

West Palm Beach Police Pension Fund

ANNUAL ACTUARIAL VALUATION AS OF SEPTEMBER 30, 2017



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REPORT OF SEPTEMBER 30, 2017 ACTUARIAL VALUATION

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April 12, 2018

The Board of Trustees
West Palm Beach Police Pension Fund
West Palm Beach, Florida

**Re: West Palm Beach Police Pension Fund
Actuarial Valuation as of September 30, 2017**

The results of the September 30, 2017 Annual Actuarial Valuation of the West Palm Beach Police Pension Fund are presented in this report.

The computed contribution rate shown on page A-2 may be considered as a minimum contribution rate that complies with the Board's funding policy. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the System in excess of those presented in this report be considered.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section C of this report. This report includes risk metrics in Section A but does not include a robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the Plan's financial condition.

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 purposes of the valuation are 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 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 findings in this report are based on data or other information through September 30, 2017. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such measurements.

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 valuation was based upon information furnished by the Plan Administrator concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal 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.

In addition, this report was prepared using certain assumptions prescribed by the Board and the Florida Statutes as described in Section C of this report. The investment return assumption is prescribed by the Board and the assumed mortality rates are 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 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. In my 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 S. Amrose, EA, MAAA
Enrolled Actuary No. 17-6599

By 

Trisha Amrose, EA, MAAA
Enrolled Actuary No. 17-8010

SECTION A

**VALUATION RESULTS, COMMENTS, CONCLUSION,
RECOMMENDATIONS, ACTUARIAL EXPERIENCE AND ACCRUED
LIABILITIES**

FUNDING OBJECTIVE

The funding objective for the defined benefit provisions of the Pension Fund is to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year to year and will not have to be increased for future generations of citizens in the absence of benefit changes. This objective is stated in the Pension Fund special act and meets the requirements of Part VII, Chapter 112, Florida Statutes and Chapter 185 Florida Statutes.

CONTRIBUTION RATES

The defined benefit provisions of the Pension Fund are supported by member contributions, City contributions, Chapter 185 revenue (for fiscal years beginning October 1, 2011, October 1, 2012, and October 1, 2014), and investment income from Pension Fund assets.

The Share Accounts are supported by Chapter 185 receipts and investment income. No Share Plan allocations were made for fiscal years ending September 30, 2011, September 30, 2012, and September 30, 2014. Individual Share and DROP Accounts may accept accumulated leave paid out at termination up to the amount permitted by law.

Contributions which satisfy the funding objective are determined by the annual actuarial valuation and are sufficient to:

- (1) cover the actuarial costs allocated to the current year (normal cost) by the actuarial cost methods described in Section C; and
- (2) finance over a period of future years the actuarial costs not covered by present assets and anticipated future normal costs (unfunded actuarial accrued liability).

Contribution requirements for the plan year beginning October 1, 2018 are shown on page A-2. It is anticipated that the contribution will be paid to the Fund during the Plan and Fiscal year beginning October 1, 2018.

CONTRIBUTIONS NEEDED TO FINANCE DEFINED BENEFITS OF THE PENSION FUND

Defined Benefit Contributions for For Fiscal Year Beginning	Contributions Expressed as Percents of UndROPed Payroll(1)				Contributions Expressed as Percents of Payroll Including DROP			
	October 1, 2018				October 1, 2018			
	After Plan Change	After Assumption Change	Before Changes	October 1, 2017	After Plan Change	After Assumption Change	Before Changes	October 1, 2017
Normal Cost:								
Service pensions	19.35 %	17.72 %	17.21 %	17.18 %	16.93 %	15.50 %	15.05 %	14.77 %
Disability pensions	1.63	1.60	1.56	1.57	1.43	1.40	1.36	1.35
Survivor pensions								
Pre-retirement	0.36	0.35	0.35	0.35	0.31	0.31	0.31	0.30
Post-retirement	1.37	1.25	1.20	1.20	1.20	1.09	1.05	1.03
Termination benefits:								
Deferred service pensions	1.13	1.03	1.00	1.01	0.99	0.90	0.87	0.87
Refunds of member contributions	0.78	0.78	0.78	0.78	0.68	0.68	0.68	0.67
Total Normal Cost	24.62	22.73	22.10	22.09	21.54	19.88	19.32	18.99
Unfunded Actuarial Accrued Liability (UAAL):								
Retired members and beneficiaries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Active and vested terminated members	3.30	2.84	1.98	1.99	2.89	2.49	1.73	1.69
Total UAAL	3.30	2.84	1.98	1.99	2.89	2.49	1.73	1.69
Administrative Expenses (net of charges to Share and DROP accounts)								
	1.01	1.01	1.01	0.97	0.88	0.88	0.88	0.83
Total Calculated Contribution Requirement	28.93 %	26.58 %	25.09 %	25.05 %	25.31 %	23.25 %	21.93 %	21.51 %
Adjustments to Calculated Contribution Requirement:								
Temporary full funding credit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FS112.64(5) compliance	1.42	1.22	0.83	0.90	1.24	1.06	0.72	0.79
Total adjustments	1.42	1.22	0.83	0.90	1.24	1.06	0.72	0.79
Total Adjusted Contribution Requirement:	30.35 %	27.80 %	25.92 %	25.95 %	26.55 %	24.31 %	22.65 %	22.30 %
Member portion	11.00 %	11.00 %	11.00 %	11.00 %	9.62 %	9.62 %	9.62 %	9.46 %
Chapter 185 portion	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
City portion	19.35 % (2)	16.80 %	14.92 %	14.95 %	16.93 %	14.69 %	13.03 %	12.84 %
Expected Covered Payroll for Contribution Year	23,405,258	23,405,258	23,405,258	21,758,873	26,749,739	26,749,739	26,749,739	25,310,972
City Contribution Requirement Paid Quarterly	4,528,918	3,932,084	3,492,065	3,252,952	4,528,918	3,932,084	3,492,065	3,252,952
City Contribution Requirement Paid at Beginning of Fiscal Year	4,363,006	3,788,036	3,362,187	3,131,968	4,363,006	3,788,036	3,362,187	3,131,968

Unfunded actuarial accrued liability is financed as a level percent of member payroll. Please refer to page A-9 for a schedule of financing periods.

FS 112.64 requires City contributions to be deposited not less frequently than quarterly. Member contributions, which are in addition to City contributions, must be deposited immediately after each pay period. Chapter 185 monies must be deposited within 5 days of receipt from the State.

Procedures for determining dollar contribution amounts are shown on page A-3.

(1) Please refer to page A-3 for an explanation.

(2) This amount is reduced to 18.64% of covered UndROPed payroll if the contribution is made on October 1, 2018.

DETERMINING CITY DOLLAR CONTRIBUTIONS

For any period of time, the percent-of-payroll contribution rate needs to be converted to dollar amounts. We recommend the following procedure.

Contribute \$4,528,918. This amount is derived from the City portion of the contribution rate on page A-2. The unDROPed payroll was increased by a factor of 1.068254 ($1.045^{1.5}$) to reflect projected payroll growth to the beginning of the fiscal year during which the contribution will be made.

The above contribution amount was calculated on the basis of contributions being made in a manner which is financially equivalent to making one-quarter of the contribution at the mid-point of each calendar quarter. If contributions are made on a later schedule, interest should be added at the rate of 0.62% (.0062) for each month of delay. If 100% of the City's contribution is made on an earlier schedule, the City's contribution requirement may be reduced. For an October 1, 2018 contribution date, the City's contribution requirement is \$4,363,006.

FUNDING PROGRESS INDICATORS

There is no single all-encompassing measure of a pension fund's funding progress and current funded status.

A traditional measure has been the relationship of the funding value of assets to unfunded actuarial accrued liability -- a measure that is influenced by the choice of actuarial cost method. This relationship is shown on page A-10.

We believe a better understanding of funding progress and status can be achieved using the following measures which are less dependent on the actuarial cost method.

*Indicator (1) **Gains or losses realized in the operation of the pension fund.*** Gains and losses are expected to cancel each other over a period of years but sizable year to year fluctuations are common. Further details on the derivation of the gain (loss) are shown on page A-8.

*Indicator (2) **The ratio of valuation assets to the accrued liability.*** The ratio is expected to increase but the trend may be interrupted by actuarial losses and benefit improvements.

*Indicator (3) **The ratio of the unfunded accrued liability to member payroll.*** The ratio is expected to decrease but the trend may be interrupted by actuarial losses and benefit improvements.

FUNDING PROGRESS INDICATORS - HISTORICAL SCHEDULE
(\$ AMOUNTS IN THOUSANDS)

Valuation Date September 30	Indicator 1 Gain (Loss)	Indicator 2			Indicator 3		
		Funding Value of Assets	AAL	Funded Ratio	Unfunded AAL	Member Payroll#	Ratio to Payroll
1995 (a)	7,969	65,446	68,466	95.6 %	3,020	8,942	33.8
1996	3,801	75,829	75,233	100.8	(596)	8,813	(6.8)
1997	11,915	97,029	84,212	115.2	(12,817)	9,255	(138.5)
1998 (a)	(2,055)	106,055	95,292	111.3	(10,763)	10,974	(98.1)
1999	1,317	117,800	106,614	110.5	(11,186)	11,753	(95.2)
2000	1,307	127,732	116,825	109.3	(10,907)	12,645	(86.3)
2001	(1,194)	130,913	121,161	108.0	(9,752)	14,174	(68.8)
2002	(20,340)	121,789	132,426	92.0	10,637	15,589	68.2
2003 (a)	(6,970)	126,420	145,824	86.7	19,403	17,355	111.8
2004 (a)	(8,290)	128,623	153,354	83.9	24,731	17,834	138.7
2005	(1,394)	139,646	165,387	84.4	25,740	17,853	144.2
2006	(1,345)	154,408	182,231	84.7	27,823	18,391	151.3
2007	18,832	187,332	200,536	93.4	13,204	19,543	67.6
2008	(8,914)	191,001	209,842	91.0	18,841	21,394	88.1
2009	(11,643)	193,614	224,471	86.3	30,858	21,264	145.1
2010	(6,545)	197,179	235,148	83.9	37,969	19,830	191.5
2011 (a)	(14,464)	193,879	254,617	76.1	60,737	19,142	317.3
2012 (a)	(3,649)	206,006	272,724	75.5	66,718	16,575	402.5
2013 (a)	3,186	225,469	289,949	77.8	64,479	16,819	383.4
2014 (a)	3,621	245,070	305,376	80.3	60,306	17,461	345.4
2015 (a)	2,094	313,182	322,692	97.1	9,510	19,210	49.5
2016 (a)	(622)	335,208	342,892	97.8	7,684	20,369	37.7
2017 (b)	(567)	352,552	360,491	97.8	7,939	21,910	36.2
2017 (a1)	(567)	352,552	364,388	96.8	11,836	21,910	54.0
2017 (a2)	(567)	352,552	366,391	96.2	13,839	21,910	63.2

(a) After changes in benefit provisions and/or actuarial assumptions and/or actuarial cost methods.

