

**CITY OF JACKSONVILLE BEACH  
GENERAL EMPLOYEES' RETIREMENT SYSTEM  
SIXTY-SIXTH ANNUAL ACTUARIAL VALUATION  
OCTOBER 1, 2016**

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April 18, 2017

Board of Trustees  
City of Jacksonville Beach  
General Employees' Retirement System  
Jacksonville Beach, Florida

The results of the October 1, 2016 Annual Actuarial Valuation of the City of Jacksonville Beach General Employees' Retirement System are presented in this report. The purpose of the annual valuation is to measure the System's funding progress and to determine the City's contribution rate for the fiscal year beginning October 1, 2017 in accordance with established funding policies. The results of the valuation may not be applicable for other purposes. Disclosures under the Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 were issued in a separate report.

This report should not be relied on for any purposes other than those described above. It 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 signing actuaries are independent of the plan sponsor.

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. We did not perform an analysis of the potential range of such future measurements under the scope of this assignment.

Valuation results, comments, recommendations and our certification are contained in Section A.

The valuation was based upon information compiled during the fiscal year ending September 30, 2016, furnished by the Pension Fund Administrator, concerning pension fund benefits, financial transactions, and individual members, terminated members, retired members and beneficiaries. Data was checked for reasonableness and missing information, but was not audited. GRS is not responsible for the accuracy or completeness of the data provided to us. This information is summarized in Section B.

A description of the actuarial valuation process, actuarial assumptions and definitions of technical terms are contained in Section C.

Additional disclosure information is contained in Section D.

A summary of valuation results in the State format is contained in Section E.

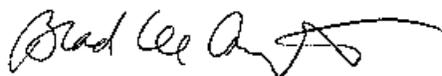
The computed contribution rate shown on page A-2 may be considered as a minimum contribution rate that complies with the Board's funding policy and/or state and city statutes. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance 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 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. 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 has been prepared by actuaries who have substantial experience valuing public employee retirement systems. We certify that the information contained in this report is accurate and fairly presents the actuarial position of the City of Jacksonville Beach General Employees' Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Brad Lee Armstrong and Jeffrey T. Tebeau are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Brad Lee Armstrong, ASA, EA, FCA, MAAA



Jeffrey T. Tebeau, ASA, EA, MAAA

BLA/JTT:bd

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## **SECTION A**

**VALUATION RESULTS, COMMENTS, CONCLUSION,  
RECOMMENDATIONS AND STATEMENT BY  
ENROLLED ACTUARY**

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## **FUNDING OBJECTIVE**

The funding objective of the Retirement System is to establish and receive contributions, expressed as percents of active member payroll, which will achieve progress towards 100% funded status and 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 improvements. This objective is stated in the Ordinance and meets the requirements of Part VII, Chapter 112, Florida Statutes.

## **CONTRIBUTION RATES**

The Retirement System is supported by member contributions, City contributions, and investment income from Retirement System's assets.

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

- (1) cover the actuarial costs allocated to the current year (the 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 and fiscal year beginning October 1, 2017 are shown on page A-2.

**CONTRIBUTIONS TO FINANCE BENEFITS OF THE RETIREMENT  
SYSTEM FOR THE PLAN YEAR BEGINNING OCTOBER 1, 2017  
TO BE CONTRIBUTED DURING THE FISCAL YEAR  
BEGINNING OCTOBER 1, 2017**

Contributions for	Contributions Expressed as Percents of unDROPEd Active Member Payroll
<i>Normal Cost</i>	
Service pensions	7.40 %
Disability pensions	0.31
Survivor pensions	
Pre-retirement	0.45
Termination benefits	
Deferred service pensions	1.27
Refunds of member contributions	<u>1.32</u>
Total Normal Cost	10.75
<i>Unfunded Actuarial Accrued Liability <sup>(1)</sup></i>	
Retired members and beneficiaries	0.00
Active and vested terminated members	<u>10.05</u>
Total unfunded actuarial accrued liability	10.05
<i>Administrative Expenses</i>	0.97
<i>Total Calculated Contribution Requirement</i>	21.77
<i>Adjustments to Calculated Contribution Requirement</i>	
Temporary full funding credit	0.00
FS 112.64(5) compliance	<u>2.00</u>
Total adjustments	2.00
<i>Total Adjusted Contribution Requirement</i>	23.77 %
Member portion	7.95 %
City portion	15.82 %

