police Officers eligible for Normal Retirement or with 24 years of service as of March 20, 2013, and Firefighters eligible for Normal Retirement as of August 7, 2013, or will have completed 24 years of service as of December 28, 2013:*

2.0% increase effective each January as previously described.

*All other Police Officers hired prior to March 20, 2013 and all other Firefighters hired prior to August 7, 2013:*

2.0% increase effective each January as previously described. However, these Members are subject to a limitation of eight (8) total adjustments once the \$95,000 maximum annual benefit is realized. Also, these Members are not entitled to receive any adjustments while participating in the DROP.

*Police Officers hired on or after March 20, 2013 and Firefighters hired on or after August 7, 2013:*

Not entitled to any automatic COLA structure.

*Contributions*

Member Contributions: 9.5% of Salary.

City and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII in Chapter 112, Florida Statutes.

**Investments**

*Investment Policy:*

The following was the Board's adopted asset allocation policy as of September 30, 2017:

<u>Asset Class</u>	<u>Target Allocation</u>
Domestic Equity	52.50%
International Equity	10.00%
Fixed Income	17.50%
Real Estate	5.00%
Hedge Funds	15.00%
Total	100.00%

*Concentrations:*

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

*Rate of Return:*

For the year ended September 30, 2017, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 11.87 percent.

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

## GASB 67

### Deferred Retirement Option Program (Tier 1 Only)

Eligibility: Earlier of: 1) Age 52 with 20 years of Credited Service, 2) the completion of 25 years of Credited Service, regardless of age, or 3) the date when the maximum benefit is earned.

Participation: Not to exceed 60 months.

Rate of Return: Plan Earnings, less 0.5% per year for administrative expenses. A one-time election to credit DROP accounts with the valuation assumption for investment return has been allowed since 2002. Upon exit from the DROP, interest credit reverts to Plan earnings on DROP balances.

The DROP balance as September 30, 2017 is \$28,879,598.

NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2017 were as follows:

Total Pension Liability	\$ 219,162,984
Plan Fiduciary Net Position	<u>\$ (160,524,518)</u>
Sponsor's Net Pension Liability	<u>\$ 58,638,466</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	73.24%

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2016 updated to September 30, 2017 using the following actuarial assumptions:

Inflation	2.30%
Salary Increases	Service based
Discount Rate	7.65%
Investment Rate of Return	7.65%

*Mortality Rate Healthy Inactive Lives:* □

Female: RP 2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP 2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Mortality Rate Healthy Active Lives:*

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

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

*Mortality Rate Disabled Lives:*

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

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

The most recent actuarial experience study used to review the other significant assumptions was dated September 26, 2016.

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 2017, the inflation rate assumption of the investment advisor was 2.50%.

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

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2017 are summarized in the following table:

<u>Asset Class</u>	<u>Long Term Expected Real Rate of Return</u>
Domestic Equity	6.02%
International Equity	5.50%
Fixed Income	2.10%
Real Estate	2.90%
Hedge Funds	2.50%

**GASB 67**

**Discount Rate:**

The Discount Rate used to measure the Total Pension Liability was 7.65 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 6.65%	Current Discount Rate 7.65%	1% Increase 8.65%
Sponsor's Net Pension Liability	\$ 81,934,436	\$ 58,638,466	\$ 39,422,307

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

	09/30/2017	09/30/2016	09/30/2015
Total Pension Liability			
Service Cost	2,668,846	2,198,923	2,114,287
Interest	16,069,318	14,732,084	13,946,642
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(1,906,123)	1,635,041	3,413,322
Changes of assumptions	847,814	8,988,193	-
Contributions - Buy Back	136,829	22,723	33,396
Benefit Payments, including Refunds of Employee Contributions	(9,354,592)	(9,537,098)	(9,377,998)
Net Change in Total Pension Liability	8,462,092	18,039,866	10,129,649
Total Pension Liability - Beginning	210,700,892	192,661,026	182,531,377
Total Pension Liability - Ending (a)	<u>\$219,162,984</u>	<u>\$210,700,892</u>	<u>\$ 192,661,026</u>
Plan Fiduciary Net Position			
Contributions - Employer	7,933,609	7,874,125	7,851,700
Contributions - State	629,395	601,707	673,170
Contributions - Employee	1,294,496	1,285,750	1,205,723
Contributions - Buy Back	136,829	22,723	33,396
Net Investment Income	16,869,679	10,988,258	(574,125)
Benefit Payments, including Refunds of Employee Contributions	(9,354,592)	(9,537,098)	(9,377,998)
Administrative Expense	(183,827)	(148,100)	(137,847)
Net Change in Plan Fiduciary Net Position	17,325,589	11,087,365	(325,981)
Prior year adjustment	-	-	204,046
Plan Fiduciary Net Position - Beginning	143,198,929	132,111,564	132,233,499
Plan Fiduciary Net Position - Ending (b)	<u>\$160,524,518</u>	<u>\$143,198,929</u>	<u>\$ 132,111,564</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 58,638,466</u>	<u>\$ 67,501,963</u>	<u>\$ 60,549,462</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	73.24%	67.96%	68.57%
Covered Employee Payroll <sup>1</sup>	\$ 13,626,274	\$ 13,167,794	\$ 14,267,482
Net Pension Liability as a percentage of Covered Employee Payroll	430.33%	512.63%	424.39%

