

City of Delray Beach Firefighters' Retirement System

ACTUARIAL VALUATION REPORT
AS OF OCTOBER 1, 2017

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR
ENDING SEPTEMBER 30, 2019





September 25, 2018

Board of Trustees
City of Delray Beach Firefighters'
Retirement System
Delray Beach, Florida

Re: City of Delray Beach Firefighters' Retirement System Actuarial Valuation as of October 1, 2017

Dear Board Members:

The results of the October 1, 2017 Annual Actuarial Valuation of the City of Delray Beach Firefighters' Retirement System are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purpose of the valuation is to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending September 30, 2019, and to determine the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 67 for the fiscal year ending September 30, 2017. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section B of this report. This report includes certain risk metrics but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data and other information through September 30, 2017. The valuation was based upon information furnished by the Plan Administrator and the City, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the Plan Administrator and the City.

This report was prepared using certain assumptions approved by the Board as authorized under Florida Statutes and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Methods. The investment return assumption was prescribed by the Board and the assumed mortality rates detailed in the Actuarial Assumptions and Methods section were prescribed by the Florida Statutes in accordance with Florida House Bill 1309 (codified in Chapter 2015-157).

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Jeffrey Amrose and Trisha Amrose are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

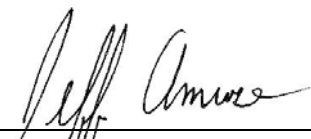
The signing actuaries are independent of the plan sponsor.

This actuarial valuation and/or cost determination was prepared and completed by us or under our direct supervision, and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate. In our opinion, the techniques and assumptions used are reasonable, meet the requirements and intent of Part VII, Chapter 112, Florida Statutes, and are based on generally accepted actuarial principles and practices. 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.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation and Report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY

By: 

Jeffrey Amrose, MAAA
Enrolled Actuary No. 17-6599
Senior Consultant & Actuary

By: 

Trisha Amrose, MAAA
Enrolled Actuary No. 17-8010
Consultant & Actuary

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SECTION A

DISCUSSION OF VALUATION RESULTS

DISCUSSION OF VALUATION RESULTS

Please note that the results prior to this October 1, 2017 actuarial valuation were determined by the Retirement System's prior actuary, Foster & Foster.

Comparison of Required Employer Contributions

The required employer contribution this year compared with the preceding year is as follows:

	For FYE 9/30/2019 Based on 10/1/2017 Valuation	For FYE 9/30/2018 Based on 10/1/2016 Valuation	Increase (Decrease)
Required Contribution	\$ 7,834,461	\$ 6,538,017	\$ 1,296,444
As % of Contr. Year Payroll	74.52 %	64.95 %	9.57 %
Estimated State Contribution	1,134,704	1,134,704 *	0
As % of Contr. Year Payroll	10.79 %	11.27 %	(0.48) %
Net Employer Contribution**	6,699,757	5,403,313	1,296,444
As % of Contr. Year Payroll	63.73 %	53.68 %	10.05 %

* Updated from the prior year's valuation report, prepared by Foster & Foster, to reflect the State contribution received for the fiscal year ending September 30, 2017.

** Contribution may be offset by the \$1,523,856 prepaid City contribution.

Payment of Required Contribution

The contribution developed in this valuation has been calculated as though payments are made at the end of each biweekly pay period. **If the full contribution for the fiscal year ending September 30, 2019 is paid on October 1, 2018, the net required employer contribution is \$6,424,311 or 61.11% of covered payroll.**

Further, the required Employer contribution has been computed with the assumption that the amount to be received from the State in 2018 and 2019 will be equal to the amount received in 2017 of \$1,134,704. If the actual payment from the State falls below this amount, then the Employer must increase its contribution by the difference.

Actual contributions for the fiscal year ending September 30, 2017 were \$4,197,643 from the City (after excluding the \$1,523,856 prepaid City contribution) plus \$1,134,704 of annual State revenue, for a total of \$5,332,347. The total annual required contribution was \$5,332,347.

Revisions in Benefits

There were no revisions in benefits since the prior valuation.

Revisions in Actuarial Assumptions and Methods

Effective October 1, 2017, the investment return assumption was lowered from 8.00% to 7.25%, net of investment expenses. This rate will be lowered to 7.00% in the October 1, 2018 Actuarial Valuation Report. In addition, the asset valuation method was changed in this report. The updated Actuarial Value of Assets as of October 1, 2017 is based on a method that recognizes the difference between actual and expected investment earnings over a five-year period. We believe that this method better follows the guidelines of Actuarial Standards of Practice No. 44. When changing to the new method effective October 1, 2017, the Actuarial Value of Assets was set equal to the Market Value of Assets retroactive to October 1, 2016.

The mortality assumption for active members prior to retirement was revised in accordance with a revision to the active member pre-retirement mortality assumption used by the Florida Retirement System (FRS) in their July 1, 2016 Actuarial Valuation. No revisions were made to mortality rates applicable to retirees. Prior to this revision, pre-retirement mortality rates for active members were the same as the post-retirement rates for active members and retirees. This change was made in compliance with Florida House Bill 1309, which requires all public pension plans in Florida to use the same mortality tables used in either of the last two actuarial valuation reports of FRS effective no later than October 1, 2016.

As a result of these changes, the required contribution increased by \$1,275,255 (12.13% of covered payroll).

Actuarial Experience

There was a net actuarial gain of \$1,589,255 since the last valuation which means that actual experience was more favorable than expected. The gain was primarily due to lower than expected average salary increases (-4.5% compared to 5.3% expected). The liability gain was partially offset by losses due to an investment return below the assumed rate of 8%. The investment rate of return was 11.4% based on market value of assets and 7.1% based on actuarial value of assets. The net gain caused the required employer contribution to decrease by 1.43% of covered payroll.

Funded Ratio

This year's funded ratio is 62.0% compared to 65.4% last year. The funded ratio was 67.2% before the assumption and method changes described above. The ratio is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability.

Analysis of Change in Employer Contribution

The components of change in the required Employer contribution are as follows:

Contribution Rate Last Year	53.68 %
Experience (Gains) or Losses	(1.43)
Revision in Assumptions/Methods	12.13
Amortization Payment on UAAL	(0.54)
Normal Cost Rate	(0.78)
Administrative Expense	0.19
Change in State Contribution Rate	0.48
Contribution Rate This Year	<u>63.73 %</u>

Variability of Future Contribution Rates

The Actuarial Cost Method used to determine the required contribution is intended to produce contribution rates which are generally level as a percent of payroll. Even so, when experience differs from the assumptions, as it often does, the employer's contribution rate can vary significantly from year-to-year. Over time, if the year-to-year gains and losses offset each other, the contribution rate would be expected to return to the current level, but this does not always happen.

The Market Value of Assets exceeds the Actuarial Value of Assets by \$2,366,471 as of the valuation date (see Section C). This difference will be gradually recognized in the absence of offsetting losses. In turn, the computed employer contribution rate will decrease by approximately 2.03% of covered payroll.

Relationship to Market Value

If Market Value had been the basis for the valuation, the City contribution rate would have been 61.7% and the funded ratio would have been 63.6%. In the absence of other gains and losses or changes, the City contribution rate should decrease to that level over the next several years.