<sup>(1)</sup> *Unfunded Actuarial Accrued Liability was financed as level percents of member payroll. Please refer to page A-11 for a schedule of financing periods.*

FS 112.64 requires that City contributions be deposited not less frequently than quarterly. Member contributions, which are in addition to the City contributions, must be deposited immediately after each payroll period.

***Procedures for determining dollar contributions*** are shown on page A-3.

***Comparative contribution amounts for prior fiscal years*** are shown on page A-13.

## **DETERMINING DOLLAR CONTRIBUTIONS FOR THE FISCAL YEAR BEGINNING OCTOBER 1, 2017**

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

Contribute the City amount indicated in the following schedule. Included in these amounts is the projected increase in salary level between the valuation date and the fiscal year in which the contribution is made. The projection factor of 1.037733  $[(1.025)^{1.5}]$  is consistent with that used to calculate the actuarial liability. The member contribution amounts should not be used to reconcile actual member contributions.

<b>Total Contribution Requirement</b>	<b>\$ 2,843,846</b>
<b>Less Member Contributions</b>	<b>951,139</b>
<b>City Contribution</b>	<b>\$ 1,892,707</b>

The above contribution amounts are estimated to be contributed, on average, halfway through the fiscal year. If contributions are made on a later schedule, interest should be added at the rate of .64% (.0064) for each month of delay.

## FUNDING PROGRESS ACHIEVEMENT INDICATORS

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

A traditional measure has been the relationship of valuation 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-12.

*We believe a better understanding* of funding progress and status can be achieved using the following indicators.

**Indicator (1)** *The actuarial present value of gains or losses realized in the operation of the retirement system.* Gains and losses are expected to cancel each other over an economic cycle but sizable year-to-year fluctuations are common. An experience gain can result from assets increasing in value by more than anticipated, or by the System's obligation increasing by less than anticipated, or by other favorable combinations or deviation from expected asset and liability changes. Further details on the derivation of the gain (loss) are shown on page A-10.

**Indicator (2)** *The ratio of valuation assets to the actuarial present value of credited projected benefits* allocated in the proportion credited service is to projected total service. The ratio is expected to increase over time, but the basic trend may be interrupted by benefit improvements. This ratio is the most appropriate of the three described here for assessing the need for future contributions above the amounts needed to fund the normal cost.

**Indicator (3)** *The ratio of the unfunded actuarial present value of credited projected benefits to member payroll.* The unfunded actuarial present value of credited projected benefits is controlled by the funding program. The ratio to payroll is a relative index of condition where inflation is present in both components. The ratio is expected to decrease over time, but the basic trend may be interrupted by benefit improvements.