(b) Before changes in benefit provisions and/or actuarial assumptions and/or actuarial cost methods.

Excludes DROP participants.

AAL represents actuarial accrued liability

COMMENTS AND CONCLUSION

COMMENT A

The investment return assumption was lowered from 7.875% to 7.75% effective for the September 30, 2017 Actuarial Valuation. The assumed rate will continued to be lowered by 0.125% in each subsequent valuation until reaching 7.50%.

This assumption change increased the Required Employer Contribution by \$440,019 or 1.88% of covered payroll.

COMMENT B

Under Chapter 2018-168 of the Florida Statutes, the Special Act was amended by increasing the benefit multiplier from 2.68% to 3.00% for Credited Service earned on or after October 1, 2017.

This plan change increased the Required Employer Contribution by \$596,834 or 2.55% of covered payroll.

COMMENT C

The activities of the Pension Fund and its members generated an experience loss of \$567,465 during the plan year ended September 30, 2017. Please refer to pages B-6, B-17, C-4, C-5, and C-6 for additional experience information.

Currently the actuarial value of assets, which is used to determine the contribution requirements and funded ratios for the Fund, is less than the market value by 2%, or \$8.7 million (see page B-6). This means that there are gains from prior periods as well as the current fiscal year that will be recognized in the 2018-2020 reports. These gains will put downward pressure on the contribution requirements and upward pressure on the funded ratios in those reports. If these gains were immediately recognized, the City contribution would decrease by 2.89% of covered payroll to 16.46% of covered payroll (\$3,852,505 if made quarterly or \$3,711,373 if made on October 1, 2018) and the funded ratio would increase from 96.2% to 98.6%.

COMMENT D

Another potential area of variability has to do with the annual payment on the unfunded accrued liability (UAL). This payment is computed as a level percent of covered payroll under the assumption that covered payroll will rise by 4.5% per year. According to the Florida Statutes, this payroll growth assumption may not exceed the average growth over the last ten years which is 1.15%. Amortizing the UAL as a level percent of payroll using a 1.15% payroll growth assumption instead of a 4.5% payroll growth assumption caused the required contribution to increase by approximately \$335,000. The covered payroll would need to increase by at least 9.5% next year so that 10-year average payroll growth does not decrease.

COMMENTS AND CONCLUSION

CONCLUSION

The remainder of the Report includes detailed actuarial valuation results, financial information, miscellaneous information and statistics, and a summary of plan provisions.

**EXPERIENCE GAIN (LOSS) FOR
YEAR ENDED SEPTEMBER 30, 2017
(DEFINED BENEFIT)**

(1) UAAL at start of year	\$ 7,683,571
(2) Normal cost for year (ER normal cost and expenses x unDROPEd pay)	2,526,924
(3) Actual City and State Contribution	3,285,065
(4) Interest accrual [(1) + 1/2 x (2) - (3)] x .07875	445,880
(5) Expected UAAL before changes (1) + (2) - (3) + (4)	7,371,310
(6) Effect of assumption/method changes	3,897,386
(7) Effect of benefit changes	2,002,454
(8) Addition to supplemental pension distribution reserve	0
(9) Expected UAAL after changes (5) + (6) + (7) + (8)	13,271,150
(10) Actual UAAL at end of year	13,838,615
(11) Gain/(Loss) (9) - (10)	<u>\$ (567,465)</u>

UAAL represents unfunded actuarial accrued liability.

SOURCES AND FINANCING OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

Source of Unfunded Act. Accrued Liab.	Initial Amount	Current Amount	Remaining Financing Period	After Changes		Before Changes		
				Amortization Payment	% of Payroll Contribution	Amortization Payment	% of Payroll Contribution	
Combined unfunded actuarial accrued liability at October 1, 2011								
9/30/2011	60,737,449	419,063	8.7062 yrs.	62,587	0.28%	62,874	0.28%	
Changes from experience deviations (20 year initial financing period)								
9/30/2012	3,649,317	986,489	15	101,798	0.45%	102,547	0.46%	
9/30/2013	(3,185,651)	(948,121)	16	(94,190)	(0.42)%	(94,919)	(0.42)%	
9/30/2014	(3,620,537)	(1,173,945)	17	(112,678)	(0.50)%	(113,595)	(0.51)%	
9/30/2015	(2,093,970)	(731,043)	18	(68,007)	(0.30)%	(68,586)	(0.31)%	
9/30/2016	621,595	585,475	19	52,936	0.24%	53,406	0.24%	
9/30/2017	567,465	567,465	20	49,990	0.22%	50,451	0.23%	
Changes from actuarial assumption revisions (30 year initial financing period)								
9/30/2012	1,753,834	740,378	25	58,935	0.26%	59,574	0.27%	
9/30/2013	1,880,736	813,049	26	63,708	0.28%	64,418	0.29%	
9/30/2014	2,022,515	897,408	27	69,301	0.31%	70,093	0.31%	
9/30/2015	2,066,046	938,625	28	71,513	0.32%	72,349	0.32%	
9/30/2016	5,032,585	4,843,932	29	364,469	1.63%	368,830	1.65%	
9/30/2017	3,897,386	3,897,386	30	289,868	1.29%	N/A	N/A	
Changes from amendments (30 year initial financing period)								
9/30/2017	2,002,454	2,002,454	30	148,933	0.66%	N/A	N/A	
		<u>\$ 13,838,615</u>		<u>\$ 1,059,163</u>	<u>4.72%</u>	<u>\$ 627,442</u>	<u>2.81%</u>	

UNFUNDED ACTUARIAL ACCRUED LIABILITY

	9/30/2017			9/30/2016
	After Plan Change	After Assumption Change	Before Changes	
A. Actuarial present value of future benefits including Share Account balances of \$48,430,228 and \$46,803,064 and DROP Account balances of \$54,956,709 and \$50,784,577	\$ 410,439,639	\$ 405,014,851	\$ 399,710,526	\$ 380,246,558
B. Actuarial present value of future normal costs	<u>44,049,102</u>	<u>40,626,768</u>	<u>39,219,829</u>	<u>37,354,792</u>
C. Actuarial accrued liability	366,390,537	364,388,083	360,490,697	342,891,766
D. Funding value of assets	<u>352,551,922</u>	<u>352,551,922</u>	<u>352,551,922</u>	<u>335,208,195</u>
E. Unfunded actuarial accrued liability	<u>\$ 13,838,615</u>	<u>\$ 11,836,161</u>	<u>\$ 7,938,775</u>	<u>\$ 7,683,571</u>

**RECOMMENDED AND ACTUAL CONTRIBUTIONS FOR DEFINED BENEFITS
HISTORICAL SCHEDULE**

Fiscal Year	Valuation Date 9/30	City Dollar Contributions		Recommended City Percent of Payroll Contribution Rates
		Recommended	Actual *	
82/83	1981	\$ 777,053	\$ 818,769	23.93 %
83/84 (a)	1982	865,930	944,636	22.86
84/85	1983	913,867	990,862	21.50
85/86 (a)	1984	961,431	1,113,735	21.52
86/87	1985	986,683	1,190,205	20.53
87/88 (a)	1986	1,210,379	1,585,161 (1)	20.74 #
88/89 (a)	1987	1,423,887	1,627,024	22.01 #
89/90	1988	1,723,519	1,937,986	23.28
90/91	1989	1,929,004	2,264,201	24.01
91/92	1990	2,127,589	1,658,885 @	24.80
92/93	1991	2,219,809	2,117,441 @	24.11
93/94	1992	2,257,412	2,235,881 @	23.42
94/95 (a)	1993	2,238,679	2,213,297 @	23.81
95/96 (a)	1994	2,446,700	2,446,256 @	25.91
96/97 (a)	1995	2,332,069	2,332,069	24.24
97/98	1996	2,230,247	1,747,540 @	23.52
98/99	1997	1,764,510	1,764,510	17.72
99/00 (a)	1998	1,462,965	1,483,807	12.39
00/01	1999	1,474,445	1,487,320	11.66
01/02	2000	1,699,292	1,699,815	12.49
02/03	2001	1,974,891	1,975,410	12.95
03/04	2002	3,498,786	3,498,068	20.86
04/05 (a)	2003	4,197,731	4,197,731	22.48
05/06 (a)	2004	3,799,257	3,799,257	19.80
06/07	2005	3,812,530	3,812,530	20.65
07/08	2006	4,056,590	4,056,590	21.49
08/09	2007	3,433,646	3,433,646	16.99
09/10	2008	4,057,571	4,057,571	17.63
10/11	2009	5,028,968	5,028,968	21.98
11/12 (a)	2010	4,796,575	4,796,576	27.15
12/13 (a)	2011	6,506,923	6,506,923	31.82
13/14 (a)	2012	8,941,538	8,941,538	50.50
14/15 (a)	2013	8,644,805	8,644,805	48.30
15/16 (a)	2014	9,726,454	9,726,454	52.14
16/17 (a)	2015	3,285,065	3,285,065	15.91
17/18 (a)	2016	3,131,968		14.39
18/19 (b)	2017	3,362,187		14.37
18/19 (a1)	2017	3,788,036		16.18
18/19 (a2)	2017	4,363,006		18.64

(b) Before changes in benefit provisions and/or actuarial assumptions and/or actuarial cost methods.

(a) After changes described in (b).

Recomputed to reflect 1988 Amendments to the Special Act.

(1) Including compliance issue City contribution receivable of \$267,441 from 87/88 fiscal year.

@ Excluding the difference between recommended and actual which was transferred from the reserve for prepaid contributions.

* The actual contributions were made throughout the fiscal year prior to October 1, 2006. Since then, the actual contributions are made at the beginning of the fiscal year, resulting in the adjustment from the corresponding recommended contributions.