Conclusion

It is important to note that system assets are not sufficient to cover the liabilities for current retirees. As of October 1, 2017, the assets are \$86.5 million (after reflecting the \$9.8 million reserve which is earmarked for future COLAs) and the liability for current retirees is \$100.0 million. Some steps have been taken to address these issues, such as shortening the amortization period and lowering the investment return assumption. Given the low funded ratio, it is advisable to consider further steps. For each additional \$5 million contributed, the funded ratio will increase by 3.3%.

The remainder of this Report includes detailed actuarial valuation results, information relating to the pension fund, financial accounting information, miscellaneous employee data and a summary of plan provisions.

CHAPTER REVENUE

Increments in Chapter revenue over that received in 1998 must first be used to fund the cost of compliance with minimum benefits. As of the valuation date, all minimum benefits of Chapter 175 have been adopted.

Actuarial Confirmation of the Use of State Chapter Money	
1. Base Amount Previous Plan Year	\$ 1,193,140
2. Amount Received for Previous Plan Year	1,134,704
3. Benefit Improvements	0
4. Excess Funds for Previous Plan Year	0
5. Accumulated Excess at Beginning of Previous Year	0
6. Prior Excess Used in Previous Plan Year	0
7. Accumulated Excess as of Valuation Date (Available for Benefit Improvements): (4) + (5) - (6)	0 *
8. Base Amount This Plan Year	\$ 1,134,704

* Not including the COLA Account, which is shown on the following page.

The Accumulated Excess shown in line 7 is being held in reserve and is subtracted from Plan assets (see Section C of this Report). The Base Amount in line 8 is the amount the employer may take as a credit against its required contribution; however, in no event may the employer take credit for more than the actual amount of Chapter revenue received.

Under the mutual agreement between the City and the Union, the City may use up to \$1,206,994 to offset the required contribution. Any excess Chapter 175 revenue above this amount will be applied to the COLA Account. Please see the following page for the development of the COLA Account.

COLA ACCOUNT

ANALYSIS OF EXCESS STATE CONTRIBUTIONS

	<u>October 1, 2017</u>
A. COLA Account at Beginning of Year	\$9,092,732 *
B. Investment Return	11.39%
C. Investment Earnings	1,035,662
D. Chapter 175 Regular Revenue	1,134,704
E. Chapter 175 Supplemental Revenue	0
F. Total Chapter 175 Revenue	1,134,704
G. Chapter Revenue in Excess of \$1,206,994	0
H. Benefit Enhancement Percentage	0.50%
I. Total Present Value of Benefit Enhancement	344,083
J. COLA Account at End of Year (A. + C. + G. - I.)	\$9,784,311

* From Foster & Foster actuarial valuation report dated March 31, 2017.

SECTION B

VALUATION RESULTS

PARTICIPANT DATA		
	October 1, 2017	October 1, 2016*
ACTIVE MEMBERS		
Number	133	112
Covered Annual Payroll	\$ 9,960,429	\$ 9,536,432
Average Annual Payroll	\$ 74,890	\$ 85,147
Average Age	35.7	36.5
Average Past Service	8.8	9.9
Average Age at Hire	26.9	26.6
RETIREES, BENEFICIARIES & DROP		
Number	123	122
Annual Benefits	\$ 7,525,113	\$ 7,314,380
Average Annual Benefit	\$ 61,180	\$ 59,954
Average Age	59.4	58.8
DISABILITY RETIREES		
Number	5	5
Annual Benefits	\$ 162,834	\$ 161,313
Average Annual Benefit	\$ 32,567	\$ 32,263
Average Age	64.4	63.4
TERMINATED VESTED MEMBERS (EXCLUDING NON-VESTED REFUNDS PAYABLE)		
Number	0	0
Annual Benefits	\$ 0	0
Average Annual Benefit	\$ 0	0
Average Age	0.0	0.0

* From Foster & Foster actuarial valuation report dated March 31, 2017.

ACTUARIALLY DETERMINED CONTRIBUTION (ADC)

	October 1, 2017 <i>After Changes</i>	October 1, 2017 <i>Before Changes</i>	October 1, 2016*
A. Valuation Date			
B. ADC to Be Paid During Fiscal Year Ending	9/30/2019	9/30/2019	9/30/2018
C. Assumed Dates of Employer Contributions	Biweekly	Biweekly	Biweekly
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 5,171,663	\$ 4,399,944	\$ 4,396,928
E. Employer Normal Cost	1,990,286	1,575,736	1,563,454
F. ADC if Paid on the Valuation Date: D+E	7,161,949	5,975,680	5,960,382
G. ADC Adjusted for Frequency of Payments	7,422,501	6,214,707	6,194,029
H. ADC as % of Covered Payroll	74.52 %	62.39 %	64.95 %
I. Assumed Rate of Increase in Covered Payroll to Contribution Year	5.55 %	5.55 %	5.55 %
J. Covered Payroll for Contribution Year	10,513,233	10,513,233	10,065,704
K. ADC for Contribution Year: H x J	7,834,461	6,559,206	6,538,017
L. Estimated Credit for State Revenue in Contribution Year	1,134,704	1,134,704	1,134,704
M. Required Employer Contribution (REC) in Contribution Year	6,699,757	5,424,502	5,403,313
N. REC as % of Covered Payroll in Contribution Year: M/J	63.73 %	51.60 %	53.68 %

* From Foster & Foster actuarial valuation report dated March 31, 2017.

ACTUARIAL VALUE OF BENEFITS AND ASSETS

A. Valuation Date	October 1, 2017 <i>After Changes</i>	October 1, 2017 <i>Before Changes</i>	October 1, 2016*
B. Actuarial Present Value of All Projected Benefits for			
1. Active Members			
a. Service Retirement Benefits	\$ 63,853,795	\$ 53,917,122	\$ 53,530,591
b. Vesting Benefits	1,019,308	863,702	476,731
c. Disability Benefits	1,367,673	1,197,281	1,114,955
d. Preretirement Death Benefits	777,038	1,451,248	1,366,523
e. Return of Member Contributions	302,310	294,950	245,176
f. Total	<u>67,320,124</u>	<u>57,724,303</u>	<u>56,733,976</u>
2. Inactive Members			
a. Service Retirees & Beneficiaries	98,247,717	91,204,631	88,872,168
b. Disability Retirees	1,705,614	1,607,933	1,610,573
c. Terminated Vested Members**	206,930	206,930	151,994
d. COLA Account	9,784,311	9,784,311	9,092,732
e. Total	<u>109,944,572</u>	<u>102,803,805</u>	<u>99,727,467</u>
3. Total for All Members	177,264,696	160,528,108	156,461,443
C. Actuarial Accrued (Past Service) Liability under Entry Age Normal	151,453,131	139,746,315	136,953,691
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	131,217,061	120,714,421	110,990,089
E. Plan Assets			
1. Market Value	96,312,093	96,312,093	88,287,564
2. Actuarial Value	93,945,622	93,933,771	89,529,663
F. Unfunded Actuarial Accrued Liability	57,507,509	45,812,544	47,424,028
G. Actuarial Present Value of Projected Covered Payroll	96,428,036	91,214,219	82,343,459
H. Actuarial Present Value of Projected Member Contributions	8,564,204	8,109,274	7,410,911
I. Accumulated Contributions of Active Members	5,617,749	5,617,749	5,121,534

* From Foster & Foster actuarial valuation report dated March 31, 2017.