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

Valuation Date	<i>Indicator (1)</i>		<i>Indicator (2)</i>			<i>Indicator (3)</i>		
	<u>Gain/(Loss)</u>		<u>Funding</u>	Funded Ratio	Unfunded APVCPB ^	Member Payroll	Ratio to Payroll	
	Amount	% of AAL	Value of Assets					
10/1/1990	\$ (611)	(4.4) %	\$ 15,792	\$ 13,879	113.8 %	\$ (1,913)	\$ 7,115	(26.90) %
10/1/1991 (a)	(118)	(0.6)	17,866	18,662	95.7	796	8,203	9.70
10/1/1992	22	0.1	20,324	21,014	96.7	690	9,027	7.60
10/1/1993	1,734	7.5	23,929	22,791	105.0	(1,138)	9,450	(12.00)
10/1/1994	(474)	(1.9)	27,316	26,290	103.9	(1,026)	10,391	(9.90)
10/1/1995 (a)	1,315	4.5	30,791	28,889	106.6	(1,902)	10,601	(17.90)
10/1/1996	431	1.4	34,171	31,653	108.0	(2,518)	10,537	(23.90)
10/1/1997 (a)	2,494	6.7	38,554	34,623	111.4	(3,931)	10,658	(36.88)
10/1/1998	2,670	8.5	43,678	37,013	118.0	(6,665)	10,536	(63.26)
10/1/1999 #	1,157	4.8	29,669	22,297	133.1	(7,372)	7,408	(99.51)
10/1/2000 (a)	1,142	4.4	32,832	24,230	135.5	(8,602)	7,975	(107.86)
10/1/2001	(65)	0.2	34,200	25,479	134.2	(8,721)	8,266	(105.51)
10/1/2002 (a)	(831)	(3.0)	34,361	26,946	127.5	(7,415)	8,405	(88.22)
10/1/2003	(3,621)	(12.0)	33,997	30,352	112.0	(3,644)	9,259	(39.36)
10/1/2004	(2,817)	(8.4)	33,674	33,088	101.8	(586)	9,697	(6.04)
10/1/2005	(2,079)	(5.7)	34,445	36,504	94.4	2,059	10,714	19.22
10/1/2006	(314)	(0.8)	36,644	39,866	91.9	3,222	11,575	27.84
10/1/2007	819	1.9	39,424	42,244	93.3	2,820	11,700	24.11
10/1/2008	(796)	(1.7)	40,975	44,747	91.6	3,772	11,556	32.64
10/1/2009	(949)	(1.9)	41,538	46,829	88.7	5,291	11,677	45.31
10/1/2010	(961)	(1.9)	41,771	48,954	85.3	7,183	11,485	62.55
10/1/2011	(2,280)	(4.3)	40,809	51,068	79.9	10,259	11,449	89.61
10/1/2012	(156)	(0.3)	42,288	53,647	78.8	11,359	10,884	104.36
10/1/2013 (a)	602	1.1	45,066	53,927	83.6	8,861	10,714	82.70
10/1/2014	1,366	2.4	47,138	57,746	81.6	10,608	10,663	99.49
10/1/2015 (a)	1,659	2.9	49,153	60,403	81.4	11,250	11,196	100.48
<b>10/1/2016</b>	<b>(562)</b>	<b>(0.9)</b>	<b>50,816</b>	<b>62,608</b>	<b>81.2</b>	<b>11,792</b>	<b>11,529</b>	<b>102.28</b>
<b>10/1/2016 (a)</b>	<b>(562)</b>	<b>(0.9)</b>	<b>50,816</b>	<b>64,652</b>	<b>78.6</b>	<b>13,836</b>	<b>11,529</b>	<b>120.01</b>

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

# Prior to 1999 valuation, results include General, Police and Fire.

^ AAL starting with 2014.

\* None of these funding progress indicators are appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

## COMMENTS AND CONCLUSION

**COMMENT A:** For the fiscal year ended September 30, 2016, the General System had a \$0.6 million experience loss. The loss was primarily the result of lower than expected recognized investment return on the funding value of assets (7.5% recognized vs. 8.0% assumed) due to unfavorable market returns in the previous two years as well as lower than expected retiree mortality. The experience loss caused an increase in the City's contribution rate before changes in actuarial assumptions. Additional experience information is reported on pages B-7, B-13, C-4 and C-5. The funded ratio decreased from 81.4% to 78.6% from 2015 to 2016 on a funding value of assets basis and from 78.5% to 76.0% on a market value of assets basis.

**COMMENT B:** House Bill 1309 has mandated the use of the Florida Retirement System (FRS) mortality tables for the valuation dates beginning with the September 30, 2016 report. The FRS uses versions of the RP-2000 tables and projection scale BB in a reasonable manner. These mortality tables produced life expectancies that are longer for males and females. This change increased the computed contribution rate by 1.97% of payroll and decreased the funded ratio by 2.35% in this year's report.