**Notes to Schedule:**

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

*Changes of assumptions:*

For measurement date 09/30/2017, as required by Chapter 2015-157, Laws of Florida, the assumed rates of mortality have been changed from those in the July 1, 2015 FRS valuation report to those used in the July 1, 2016 FRS valuation report.

Additionally, the investment return was lowered from 7.70% to 7.65% per year compounded annually, net of investment related expenses.

## GASB 67

### *Continued Changes of assumptions:*

For measurement date 09/30/2016, amounts reported as changes of assumptions resulted from a special Experience Study. The following changes have been incorporated:

- Salary Scale – Reduced for service between 1-9 years.
- Normal Retirement rates – Modified, based on whether Credited Service exceeds or falls short of 25 years on the date of termination.
- Early Retirement rates – Reduce from 15.0% to 0.0%, i.e. assume no Early Retirements.
- Withdrawal – Change from age-based to rates based on Credited Service.
- Mortality – Incorporation of rates pursuant to Chapter 2015-157, Laws of Florida.
- Investment Return – Lowered from 7.75% to 7.70%. Additional reductions will occur with future valuations according to the below table:

10/1/17 - 7.65%

10/1/18 - 7.60%

10/1/19 – 7.55%

10/1/20 – 7.50%

For measurement date 09/30/2015, the inflation rate assumption was lowered from 4% to 3%.

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

	<u>09/30/2014</u>	<u>09/30/2013</u>
Total Pension Liability		
Service Cost	2,068,244	1,919,484
Interest	13,484,951	13,065,637
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	-	-
Benefit Payments, including Refunds of Employee Contributions	<u>(9,905,885)</u>	<u>(9,540,860)</u>
Net Change in Total Pension Liability	5,647,310	5,444,261
Total Pension Liability - Beginning	<u>176,884,067</u>	<u>171,439,806</u>
Total Pension Liability - Ending (a)	<u><u>\$182,531,377</u></u>	<u><u>\$176,884,067</u></u>
Plan Fiduciary Net Position		
Contributions - Employer	7,988,891	7,520,029
Contributions - State	662,916	620,891
Contributions - Employee	1,190,421	1,225,133
Contributions - Buy Back	-	-
Net Investment Income	13,794,259	17,699,778
Benefit Payments, including Refunds of Employee Contributions	(9,905,885)	(9,540,860)
Administrative Expense	<u>(109,957)</u>	<u>(142,874)</u>
Net Change in Plan Fiduciary Net Position	13,620,645	17,382,098
Prior year adjustment	-	-
Plan Fiduciary Net Position - Beginning	<u>118,612,854</u>	<u>101,230,756</u>
Plan Fiduciary Net Position - Ending (b)	<u><u>\$132,233,499</u></u>	<u><u>\$118,612,854</u></u>
Net Pension Liability - Ending (a) - (b)	<u><u>\$ 50,297,878</u></u>	<u><u>\$ 58,271,213</u></u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	72.44%	67.06%
Covered Employee Payroll <sup>1</sup>	\$ 12,179,211	\$ 12,528,346
Net Pension Liability as a percentage of Covered Employee Payroll	412.98%	465.11%

**Notes to Schedule:**

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

**SCHEDULE OF CONTRIBUTIONS**  
Last 10 Fiscal Years

	09/30/2017	09/30/2016	09/30/2015	09/30/2014	09/30/2013
Actuarially Determined Contribution	8,563,004	8,528,110	8,676,637	8,651,807	8,140,920
Contributions in relation to the Actuarially Determined Contributions	8,563,004	8,475,832	8,728,916	8,651,807	8,140,920
Contribution Deficiency (Excess)	\$ -	\$ 52,278	\$ (52,279)	\$ -	\$ -
Covered Employee Payroll <sup>1</sup>	\$ 13,626,274	\$ 13,167,794	\$ 14,267,482	\$ 12,179,211	\$ 12,528,346
Contributions as a percentage of Covered Employee Payroll	62.84%	64.37%	61.18%	71.04%	64.98%

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

Notes to Schedule

Valuation Date: 10/01/2015

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:

Funding Method: Entry Age Normal Actuarial Cost Method. The following loads are utilized for determination of the Total Required Contribution:

- Interest - A half-year, based on the current 7.75% assumption.
- Salary - A full-year, based on the current 7.2% average increase assumption.