NOTES TO HISTORICAL CONTRIBUTIONS SCHEDULE

9/30/1998 Valuation: Effective October 1, 1999, increase from 2.5% to 3.0% multiplier for service after March 31, 1987, increase from 6.45% to 7.0% member contributions, and increase the minimum from 7.0% to 8.25% investment return for the 13th check threshold.

9/30/2001 Valuation: First report to use a 4 year smoothed market value asset valuation method.

9/30/2002 Valuation: Removed Share Accounts from smoothed market value.

9/30/2003 Valuation: First report to include minimum 66 2/3% of pay for Duty Death in service. Investment expenses removed from Contribution requirement. Removed DROP Accounts from smoothed market value.

9/30/2004 Valuation: The member contribution rate for pensions will increase to 9% of salary effective January 1, 2005, to 10.0% of salary effective January 1, 2006, and to 11.0% of salary effective January 1, 2007. Overtime includable in Final Average Salary was prospectively limited to 400 hours per year.

9/30/2010 Valuation: The Chapter 185 revenue of \$996,459 received during calendar year 2011 will be used to offset the required contribution for the fiscal year beginning October 1, 2011.

9/30/2011 Valuation: The Chapter 185 revenue received during calendar year 2012 will be used to offset the required contribution for the fiscal year beginning October 1, 2012. The benefit multiplier for service accrued after September 30, 2011 was lowered from 3.00% to 2.68%. Effective January 1, 2013, the limit on the amount of overtime that is included in pensionable compensation is lowered from 400 hours to 300 hours. The investment return assumption was lowered from 8.25% to 8.00%, along with additional changes in actuarial assumptions as a result of the Ten Year Experience Study Report covering the period October 1, 2000 through September 30, 2010.

9/30/2012 Valuation: This valuation reflects the second year of phasing in the recognition of the mortality table change from the 1983 Group Annuity Mortality Table to the RP-2000 Combined Healthy Participant Mortality Table using Scale AA after 2000 to reflect future mortality improvements.

9/30/2013 Valuation: This valuation reflects the third year of phasing in the recognition of the mortality table change detailed above.

9/30/2014 Valuation: This valuation reflects the fourth year of phasing in the recognition of the mortality table change detailed above.

9/30/2015 Valuation: This valuation reflects the fifth and final year of phasing in the recognition of the mortality table change detailed above.

NOTES TO HISTORICAL CONTRIBUTIONS SCHEDULE

9/30/2016 Valuation: The investment return assumption was lowered from 8.00% to 7.875%. The mortality assumption was changed from the RP-2000 Combined Healthy Participant Mortality Table for males and females with mortality improvements projected to all future years after 2000 using Scale AA to the mortality assumption used by the Florida Retirement System (FRS) for Special Risk Class members in the actuarial valuation as of July 1, 2016.

9/30/2017 Valuation: The investment return assumption was lowered from 7.875% to 7.75%. The Special Act was amended by increasing the benefit multiplier from 2.68% to 3.00% for Credited Service earned on or after October 1, 2017.

ACTUARIAL BALANCE SHEET - SEPTEMBER 30, 2017

Present Resources And Expected Future Resources			
	After Plan Change	After Assumption Change	Before Changes
A. Funding Value of Plan Assets			
Funding Value of Assets	\$ 249,164,985	\$249,164,985	\$ 249,164,985
Share Accounts	48,430,228	48,430,228	48,430,228
DROP Accounts	<u>54,956,709</u>	<u>54,956,709</u>	<u>54,956,709</u>
Total Assets	352,551,922	352,551,922	352,551,922
B. Actuarial Present Value of Expected Future Employer Contributions:			
1. For Normal Costs	24,247,513	20,825,179	19,556,659
2. For UAAL	<u>13,838,615</u>	<u>11,836,161</u>	<u>7,938,775</u>
3. Total	38,086,128	32,661,340	27,495,434
C. Actuarial Present Value of Expected Future Member Contributions			
	<u>19,801,589</u>	<u>19,801,589</u>	<u>19,663,170</u>
D. Total Present and Expected Future Resources	<u>\$ 410,439,639</u>	<u>\$ 405,014,851</u>	<u>\$ 399,710,526</u>

Actuarial Present Value of Expected Future Benefit Payments and Reserves

	After Plan Change	After Assumption Change	Before Changes
A. To retirees and beneficiaries	\$ 166,710,418	\$166,710,418	\$ 164,602,841
B. To vested terminated members	2,670,196	2,670,196	2,621,024
C. To present active members:			
1. Allocated to service rendered prior to valuation date	93,622,986	91,620,532	89,879,895
2. Allocated to service likely to be rendered after valuation date	<u>44,049,102</u>	<u>40,626,768</u>	<u>39,219,829</u>
3. Total	137,672,088	132,247,300	129,099,724
D. Total actuarial present value of expected future benefit payments	307,052,702	301,627,914	296,323,589
E. Reserve for Chapter 185 Share Accounts	48,430,228	48,430,228	48,430,228
F. Reserve for Supplemental Pension Distribution	0	0	0
G. Reserve for DROP balances	54,956,709	54,956,709	54,956,709
H. Reserve for Fixed Interest	<u>0</u>	<u>0</u>	<u>0</u>
I. Total actuarial present value of expected future payments and reserves	<u>\$ 410,439,639</u>	<u>\$ 405,014,851</u>	<u>\$ 399,710,526</u>

SECTION B

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA SUBMITTED BY THE PENSION FUND

SUMMARY OF BENEFIT PROVISIONS **(SEPTEMBER 30, 2017)**

Normal Retirement:

Eligibility - 25 or more years of continuous service; or, 55 years of age with 10 or more years of service; or, 50 years of age with 20 or more years of service.

Amount of Pension - 2.5% of final average salary times credited service earned through March 31, 1987; plus 3.0% of final average salary times credited service earned after March 31, 1987 through September 30, 2011; plus 2.68% of final average salary times credited service earned after September 30, 2011 through September 30, 2017; plus 3.00% of final average salary times credited service earned after September 30, 2017, for service up to 26 years; plus 1% of final average salary times credited service in excess of 26 years.

Type of Final Average Salary - Average of salary for 3 best years. Salary excludes lump sum payments for accumulated leave and contractual overtime. Other overtime is limited to 400 hours per year effective January 1, 2005. This limit is reduced to 300 hours starting January 1, 2013.

Post-Retirement Cost-of-Living Adjustments - Each January 1 following attainment of age 65, benefits will be adjusted by 3% of the base amount providing the cost of living, as measured by the Consumer Price Index, has increased at least 3%.

Early Retirement:

Eligibility - 50 years of age with 10 or more years of service.

Amount of Pension - Computed as normal retirement reduced 3% for each year retirement precedes normal retirement age.

Deferred Retirement:

Eligibility - 10 or more years of credited service.

Amount of Pension - Computed as normal or early retirement, based upon FAS and service credit at date of termination. Payment begins upon application on or after age 50.

Duty Disability Retirement:

Eligibility - Permanent disability preventing useful and efficient service as a police officer, which was acquired as a consequence of performing the duties of a police officer.

Amount of Pension - The amount of accrued normal retirement pension subject to the applicable following provisions. To the later of age 55 or 5 years after disability, minimum benefit is 2/3 of FAS. After expiration of the minimum benefit, computed as regular retirement but with additional service credit granted to the later of age 55 or 5 years after disability.

SUMMARY OF BENEFIT PROVISIONS **(SEPTEMBER 30, 2017)**

Non-Duty Disability:

Eligibility - Requires total and permanent disability and 5 or more years of service.

Amount of Pension - If disability retirement occurs after normal retirement eligibility, the amount of pension is the accrued normal retirement pension. Otherwise, the amount of pension is computed as for normal retirement with a minimum benefit of 25% of FAS if credited service is 10 or more years; otherwise, the minimum is 20% of FAS.

Duty Death:

Eligibility - Death which is the result of performance of duty.

Amount of Pension – 2/3 of the member's highest 12 consecutive months salary or the current top step police officer pay, whichever is greater.

Non-Duty Death:

Eligibility - Death after 5 or more years of credited service.

Amount of Pension - 2/3 of pension member would have received had he retired the day before death, to the widow for life. Minimum benefit is 1/7 of FAS. If no widow, unmarried children under 18 receive equal shares of above amount.

Death After Retirement:

Amount of Pension - 2/3 of deceased retired member's annual pension to widow for life. If no widow, unmarried children under 18 receive equal shares of above amount.

If retired member is unmarried, there is no eligible child (or parent), and death occurs within 10 years of retirement, the pension is continued to the designated beneficiary for the balance of the 10 year period following retirement.

Optional forms of payment are available on an "equivalent actuarial value" basis to the 10 year certain and life form of payment.

Member Contributions: 7% of salary. Member contributions will increase to 9% of salary effective January 1, 2005, to 10% of salary effective January 1, 2006 and to 11% of salary effective January 1, 2007. Effective October 1, 2011, the member contribution rate is increased to 18%, and Chapter 185 revenue received in calendar years 2011 and 2012 is used to reduce member contributions to 11%. If the Chapter 185 revenue is not sufficient to reduce the member contributions to 11%, then the City makes up the difference. Effective October 1, 2013, the member contribution rate is increased to 20%, and Chapter 185 revenue received in calendar year 2013 will be used to reduce member contributions to 11%. If the Chapter 185 revenue is not sufficient to reduce the member contributions to 11%, then the City will make up the difference. Effective October 1, 2014, the member contribution rate is lowered back to 11%. Interest is not credited to member contributions.

SUMMARY OF BENEFIT PROVISIONS **(SEPTEMBER 30, 2017)**

Premium Tax Monies: Casualty insurance premium tax monies collected by the State and distributed pursuant to Chapter 185, Florida Statutes.

Chapter 185 Share Accounts: Effective October 1, 1988, separate accounts were established for each member of the Pension Fund. The accounts are funded by premium tax monies and are credited with net investment earnings after deduction of expenses. The accounts may also be funded by accumulated leave paid out at termination up to the amount permitted by law.

Share accounts will not receive any allocation of Chapter 185 revenue during fiscal years ending September 30, 2011 and September 30, 2012. For the fiscal year ending September 30, 2013, Chapter 185 revenue will again be allocated to the Share Plan accounts. Share accounts will not receive any allocation of Chapter 185 revenue during fiscal year ending September 30, 2014. Effective with the fiscal year ending September 30, 2015, Chapter 185 revenue will again be allocated to the Share Plan accounts.