**COMMENT C:** Changes were made to the underlying economic assumptions beginning with the valuation for the fiscal year ended September 30, 2016. The assumed rates of investment return as well as wage inflation were decreased from 8.0% to 7.9% and 3.5% to 2.5% respectively. These changes decreased the contribution rate by 0.46% and lowered the funded ratio by 0.22% on a funding value of assets basis.

**LOOKING FORWARD:** Due to the Board's use of a four-year smoothed market asset valuation method, greater than expected market returns during 2014 and lower than expected market returns during 2015 and 2016 have been partially recognized in developing the funding value of assets as of September 30, 2016. The funding value of assets currently exceeds the market value of assets by \$1.68 million. If gains from investment returns above the 7.9% assumed or gains from other sources do not emerge, this will create an upward pressure on contribution requirements and a coinciding downward pressure on the funded ratios in subsequent valuation years.

**RISKS TO FUTURE EMPLOYER CONTRIBUTION REQUIREMENTS:** There are ongoing risks to future employer contribution requirements to which the Retirement System is exposed, such as:

- Actual and Assumed Investment Rate of Return
- Actual and Assumed Mortality Rates
- Amortization Policy
- F.S. 112.64(5) Compliance Regarding Payroll Growth

**CONCLUSION:** It is the actuary's opinion that the required contribution rates determined by the most recent actuarial valuation are sufficient to meet the Retirement System's funding objective, presuming continued timely receipt of required contributions.

## **OTHER OBSERVATIONS**

### **General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Contributions and Funded Status**

Given the System's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the Retirement and Benefit System earning 7.90% on the Market Value of Assets), it is expected that:

1. The employer normal cost is sufficient to cover the cost of benefits accruing each year;
2. The Unfunded Actuarial Accrued Liabilities (UAAL) will continue to be fully amortized; and
3. The funded status of the Retirement and Benefit System will continue to increase gradually towards a 100% funded ratio.

### **Limitations of Funded Status Measurements**

Unless otherwise indicated, a funded status measurement presented in this report is based upon the Actuarial Accrued Liability (AAL) and the Funding Value of Assets (FVA). Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1. The measurement is inappropriate for assessing the sufficiency of Retirement System assets to cover the estimated cost of settling the Retirement and Benefit System's benefit obligations, for example: transferring the liability to an unrelated third party in a market value type transaction.
2. The measurement is dependent upon the Actuarial Cost Method which, in combination with the Retirement System's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. Even though the funded status is over 100%, the Retirement and Benefit System would still require future normal cost contributions (i.e., contributions to cover the cost of active membership accruing an additional year of service credit).
3. The measurement would produce a different result if the Market Value of Assets (MVA) were used instead of the FVA, unless the MVA is used in the measurement.

### **Limitations of Project Scope**

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

## STATEMENT BY ENROLLED ACTUARY

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

4/18/2017

Date



Brad Lee Armstrong, ASA, EA, FCA, MAAA [17-5614]

**EXPERIENCE GAIN/(LOSS)  
YEAR ENDED OCTOBER 1, 2016**

**DERIVATION**

(1) UAAL* at start of year	\$11,249,904
(2) Normal cost for year (ER normal cost & expenses from the prior corresponding valuation x current valuation pay)	447,325
(3) Actual City contribution	1,321,320
(4) Interest accrual .08 x [(1) + 1/2 [(2)-(3)]]	854,220
(5) Expected UAAL before changes	11,230,129
(6) Effect of timing/accounting	0
(7) Effect of assumption/cost method changes	2,044,097
(8) Effect of benefit changes	0
(9) Expected UAAL after changes	13,274,226
(10) Actual UAAL at end of year	13,835,933
(11) Gain/(loss): (9) - (10)	\$ (561,707)
(12) % of AAL at start of year	(0.9)%