Amortization Method: Level Percentage of Pay, Closed.

Remaining Amortization Period: 27 Years (as of 10/01/2015).

Mortality: RP2000, Combined Healthy Mortality Table without projection. Disabled Members set forward 5 years. We feel this assumption sufficiently accommodates expected mortality improvements.

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

Early Retirement: Upon attainment of Early Retirement eligibility (age 45 with 10 years of Credited Service), Members are assumed to retire at the rate of 15% per year.

Normal Retirement	Number of Years after First Eligibility for Normal Retirement	Probability of Retirement
	0	50%
	1	50%
	2	100%

Members who reach 25 years of service are assumed to retire immediately. The assumed rates of retirement were approved in conjunction with an actuarial experience study dated September 30, 2011.

Disability Rates: See table on following page. 75% of disabilities are assumed to be service incurred. This was reviewed in conjunction with an actuarial experience study dated September 30, 2011.

Termination Rates: See table on following page. The assumed rates of termination were approved in conjunction with an actuarial experience study dated September 30, 2011.

Salary Increases: 10.0% for less than 10 years of Credited Service. For 10 or more years of Credited Service, the assumption is 4.5%. This was reviewed in conjunction with an actuarial experience study dated September 30, 2011.

**GASB 67**

Payroll Growth: 4.24% per year for all bases created prior to 2011, 0.0% for all bases created thereafter. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Post Retirement COLA: *Retired Police Officers prior to March 20, 2013 and Retired Firefighters prior to August 7, 2013:*  
 2% per year for Normal Retirement.  
*Police Officers eligible for Normal Retirement or with 24 years of service as of March 20, 2013, and Firefighters eligible for Normal Retirement as of August 7, 2013, or with 24 years of service as of December 28, 2013:*  
 2% per year for Normal Retirement.  
*All other Police Officers hired prior to March 20, 2013 and all other Firefighters hired prior to August 7, 2013:*  
 2.0% per year for Normal Retirement, but limited to eight (8) adjustments once the \$95,000 maximum benefit is realized.  
*Police Officers hired on or after March 20, 2013 and Firefighters hired on or after August 7, 2013:*  
 None.

Asset Valuation Method: The Actuarial Value of Assets utilizes a five-year smoothing methodology. The annual difference between expected and actual investment earnings (Market Value, net of investment-related expenses), is phased-in over a five-year period.

Termination and Disability Rate Table:

Age	% Terminating During the Year	% Becoming Disabled During the Year
20	12.0%	0.14%
25	10.4%	0.15%
30	10.0%	0.18%
35	7.6%	0.23%
40	5.2%	0.30%
45	3.2%	0.51%
50	1.6%	1.00%
55	0.6%	1.00%

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

	<u>09/30/2017</u>	<u>09/30/2016</u>	<u>09/30/2015</u>	<u>09/30/2014</u>	<u>09/30/2013</u>
Annual Money-Weighted Rate of Return					
Net of Investment Expense	11.87%	8.38%	-0.44%	11.72%	17.51%

**NOTES TO THE FINANCIAL STATEMENTS**  
(For the Year Ended September 30, 2018)

General Information about the Pension Plan

*Plan Description*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of: Five persons; two of whom shall be legal residents of the City of Hallandale Beach and who shall be appointed by the City Commission. One Member of the Board of Trustees shall be a police officer who shall be elected by a majority of police officers who are active members of the Plan. One member shall be a firefighter who shall be elected by a majority of the firefighters who are active employee members of the Plan. A fifth member of the Board shall be chosen by a majority of the previous four persons, and such person's name shall be submitted to the City Commission for appointment. The City Commission shall appoint the fifth member selected by the other four as ministerial duty.

Full-time employees who are classified as Police Officers or Firefighters participate as a condition of employment.

*Plan Membership as of October 1, 2016:*

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	183
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	8
Active Plan Members	150
	341
	341

*Benefits Provided*

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

Normal Retirement:

Eligibility: Earlier of: 1) Age 52 with 10 years of Credited Service, or 2) the completion of 25 years of Credited Service, regardless of age.

Benefit: Tier 1: 3.20% of Final Average Compensation for all years of Credited Service.  
Tier 2: 3.00% of Final Average Compensation for all years of Credited Service. □

Maximum Benefit: Tier 1: 80% of Final Average Compensation.  
Tier 2: 75% of Final Average Compensation.