** Terminated Vested liability includes refunds payable for terminated non-vested members.

CALCULATION OF EMPLOYER NORMAL COST

A. Valuation Date	October 1, 2017 <i>After Changes</i>	October 1, 2017 <i>Before Changes</i>	October 1, 2016*
B. Normal Cost for			
1. Service Retirement Benefits	\$ 2,444,750	\$ 1,995,261	\$ 2,004,954
2. Vesting Benefits	76,956	64,648	32,704
3. Disability Benefits	94,649	85,272	83,341
4. Preretirement Death Benefits	55,202	109,657	111,974
5. Return of Member Contributions	<u>68,799</u>	<u>70,968</u>	<u>46,019</u>
6. Total for Future Benefits	2,740,356	2,325,806	2,278,992
7. Assumed Amount for Administrative Expenses	<u>146,369</u>	<u>146,369</u>	<u>122,611</u>
8. Total Normal Cost	2,886,725	2,472,175	2,401,603
C. Expected Member Contribution	896,439	896,439	838,149
D. Employer Normal Cost: B8-C	1,990,286	1,575,736	1,563,454
E. Employer Normal Cost as a % of Covered Payroll	19.98%	15.82%	16.39%

* From Foster & Foster actuarial valuation report dated March 31, 2017.

A. UAAL AMORTIZATION PERIOD AND PAYMENTS						
Original UAAL			Current UAAL			
Date Established	Base Established	Amortization Period (Years)	Years Remaining	Amount	Payment	
					After Changes	Before Changes
10/1/2015	Initial Unfunded Liability	18	16	\$ 37,761,251	\$ 3,527,077	\$ 3,682,984
10/1/2015	Benefit Change	20	18	(1,090,756)	(95,097)	(99,759)
10/1/2016	Assumption Change	20	19	3,935,892	332,993	350,094
10/1/2016	Actuarial Loss	20	19	6,795,412	574,921	604,445
10/1/2017	Actuarial Gain	20	20	(1,589,255)	(130,806)	(137,820)
10/1/2017	Method Change	20	20	(11,851)	(975)	N/A
10/1/2017	Assumption Changes	20	20	<u>11,706,816</u>	<u>963,550</u>	<u>N/A</u>
				\$ 57,507,509	\$ 5,171,663	\$ 4,399,944

B. Amortization Schedule

The UAAL is being amortized as a level percentage of covered annual payroll over the number of years remaining in the amortization period. The following schedule illustrates the expected amortization of the UAAL:

Amortization Schedule	
Year	Expected UAAL
2017	\$ 57,507,509
2018	56,130,204
2019	54,588,140
2020	52,868,621
2021	50,958,015
2022	48,841,690
2027	34,582,797
2032	12,269,777
2037	-

ACTUARIAL GAINS AND LOSSES

The assumptions used to anticipate mortality, employment turnover, investment income, expenses, salary increases, and other factors have been based on long range trends and expectations. Actual experience can vary from these expectations. The variance is measured by the gain and loss for the period involved. If significant long term experience reveals consistent deviation from what has been expected and that deviation is expected to continue, the assumptions should be modified. The net actuarial gain (loss) for the past year is computed as follows:

1. Last Year's UAAL	47,424,028
2. Last Year's Employer Normal Cost	1,563,454
3. Last Year's Contributions	
a. Employer Contribution	4,197,643
b. State Contribution Used to Offset Required Contribution	1,134,704
c. Total Contributions	5,332,347
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	3,918,999
b. 3 from dates paid	172,335
c. a - b	3,746,664
5. This Year's Expected UAAL Prior to Revision: 1 + 2 - 3c + 4c	47,401,799
6. Change in UAAL Due to Plan Amendments and/or Changes in Actuarial Assumptions and Methods	11,694,965
7. This Year's Expected UAAL (after changes): 5 + 6	59,096,764
8. This Year's Actual UAAL (after changes)	57,507,509
9. Net Actuarial Gain/(Loss): 7 - 8	1,589,255

Net actuarial gains/(losses) since October 1, 2016 have been as follows:

Year Ending	Actuarial Gain / (Loss)
9/16	\$ (6,763,388)
9/17	1,589,255

The fund earnings and salary increase assumptions have considerable impact on the cost of the plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:

Year Ending	Investment Return		Salary Increases	
	Actual*	Assumed	Actual**	Assumed
9/30/2014	9.4 %	8.0 %	0.8 %	5.7 %
9/30/2015	8.8	8.0	9.8	5.6
9/30/2016	7.1	8.0	28.1	5.6
9/30/2017	7.1 ***	8.0	(4.5)	5.3
Average	8.1 %	---	7.9 %	---

* Prior to 9/30/2017, the investment return was based on the combined Police and Fire Retirement System.

** Prior to 9/30/2016, the salary increase was based on the combined Police and Fire Retirement System.

*** Before reflecting fresh start of assets as of 10/1/2016 and new asset smoothing method.

The actual investment return rates shown above are based on the actuarial value of assets. The actual salary increase rates shown above are the increases received by those active members who were included in the actuarial valuations both at the beginning and end of each period.

Number Added To and Removed from Active Participation

Actual (A) Versus Expected (E) Decrements

Year Ended	Number Added During Year		Service & DROP Retirement		Disability Retirement		Died In Service		Terminations				Active Members End of Year
	A	E	A	E	A	E	A	E	Vested	Other	Totals		
									A	A	A	E	
9/30/2017	25	4	2	4	0	0	0	0	0	2	2	3	133
9/30/2018				2		0		0				4	

RECENT HISTORY OF VALUATION RESULTS

Valuation Date	Number of		Covered Annual Payroll	Actuarial Value of Assets	Accrued Liability	Unfunded Accrued Liability	Funded Ratio	Employer Normal Cost	
	Active Members	Inactive Members						Amount	% of Payroll
10/1/2015	110	116	\$8,019,724	\$83,276,890	\$121,406,576	\$38,129,686	68.6 %	\$1,366,029	17.03 %
10/1/2016	112	127	9,536,432	89,529,663	136,953,691	47,424,028	65.4	1,563,454	16.39
10/1/2017	133	128	9,960,429	93,945,622	151,453,131	57,507,509	62.0	1,990,286	19.98

Results before October 1, 2017 were determined by the Retirement System's prior actuary, Foster & Foster.

RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS

Valuation Date	End of Year To Which Valuation Applies	Required Contributions						Actual Contributions		
		Employer & State		Estimated State		Net Employer		Employer	State	Total
		Amount	% of Payroll	Amount	% of Payroll	Amount	% of Payroll			
10/1/2015	9/30/2017	\$5,332,347	62.99 %	\$1,193,140	14.09 %	\$4,139,207	48.90 %	\$4,197,643	\$1,134,704	\$5,332,347
10/1/2016	9/30/2018	6,538,017	64.95	1,134,704	11.27	5,403,313	53.68	---	---	---
10/1/2017	9/30/2019	7,834,461	74.52	1,134,704	10.79	6,699,757	63.73	---	---	---

Results before October 1, 2017 were determined by the Retirement System's prior actuary, Foster & Foster.