*\* UAAL represents Unfunded Actuarial Accrued Liability.*

<b>Valuation Date October 1</b>	<b>Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities</b>
2007	1.9 %
2008	(1.7)
2009	(1.9)
2010	(1.9)
2011	(4.3)
2012	(0.3)
2013	1.1
2014	2.4
2015	2.9
<b>2016</b>	<b>(0.9)</b>

## SOURCES AND FINANCING OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

Source of Unfunded Act. Accrued Liab.	Unf'd. Act. Acc. Liab.		Current Amount	Financing Period 9/30/2016	Amort. Factor	Contribution		FS112.64(5) Compliance
	Initial Amount	Fin. Per.				Dollar	% of Payroll	
Initial Unf'd. Actuarial Accrued Liability								
			\$ (156,762)	4 yrs.	3.615994	\$ (43,352)	(0.38)%	(0.01)%
Changes from experience deviations.								
Pre-2002	\$(6,179,182)	15 yrs.	\$(1,404,330)	4 yrs.	3.615994	\$ (388,366)	(3.38)%	(0.13)%
9/30/2002	830,757	25	904,385	11	8.404508	107,607	0.93%	0.12%
9/30/2003	3,620,586	25	4,034,814	12	8.958655	450,382	3.91%	0.54%
9/30/2004	2,816,885	25	3,193,038	13	9.485070	336,638	2.92%	0.43%
9/30/2005	2,079,169	25	2,384,103	14	9.985139	238,765	2.07%	0.33%
9/30/2006	313,554	25	362,026	15	10.460181	34,610	0.30%	0.05%
9/30/2007	(818,787)	25	(947,961)	16	10.911449	(86,878)	(0.75)%	(0.14)%
9/30/2008	796,288	25	921,151	17	11.340133	81,229	0.70%	0.14%
9/30/2009	949,402	25	1,093,991	18	11.747363	93,127	0.81%	0.16%
9/30/2010	960,943	25	1,065,669	19	12.134212	87,824	0.76%	0.16%
9/30/2011	2,280,449	25	2,430,725	20	12.501701	194,432	1.69%	0.36%
9/30/2012	155,825	25	160,484	21	12.850799	12,488	0.11%	0.02%
9/30/2013	(602,138)	25	(607,960)	22	13.182425	(46,119)	(0.40)%	(0.09)%
9/30/2014	(1,365,869)	26	(1,370,732)	23	13.497455	(101,555)	(0.88)%	(0.21)%
9/30/2015	(1,659,101)	25	(1,679,903)	24	13.796718	(121,761)	(1.06)%	(0.26)%
9/30/2016	561,707	25	561,707	25	14.081005	39,891	0.35%	0.09%
Changes from actuarial assumption and actuarial cost method revisions.								
9/30/1995	\$ (203,286)	25 yrs.	\$ (195,251)	4 yrs.	3.615994	\$ (53,996)	(0.47)%	(0.02)%
9/30/2002	306,659	25	333,836	11	8.404508	39,721	0.34%	0.05%
9/30/2015	2,519,513	25	2,551,102	24	13.796718	184,906	1.60%	0.41%
9/30/2016	2,044,097	25	2,044,097	25	14.081005	145,167	1.26%	0.32%
Changes from amendments to benefit provisions.								
9/30/1997	\$ 814,818	25	\$ 682,014	6 yrs.	5.163858	\$ 132,075	1.15%	0.08%
9/30/2000	226,722	25	230,538	9	7.207093	31,988	0.28%	0.03%
9/30/2013	(2,729,914)	25	(2,754,848)	22	13.182425	(208,979)	(1.81)%	(0.43)%
<b>Totals</b>			<b>\$13,835,933</b>			<b>\$ 1,159,844</b>	<b>10.05%</b>	<b>2.00%</b>