Additionally, any Police Officer who was not eligible for Normal Retirement or who had not completed 24 years of service as of March 20, 2013, or any Firefighter who was not eligible for Normal Retirement as of August 7, 2013 or who will not have completed 24 years of service as December 28, 2013 is subject to a \$95,000 annual maximum benefit, determined on the basis of the Normal Form of Benefit.

Early Retirement:

Eligibility: Age 45 with 10 years of Credited Service.

Benefit: Accrued benefit, reduced 6% per year that the benefit commencement date precedes age 52.

Vesting:

Less than 5 Years: Refund of Member contributions without interest.

5-10 years: Refund of Member contributions with 3% interest through the termination date.

10 or more years: Greater of a refund of Member contributions with 3% interest and the accrued benefit, payable at the Normal Retirement Date.

Disability:

Service Incurred: Covered from Date of Employment.

Non-Service Incurred: 10 years of Credited Service.

Benefit Service Incurred: 75% of Pensionable Earnings, less 64% of Social Security Disability Benefits received, further reduced by 33% of Workers' Compensation Benefits received, plus outside income to the extent that the sum of the Workers' Compensation Benefit and Disability Retirement benefit exceed 100% of Basic Compensation. In no case will the Disability Retirement Benefit be less than the greater of the accrued Normal Retirement Benefit and 42% of Basic Compensation.

Benefit Non-service Incurred: Accrued Benefit, less 64% of Social Security Disability Benefits received. In no case will the Disability Retirement Benefit be less than 25% of Final Average Compensation, nor more than 50% of Final Average Compensation as of the date of disability.

Pre-Retirement Death Benefits:

Service Incurred: Covered from Date of Employment.

Non-Service Incurred: 10 years of Credited Service.

Service Incurred Benefit: Accrued Benefit, but not less than 30% of Basic Compensation.

Non-Service Incurred Benefit: Accrued Benefit.

Health Care Stipend

Eligibility: Date of Employment prior to January 1, 1996.

The stipend is payable for all types of retirement benefits; DROP retirees do not receive the stipend while participating in the DROP.

Benefit: \$10 per month for each year of Credited Service, up to a maximum of \$200 per month.

Cost-Of-Living Increases:

*Retired Police Officers prior to March 20, 2013 and Retired Firefighters prior to August 7, 2013:*

2% increase effective each January provided that the CPI-U is greater than or equal to 0.5% for the preceding 12 month period ending September 30, applied to Normal and DROP Retirees. The Health Care Stipend is not subject to the COLA.

*Police Officers eligible for Normal Retirement or with 24 years of service as of March 20, 2013, and Firefighters eligible for Normal Retirement as of August 7, 2013, or will have completed 24 years of service as of December 28, 2013:*

2.0% increase effective each January as previously described.

*All other Police Officers hired prior to March 20, 2013 and all other Firefighters hired prior to August 7, 2013:*

2.0% increase effective each January as previously described. However, these Members are subject to a limitation of eight (8) total adjustments once the \$95,000 maximum annual benefit is realized. Also, these Members are not entitled to receive any adjustments while participating in the DROP.

*Police Officers hired on or after March 20, 2013 and Firefighters hired on or after August 7, 2013:*

Not entitled to any automatic COLA structure.

*Contributions*

Member Contributions: 9.5% of Salary.

City and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII in Chapter 112, Florida Statutes.

Net Pension Liability

The measurement date is September 30, 2017.

The measurement period for the pension expense was October 1, 2016 to September 30, 2017.

The reporting period is October 1, 2017 through September 30, 2018.

The Sponsor's Net Pension Liability was measured as of September 30, 2017.

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, 2016 updated to September 30, 2017 using the following actuarial assumptions:

Inflation	2.30%
Salary Increases	Service based
Discount Rate	7.65%
Investment Rate of Return	7.65%

*Mortality Rate Healthy Inactive Lives:*

Female: RP 2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP 2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

*Mortality Rate Healthy Active Lives:*

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

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

*Mortality Rate Disabled Lives:*

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

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

## GASB 68

The most recent actuarial experience study used to review the other significant assumptions was dated September 26, 2016.

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 2017, the inflation rate assumption of the investment advisor was 2.50%.