City Contributions: Actuarially determined amounts which together with member contributions are sufficient to cover the requirements of the funding objective stated on page A-1.

Deferred Retirement Option Plan (DROP):

Eligibility - Any member who is eligible to receive a normal retirement pension may participate in the DROP. Participation shall cease after the earlier of 5 years in the DROP or 30 years of service.

Amount of Pension - Calculated as if the member had elected to retire on the date of election to participate in the DROP, using credited service and final average salary at the date of election. The payments will be accumulated in an account and be credited with investment earnings. Disbursements from the account are deferred until termination of employment.

Member Contributions - Cease following election to participate in the DROP. Accumulated leave paid out at termination may be contributed up to the amount permitted by law.

Post-Retirement Supplemental Pension Distribution: The Board of Trustees may make a supplemental distribution each April 1 from net accumulated experience from all sources, if any, to the extent of investment earnings in excess of 7% (to a 2% excess) for hires before April 1, 1987 and in excess of 8% (to a 1% excess) for hires after March 31, 1987 plus one-half of investment earnings in excess of 9%, if any, for all hires, applied to the actuarial present value of pensions being paid to retired members and beneficiaries.

ACCOUNTING INFORMATION SUBMITTED FOR VALUATION

REVENUES AND EXPENDITURES

	Year Ended 9/30/17	Year Ended 9/30/16
REVENUES:		
a. Member contributions	\$ 2,384,738	\$ 2,266,435
b. Buyback contributions	42,330	70,200
c. City contributions	3,285,065	9,726,454
d. Proceeds from Pension Obligation Bond	0	50,000,000
e. Chapter 185 revenue	1,333,046	1,259,981
f. Prepaid contribution	0	0
g. Transfers to Plan for Share and DROP accounts	904,892	423,031
h. Investment income		
1. Interest, dividends and other income	6,606,650	4,420,878
2. Net appreciation	39,059,250	17,797,270
3. Investment expenses	<u>(1,171,466)</u>	<u>(988,623)</u>
4. Net investment income	44,494,434	21,229,525
i. Total revenues	\$ 52,444,505	\$ 84,975,626
EXPENDITURES:		
a. Refunds of member contributions	25,530	93,453
b. Benefits paid	10,883,644	10,274,404
c. Lump-Sum share account distributions	3,647,914	2,734,658
d. DROP account distributions	3,533,092	3,215,604
e. Supplemental pension distribution	0	0
f. Administrative expenses	<u>308,777</u>	<u>288,017</u>
g. Total expenditures	18,398,957	16,606,136
RESERVE INCREASE:		
Total revenues minus total expenditures	\$ 34,045,548	\$ 68,369,490

ACCOUNTING INFORMATION SUBMITTED FOR VALUATION

SUMMARY OF ASSETS

	Market Value	
	9/30/17	9/30/16
Cash & cash equivalents	\$ 4,413,325	\$ 7,658,778
Prepaid contribution	0	0
Payables	(235,300)	(1,087,204)
Receivables	19,349	1,229,778
Prepaid expenses	1,205,069	1,121,830
Bonds - government/domestic	48,293,507	61,317,072
- corporate	6,459,120	15,358,471
Stocks - domestic	68,552,246	108,522,655
- international	0	0
Mutual Funds - domestic	133,305,650	58,513,947
- international	52,676,452	43,560,753
Real Estate	45,167,273	29,455,981
Mortgage backed securities	0	0
Participant Loans	1,150,575	1,250,814
Accrued investment income	241,992	300,835
Total Assets	\$ 361,249,258	\$ 327,203,710

DERIVATION OF FUNDING VALUE OF ASSETS

	2014	2015	2016	2017
<u>Beginning of Year Values</u>				
(1) Market Value	\$238,502,690	\$258,066,881	\$258,834,220	\$327,203,710
Market Value net of Share/DROP Accounts	157,923,884	171,949,069	167,290,456	229,616,069
(2) Funding Value	225,469,455	245,070,469	266,026,170	335,208,195
Funding Value net of Share/DROP Accounts	144,890,649	158,952,657	174,482,406	237,620,554
<u>End of Year</u>				
(3) Market Value net of Share/DROP Accounts	171,949,069	167,290,456	229,616,069	257,862,321
(4) Net Addition to Assets				
Excluding Investment Income, Chapter 185 and DROP Cash Flows	(1,669,858)	(1,021,114)	48,610,209	(7,978,033)
(5) Total Net Investment Income = (3)-(1)-(4)	15,695,043	(3,637,499)	13,715,404	36,224,285
(6) Projected Net Rate of Return	8.00%	8.00%	8.00%	7.875%
(7) Projected Investment Income=(6) x [(2)+0.5 x (4)]	11,524,458	12,675,368	14,903,001 *	18,398,484
(8) Investment Income in Excess of Projected Excess Investment Income Recognized	4,170,585	(16,312,867)	(1,187,597)	17,825,801
(9a) From Current Year = .25 x (8)	1,042,646	(4,078,217)	(296,899)	4,456,450
(9b) From One Year Prior	2,957,408	1,042,646	(4,078,217)	(296,899)
(9c) From Two Years Prior	3,953,658	2,957,408	1,042,646	(4,078,217)
(9d) From Three Years Prior	(3,746,304)	3,953,658	2,957,408	1,042,646
(9e) Total Cap. Val. Change Recogn. = (9a)+(9b)+(9c)+(9d)	4,207,408	3,875,495	(375,062)	1,123,980
(10) Increase(Decr.) in Funding Value = (4) + (7) + (9e)	14,062,008	15,529,749	63,138,148	11,544,431
<u>End of Year</u>				
(11) Market Value	\$258,066,881	\$258,834,220	\$327,203,710	\$361,249,258
Market Value net of Share/DROP Accounts	171,949,069	167,290,456	229,616,069	257,862,321
(12) Funding Value	245,070,469	266,026,170 **	335,208,195	352,551,922
Funding Value net of Share/DROP Accounts	158,952,657	174,482,406	237,620,554	249,164,985
(13) Rate of Return on Net Funding Value	10.9%	10.4%	7.8%	8.4%
(14) Rate of Return on Net Market Value	10.0%	(2.1)%	7.7%	16.1%
(15) Ratio of Funding Value to Market Value	95%	103%	102%	98%

* Reflects actual deposit timing for \$50,000,000 proceeds from the pension obligation bond.

** The Actuarial Value of Assets as of September 30, 2015 including the \$50 million proceeds of the pension obligation bond discounted from July 5, 2016 is \$313,182,055.

RECONCILIATION OF THE RESERVE ACCOUNT BALANCES

	Share	DROP	Total
A. Beginning of Year Reserve	\$ 46,803,064	\$50,784,577	\$97,587,641
B. Disbursements	(3,909,768)	(3,823,178)	(7,732,946)
C. Net Additions/Adjustments	1,450,424	3,811,669	5,262,093
D. Investment Earnings	4,086,508	4,183,641	8,270,149
E. End of Year Reserve (A + B + C + D)	\$48,430,228	\$54,956,709	\$103,386,937

**DETERMINATION OF FIXED INTEREST CREDITING RATE
FOR DROP AND SHARE PLAN ACCOUNTS**

Under the Special Act, the fixed rate on DROP accounts for members who enter the DROP on or after October 1, 2012 and on Share Plan accounts for members who are vested is 8.00% per year. However, if the amount paid in investment earnings creates a deficiency as compared to the gross earnings of the fund from fiscal year ending September 30, 2012, then the rate will be reduced to 4% effective the following October 1 until the deficiency is satisfied. The DROP accounts for members who are in the DROP as of October 1, 2012 continue to earn 8.25% per year.

(a)	Gross rate of market investment return for fiscal year ending*	
	9/30/12	18.43%
	9/30/13	13.74%
	9/30/14	9.53%
	9/30/15	0.69%
	9/30/16	8.77%
	9/30/17	14.01%
(b)	Cumulative return from fiscal year ending 9/30/12 through 9/30/17	84.2%
(c)	Return needed from fiscal year ending 9/30/12 to maintain 8% fixed interest crediting rate	58.7%
(d)	Shortfall of actual return since fiscal year ending 9/30/12 to return based on 8% per year: (c) - (b), not less than 0%	0.0%
(e)	Actual fixed interest crediting rate for DROP/Share Plan accounts for 10/1/17 through 9/30/18	8.0% **
(f)	Minimum gross rate of market investment return 10/1/17 through 9/30/18 to provide 8.00% fixed interest crediting rate for 10/1/18 through 9/30/19	(7.0)%

* As determined by the Investment Consultant.

** Members in the DROP as of October 1, 2012 will continue to earn 8.25% per year.

**CALCULATION OF SUPPLEMENTAL PENSION
DISTRIBUTION AMOUNT - SEC. 17(12) AS OF SEPTEMBER 30, 2017**

Factor (i):	Actuarial present value of future payments to pension recipients on 9/30/17 using valuation investment return assumption	\$105,341,339 ##
Factor (ii):	(a) Rate of market investment return 10/1/16 through 9/30/17 calculated by actuary	14.2% *
	(b) Lesser of (a) and 8.00%	8.00%
Preliminary Distribution Amount (prior to experience gain limitation):		
	Factor (i) x [Factor (ii) - 7.0%]	1,053,413
Amount Available for Distribution:		
	(a) Unamortized Balances of Accumulated net experience gains (page B-11)	(42,686,410)
	(b) Unamortized Balances of Accumulated distributions @ (page B-11)	4,431,961
	(c) Accumulated net gains less accumulated distributions [(a) - (b)] < 0	0
	(d) Amount available for distribution#	0

@ This amount does **not** include the supplemental pension distribution, if any, for the current year.

The lesser of the preliminary distribution amount and accumulated net gains less accumulated distributions, not less than \$0.

Excludes members hired after March 31, 1987.

* Return of the total pension fund before investment expenses.