Weighted average remaining financing period: 16.6

## UNFUNDED ACTUARIAL ACCRUED LIABILITY

	<u>October 1, 2016</u>	<u>October 1, 2015</u>
A. Actuarial present value of future benefits	\$72,757,131	\$68,682,944
B. Actuarial present value of future normal costs	<u>8,105,122</u>	<u>8,280,338</u>
C. Actuarial accrued liability	64,652,009	60,402,606
D. Funding value of assets	<u>50,816,076</u>	<u>49,152,702</u>
E. Unfunded actuarial accrued liability	<u><u>\$13,835,933</u></u>	<u><u>\$11,249,904</u></u>

Unfunded actuarial accrued liability is not a good measure of the System's funded status because the amount is dependent upon the actuarial cost method (please refer to page C-1). The funding progress indicators (2) and (3) on pages A-4 and A-5 are less dependent of the actuarial cost method and are a better guide to funded status and funding progress. The funded status and the funding progress indicators would be different if based on the market value of assets instead of the funding value of assets.

**RECOMMENDED AND ACTUAL CONTRIBUTIONS  
COMPARATIVE STATEMENT**

Fiscal Year	Valuation Date	City/Chapter Dollar Contributions#		Recommended City % of Payroll Contributions
		Recommended	Actual	
88/89	9/30/1987	\$ 333,644	\$ 333,644	5.32 %
89/90	9/30/1988 (a)	502,658	502,658	6.29
90/91	10/1/1989	497,330	497,330	5.35
91/92	10/1/1990	577,667	577,667	5.84
92/93	10/1/1991 (a)	726,300	726,300	6.31
93/94	10/1/1992	793,594	793,594	6.52
94/95	10/1/1993	681,170	716,980	5.26
95/96	10/1/1994	790,417	818,057	5.30
96/97	10/1/1995 (a)	612,267	618,521	3.95
97/98	10/1/1996	563,577	563,577	3.37
98/99	10/1/1997 (a)	200,563	200,562	2.56
99/00	10/1/1998	17,714	17,724	0.23
00/01	10/1/1999	0	87,641	0.00
01/02	10/1/2000 (a)	0	3	0.00
02/03	10/1/2001	0	22,268	0.00
03/04	10/1/2002 (a)	0	32,662	0.00
04/05	10/1/2003	82,709	82,709	0.52
05/06	10/1/2004	241,358	241,358	2.33
06/07	10/1/2005	389,150	389,150	3.40
07/08	10/1/2006	612,047	623,377	4.95
08/09	10/1/2007	612,416	612,416	4.90
09/10	10/1/2008	749,331	737,532	6.07
10/11	10/1/2009	971,717	971,717	7.79
11/12	10/1/2010	1,132,385	1,132,385	9.23
12/13	10/1/2011	1,490,902	1,490,902	12.19
13/14	10/1/2012 (a)	1,205,756	1,216,994	10.37
14/15	10/1/2013 (a)	1,387,165	1,387,165	12.12
15/16	10/1/2014	1,321,320	1,321,320	11.60
16/17	10/1/2015 (a)	1,591,545		13.50
<b>17/18</b>	<b>10/1/2016</b>	<b>1,737,167</b>		<b>14.31</b>
<b>17/18</b>	<b>10/1/2016 (a)</b>	<b>1,892,707</b>		<b>15.82</b>

(a) After changes in benefit provisions and/or actuarial assumptions and/or actuarial cost methods.  
# Prior to the fiscal year ending 9/30/99, results include General, Police and Fire.

# ACTUARIAL BALANCE SHEET - OCTOBER 1, 2016

## PRESENT RESOURCES AND EXPECTED FUTURE RESOURCES

A. Funding value of System assets:	
1. Net assets from System financial statements (market value)	\$49,137,471
2. Funding value adjustment	<u>1,678,605</u>
3. Funding value of assets	50,816,076
B. Actuarial present value of expected future employer contributions:	
1. For normal costs	1,968,805
2. For unfunded actuarial accrued liability	<u>13,835,933</u>
3. Totals	15,804,738
C. Actuarial present value of expected future member contributions	<u>6,136,317</u>
D. Total present and expected future resources	<u><u>\$72,757,131</u></u>