ACTUARIAL ASSUMPTIONS AND COST METHOD

Valuation Methods

Actuarial Cost Method - Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Financing of Unfunded Actuarial Accrued Liabilities - Unfunded Actuarial Accrued Liabilities (full funding credit if assets exceed liabilities) were amortized by level (principal & interest combined) percent-of-payroll contributions over a reasonable period of future years.

Actuarial Value of Assets – Before Method Change: The Actuarial Value of Assets is equal to the previous year's value increased with a rate of investment return equal to the average market value return over the most recent four years. The Actuarial Value of Assets is further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the Market Value of plan assets and whose upper limit is 120% of the Market Value of plan assets.

After Method Change: Effective October 1, 2017, the Actuarial Value of Assets phases in the difference between the expected return on actuarial value and actual return on market value of assets at the rate of 20% per year. The Actuarial Value of Assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the Market Value of plan assets and whose upper limit is 120% of the Market Value of plan assets. When changing to the new method effective October 1, 2017, the Actuarial Value of Assets was set equal to the Market Value of Assets retroactive to October 1, 2016.

Valuation Assumptions

The actuarial assumptions used in the valuation are shown in this Section. Both the economic and decrement assumptions were established following an Experience Study, as prepared by Foster & Foster, dated October 28, 2013. The investment return assumption was updated in year 2017. The covered group is too small to provide statistically significant experience on which to base the mortality assumption. Mortality is based on a commonly used mortality table and projection scale.

Economic Assumptions

The investment return rate assumed in the valuation is 7.25% per year, compounded annually (net after investment expenses), previously 8.00%.

The **Inflation Rate** assumed in this valuation is 2.5% per year. The Inflation Rate is defined to be the expected long-term rate of increases in the prices of goods and services.

The assumed **real rate of return** over inflation is defined to be the portion of total investment return that is more than the assumed inflation rate. Considering other economic assumptions, the 7.25% investment return rate translates to an assumed real rate of return over inflation of 4.75%.

The active member population is assumed to remain constant. For purposes of financing the unfunded liabilities, total payroll is assumed to grow at 1.17% per year (the average growth over the last ten years as determined in 2014).

The rates of salary increase used are 6.25% per year for the first 10 years of service, 5.00% thereafter. This assumption is used to project a member’s current salary to the salaries upon which benefits will be based. Part of the assumption for each age is for merit and/or seniority increase, and the other 2.5% recognizes wage inflation, including price inflation, productivity increases, and other macroeconomic forces.

Demographic Assumptions

The mortality table is the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 90% blue collar adjustment and a 10% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2016 FRS Valuation, as mandated by Florida House Bill 1309.

FRS Healthy Post-Retirement Mortality for Special Risk Class Members

Sample Attained Ages (in 2017)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.54 %	0.23 %	33.90	38.31
55	0.67	0.32	29.26	33.29
60	0.90	0.47	24.68	28.39
65	1.31	0.74	20.28	23.65
70	2.01	1.24	16.15	19.19
75	3.26	2.09	12.43	15.11
80	5.37	3.51	9.23	11.49

This assumption is used to measure the probabilities of each benefit payment being made after retirement

FRS Healthy Pre-Retirement Mortality for Special Risk Class Members

Sample Attained Ages (in 2017)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
	50	0.23 %	0.15 %	34.89
55	0.39	0.24	29.77	33.51
60	0.71	0.39	24.89	28.49
65	1.23	0.70	20.33	23.67
70	2.01	1.24	16.15	19.19
75	3.26	2.09	12.43	15.11
80	5.37	3.51	9.23	11.49

This assumption is used to measure the probabilities of active members dying prior to retirement (75% of pre-retirement deaths are assumed to be service-connected).

For disabled retirees, the mortality table used was 60% of the RP-2000 for Disabled Annuitants with ages set back 4 years for males and set forward 2 years for females, and 40% of the RP2000 Annuitant Mortality Table with a White Collar adjustment with no age setback, both with no provision being made for future mortality improvements. These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2016 FRS Valuation, as mandated by Florida House Bill 1309.

FRS Disabled Mortality for Special Risk Class Members

Sample Attained Ages (in 2017)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
	50	1.67 %	0.91 %	23.74
55	2.03	1.26	20.77	23.37
60	2.47	1.67	17.91	19.90
65	3.07	2.24	15.15	16.62
70	3.90	3.18	12.52	13.58
75	5.30	4.60	10.02	10.86
80	7.59	6.66	7.80	8.48

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Number of Years Eligible for Normal Retirement	Probability of Normal Retirement
0	25%
1	10%
2	10%
3	25%
4	25%
5	100%

No early retirement rates were assumed.

Rates of separation from active membership were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	% of Active Members Separating Within Next Year
20	8.0 %
25	7.0
30	6.0
35	3.0
40+	0.0

Rates of disability among active members (75% of disabilities are assumed to be service-connected).

Sample Ages	% Becoming Disabled Within Next Year
20	0.07 %
25	0.08
30	0.09
35	0.12
40	0.15
45	0.26
50	0.50
55	0.78

Miscellaneous and Technical Assumptions

<i>Administrative & Investment Expenses</i>	The investment return assumption is intended to be the return net of investment expenses. Annual administrative expenses are assumed to be equal to the prior year's expenses. Assumed administrative expenses are added to the Normal Cost.
<i>Benefit Service</i>	Service calculated based on completed months is used to determine the amount of benefit payable.
<i>Cost of Living Adjustment</i>	The cost of living adjustment for members who receive future normal retirement benefits is 1.0% starting on the 25 th anniversary of the retirees' hire date. Additional increases are available when the revenue under Chapter 175 exceeds \$1,206,994. Effective October 4, 2016, the adjustment will begin one year after separating from employment.
<i>Decrement Operation</i>	Disability and mortality decrements operate during retirement eligibility.
<i>Decrement Timing</i>	Decrements of all types are assumed to occur at the beginning of the year.
<i>Eligibility Testing</i>	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<i>Forfeitures</i>	For vested separations from service, it is assumed that 0% of members separating will withdraw their contributions and forfeit an employer financed benefit. It was further assumed that the liability at termination is the greater of the vested deferred benefit (if any) or the member's accumulated contributions.
<i>Incidence of Contributions</i>	Employer contributions are assumed to be made at the end of each biweekly pay period. Member contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
<i>Marriage Assumption</i>	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.

Normal Form of Benefit

For married participants, a monthly income payable for life of the member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. For members who were not eligible for normal retirement on October 4, 2016, the normal form for the benefit based on service after October 4, 2016 is a 10-Year Certain and Life annuity.

Pay Increase Timing

Beginning of fiscal year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.

Service Credit Accruals

It is assumed that members accrue one year of service credit per year.