**CALCULATION OF SUPPLEMENTAL PENSION
DISTRIBUTION AMOUNT - SEC. 17(12) AS OF SEPTEMBER 30, 2017**

Factor (i):	Actuarial present value of future payments to pension recipients on 9/30/17 using 7.0% interest set by Special Act	\$180,445,345 ##
Factor (ii):	(a) Rate of market investment return 10/1/16 through 9/30/17 calculated by actuary	14.2% *
	(b) Excess of (a) over 9%, if positive, otherwise zero.	5.2%
	(c) 1/2 of (b)	2.60%
Factor (iii):	(a) Net rate of market investment return 10/1/16 through 9/30/17 calculated by actuary	14.2%
	(b) Lesser of (a) and 9%	9.0%
Preliminary Distribution Amount (prior to experience gain limitation):		
	Factor (i) x [Factor (ii) + ((Factor (iii) - 8.00%)]	6,496,032
Amount Available for Distribution:		
	(a) Unamortized Balances of Accumulated net experience gains (page B-11)	(42,686,410)
	(b) Unamortized Balances of Accumulated distributions @ (page B-11)	4,431,961
	(c) Accumulated net gains less accumulated distributions [(a) - (b)] < 0	0
	(d) Amount available for distribution#	0

@This amount does **not** include the supplemental pension distribution, if any, for the current year.

The lesser of the preliminary distribution amount and accumulated net gains less accumulated distributions, including any supplemental pension distributions for the current year determined on page B-6 of this report.

Includes members hired after March 31, 1987.

* Return of the total pension fund before investment expenses.

**SUPPLEMENTAL PENSION DISTRIBUTION
ACCUMULATED GAIN (LOSS) LIMITATION**

Year Ended September 30	Experience Gain/(Loss)*		Addition to Supplemental Pension Distribution Reserve		Net Unamort. Balance
	For Year	Unamort. Balance	For Year	Unamort. Balance	
1992	\$ 2,690,102	\$ 2,690,102	\$ 237,777	\$ 237,777	\$ 2,452,325
1993	2,897,258	5,658,917	374,365	614,282	5,044,635
1994	(2,192,085)	3,597,634	0	617,542	2,980,092
1995	7,969,009	11,641,571	508,437	1,127,456	10,514,115
1996	3,801,172	15,703,104	625,973	1,756,172	13,946,932
1997	11,915,022	27,958,649	671,448	2,430,738	25,527,911
1998	(2,054,604)	26,513,470	795,633	3,227,980	23,285,490
1999	1,317,262	27,209,332	1,210,681	4,453,115	23,303,374
2000	1,306,848	28,753,737	1,005,600	5,475,473	23,278,264
2001	(1,194,305)	27,729,286	0	5,487,451	22,241,835
2002	(20,340,405)	7,449,284	0	5,478,365	1,970,919
2003	(6,969,923)	204,562	0	5,445,433	(5,240,871)
2004	(8,289,567)	(8,507,096)	0	5,385,592	(13,892,688)
2005	(1,393,874)	(10,472,274)	0	5,295,375	(15,767,649)
2006	(1,344,886)	(12,442,674)	0	5,171,008	(17,613,682)
2007	18,831,566	6,588,529	1,580,142	6,588,529	0
2008	(8,914,445)	(2,080,609)	0	6,400,898	(8,481,507)
2009	(11,642,886)	(15,238,314)	0	6,161,238	(21,399,552)
2010	(6,544,967)	(22,737,844)	0	5,863,350	(28,601,194)
2011	(14,463,674)	(38,291,884)	0	5,500,590	(43,792,474)
2012	(3,649,317)	(42,618,248)	0	5,394,429	(48,012,677)
2013	3,185,651	(40,099,567)	0	5,262,805	(45,362,372)
2014	3,620,537	(37,263,884)	0	5,103,868	(42,367,752)
2015	2,093,970	(36,107,628)	0	4,914,514	(41,022,142)
2016	(621,595)	(40,971,323)	0	4,691,395	(45,662,718)
2017	(567,465)	(42,686,410)	0	4,431,961 @	(47,118,371)
Projected					(38,421,035)

* All sources.

@ This amount is composed of \$4,431,961 for unamortized balances of prior supplemental pension distributions and \$0 for the current year supplemental pension distribution.

**RECONCILIATION OF MEMBERSHIP
FOR THE PLAN YEAR ENDED SEPTEMBER 30, 2017**

	Active Members	Vested Terminated Members	Pension Recipients			
			Active DROP	Service Retired	Disability Retired	All Beneficiaries
No. at Start of Year	250	10	28	175	16	36
Increase (Decrease) From						
Service Retirement			(6)	6		
DROP Retirement	(4)		4			
Disability Retirement	(1)				1	
Deaths				(5)		(2)
Other Pension Terminations	(1)	(1)				
Vested Terminations	(1)	1				
Non-Vested Terminations	(2)					
New Entrants/Rehires	12					
No. at End of Year	253	10	26	176	17	34

ACTIVE MEMBERS NOT PARTICIPATING IN THE DROP
AS OF SEPTEMBER 30, 2017
BY NEAR AGE AND YEARS OF SERVICE

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 +	
20-24 NO.	1	2	0	0	0	0	0	0	0	0	3
TOT PAY	43,694	101,421	0	0	0	0	0	0	0	0	145,115
AVG PAY	43,694	50,711	0	0	0	0	0	0	0	0	48,372
25-29 NO.	4	9	13	6	2	2	0	0	0	0	36
TOT PAY	210,980	487,079	765,157	352,053	125,562	146,025	0	0	0	0	2,086,856
AVG PAY	52,745	54,120	58,858	58,676	62,781	73,013	0	0	0	0	57,968
30-34 NO.	5	3	2	7	5	16	5	0	0	0	43
TOT PAY	300,200	166,589	120,535	427,489	317,968	1,254,190	430,149	0	0	0	3,017,120
AVG PAY	60,040	55,530	60,268	61,070	63,594	78,387	86,030	0	0	0	70,166
35-39 NO.	1	1	4	4	3	7	24	4	0	0	48
TOT PAY	43,531	52,652	243,170	236,678	198,673	540,195	2,216,997	409,806	0	0	3,941,702
AVG PAY	43,531	52,652	60,793	59,170	66,224	77,171	92,375	102,452	0	0	82,119
40-44 NO.	1	0	0	1	1	5	13	25	4	0	50
TOT PAY	79,863	0	0	99,548	64,807	386,398	1,177,791	2,668,874	459,885	0	4,937,166
AVG PAY	79,863	0	0	99,548	64,807	77,280	90,599	106,755	114,971	0	98,743
45-49 NO.	0	2	1	0	0	2	9	23	27	0	64
TOT PAY	0	106,356	58,177	0	0	146,693	914,603	2,456,233	3,114,353	0	6,796,415
AVG PAY	0	53,178	58,177	0	0	73,347	101,623	106,793	115,346	0	106,194
50-54 NO.	0	0	0	0	0	0	2	5	1	0	8
TOT PAY	0	0	0	0	0	0	168,636	582,162	115,665	0	866,463
AVG PAY	0	0	0	0	0	0	84,318	116,432	115,665	0	108,308
55-59 NO.	0	0	0	0	0	0	0	0	1	0	1
TOT PAY	0	0	0	0	0	0	0	0	118,992	0	118,992
AVG PAY	0	0	0	0	0	0	0	0	118,992	0	118,992
60-64 NO.	0	0	0	0	0	0	0	0	0	0	0
TOT PAY	0	0	0	0	0	0	0	0	0	0	0
AVG PAY	0	0	0	0	0	0	0	0	0	0	0
TOT NO.	12	17	20	18	11	32	53	57	33	0	253
TOT AMT	678,268	914,097	1,187,039	1,115,768	707,010	2,473,501	4,908,176	6,117,075	3,808,895	0	21,909,829
AVG AMT	56,522	53,770	59,352	61,987	64,274	77,297	92,607	107,317	115,421	0	86,600

Averages

Age: 38.6 years.
Service: 11.0 years.

RETIRED AND BENEFICIARY MEMBERS AS OF SEPTEMBER 30, 2017
BY ATTAINED AGES

Attained Ages	Age and Service Retired Members		Disability Retired Members		Surviving Beneficiaries		Totals	
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions
Under 20					1	\$ 14,686	1	\$ 14,686
35 - 39								
40 - 44			1	\$ 60,479			1	60,479
45 - 49	6	\$ 532,831	6	276,104			12	808,935
50 - 54	31	2,121,174	3	125,657	4	144,892	38	2,391,723
55 - 59	53	3,806,839	4	195,593	2	40,581	59	4,043,013
60 - 64	39	2,506,980			3	54,310	42	2,561,290
65 - 69	29	1,215,720	2	66,193	4	79,981	35	1,361,894
70	7	282,478			3	67,554	10	350,032
71	6	261,558					6	261,558
72	3	144,317			2	46,728	5	191,045
73	3	108,710					3	108,710
74	3	102,918			1	12,011	4	114,929
75	5	147,578					5	147,578
76	3	120,833			1	24,481	4	145,314
77	3	131,126					3	131,126
78	2	72,215	1	29,306	3	44,393	6	145,914
79								
80					1	15,282	1	15,282
81	3	75,437					3	75,437
82					2	37,607	2	37,607
83					2	19,939	2	19,939
84	1	16,544					1	16,544
85	2	36,958			1	3,373	3	40,331
86								
87								
88								
89	2	55,350					2	55,350
90	1	17,808			1	3,648	2	21,456
91					2	24,608	2	24,608
92					1	9,043	1	9,043
93								
94								
Totals	202	\$ 11,757,374	17	\$ 753,332	34	\$ 643,117	253	\$ 13,153,823

Average Age: 63.4 years.

VESTED TERMINATED MEMBERS AS OF SEPTEMBER 30, 2017
BY ATTAINED AGES

Attained Ages	No.	Estimated Annual Benefits
37	1	\$18,570
40	1	17,513
42	1	14,281
44	3	87,746
47	1	28,943
48	1	17,463
49	2	88,773
Totals	10	\$273,289

Averages

Age: 44.8 years.