## ACTUARIAL PRESENT VALUE OF EXPECTED FUTURE BENEFIT PAYMENTS AND RESERVES

A. To retired members and beneficiaries	\$38,671,392
B. To vested terminated members	906,913
C. To present active members:	
1. Allocated to service rendered prior to valuation date	24,697,403
2. Allocated to service likely to be rendered after valuation date	<u>8,105,122</u>
3. Totals	32,802,525
D. Total actuarial present value of expected future benefit payments	72,380,830
E. Reserve for DROP balances	376,301
F. Total actuarial present value of expected future payments and reserves	<u><u>\$72,757,131</u></u>

**5-YEAR PROJECTIONS OF FUNDED RATIOS AND FUTURE EMPLOYER CONTRIBUTIONS  
(REFLECTS CHANGE IN MORTALITY UNDER HB 1309)**

Year Ended 9/30	Active Count	Payroll	Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Funded Ratio	Estimated City's Contributions		
							Fiscal Year	% of Payroll	Dollar Amount
2016	231	\$ 11,528,990	\$ 3,913,213	\$ 64,652,009	\$ 50,816,076	78.6%	2018	15.82%	\$ 1,892,707
2017	231	11,798,956	4,152,340	66,718,527	52,381,559	78.5%	2019	17.00%	2,081,043
2018	231	12,054,345	4,378,870	68,741,213	54,052,535	78.6%	2020	18.32%	2,291,289
2019	231	12,322,698	4,595,858	70,726,520	56,826,242	80.3%	2021	18.82%	2,406,593
2020	231	12,650,333	4,796,692	72,692,653	59,770,364	82.2%	2022	19.23%	2,524,334
2021	231	12,914,811	5,034,608	74,599,694	62,876,189	84.3%	2023	19.54%	2,618,968

*Uses 2.5% wage growth assumption.*

*We have reflected compliance with F.S. 112.64(5) to remain constant with year ended 9/30/2016.*

*We have not determined any additional possible impact due to F.S. 112.64(5).*

*Actuarial assumptions were those used for the 9/30/2016 valuation.*

*Reflects change in mortality under HB 1309 beginning with the 9/30/2016 valuation.*

*Future experience was assumed to be consistent with the actuarial assumptions. If experience differs from the actuarial assumptions, future results could be significantly different from the projected results above.*

*Existing schedule of unrecognized investment gains and losses are reflected in this projection.*

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## **SECTION B**

**SUMMARY OF BENEFIT PROVISIONS AND  
VALUATION DATA SUBMITTED BY THE  
RETIREMENT SYSTEM**

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## **SUMMARY OF BENEFIT PROVISIONS (AS OF OCTOBER 1, 2016)**

### **NORMAL RETIREMENT (NO REDUCTION FACTOR FOR AGE):**

*Eligibility* - 30 years of service regardless of age, or age 60 with 5 or more years of service for members with at least 10 years of service as of November 25, 2013. Age 55 with 30 or more years of service, or age 62 with 10 or more years of service for members with less than 10 years of service as of November 25, 2013.

*Mandatory Retirement Age* - None.

*Pension Amount* - Total credited service times 2.50% of final average compensation. Maximum pension is 75% of final average compensation or \$90,000, whichever is less.

The normal form of benefit is a benefit payable for the life of the retired member. Optional benefit forms are available on an actuarial equivalent basis.

*Final Average Compensation* - Highest 5 years out of the last 10. Compensation includes base pay plus longevity. Compensation excludes overtime, shift differential, incentive pay, leave payouts and all other compensation.

### **EARLY RETIREMENT:**

*Eligibility* - After completion of 20 years of service, but before the member's earliest projected normal retirement date.