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

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2017 are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long Term Expected Real Rate of Return</u>
Domestic Equity	52.50%	6.02%
International Equity	10.00%	5.50%
Fixed Income	17.50%	2.10%
Real Estate	5.00%	2.90%
Hedge Funds	15.00%	2.50%
<u>Total</u>	<u>100.00%</u>	

### Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.65 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)
Reporting Period Ending September 30, 2017	\$ 210,700,892	\$ 143,198,929	\$ 67,501,963
Changes for a Year:			
Service Cost	2,668,846	-	2,668,846
Interest	16,069,318	-	16,069,318
Differences between Expected and Actual Experience	(1,906,123)	-	(1,906,123)
Changes of assumptions	847,814	-	847,814
Changes of benefit terms	-	-	-
Contributions - Employer	-	7,933,609	(7,933,609)
Contributions - State	-	629,395	(629,395)
Contributions - Employee	-	1,294,496	(1,294,496)
Contributions - Buy Back	136,829	136,829	-
Net Investment Income	-	16,869,679	(16,869,679)
Benefit Payments, including Refunds of Employee Contributions	(9,354,592)	(9,354,592)	-
Administrative Expense	-	(183,827)	183,827
Net Changes	8,462,092	17,325,589	(8,863,497)
Reporting Period Ending September 30, 2018	\$ 219,162,984	\$ 160,524,518	\$ 58,638,466

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

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.65%	7.65%	8.65%
Sponsor's Net Pension Liability	\$ 81,934,436	\$ 58,638,466	\$ 39,422,307

*Pension Plan Fiduciary Net Position.*

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

**FINAL PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED  
INFLOWS OF RESOURCES RELATED TO PENSIONS  
FISCAL YEAR SEPTEMBER 30, 2017**

For the year ended September 30, 2017, the Sponsor has recognized a Pension Expense of \$10,444,712.

On September 30, 2017, 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	2,364,054	-
Changes of assumptions	6,741,144	-
Net difference between Projected and Actual Earnings on Pension Plan investments	4,071,740	-
Employer and State contributions subsequent to the measurement date	8,563,004	-
Total	\$ 21,739,942	\$ -

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer and State contributions subsequent to the measurement date has been recognized as a reduction of the Net Pension Liability in the year ended September 30, 2017.

Other 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:	
2018	\$ 4,893,841
2019	\$ 3,756,067
2020	\$ 4,676,184
2021	\$ (149,154)
2022	\$ -
Thereafter	\$ -

**Payable to the Pension Plan**

On September 30, 2016, the Sponsor reported a payable of \$8,931 for the outstanding amount of contributions of the Pension Plan required for the year ended September 30, 2016.

**PRELIMINARY PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND  
DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS  
FISCAL YEAR SEPTEMBER 30, 2018**

For the year ended September 30, 2018, the Sponsor will recognize a Pension Expense of \$10,100,644.

On September 30, 2018, 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	817,520	1,524,900
Changes of assumptions	5,172,348	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	1,689,167
Employer and State contributions subsequent to the measurement date	TBD	-
<b>Total</b>	<b>TBD</b>	<b>\$ 3,214,067</b>

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer and State contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability in the year ended September 30, 2018.

Other 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:	
2019	\$ 2,379,243
2020	\$ 3,299,360
2021	\$ (1,525,978)
2022	\$ (1,376,824)
2023	\$ -
Thereafter	\$ -

**Payable to the Pension Plan**

On September 30, 2017, the Sponsor reported a payable of \$52,705 for the outstanding amount of contributions of the Pension Plan required for the year ended September 30, 2017.

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

Last 10 Fiscal Years

Reporting Period Ending Measurement Date	09/30/2018 09/30/2017	09/30/2017 09/30/2016	09/30/2016 09/30/2015
Total Pension Liability			
Service Cost	2,668,846	2,198,923	2,114,287
Interest	16,069,318	14,732,084	13,946,642
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(1,906,123)	1,635,041	3,413,322
Changes of assumptions	847,814	8,988,193	-
Contributions - Buy Back	136,829	22,723	33,396
Benefit Payments, including Refunds of Employee Contributions	(9,354,592)	(9,537,098)	(9,377,998)
Net Change in Total Pension Liability	8,462,092	18,039,866	10,129,649
Total Pension Liability - Beginning	210,700,892	192,661,026	182,531,377
Total Pension Liability - Ending (a)	<u>\$219,162,984</u>	<u>\$210,700,892</u>	<u>\$192,661,026</u>
Plan Fiduciary Net Position			
Contributions - Employer	7,933,609	7,874,125	7,851,700
Contributions - State	629,395	601,707	673,170
Contributions - Employee	1,294,496	1,285,750	1,205,723
Contributions - Buy Back	136,829	22,723	33,396
Net Investment Income	16,869,679	10,988,258	(574,125)
Benefit Payments, including Refunds of Employee Contributions	(9,354,592)	(9,537,098)	(9,377,998)
Administrative Expense	(183,827)	(148,100)	(137,847)
Net Change in Plan Fiduciary Net Position	17,325,589	11,087,365	(325,981)
Plan Fiduciary Net Position - Beginning	143,198,929	132,111,564	132,437,545
Plan Fiduciary Net Position - Ending (b)	<u>\$160,524,518</u>	<u>\$143,198,929</u>	<u>\$132,111,564</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 58,638,466</u>	<u>\$ 67,501,963</u>	<u>\$ 60,549,462</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	73.24%	67.96%	68.57%
Covered Employee Payroll <sup>1</sup>	\$ 13,626,274	\$ 13,167,794	\$ 14,267,482
Net Pension Liability as a percentage of Covered Employee Payroll	430.33%	512.63%	424.39%