GLOSSARY

<i>Actuarial Accrued Liability (AAL)</i>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<i>Actuarial Assumptions</i>	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
<i>Actuarial Cost Method</i>	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.
<i>Actuarial Equivalent</i>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<i>Actuarial Present Value (APV)</i>	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
<i>Actuarial Present Value of Future Benefits (APVFB)</i>	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<i>Actuarial Valuation</i>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67, such as the Funded Ratio and the Actuarially Determined Contribution (ADC).
<i>Actuarial Value of Assets</i>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution (ADC).

<i>Amortization Method</i>	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
<i>Amortization Payment</i>	That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<i>Amortization Period</i>	The period used in calculating the Amortization Payment.
<i>Actuarially Determined Contribution (ADC)</i>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB No. 67. The ADC consists of the Employer Normal Cost and Amortization Payment.
<i>Closed Amortization Period</i>	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
<i>Employer Normal Cost</i>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<i>Equivalent Single Amortization Period</i>	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
<i>Experience Gain/Loss</i>	A measure of the difference between the normal cost rate from last year and the normal cost rate from this year.
<i>Funded Ratio</i>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
<i>GASB</i>	Governmental Accounting Standards Board.
<i>GASB No. 67 and GASB No. 68</i>	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.

<i>Normal Cost</i>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
<i>Open Amortization Period</i>	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<i>Valuation Date</i>	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.

SECTION C

PENSION FUND INFORMATION

Statement of Plan Assets at Market Value

Item	September 30 2017
A. Cash and Cash Equivalents (Operating Cash)	\$ 4,277
B. Receivables	
1. Member Contributions	\$ 32,337
2. Interest and Dividends	252,745
3. Due from Broker	205,074
4. Prepaid Expenses and Other	<u>3,553</u>
5. Total Receivables	\$ 493,709
C. Investments	
1. Short Term Investments	\$ 2,236,985
2. Domestic Equities	43,384,176
3. International Equities	17,101,478
4. Domestic Fixed Income	16,401,634
5. International Fixed Income	3,732,090
6. Real Estate	8,344,962
7. Other	<u>6,298,193</u>
8. Total Investments	\$ 97,499,518
D. Liabilities	
1. Prepaid City Contribution	\$ (1,523,856)
2. Accounts Payable	(57,812)
3. Due to Broker	<u>(103,743)</u>
4. Total Liabilities	\$ (1,685,411)
E. Total Market Value of Assets Available for Benefits	\$ 96,312,093
F. Allocation of Investments	
1. Short Term Investments	2.3%
2. Domestic Equities	44.5%
3. International Equities	17.5%
4. Domestic Fixed Income	16.8%
5. International Fixed Income	3.8%
6. Real Estate	8.6%
7. Other	<u>6.5%</u>
8. Total Investments	100.0%

Note: The asset amounts do not include DROP account balances.

Reconciliation of Plan Assets

Item	September 30 2017
A. Market Value of Assets at Beginning of Year	\$ 88,287,564
B. Revenues and Expenditures	
1. Contributions	
a. Member Contributions	\$ 903,846
b. Employer Contributions	4,197,643
c. State Contributions	1,134,704
d. Total	\$ 6,236,193
2. Investment Income	
a. Interest, Dividends, and Other Income	\$ 2,337,178
c. Net Realized/Unrealized Gains/(Losses)*	8,138,535
d. Investment Expenses	(531,410)
e. Net Investment Income	\$ 9,944,303
3. Benefits and Refunds	
a. Regular Monthly Benefits	\$ (8,002,925)
b. Refunds	(6,673)
c. Lump Sum Benefits Paid	-
d. Total	\$ (8,009,598)
4. Administrative and Miscellaneous Expenses	\$ (146,369)
C. Market Value of Assets at End of Year	\$ 96,312,093

* The breakdown between realized and unrealized gain/losses was not provided.

Note: The asset amounts do not include DROP account balances.

Reconciliation of DROP Accounts

Year Ended 9/30	Balance at Beginning of Year	Credits	Interest	Distributions	Balance at End of Year
2017	\$10,488,353	\$1,541,096	\$741,658	(\$1,680,260)	\$11,090,847

ACTUARIAL VALUE OF ASSETS – BEFORE METHOD CHANGE

Actuarial Assets for funding purposes are developed by increasing the Actuarial Assets used in the most recent actuarial valuation of the Fund by the average annual market value rate of return (net of investment related expenses) for the past four years. Details of the derivation are set forth as follows:

	Plan Year End		Rate of Return*
	9/30/2014		10.02 %
	9/30/2015		(1.23)
	9/30/2016		8.86
	9/30/2017		11.39
	Annualized Rate of Return for Prior 4 Years		7.14 %
(A)	Actuarial Assets Last Year	\$	89,529,663
	Cash Flow During Year		(1,919,774)
(I)	Net Investment Income Realized = (A + 1/2 Cash Flow) x Annualized Rate of Return		6,323,882
(B)	Derived Assets This Year = A + Cash Flow + I		93,933,771
	Final Actuarial Value **		93,933,771
	Final Actuarial Value Rate of Return		7.14 %
	Expected Investment Income		7,085,582
	Gain (Loss) Due to Investments		(761,700)

* Market Value Basis, net of investment related expenses.

** Actuarial Value must be within 20% of Market Value.

Note: The asset amounts do not include DROP account balances.

ACTUARIAL VALUE OF ASSETS -- AFTER METHOD CHANGE

Valuation Date – September 30	2017	2018	2019	2020	2021
A. Actuarial Value of Assets Beginning of Year	\$ 88,287,564				
B. Market Value End of Year	96,312,093				
C. Market Value Beginning of Year	88,287,564				
D. Non-Investment/Administrative Net Cash Flow	(1,919,774)				
E. Investment Income					
E1. Actual Market Total: B-C-D	9,944,303				
E2. Assumed Rate of Return	8.00%	7.25%	7.25%	7.25%	7.25%
E3. Assumed Amount of Return	6,986,214				
E4. Amount Subject to Phase-In: E1-E3	2,958,089				
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.2 x E4	591,618				
F2. First Prior Year	-	591,618			
F3. Second Prior Year	-	-	591,618		
F4. Third Prior Year	-	-	-	591,618	
F5. Fourth Prior Year	-	-	-	-	591,618
F6. Total Phase-Ins	591,618	591,618	591,618	591,618	591,618
G. Actuarial Value of Assets End of Year					
G1. Preliminary Actuarial Value of Assets End of Year: A+D+E3+F6	93,945,622				
G2. Upper Corridor Limit: 120%*B	115,574,512				
G3. Lower Corridor Limit: 80%*B	77,049,674				
G4. Actuarial Value of Assets End of Year	93,945,622				
H. Difference between Market & Actuarial Value of Assets	2,366,471				
I. Actuarial Rate of Return	8.7%				
J. Market Value Rate of Return	11.4%				
K. Ratio of Actuarial Value of Assets to Market Value	97.5%				

Year Ending September 30th	Investment Rate of Return*	
	Market Value	Actuarial Value
2014	10.0 %	9.4 %
2015	(1.2)	8.8
2016	8.9	7.1
2017	11.4	7.1 **
Average Returns:		
All Years	7.1 %	8.1 %

* Prior to 9/30/2017, the investment return was based on the combined Police and Firefighter Retirement System.