Benefit: \$27,329

NUMBER ADDED TO AND REMOVED FROM ACTIVE MEMBERSHIP

Year Ended 9/30	Number Added		Terminations During Year										Active Members End of Year		
	During Year		Normal/Early Retirement		Disability Retirement		Died-in Service		Withdrawals						
	A	E	A	E	A	E	A	E	Vested		Other			Total	
									A	A	A	E			
1994	3	11	9	1.1	0	0.8	0	0.3	0	2	2	5.9	207		
1995	18	14	8	1.2	0	0.7	0	0.2	1	5	6	5.3	211		
1996	13	18	11	3.3	0	0.6	0	0.2	0	7	7	6.1	206		
1997	22	16	3	1.0	3	0.7	0	0.2	2	8	10	6.1	212		
1998	20	9	5	2.5	0	0.6	2	0.2	1	1	2	10.0	223		
1999	14	12	4	2.6	0	0.7	0	0.2	2	6	8	10.7	225		
2000	28	6	3	1.7	0	0.7	0	0.2	0	3	3	6.9	247		
2001	20	13	4	1.3	1	0.7	0	0.2	0	8	8	8.4	254		
2002	11	14	8	2.7	2	0.8	0	0.2	0	4	4	8.3	251		
2003	12	8	4	1.3	0	0.8	0	0.2	1	3	4	7.6	255		
2004	16	12	9	5.6	0	0.8	1	0.3	0	2	2	7.0	259		
2005	15	18	10	8.3	0	0.8	0	0.3	0	8	8	6.7	256		
2006	24	28	13	6.2	0	0.8	0	0.3	0	15	15	6.5	252		
2007	38	10	3	4.3	1	0.9	0	0.3	1	5	6	7.1	280		
2008	18	23	7	5.9	2	0.8	0	0.3	0	14	14	9.4	275		
2009	11	23	8	6.1	0	0.8	0	0.3	5	10	15	8.4	263		
2010	13	22	13	6.0	1	0.8	0	0.3	2	6	8	6.7	254		
2011	8	13	7	4.7	1	0.8	0	0.3	1	4	5	6.3	249		
2012	2	37	30	12.1	2	0.6	0	0.2	0	5	5	5.5	214		
2013	12	11	4	2.4	2	0.6	0	0.2	2	3	5	4.3	215		
2014	18	12	4	3.2	1	0.6	0	0.1	1	6	7	4.5	221		
2015	24	4	1	2.5	0	0.7	1	0.1	1	1	2	5.3	241		
2016	19	10	7	4.2	1	0.7	1	0.1	0	1	1	6.6	250		
2017	12	9	4	4.2	1	0.7	0	0.1	1	3	4	6.6	253		
5-Year Totals															
2013 - 2017	85	46	20	16.5	5	3.3	2	0.6	5	14	19	27.3			
Expected for															
2018				4.1		0.9		0.2				6.9			

A represents actual number.

E represents expected number.

SECTION C

ACTUARIAL COST METHOD, ACTUARIAL ASSUMPTIONS AND DEFINITIONS OF TECHNICAL TERMS

ACTUARIAL COST METHOD

The actuarial cost method is a procedure for allocating the actuarial present value of benefits and expenses to time periods. The method used for your valuation is known as the individual entry-age actuarial cost method, and has the following characteristics:

- (i) The annual normal costs for each individual active member is sufficient to accumulate the value of the member's pension at time of retirement or DROP.
- (ii) Each annual normal cost is a constant percentage of the member's year by year projected pensionable compensation.

The entry-age actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's pensionable compensation between the entry age of the member and the assumed active status exit ages. This is based on our understanding of the approach preferred by the Florida Division of Retirement. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future normal costs is called the actuarial accrued liability. Deducting accrued assets from the actuarial accrued liability determines the unfunded actuarial accrued liability. The unfunded actuarial accrued liability was financed as a level percent of member payroll. Please refer to page A-9 for a schedule of financing periods.

The characteristics of this method of financing the unfunded actuarial accrued liability are shown on page C-2.

The sum of active & DROP member payroll was assumed to increase 4.50% a year for the purpose of determining the level percent contributions. According to FS 112.64(5) this assumption may not exceed the average payroll growth over the last ten years which was negative. This assumption is consistent with the base rate of increase in salaries used to calculate actuarial present values. Expressing contributions, as on page A-2, as a percent of active member payroll excluding DROP members may cause fluctuations due to the level of participation in the DROP.

**LEVEL PERCENT OF ACTIVE MEMBER PAYROLL AMORTIZATION
OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES*
(AMORTIZATION SCHEDULE \$ AMOUNTS IN THOUSANDS)**

Year	UnDROPed Pay		Unfunded		Contribution	
	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars	Inflated Dollars	Constant Dollars
2017	\$21,910	\$21,910	\$13,839	\$13,839	\$1,059	\$1,185
2018	22,162	21,910	13,817	13,659	1,071	1,185
2019	22,417	21,910	13,769	13,457	1,084	1,185
2020	22,674	21,910	13,704	13,242	1,096	1,185
2021	22,935	21,910	13,622	13,013	1,109	1,185
2022	23,199	21,910	13,520	12,769	1,121	1,185
2027	24,564	21,910	12,726	11,351	1,117	1,119
2032	26,009	21,910	11,526	9,710	1,062	1,010
2037	27,540	21,910	9,007	7,166	1,341	1,195
2042	29,160	21,910	4,734	3,557	1,341	1,129
2047	30,876	21,910	0	0	0	1,129

* \$	5,899,840	over 30 years	\$	986,489	over 15 years
	4,843,932	over 29 years		0	over 14 years
	938,625	over 28 years		0	over 13 years
	897,408	over 27 years		0	over 12 years
	813,049	over 26 years		0	over 11 years
	740,378	over 25 years		0	over 10 years
	0	over 24 years		419,063	over 9 years
	0	over 23 years		0	over 8 years
	0	over 22 years		0	over 7 years
	0	over 21 years		0	over 6 years
	567,465	over 20 years		0	over 5 years
	585,475	over 19 years		0	over 4 years
	(731,043)	over 18 years		0	over 3 years
	(1,173,945)	over 17 years		0	over 2 years
	(948,121)	over 16 years		0	over 1 years
				\$ 13,838,615	TOTAL

Level percent-of-payroll financing of unfunded actuarial accrued liabilities treats each generation of taxpayers equally during the financing period. The alternative, level-dollar financing, produces declining percent-of-payroll contributions and places a greater relative burden on current taxpayers.

The annual rate of increase in member payroll used to compute the level percent-of-payroll contribution is the same rate of payroll growth used to compute actuarial liabilities and costs. It reflects across-the-board salary increases not group size increases.

If future payroll growth is less than the assumed rate due to smaller than projected salary increases, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to decline.

If future payroll growth is less than the assumed rate due to decreases in the number of members, the percent-of-payroll contribution rate for unfunded actuarial accrued liabilities will tend to increase but dollar contributions will be less than indicated in the preceding schedule.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Funding objective contribution requirements and actuarial present values are calculated by applying estimates of future Fund activities (actuarial assumptions) to the benefit provisions and people information of the Pension Fund, using the actuarial cost method described on page C-1.

The principal areas of risk which require estimates of future Fund activities are:

- (i) rates of inflation impacting assets of the Pension Fund
- (ii) long-term rates of investment return to be generated by the assets of the Pension Fund
- (iii) rates of salary increases to active members
- (iv) rates of mortality among members, retired members and beneficiaries
- (v) rates of withdrawal of active members
- (vi) rates of disability among active members
- (vii) rates of retirements due to age and service

In making a valuation, the monetary effect of each activity is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual activities of the Pension Fund will not coincide exactly with estimated activities due to their nature. Each valuation provides a complete recalculation of estimated future activities and takes into account the effect of differences between estimated and actual activities to date. The result is a continual series of adjustments (usually small) to the computed contribution rate. From time to time one or more of the estimates are modified to reflect experience trends (but not random or temporary year to year fluctuations).

Both the economic and decrement assumptions were established following the Experience Study Report dated March 10, 2011 covering the ten-year period from October 1 2000, through September 30, 2010. The investment return assumption has been adjusted in accordance with subsequent analyses. 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.

The actuarial assumptions include an INFLATION rate, SALARY INCREASE rates and a REAL INVESTMENT RETURN rate. These assumptions are used, in combination with the other assumptions, to (i) determine the present value of amounts expected to be paid in the future and (ii) establish rates of contribution which are expected to remain relatively level as a percent of total member payroll.

The interest rate used in making this valuation was 7.75% a year, compounded yearly (previously 7.875%). It is composed of inflation and real investment return.

RATES OF INFLATION. 2.50% per annum, compounded annually (previously 3.00%). This is the rate at which growth in the supply of money and credit is estimated to exceed growth in the supply of goods and services. It may be thought of as the rate of depreciation of the purchasing power of the dollar. There are a number of indices for measuring the inflation rate. The recent inflation rate, as measured by the Consumer Price Index, has been:

	Year Ended September 30					5-Year Average
	2017	2016	2015	2014	2013	
Actual	2.2 %	1.5 %	0.0 %	1.7 %	1.2 %	1.3 %
Assumed	3.0	3.0	3.0	3.0	3.0	3.0

RATES OF REAL INVESTMENT RETURN. 5.25% per annum, compounded annually (previously 4.875%). This is the rate of return estimated to be produced by investing a pool of assets in an inflation-free environment. Recent real investment return on the funding value of assets (internal rate of return) has been:

	Year Ended September 30					5-Year Average
	2017	2016	2015	2014	2013	
Expected Rate of Return	7.875 %	8.00 %	8.00 %	8.00 %	8.00 %	7.98 %
Rate of Return (Pension Assets)	8.4	7.8	10.8	10.9	10.8	9.74
less inflation	<u>2.2</u>	<u>1.5</u>	<u>0.0</u>	<u>1.7</u>	<u>1.2</u>	<u>1.32</u>
Real Rate of Return	6.2	6.3	10.8	9.2	9.6	8.42
Assumed Real Rate of Return	4.875	5.00	5.00	5.00	5.00	4.98

The total investment return rate was computed using the approximate formula $i = I$ divided by $1/2 (A + B - I)$, where I is actual ordinary investment income plus market value adjustments, A is the beginning of year funding value, and B is the end of year funding value.

The preceding investment return rates reflect the particular characteristics of this pension fund and should not be used to measure an investment advisor's performance or for comparison with other pension funds. Such use will usually mislead.

RATES OF SALARY INCREASES. Employee salaries are assumed to increase between the date of hire and date of retirement. Salary increases occur in recognition of (i) individual merit and seniority, (ii) inflation related depreciation of the purchasing power of salaries, and (iii) competition from other employers for personnel. A schedule of assumed rates of increases in individual salaries for sample ages follows:

Attributable to:	Annual Rates of Salary Increase for Sample Ages				
	20	30	40	50	60
Merit & Seniority	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %
General Increase in Wage Level Due to:					
Inflation	2.5	2.5	2.5	2.5	2.5
Other factors	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>
Total	5.0	5.0	5.0	5.0	5.0

The valuation is based on a constant group size and total payroll increasing at the rate of the general increase in wage levels due to inflation and other causes, which in this case is 5.0% a year.