**Notes to Schedule:**

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

*Changes of benefit terms:*

The 01/24/2018 Cost Study was approved by the Board at the 03/05/2018 meeting. This benefit change will be incorporated with the 09/30/2018 measurement date. The expected impact will be an increase about \$4,000,000 of the Total Pension Liability.

*Changes of assumptions:*

For measurement date 09/30/2017, as required by Chapter 2015-157, Laws of Florida, the assumed rates of mortality have been changed from those in the July 1, 2015 FRS valuation report to those used in the July 1, 2016 FRS valuation report. Additionally, the investment return was lowered from 7.70% to 7.65% per year compounded annually, net of investment related expenses.

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### *Continued Changes of assumptions:*

For measurement date 09/30/2016, amounts reported as changes of assumptions resulted from a special Experience Study. The following changes have been incorporated:

- Salary Scale – Reduced for service between 1-9 years.
- Normal Retirement rates – Modified, based on whether Credited Service exceeds or falls short of 25 years on the date of termination.
- Early Retirement rates – Reduce from 15.0% to 0.0%, i.e. assume no Early Retirements.
- Withdrawal – Change from age-based to rates based on Credited Service.
- Mortality – Incorporation of rates pursuant to Chapter 2015-157, Laws of Florida.
- Investment Return – Lowered from 7.75% to 7.70%. Additional reductions will occur with future valuations according to the below table:  
10/1/17 - 7.65%  
10/1/18 - 7.60%  
10/1/19 – 7.55%  
10/1/20 – 7.50%

For measurement date 09/30/2015, the inflation rate assumption was lowered from 4% to 3%.

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

Reporting Period Ending	09/30/2015	09/30/2014
Measurement Date	<u>09/30/2014</u>	<u>09/30/2013</u>
Total Pension Liability		
Service Cost	2,068,244	1,919,484
Interest	13,484,951	13,065,637
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	-	-
Benefit Payments, including Refunds of Employee Contributions	<u>(9,905,885)</u>	<u>(9,540,860)</u>
Net Change in Total Pension Liability	5,647,310	5,444,261
Total Pension Liability - Beginning	<u>176,884,067</u>	<u>171,439,806</u>
Total Pension Liability - Ending (a)	<u><u>\$182,531,377</u></u>	<u><u>\$176,884,067</u></u>
Plan Fiduciary Net Position		
Contributions - Employer	8,192,937	7,520,029
Contributions - State	662,916	620,891
Contributions - Employee	1,190,421	1,225,133
Contributions - Buy Back	-	-
Net Investment Income	13,794,259	17,699,778
Benefit Payments, including Refunds of Employee Contributions	(9,905,885)	(9,540,860)
Administrative Expense	<u>(109,957)</u>	<u>(142,874)</u>
Net Change in Plan Fiduciary Net Position	13,824,691	17,382,098
Plan Fiduciary Net Position - Beginning	<u>118,612,854</u>	<u>101,230,756</u>
Plan Fiduciary Net Position - Ending (b)	<u><u>\$132,437,545</u></u>	<u><u>\$118,612,854</u></u>
Net Pension Liability - Ending (a) - (b)	<u><u>\$ 50,093,832</u></u>	<u><u>\$ 58,271,213</u></u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	72.56%	67.06%
Covered Employee Payroll <sup>1</sup>	\$ 12,179,211	\$ 12,528,346
Net Pension Liability as a percentage of Covered Employee Payroll	411.31%	465.11%

**Notes to Schedule:**

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

**SCHEDULE OF CONTRIBUTIONS**  
Last 10 Fiscal Years

	09/30/2017	09/30/2016	09/30/2015	09/30/2014	09/30/2013
Actuarially Determined Contribution	8,563,004	8,528,110	8,676,637	8,651,807	8,140,920
Contributions in relation to the Actuarially Determined Contributions	8,563,004	8,475,832	8,728,916	8,651,807	8,140,920
Contribution Deficiency (Excess)	\$ -	\$ 52,278	\$ (52,279)	\$ -	\$ -
Covered Employee Payroll <sup>1</sup>	\$ 13,626,274	\$ 13,167,794	\$ 14,267,482	\$ 12,179,211	\$ 12,528,346
Contributions as a percentage of Covered Employee Payroll	62.84%	64.37%	61.18%	72.71%	64.98%