** Before reflecting fresh start of assets as of 10/1/2016 and new asset smoothing method.

The above rates are based on the retirement system's financial information reported to the actuary. They may differ from figures that the investment consultant reports, in part because of differences in the handling of administrative and investment expenses, and in part because of differences in the handling of cash flows.

SECTION D

FINANCIAL ACCOUNTING INFORMATION

FASB NO. 35 INFORMATION

A. Valuation Date	October 1, 2017	October 1, 2016
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 99,953,331	\$ 90,482,741
b. Terminated Vested Members	206,930	151,994
c. Other Members	30,315,019	19,879,240
d. Total	<u>130,475,280</u>	<u>110,513,975</u>
2. Non-Vested Benefits	741,781	476,114
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	131,217,061	110,990,089
4. Accumulated Contributions of Active Members	5,617,749	5,121,534
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	110,990,089	102,581,384
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendment	0	0
b. Change in Actuarial Assumptions	10,502,640	4,015,043
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	17,733,930	11,277,962
d. Benefits Paid	<u>(8,009,598)</u>	<u>(6,884,300)</u>
e. Net Increase	20,226,972	8,408,705
3. Total Value at End of Period	131,217,061	110,990,089
D. Market Value of Assets	96,312,093	88,287,564
E. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods		

**SCHEDULE OF CHANGES IN THE EMPLOYER'S
NET PENSION LIABILITY AND RELATED RATIOS
GASB Statement No. 67**

Fiscal year ending September 30,	2017
Total Pension Liability	
Service Cost	\$ 2,278,992
Interest	11,308,126
Benefit Changes	-
Difference between actual & expected experience	4,638,688
Assumption Changes	-
Benefit Payments	(8,142,089)
Refunds	(6,673)
Net Change in Total Pension Liability	10,077,044
Total Pension Liability - Beginning	143,146,963
Total Pension Liability - Ending (a)	\$ 153,224,007
Plan Fiduciary Net Position	
Contributions - Employer	\$ 5,721,499
Contributions - Employer (from State)	1,134,704
Contributions - Non-Employer Contributing Entity	-
Contributions - Member	903,846
Net Investment Income	10,685,983
Benefit Payments	(8,142,089)
Refunds	(6,673)
Administrative Expense	(146,391)
Other	-
Net Change in Plan Fiduciary Net Position	10,150,879
Plan Fiduciary Net Position - Beginning	98,775,917
Plan Fiduciary Net Position - Ending (b)	\$ 108,926,796
Net Pension Liability - Ending (a) - (b)	44,297,211
Plan Fiduciary Net Position as a Percentage	
of Total Pension Liability	71.09 %
Covered Payroll	\$ 8,954,177
Net Pension Liability as a Percentage	
of Covered Payroll	494.71 %

SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY
GASB Statement No. 67

FY Ending September 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2017	\$ 153,224,007	\$ 108,926,796	\$ 44,297,211	71.09%	\$ 8,954,177	494.71%

NOTES TO SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY
GASB Statement No. 67

Valuation Date: October 1, 2016
Measurement Date: September 30, 2017

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.50%
Salary Increases	5.00% to 6.25% depending on service
Investment Rate of Return	8.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 90% blue collar adjustment and a 10% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2015 FRS Valuation, as mandated by Florida House Bill 1309.

Other Information:

Notes See Discussion of Valuation Results in the October 1, 2016 Actuarial Valuation Report.

SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

<u>FY Ending September 30,</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2017	\$ 5,332,347	\$ 6,856,203	\$ (1,523,856)	\$ 8,954,177	76.57%

NOTES TO SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

Valuation Date: October 1, 2015
Notes Actuarially determined contributions are calculated as of October 1, which is two years prior to the end of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Pay, Closed
Remaining Amortization Period	20 years
Asset Valuation Method	Actuarial Value of Assets in the most recent valuation is increased by the average annual market value rate of return for the past four years.
Inflation	2.50%
Salary Increases	5.0% to 6.25% based on service
Investment Rate of Return	8.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Combined Healthy Participant Mortality Table for males and females with no projection of mortality improvement.

Other Information:

Notes See Discussion of Valuation Results from the October 1, 2015 Actuarial Valuation Report.

**SINGLE DISCOUNT RATE
GASB Statement No. 67**

A single discount rate of 8.00% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 8.00%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between the total actuarially determined contribution rates and the member rate. Based on these 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 (8.00%) was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan’s net pension liability, calculated using a single discount rate of 8.00%, as well as what the plan’s net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher.

Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption

1% Decrease	Current Single Discount Rate Assumption	1% Increase
7.00%	8.00%	9.00%
\$61,118,004	\$44,297,211	\$30,441,692

SECTION E

MISCELLANEOUS INFORMATION

RECONCILIATION OF MEMBERSHIP DATA		
	From 10/1/16 To 10/1/17	From 10/1/15 To 10/1/16
A. Active Members		
1. Number Included in Last Valuation	112	110
2. New Members Included in Current Valuation	25	16
3. Non-Vested Employment Terminations	(2)	(3)
4. Vested Employment Terminations	0	0
5. DROP Retirement	(2)	(9)
6. Service Retirements	0	(2)
7. Disability Retirements	0	0
8. Deaths	0	0
9. Other - Transfer/Rehire	0	0
10. Number Included in This Valuation	<u>133</u>	<u>112</u>
B. Terminated Vested Members		
1. Number Included in Last Valuation	0	0
2. Additions from Active Members	0	0
3. Lump Sum Payments/Refund of Contributions	0	0
4. Payments Commenced	0	0
5. Deaths	0	0
6. Other - Rehire	0	0
7. Number Included in This Valuation	<u>0</u>	<u>0</u>
C. DROP Plan Members		
1. Number Included in Last Valuation	24	26
2. Addition from Active Members	2	9
3. Retirements	(10)	(11)
4. Deaths Resulting in No Further Payments	0	0
5. Other	0	0
6. Number Included in This Valuation	<u>16</u>	<u>24</u>
D. Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	103	90
2. Additions from Active Members	0	2
3. Additions from DROP	10	11
4. Additions from Terminated Vested Members	0	0
5. Deaths Resulting in No Further Payments	(1)	0
6. Deaths Resulting in New Survivor Benefits	0	0
7. End of Certain Period - No Further Payments	0	0
8. Other	0	0
9. Number Included in This Valuation	<u>112</u>	<u>103</u>