A schedule of recent salary change experience, as measured by average reported pay, follows:

	Year Ended September 30					Average		
	2017	2016	2015	2014	2013	3-Year	5-Year	10-Year
% Change: Actual (1)	8.3 %	6.0 %	4.8 %	5.0 %	3.3 %	6.4 %	5.5 %	4.9 %
Assumed (1)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.3
% Change in Total Payroll (2)	5.7	1.3	3.4	3.0	0.7	3.5	2.8	1.2

(1) Excluding termination and new members.

(2) Including pays of members electing DROP participation but still working.

In order to achieve the financial objective of a contribution rate which remains level as a percent of payroll, the rate of investment return (net of investment expenses) must exceed the rate of average increase in salaries by an amount equal to the estimated real investment return rate. The following schedule illustrates the recent history of the relationship between total investment return and average pay changes.

	Year Ended September 30					Average	
	2017	2016	2015	2014	2013	3-Year	5-Year
Net Rate of Investment Return (Pension Assets)	8.4 %	7.8 %	10.8 %	10.9 %	10.8 %	9.0 %	9.7 %
Rate of Change in Average Pay	8.3	<u>6.0</u>	<u>6.0</u>	<u>5.0</u>	<u>3.3</u>	<u>6.7</u>	<u>5.7</u>
Difference: Actual	0.1	1.8	4.8	5.9	7.5	2.3	4.0
Target	2.9	3.0	3.0	3.0	3.0	3.0	3.0

RATES OF MORTALITY. 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 actuarial valuation, as mandated by Florida House Bill 1309. Sample values follow:

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	38.66
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 members dying before retirement. 50% of deaths before retirement were assumed to be duty related.

For disabled retirees, the mortality table used was 60% of the RP-2000 for Disabled Annuitants and 40% of the RP-2000 Annuitant Mortality Table with a White Collar adjustment, set back 4 years for males and set forward 2 years for females, with no provision being made for future mortality improvements. These are same rates used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2016 actuarial 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	27.06
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

RATES OF WITHDRAWAL from active membership. The 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	Years of Service	% of Active Members Separating within Next Year
ALL	0	12.00 %
	1	9.00
	2	7.00
	3	5.00
	4	4.50
	5	3.50
	6	2.50
	7	1.50
	8	1.00
	9	0.50
25	10 & Over	1.00
30		1.00
35		1.00
40		1.00
45		1.00
50		1.00
55		1.00
60		1.00

VESTED MEMBERS who terminate with a benefit worth less than 100% of their own accumulated contributions were presumed to elect a refund of accumulated contributions and forfeit the vested benefit.

RATES OF DISABILITY. These rates represent the probabilities of active members becoming disabled.

Sample Ages	Percent Becoming Disabled within Next Year	
	Men	Women
20	0.15 %	0.06 %
25	0.18	0.10
30	0.20	0.15
35	0.29	0.27
40	0.42	0.39
45	0.65	0.57
50	1.05	0.91
55	1.84	1.54
60	3.06	2.21

The mortality table was set forward five years from the age at disability for projecting disability costs. 50% of disability retirements were projected to receive a pension not less than the minimum duty disability pension.

RATES OF RETIREMENT. These rates are used to measure the probabilities of eligible members retiring during the next year.

Number of Years After First Eligibility for Normal Retirement	Probability of Normal Retirement
0	45 %
1	35
2	35
3	35
4	100

The rate of retirement is 5% for each year of eligibility for early retirement.

ASSET VALUATION. Assets were included in the valuation using a 4 year smoothed market value effective September 30, 2001.

ADMINISTRATIVE EXPENSES. Administrative expenses were included in the calculated contribution requirement.

INVESTMENT EXPENSES. Investment expenses are offset against gross investment income.

ACTIVE MEMBER GROUP SIZE. The valuation was based on a constant active member group size. This is unchanged from previous valuations.

MARRIAGE PROPORTION. 90% of active members were assumed to be married. In each case the male was assumed to be 3 years older than the female.

COST-OF-LIVING ADJUSTMENTS. The post-retirement cost-of-living benefit is projected to occur at the maximum rate of 3% a year, following attainment of age 65.

SALARY. The actuarial valuation includes all amounts included in final average salary for benefit purposes.

SUMMARY OF ASSUMPTIONS USED

Pensions in an Inflationary Environment

Value of \$1,000/month Retirement Benefit to an Individual who Retires at Age 50 in an Environment of 2.5% Inflation and a 3% simple annual COLA starting at age 65

Age	Value
50	\$1,000
51	976
52	952
53	929
54	906
55	884
60	781
65	711
70	720
75	717
80	706
85	687

The life expectancy of a 50 year old male retiree is age 84. The life expectancy for a 50 year old female retiree is age 85. Approximately half of the people will outlive their life expectancy. The effects of even moderate amounts of inflation can be significant for those who live to an advanced age.

SUMMARY OF ASSUMPTIONS USED

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.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	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.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Decrement Relativity:	Decrement rates are used without adjustment for multiple decrement table effects.
Normal Form of Benefit:	The assumed normal form of benefit is the 66 2/3% joint and survivor form for married members and the 10 year certain and life for unmarried members.
Loads:	No loads were used.
Incidence of Contributions:	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. New entrant normal cost contributions are applied to the funding of new entrant benefits.

DEFINITIONS OF TECHNICAL TERMS

Accrued Service. Service credited under the fund which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between the actuarial present value of future benefit payments and the actuarial present value of future normal costs. Also referred to as “accrued liability” or “past service liability.”

Actuarial Assumptions. Estimates of expected future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement estimates (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic estimates (salary increases and investment income) consist of the underlying rates in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future benefit payments” between future normal costs and actuarial accrued liabilities. Sometimes referred to as the “actuarial valuation cost method.”

Actuarial Equivalent. A single amount or series of amounts of equal actuarial present value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment. Also referred to as “present value.”

Amortization. Paying off an interest-discounted amount with periodic payments of interest and principal -- as opposed to paying off with a lump sum payment.

Experience Gain (Loss). The difference between actual actuarial costs and assumed actuarial costs - during the period between two valuation dates.

Funding Value of Assets. Also referred to as actuarial value of assets, smoothed market value of assets, or valuation assets.

Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed 4 year period. During periods when investment performance exceeds the assumed rate, valuation assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, valuation assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, valuation assets will become equal to market value.

Normal Cost. The actuarial cost allocated to the current year by the actuarial cost method. Sometimes referred to as “current service cost.”

Pension Benefit Obligation. A standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date. The PBO is independent of the actuarial funding method used to determine contributions.

Unfunded Actuarial Accrued Liability. The difference between actuarial accrued liability and the funding value of assets. Sometimes referred to as “unfunded past service liability,” “unfunded accrued liability” or “unfunded supplemental present value.”

Most pension funds have unfunded actuarial accrued liability. It increases each time new benefits are added and each time an experience loss is realized.

The existence of unfunded actuarial accrued liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liability does not represent a debt that is payable today. What is important is the ability to control the amount of unfunded actuarial accrued liability and the trend in its amount (after due allowance for devaluation of the dollar).

SECTION D

DISCLOSURES REQUIRED BY GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENT NO. 67

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the System's financial statements.

**STATEMENT OF CHANGES IN THE EMPLOYER'S
NET PENSION LIABILITY AND RELATED RATIOS
(GASB STATEMENT NO. 67)**

Fiscal year ending September 30,	2017	2016	2015	2014
Total Pension Liability				
Service Cost	\$ 4,465,713	\$ 4,119,566	\$ 3,720,389	\$ 3,553,404
Interest	26,458,916	25,142,553	23,790,608	22,792,357
Benefit Changes	-	-	-	-
Difference between actual & expected experience	335,340	264,885	439,779	294,048
Assumption Changes	5,183,638	2,275,600	2,221,969	-
Benefit Payments	(18,064,650)	(16,224,666)	(14,788,140)	(13,557,996)
Refunds	(25,530)	(93,453)	(60,567)	(168,503)
Other (DROP and Share Plan Adjustments)	2,237,938	1,683,012	2,110,393	84,844
Net Change in Total Pension Liability	20,591,365	17,167,497	17,434,431	12,998,154
Total Pension Liability - Beginning	337,548,681	320,381,184	302,946,753	289,948,599
Total Pension Liability - Ending (a)	\$ 358,140,046	\$ 337,548,681	\$ 320,381,184	\$ 302,946,753
Plan Fiduciary Net Position				
Contributions - Employer*	\$ 3,285,065	\$ 59,726,454	\$ 8,644,805	\$ 8,941,538
Contributions - Employer (from State)	1,333,046	1,259,981	1,212,205	1,100,113
Contributions - Non-Employer Contributing Entity	-	-	-	-
Contributions - Member (including buyback contributions)	2,427,068	2,336,635	2,154,131	1,927,618
Net Investment Income	44,494,434	21,229,525	1,873,520	22,389,189
Benefit Payments	(18,064,650)	(16,224,666)	(14,788,140)	(13,557,996)
Refunds	(25,530)	(93,453)	(60,567)	(168,503)
Administrative Expense	(308,777)	(288,017)	(266,916)	(337,907)
Other	904,892	423,031	898,188	370,252
Net Change in Plan Fiduciary Net Position	34,045,548	68,369,490	(332,774)	20,664,304
Plan Fiduciary Net Position - Beginning	327,203,710	258,834,220	259,166,994	238,502,690
Plan Fiduciary Net Position - Ending (b)	\$ 361,249,258	\$ 327,203,710	\$ 258,834,220	\$ 259,166,994
Net Pension Liability - Ending (a) - (b)	(3,109,212)	10,344,971	61,546,964	43,779,759
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	100.87 %	96.94 %	80.79 %	85.55 %
Covered Payroll	\$ 21,679,436	\$ 20,603,955	\$ 18,805,018	\$ 17,446,782
Net Pension Liability as a Percentage of Covered Payroll	(14.34)%	50.21 %	327.29 %	250.93 %

* Employer contribution for FYE 9/30/2016 includes \$50,000,000 proceeds from pension obligation bond.