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

Notes to Schedule

Valuation Date: 10/01/2015

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:

Funding Method:	Entry Age Normal Actuarial Cost Method. The following loads are utilized for determination of the Total Required Contribution: - Interest - A half-year, based on the current 7.75% assumption. - Salary - A full-year, based on the current 7.2% average increase assumption.								
Amortization Method:	Level Percentage of Pay, Closed.								
Remaining Amortization Period:	27 Years (as of 10/01/2015).								
Mortality:	RP2000, Combined Healthy Mortality Table without projection. Disabled Members set forward 5 years. We feel this assumption sufficiently accommodates expected mortality improvements.								
Interest Rate:	7.75% per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.								
Early Retirement:	Upon attainment of Early Retirement eligibility (age 45 with 10 years of Credited Service), Members are assumed to retire at the rate of 15% per year.								
Normal Retirement	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Number of Years after First Eligibility for Normal</th> <th style="text-align: center;">Probability of Retirement</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0.5</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0.5</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>	Number of Years after First Eligibility for Normal	Probability of Retirement	0	0.5	1	0.5	2	1
Number of Years after First Eligibility for Normal	Probability of Retirement								
0	0.5								
1	0.5								
2	1								
	Members who reach 25 years of service are assumed to retire immediately. The assumed rates of retirement were approved in conjunction with an actuarial experience study dated September 30, 2011.								
Disability Rates:	See table on following page. 75% of disabilities are assumed to be service incurred. This was reviewed in conjunction with an actuarial experience study dated September 30, 2011.								
Termination Rates:	See table on following page. The assumed rates of termination were approved in conjunction with an actuarial experience study dated September 30, 2011.								
Salary Increases:	10.0% for less than 10 years of Credited Service. For 10 or more years of Credited Service, the assumption is 4.5%. This was reviewed in conjunction with an actuarial experience study dated September 30, 2011.								

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Payroll Growth: 4.24% per year for all bases created prior to 2011, 0.0% for all bases created thereafter. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Post Retirement COLA: *Retired Police Officers prior to March 20, 2013 and Retired Firefighters prior to August 7, 2013:*  
 2% per year for Normal Retirement.  
*Police Officers eligible for Normal Retirement or with 24 years of service as of March 20, 2013, and Firefighters eligible for Normal Retirement as of August 7, 2013, or with 24 years of service as of December 28, 2013:*  
 2% per year for Normal Retirement.  
*All other Police Officers hired prior to March 20, 2013 and all other Firefighters hired prior to August 7, 2013:*  
 2.0% per year for Normal Retirement, but limited to eight (8) adjustments once the \$95,000 maximum benefit is realized.  
*Police Officers hired on or after March 20, 2013 and Firefighters hired on or after August 7, 2013:*  
 None.

Asset Valuation Method: The Actuarial Value of Assets utilizes a five-year smoothing methodology. The annual difference between expected and actual investment earnings (Market Value, net of investment-related expenses), is phased-in over a five-year period.

Termination and Disability Rate Table:	Age	% Terminating	Disabled
		During the Year	During the Year
	20	12.00%	0.14%
	25	10.40%	0.15%
	30	10.00%	0.18%
	35	7.60%	0.23%
	40	5.20%	0.30%
	45	3.20%	0.51%
	50	1.60%	1.00%
	55	0.60%	1.00%

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

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

FINAL COMPONENTS OF PENSION EXPENSE  
FISCAL YEAR SEPTEMBER 30, 2017

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	\$ 60,549,462	\$ 2,760,351	\$ 19,429,500	\$ -
Employer and State Contributions made after 09/30/2016	-	-	8,563,004	-
Total Pension Liability Factors:				
Service Cost	2,198,923	-	-	2,198,923
Interest	14,732,084	-	-	14,732,084
Changes in benefit terms	-	-	-	-
Contributions - Buy Back	22,723	-	-	22,723
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	1,635,041	-	1,635,041	-
Current year amortization of experience difference	-	-	(1,546,535)	1,546,535
Change in assumptions about future economic or demographic factors or other inputs	8,988,193	-	8,988,193	-
Current year amortization of change in assumptions	-	-	(2,247,049)	2,247,049
Benefit Payments, including Refunds of Employee Contributions	(9,537,098)	-	-	-
Net change	18,039,866	-	15,392,654	20,747,314
Plan Fiduciary Net Position:				
Contributions - Employer	7,874,125	-	(7,874,125)	-
Contributions - State	601,707	-	(601,707)	-
Contributions - Employee	1,285,750	-	-	(1,285,750)
Contributions - Buy Back	22,723	-	-	(22,723)
Projected Net Investment Income	10,242,487	-	-	(10,242,487)
Difference between projected and actual earnings on Pension Plan investments	745,771	745,771	-	-
Current year amortization	-	(1,069,272)	(2,169,530)	1,100,258
Benefit Payments, including Refunds of Employee Contributions	(9,537,098)	-	-	-
Administrative Expenses	(148,100)	-	-	148,100
Net change	11,087,365	(323,501)	(10,645,362)	(10,302,602)
Ending Balance	\$ 67,501,963	\$ 2,436,850	\$ 24,176,792	\$ 10,444,712