ACTIVE MEMBERS AS OF OCTOBER 1, 2017

Age Group	Years of Service to Valuation Date										Totals
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25 & Up	
20-24 NO	6	1	-	1	-	-	-	-	-	-	8
TOT PAY	253,842	53,055	-	56,749	-	-	-	-	-	-	363,646
AVG PAY	42,307	53,055	-	56,749	-	-	-	-	-	-	45,456
25-29 NO	10	8	3	2	3	1	-	-	-	-	27
TOT PAY	437,448	410,525	169,047	114,909	173,073	66,721	-	-	-	-	1,371,723
AVG PAY	43,745	51,316	56,349	57,455	57,691	66,721	-	-	-	-	50,805
30-34 NO	5	5	1	1	4	5	10	-	-	-	31
TOT PAY	233,102	263,684	57,669	57,436	232,676	327,951	806,030	-	-	-	1,978,548
AVG PAY	46,620	52,737	57,669	57,436	58,169	65,590	80,603	-	-	-	63,824
35-39 NO	-	3	1	2	1	1	13	3	-	-	24
TOT PAY	-	155,606	56,949	116,282	57,624	68,041	1,156,650	274,285	-	-	1,885,437
AVG PAY	-	51,869	56,949	58,141	57,624	68,041	88,973	91,428	-	-	78,560
40-44 NO	1	1	-	-	-	-	11	8	-	-	21
TOT PAY	42,307	54,375	-	-	-	-	965,659	726,555	-	-	1,788,896
AVG PAY	42,307	54,375	-	-	-	-	87,787	90,819	-	-	85,186
45-49 NO	-	-	-	-	-	-	3	3	5	-	11
TOT PAY	-	-	-	-	-	-	264,108	287,176	518,500	-	1,069,784
AVG PAY	-	-	-	-	-	-	88,036	95,725	103,700	-	97,253
50-54 NO	-	-	-	-	-	-	2	3	4	-	9
TOT PAY	-	-	-	-	-	-	184,046	274,128	356,939	-	815,113
AVG PAY	-	-	-	-	-	-	92,023	91,376	89,235	-	90,568
55-59 NO	-	-	-	-	-	-	-	1	1	-	2
TOT PAY	-	-	-	-	-	-	-	85,568	86,228	-	171,796
AVG PAY	-	-	-	-	-	-	-	85,568	86,228	-	85,898
60-64 NO	-	-	-	-	-	-	-	-	-	-	-
TOT PAY	-	-	-	-	-	-	-	-	-	-	-
AVG PAY	-	-	-	-	-	-	-	-	-	-	-
65 & Up NO	-	-	-	-	-	-	-	-	-	-	-
TOT PAY	-	-	-	-	-	-	-	-	-	-	-
AVG PAY	-	-	-	-	-	-	-	-	-	-	-
TOT NO	22	18	5	6	8	7	39	18	10	-	133
TOT AMT	966,699	937,245	283,665	345,376	463,373	462,713	3,376,493	1,647,712	961,667	-	9,444,943
AVG AMT	43,941	52,069	56,733	57,563	57,922	66,102	86,577	91,540	96,167	-	71,015

INACTIVE MEMBERS AS OF OCTOBER 1, 2017

Age	<u>Terminated Vested</u>		<u>Disabled</u>		<u>Retired</u>		<u>Beneficiaries</u>		<u>Grand Total</u>	
	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits
Under 20	0	-	0	-	0	-	2	7,884	2	7,884
20 - 24	0	-	0	-	0	-	0	-	0	-
25 - 29	0	-	0	-	0	-	0	-	0	-
30 - 34	0	-	0	-	0	-	1	5,337	1	5,337
35 - 39	0	-	0	-	0	-	0	-	0	-
40 - 44	0	-	0	-	0	-	1	17,081	1	17,081
45 - 49	0	-	0	-	11	827,134	0	-	11	827,134
50 - 54	0	-	0	-	26	1,861,956	0	-	26	1,861,956
55 - 59	0	-	3	110,319	25	1,730,119	0	-	28	1,840,438
60 - 64	0	-	0	-	22	1,500,797	0	-	22	1,500,797
65 - 69	0	-	1	25,040	14	891,694	1	33,296	16	950,030
70 - 74	0	-	0	-	9	369,409	3	62,807	12	432,216
75 - 79	0	-	0	-	5	177,817	1	16,472	6	194,289
80 - 84	0	-	1	27,475	0	-	0	-	1	27,475
85 - 89	0	-	0	-	1	11,153	1	12,157	2	23,310
90 - 94	0	-	0	-	0	-	0	-	0	-
95 - 99	0	-	0	-	0	-	0	-	0	-
100 & Over	0	-	0	-	0	-	0	-	0	-
Total	0	-	5	162,834	113	7,370,079	10	155,034	128	7,687,947
Average Age		N/A		64		60		54		60

SECTION F

SUMMARY OF PLAN PROVISIONS

SUMMARY OF PLAN PROVISIONS

A. Ordinances

The Plan was established under the Code of Ordinances for the City of Delray Beach, Florida, Chapter 33, and was most recently amended under Ordinance No. 17-16 passed and adopted on its second reading on October 4, 2016. The Plan is also governed by certain provisions of Chapter 175, Florida Statutes, Part VII, Chapter 112, Florida Statutes and the Internal Revenue Code.

B. Effective Date

April 22, 1974

C. Plan Year

October 1 through September 30

D. Type of Plan

Qualified, governmental defined benefit retirement plan; for GASB purposes it is a single employer plan.

E. Eligibility Requirements

All full-time firefighters

F. Credited Service

Years and completed months of full-time service with the City during which time prescribed employee contributions are made. No service is credited for any periods of employment for which the member received a refund of their contributions.

G. Compensation

Compensation is the total base wages, including state education compensation and fire career education compensation, but excluding overtime, bonuses and any other payments.

H. Final Average Compensation (FAC)

For Members hired prior to October 4, 2016:

The average of Compensation over the highest 3 years of Credited Service.

For Members hired on or after October 4, 2016:

The average of Compensation over the highest 5 years out of the last 10 years of Credited Service.

I. Normal Retirement

For Members hired prior to October 4, 2016 with 20 or more years of service as of that date:

Eligibility: A member may retire on the first day of the month coincident with or next following the earlier of:

- (1) age 55 and 10 years of Credited Service, or
- (2) 20 years of Credited Service regardless of age.

Benefit: 3.00% (or 3.50% of FAC for those electing the enhanced multiplier) for each year of Credited Service; subject to a maximum benefit equal to 87.50% of FAC.

Normal Form

of Benefit: 10 Years Certain and Life thereafter. For married participants, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse.

COLA: Cost of living increases of 1.00% apply for those retiring after October 1, 1993, commencing on the 25th anniversary of the retiree's hire date. Additional increases are available when the revenue under Chapter 175 exceeds \$1,206,994.

For Members hired prior to October 4, 2016 with less than 20 years of service as of that date:

Eligibility: A member may retire on the first day of the month coincident with or next following the earlier of:

- (1) age 55 and 10 years of Credited Service, or
- (2) 20 years of Credited Service regardless of age.

Benefit: **For those retiring with more than 20 years of service:** 3.00% of FAC (or 3.50% of FAC for those electing the enhanced multiplier) for each year of Credited Service prior to October 4, 2016. For Credited Service earned after October 4, 2016, 3.00% of FAC for each year of Credited Service after October 4, 2016. Members hired after April 9, 2013 are not eligible for the enhanced multiplier.

For those retiring with less than 20 years of service: 2.50% of FAC for each year of Credited Service prior to October 4, 2016. For Credited Service earned after October 4, 2016, 3.00% of FAC for each year of Credited Service after October 4, 2016.

The maximum annual starting benefit is \$100,000, but not less than 2.00% of average monthly earnings for each year of continuous service. The maximum benefit amount will be increased annually by 2% each October 1st beginning October 1, 2016.