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
2014	\$ 302,946,753	\$ 259,166,994	\$ 43,779,759	85.55%	\$ 17,446,782	250.93%
2015	\$ 320,381,184	\$ 258,834,220	\$ 61,546,964	80.79%	\$ 18,805,018	327.29%
2016	\$ 337,548,681	\$ 327,203,710	\$ 10,344,971	96.94%	\$ 20,603,955	50.21%
2017	\$ 358,140,046	\$ 361,249,258	\$ (3,109,212)	100.87%	\$ 21,679,436	-14.34%

**NOTES TO SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY
(GASB STATEMENT NO. 67)**

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

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	3.0%
Salary Increases	5.0%, including inflation
Investment Rate of Return	7.875%
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, 2016 FRS Valuation, as mandated by Florida House Bill 1309.

Other Information:

Notes

See Section A in the September 30, 2016 Actuarial Valuation Report. Effective as of September 30, 2016, the investment return assumption was lowered from 8% to 7.875%, and the mortality table was changed from the RP-2000 Combined Healthy Participant Mortality Table for males and females with mortality improvements projected to all future years after 2000 using Scale AA to the mortality assumption used by the Florida Retirement System (FRS) for Special Risk Class members in the FRS actuarial valuation report as of July 1, 2016. The mortality assumption 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 September 30, 2016.

**SCHEDULE OF CONTRIBUTIONS
(GASB STATEMENT NO. 67)**

FY Ending September 30,	Actuarially Determined Contribution	Actual Contribution*	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2014	\$ 8,941,538	\$ 10,041,651	\$ (1,100,113)	\$ 17,446,782	57.56%
2015	\$ 9,744,918	\$ 8,644,805	\$ 1,100,113	\$ 18,805,018	45.97%
2016	\$ 9,726,454	\$ 59,726,454	\$ (50,000,000)	\$ 20,603,955	289.88%
2017	\$ 3,285,065	\$ 3,285,065	\$ -	\$ 21,679,436	15.15%

** Employer contribution for FYE 9/30/2016 includes \$50,000,000 proceeds from pension obligation bond.*

**NOTES TO SCHEDULE OF CONTRIBUTIONS
(GASB STATEMENT NO. 67)**

Valuation Date: September 30, 2015
Notes Actuarially determined contributions are calculated as of September 30, 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 Percentage of Payroll, Closed
Remaining Amortization Period	30 years
Asset Valuation Method	4-year smoothed market
Inflation	3.0%
Salary Increases	5.0%, including inflation
Investment Rate of Return	8.0%
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 mortality improvement projected using Scale AA after 2000.

Other Information:

Notes See Section A in the September 30, 2015 Actuarial Valuation Report. Effective as of September 30, 2015, the mortality assumption was changed to recognize 100% of the RP-2000 Combined Healthy Participant Mortality table for males and females with mortality improvement projected using Scale AA after 2000 (an increase from 80% recognition, in conjunction with 20% recognition of the 1983 Group Annuity Mortality Table for males and females with no future mortality improvements).

SINGLE DISCOUNT RATE (GASB STATEMENT NO. 67)

A single discount rate of 7.875% 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 7.875%. 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 (7.875%) 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 7.875%, 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
6.875%	7.875%	8.875%
\$30,382,623	\$(3,109,212)	\$(30,299,112)

SECTION E

SUMMARY OF VALUATION RESULTS IN STATE FORMAT

SUMMARY OF VALUATION RESULTS IN STATE FORMAT
(\$ AMOUNTS IN THOUSANDS)

	September 30, 2017			September 30, 2016
	After Plan Change	After Assumption Change	Before Changes	
(a) Participant Data				
(i) Active participants - number	253	253	253	250
- annual payroll (excl. DROP participants)	\$ 21,910	\$ 21,910	\$ 21,910	\$ 20,369
(ii) Retired members & beneficiaries (excl. disability)				
- number	236	236	236	239
- annualized benefit payroll	12,400	12,400	12,400	12,254
(iii) Disabled members & beneficiaries				
- number	17	17	17	16
- annualized benefit payroll	753	753	753	689
(iv) Terminated vested members				
- number	10	10	10	10
- annualized benefit payroll	273	273	273	271
(b) Assets				
(i) Actuarial value of funding	352,552	352,552	352,552	335,208
(ii) Market value	361,249	361,249	361,249	327,204
(iii) Contribution receivable	0	0	0	0
(c) Actuarial Liabilities				
(i) Actuarial present value of active member benefits:				
service retirement	116,710	111,901	109,340	100,004
termination benefits - pensions	4,437	4,257	4,147	4,006
disability retirement	5,789	5,727	5,610	5,400
survivor benefits (pre-retirement)	1,509	1,487	1,455	1,383
survivor benefits (post-retirement)	8,801	8,449	8,124	7,431
termination benefits - refunds	425	425	424	391
share accounts	48,430	48,430	48,430	46,803
Total	<u>186,102</u>	<u>180,678</u>	<u>177,530</u>	<u>165,418</u>
(ii) Prepaid City contributions	0	0	0	0
(iii) Actuarial present value of terminated vested member benefits	2,670	2,670	2,621	2,449
(iv) Actuarial present value of retired member & beneficiary:				
total service retirement & survivors	157,121	157,121	155,131	152,995
disability retirement	9,589	9,589	9,472	8,601
distribution reserve	0	0	0	0
DROP Reserve	54,957	54,957	54,957	50,785
Total	<u>221,667</u>	<u>221,667</u>	<u>219,560</u>	<u>212,380</u>
(v) Total actuarial present value of future benefit payments and reserve:	410,440	405,015	399,711	380,247
(vi) Payables	none	none	none	none
(vii) Actuarial accrued liability (including Share Accounts and DROP Reserve)	\$ 366,391	\$ 364,388	\$ 360,491	\$ 342,892
(viii) Unfunded actuarial accrued liability(1)	\$ 13,839	\$ 11,836	\$ 7,939	\$ 7,684

(1) Please refer to page A-9 for requested detail.

SUMMARY OF VALUATION RESULTS IN STATE FORMAT
(\$ AMOUNTS IN THOUSANDS)

	September 30, 2017			September 30, 2016
	After Plan Change	After Assumption Change	Before Changes	
(d) Actuarial Present Value of Accrued Benefits (calculated in accordance with FASB Statement No. 35)				
(i) Vested accrued benefits				
Retired members and beneficiaries - pensions	\$ 221,667	\$ 221,667	\$ 219,560	\$ 212,380
- distribution reserves	0	0	0	0
Terminated members	2,670	2,670	2,621	2,449
Active members (includes non-forfeitable accum. member contributions of \$20,063 and \$18,516)	61,784	61,784	60,635	52,665
Active member share accounts	48,430	48,430	48,430	46,803
Distributable reserves	0	0	0	0
Total	<u>\$ 334,552</u>	<u>\$ 334,552</u>	<u>\$ 331,246</u>	<u>\$ 314,296</u>
(ii) Non-vested accrued benefits	2,409	2,409	2,280	3,603
(iii) Prepaid City contributions	0	0	0	0
(iv) Total actuarial p.v. of accrued benefits	<u>\$ 336,961</u>	<u>\$ 336,961</u>	<u>\$ 333,526</u>	<u>\$ 317,899</u>
(v) Actuarial p.v. of accrued benefits at begin. of year	\$ 317,899	\$ 317,899	\$ 317,899	\$ 300,651
(vi) Changes attributable to:				
Amendments	\$ 0	\$ 0	\$ 0	\$ 0
Assumption change	3,435	3,435	0	3,954
Operation of decrements	27,918	27,918	27,918	23,568
Benefit payments	(18,090)	(18,090)	(18,090)	(16,318)
Other (Changes in Reserves)	5,799	5,799	5,799	6,044
(vii) Net change	<u>19,061</u>	<u>19,061</u>	<u>15,627</u>	<u>17,249</u>
(viii) Actuarial p.v. of Accr. benefits at end of year	<u>\$ 336,961</u>	<u>\$ 336,961</u>	<u>\$ 333,526</u>	<u>\$ 317,899</u>
(e) Plan costs for fiscal years beginning October 1, 2017 and October 1, 2016 (EANC)				
(i) Normal costs				
Service pensions (incl. post-ret. surv. pensions)	20.72	18.97	18.41 %	18.38 %
Disability pensions (incl. post-ret. surv. pensions)	1.63	1.60	1.56	1.57
Survivor pensions (pre-retirement)	0.36	0.35	0.35	0.35
Deferred service pensions	1.13	1.03	1.00	1.01
Refunds of member contributions	0.78	0.78	0.78	0.78
Total normal cost	<u>24.62</u>	<u>22.73</u>	<u>22.10</u>	<u>22.09</u>
(ii) Payment to amortize unf'd act. accr. liab.	3.30	2.84	1.98	1.99
(iii) Administrative expenses	1.01	1.01	1.01	0.97
(iv) FS112.64(5) Requirement	1.42	1.22	0.83	0.90
(v) Amount to be paid by participants	11.00	11.00	11.00	11.00
(vi) Expected state contribution	0.00	0.00	0.00	0.00
(vii) Expected plan sponsor contribution				
% of payroll	19.35 %	16.80 %	14.92 %	14.95 %
dollars	<u>\$ 4,529</u>	<u>\$3,932</u>	<u>\$ 3,492</u>	<u>\$ 3,253</u>

SUMMARY OF VALUATION RESULTS IN STATE FORMAT
(\$ AMOUNTS IN THOUSANDS)

		<u>September 30, 2017</u>			<u>September 30, 2016</u>
		After Plan Change	After Assumption Change	Before Changes	
(f)	Past Contributions (fiscal year ending 9/30/17 and 16)				
(i)	Required minimum:				
	Plan sponsor	\$ 3,285	\$ 3,285	\$ 3,285	\$ 9,726
	Members	<u>2,385</u>	<u>2,385</u>	<u>2,385</u>	<u>2,266</u>
	Total	5,670	5,670	5,670	11,992
(ii)	Actual:				
	Plan sponsor	3,285	3,285	3,285	9,726
	Members	<u>2,385</u>	<u>2,385</u>	<u>2,385</u>	<u>2,266</u>
	Total	5,670	5,670	5,670	11,992
(g)	Net Experience Gain (Loss)	\$ (567)	\$ (567)	\$ (567)	\$ (622)
(h)	Other Disclosures				
(i)	Present value of active member future salaries				
	from attained age	\$ 180,014	\$ 180,014	\$ 178,756	\$ 170,480
	from entry age		not applicable to individual EANC method		
(ii)	Present value of active member future contribs.				
	from attained age	\$ 19,802	\$ 19,802	\$ 19,663	\$ 18,753
	from entry age		not applicable to individual EANC method		