**PRELIMINARY COMPONENTS OF PENSION EXPENSE**  
**FISCAL YEAR SEPTEMBER 30, 2018**

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 67,501,963	\$ 2,436,850	\$ 24,176,792	\$ -
Employer and State Contributions made after 09/30/2017	-	-	TBD*	-
Total Pension Liability Factors:				
Service Cost	2,668,846	-	-	2,668,846
Interest	16,069,318	-	-	16,069,318
Changes in benefit terms	-	-	-	-
Contributions - Buy Back	136,829	-	-	136,829
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(1,906,123)	1,906,123	-	-
Current year amortization of experience difference	-	(381,223)	(1,546,534)	1,165,311
Change in assumptions about future economic or demographic factors or other inputs	847,814	-	847,814	-
Current year amortization of change in assumptions	-	-	(2,416,610)	2,416,610
Benefit Payments, including Refunds of Employee Contributions	(9,354,592)	-	-	-
Net change	<u>8,462,092</u>	<u>1,524,900</u>	<u>(3,115,330)</u>	<u>22,456,914</u>
Plan Fiduciary Net Position:				
Contributions - Employer	7,933,609	-	(7,933,609)	-
Contributions - State	629,395	-	(629,395)	-
Contributions - Employee	1,294,496	-	-	(1,294,496)
Contributions - Buy Back	136,829	-	-	(136,829)
Projected Net Investment Income	11,043,870	-	-	(11,043,870)
Difference between projected and actual earnings on Pension Plan investments	5,825,809	5,825,809	-	-
Current year amortization	-	(2,234,432)	(2,169,530)	(64,902)
Benefit Payments, including Refunds of Employee Contributions	(9,354,592)	-	-	-
Administrative Expenses	(183,827)	-	-	183,827
Net change	<u>17,325,589</u>	<u>3,591,377</u>	<u>(10,732,534)</u>	<u>(12,356,270)</u>
Ending Balance	<u>\$ 58,638,466</u>	<u>\$ 7,553,127</u>	<u>TBD</u>	<u>\$ 10,100,644</u>

\* Employer and State Contributions subsequent to the measurement date made after September 30, 2017 but made on or before September 30, 2018 need to be added.

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)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2025
2014	\$ (4,600,584)	5	\$ (920,117)	\$ (920,117)	\$ (920,117)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 10,847,650	5	\$ 2,169,530	\$ 2,169,530	\$ 2,169,530	\$ 2,169,530	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (745,771)	5	\$ (149,155)	\$ (149,154)	\$ (149,154)	\$ (149,154)	\$ (149,154)	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (5,825,809)	5	\$ -	\$ (1,165,161)	\$ (1,165,162)	\$ (1,165,162)	\$ (1,165,162)	\$ (1,165,162)	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 1,100,258	\$ (64,902)	\$ (64,903)	\$ 855,214	\$ (1,314,316)	\$ (1,165,162)	\$ -	\$ -	\$ -	\$ -

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)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2016	\$ 8,988,193	4	\$ 2,247,049	\$ 2,247,048	\$ 2,247,048	\$ 2,247,048	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 847,814	5	\$ -	\$ 169,562	\$ 169,563	\$ 169,563	\$ 169,563	\$ 169,563	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 2,247,049	\$ 2,416,610	\$ 2,416,611	\$ 2,416,611	\$ 169,563	\$ 169,563	\$ -	\$ -	\$ -	\$ -	\$ -

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)	Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience												
			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2026		
2015	\$ 3,413,322	3	\$ 1,137,774	\$ 1,137,774	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2016	\$ 1,635,041	4	\$ 408,761	\$ 408,760	\$ 408,760	\$ 408,760	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2017	\$ (1,906,123)	5	\$ -	\$ (381,223)	\$ (381,225)	\$ (381,225)	\$ (381,225)	\$ (381,225)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Net Increase (Decrease) in Pension Expense			\$ 1,546,535	\$ 1,165,311	\$ 27,535	\$ 27,535	\$ (381,225)	\$ (381,225)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	