Normal Form

of Benefit: 10 Years Certain and Life thereafter. For married participants, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. For the benefit based on service accrued after October 4, 2016, the normal form is a 10-Year Certain and Life annuity.

COLA: Cost of living increases of 1.00% apply for those retiring after October 1, 1993, commencing on the 25th anniversary of the retiree's hire date. Additional increases are available when the revenue under Chapter 175 exceeds \$1,206,994. For benefits accrued after October 4, 2016, the adjustment will begin one year after separating from employment.

For Members hired after October 4, 2016:

Eligibility: A member may retire on the first day of the month coincident with or next following the earlier of:

- (1) age 55 and 10 years of Credited Service, or
- (2) 25 years of Credited Service regardless of age.

Benefit: 2.75% of FAC for each year of Credited Service. The maximum annual starting benefit is \$100,000, but not less than 2.00% of average monthly earnings for each year of continuous service. The maximum benefit amount will be increased annually by 2% each October 1st beginning October 1, 2016.

Normal Form

of Benefit: 10 Years Certain and Life thereafter.

COLA: Cost of living increases of 1.00% apply for those retiring after October 1, 1993, commencing on the 25th anniversary of the retiree's hire date. Additional increases are available when the revenue under Chapter 175 exceeds \$1,206,994. For benefits accrued after October 4, 2016, the adjustment will begin one year after separating from employment.

J. Early Retirement

For Members hired prior to October 4, 2016:

Eligibility: A member may elect to retire earlier than the Normal Retirement Eligibility upon attainment of age 50 and 10 years of Credited Service.

Benefit: The Normal Retirement Benefit is reduced by 3.0% for each year by which the Early Retirement date precedes the Normal Retirement date.

Normal Form of Benefit:

10 Years Certain and Life thereafter. For married participants, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. For the benefit based on service accrued after October 4, 2016, the normal form is a 10-Year Certain and Life annuity.

COLA: Cost of living increases of 1.00% apply for those retiring after October 1, 1993, commencing on the 25th anniversary of the retiree's hire date. Additional increases are available when the revenue under Chapter 175 exceeds \$1,206,994. For benefits accrued after October 4, 2016, the adjustment will begin one year after separating from employment.

For Members hired on or after October 4, 2016:

Early retirement is not available.

K. Delayed Retirement

Same as Normal Retirement taking into account compensation earned and service credited until the date of actual retirement.

L. Service Connected Disability

Eligibility: Any member who becomes totally and permanently disabled as a result of an act occurring in the performance of service for the City is immediately eligible for a disability benefit.

Benefit: The disability benefit is equal to the accrued benefit, but not less than 60% of FAC.

Normal Form of Benefit:

Payable until death or recovery from disability or until the member reaches Early or Normal Retirement Age and elects to receive Early or Normal Retirement Benefits in lieu of disability benefits. Other options are also available.

COLA: None

M. Non-Service Connected Disability

Eligibility: Any member with at least 10 years of Credited Service who becomes totally and permanently disabled is immediately eligible for a disability benefit.

Benefit: The accrued Normal Retirement Benefit with a minimum equal to 2.00% of FAC for each year of Credited Service, with a minimum of 25% of FAC.

Normal Form of Benefit: Payable until death or recovery from disability or until the member reaches Early or Normal Retirement Age and elects to receive Early or Normal Retirement Benefits in lieu of disability benefits. Other options are also available.

COLA: None

N. Death in the Line of Duty

Eligibility: Any member whose death is determined to be the result of a service incurred injury is eligible for survivor benefits regardless of Credited Service.

Benefit: Spouse will receive 50% of FAC, plus 5% to each unmarried child under 18 (age 22 if full-time student), subject to an overall maximum of 60% of FAC.

Normal Form of Benefit: Payable for the life of spouse, or until age 18 (age 22 if full-time student) for children.

COLA: None

O. Other Pre-Retirement Death

Eligibility: All members are eligible for survivor benefits.

Benefit: \$2,500 lump sum is payable if the member has less than one year of service. A \$5,000 lump sum is payable if the member has more than one year of service but less than five.

If the member has five or more years of service, a \$5,000 lump sum is payable, plus a month benefit of 65% of the accrued benefit to the spouse (as of the date of death), subject to a minimum of 20% of FAC. In addition, 5% to each unmarried child under 18 (age 22 if full-time student). The total monthly benefit is subject to a maximum of 50% of FAC and 35% after death or remarriage of spouse.

Normal Form
of Benefit: Payable for the life of spouse, or until age 18 (age 22 if full-time student) for children.

COLA: None

P. Post Retirement Death

Benefit determined by the form of benefit elected upon retirement.

Q. Optional Forms

In lieu of electing the Normal Form of benefit, the optional forms of benefits available to all retirees are the life annuity and the 50%, 66 2/3%, 75% and 100% Joint and Survivor options with or without the pop-up feature.

R. Vested Termination

Eligibility: A member has earned a non-forfeitable right to Plan benefits after the completion of 10 years of Credited Service.

Benefit: The benefit is the member's accrued Normal Retirement Benefit. Benefit begins on the date that would have been the member's Normal Retirement date based on Credited Service at termination.

Normal Form
of Benefit: 10 Years Certain and Life thereafter. For married participants, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. For the benefit based on service accrued after October 4, 2016, the normal form is a 10-Year Certain and Life annuity.

COLA: Cost of living increases of 1.00% apply for those retiring after October 1, 1993, commencing on the 25th anniversary of the retiree's hire date. Additional increases are available when the revenue under Chapter 175 exceeds \$1,206,994. For benefits accrued after October 4, 2016, the adjustment will begin one year after separating from employment.

S. Refunds

Eligibility: All members terminating employment with less than 10 years of Credited Service are eligible.

Benefit: Refund of the member's contributions without interest.

T. Member Contributions

9.00% of Compensation until the member has earned the maximum normal retirement benefit.

U. State Contributions

Chapter 175 Premium Tax Refunds.

V. Employer Contributions

Any additional amount determined by the actuary needed to fund the plan properly according to State laws.

W. Cost of Living Increases

Cost of living increases of 1.00% apply for those retiring after October 1, 1993, commencing on the 25th anniversary of the retiree's hire date. Additional increases are available when the revenue under Chapter 175 exceeds \$1,206,994. For benefits accrued after October 4, 2016, the adjustment will begin one year after separating from employment.

X. Deferred Retirement Option Plan

Eligibility: Plan members who have met the eligibility requirements for Normal Retirement.

Benefit: The member's Credited Service and FAC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and FAC.

**Maximum
DROP Period:** 60 months

**Interest
Credited:** For members who enter the DROP, the member's DROP account is credited at the net rate of return on retirement fund assets during the period the employee participates in the DROP.

**Normal Form
of Benefit:** Lump Sum, Direct Rollover, or Partial Lump Sum with a Direct Rollover of remaining balance.

Y. Other Ancillary Benefits

There are no ancillary retirement type benefits not required by statutes but which might be deemed a City of Delray Beach Firefighters' Retirement System liability if continued beyond the availability of funding by the current funding source.

Z. Changes from Previous Valuation

There were no changes from the previous valuation.