*Pension Amount* - Computed as regular retirement, but reduced to take into account earlier commencement of retirement income payments, as follows:

*7.5% per year reduction for the first five years prior to Normal Retirement  
5.5% per year reduction for all years in excess of five years prior to Normal Retirement*

### **DEFERRED RETIREMENT (VESTED BENEFIT):**

*Eligibility* - 5 or more years of service with benefit beginning at regular retirement age of 60 for members with at least 10 years of service as of November 25, 2013. The vesting requirement is 10 years of service for members with less than 5 years of service as of November 25, 2013. Members with less than 10 years of service as of November 25, 2013 may commence benefits beginning at age 55 with 30 or more years of service, age 62 with 10 or more years of service, or age 65 with 5 or more years of service.

*Pension Amount* - Computed as a normal retirement but based upon service and final average compensation at time of termination.

## **SUMMARY OF BENEFIT PROVISIONS (CONTINUED)**

### **DUTY DISABILITY RETIREMENT:**

*Eligibility* - No age or service requirements.

*Pension Amount* - Computed as a normal retirement to regular retirement age. Minimum benefit is not less than 50% of final average compensation. At regular retirement age the participant has the option to have the benefit re-computed as a normal retirement with additional service credit granted from date of retirement to the later of normal retirement age or five years after date of disability. Minimum benefit is not less than 42% of final average compensation.

### **NON-DUTY DISABILITY RETIREMENT:**

*Eligibility* - 10 or more years of service.

*Pension Amount* - Computed as a normal retirement. Minimum benefit is not less than 25% of final average compensation.

### **DUTY DEATH BEFORE RETIREMENT:**

*Eligibility* - No age or service requirements.

*Pension Amount* - To spouse: 100% of the normal retirement benefit. Minimum benefit is not less than 35% of final average compensation.

### **NON-DUTY DEATH BEFORE RETIREMENT:**

*Eligibility* - 10 or more years of service.

*Pension Amount* - To spouse: 100% of the normal retirement benefit.

**MEMBER CONTRIBUTIONS:** 7.95% of pay effective November 30, 2013.

**CITY CONTRIBUTIONS:** Actuarially determined amounts which together with member contributions and premium tax monies are sufficient to at least cover the requirements of the funding objective stated on page A-1.

**FORFEITURE OF RETIREMENT BENEFITS:** Retirement benefits granted by the Retirement System are subject to forfeiture if an employee is convicted of an offense specified in Section 112.3173, Florida Statutes, pursuant to the procedures set forth in the cited statute.

**PRIOR SERVICE PURCHASES:** A former member with credited service who wishes to return to city employment may restore the forfeited credited service to receive credit for prior service within ninety (90) days after return to city employment.

## **SUMMARY OF BENEFIT PROVISIONS (CONCLUDED)**

**DEFERRED RETIREMENT OPTION PROGRAM (DROP):** Any eligible member of the Retirement System who meets the requirements of retirement may elect to participate, deferring receipt of retirement benefits while continuing employment with the City. The deferred monthly benefits shall accrue in the reserve for pension payments fund on behalf of the participant, plus 3.5% annual interest compounded monthly less a service fee, for the specified period of the DROP participation not to exceed 36 consecutive months. Upon termination from the DROP, the participant shall receive all accrued DROP benefits either by lump sum, direct rollover or partial lump sum. The DROP was closed to new members on November 25, 2013.

**BACKWARDS DEFERRED RETIREMENT OPTION PROGRAM (BACKDROP):**

*Eligibility* – Same as normal retirement. Member must not be participating in the DROP on November 25, 2013 and must continue employment beyond the normal retirement date. The member may elect a BackDROP period for the number of months worked beyond their normal retirement date, up to a maximum of 36 months.

*Amount of Pension* – Computed as if the member had chosen to terminate on a day chosen by the member but not before the member's normal retirement date, using credited service and final average salary at the BackDROP date. In addition to the pension, there will be a lump sum payment equal to the pension benefits the member would have received had he/she retired on the BackDROP date with interest at the rate of 3.0% per year.

**CLAIMS PROCEDURE:** Claims for benefits should be filed with the office of the City Clerk. If a claim is denied, you will be notified and informed of the procedure to request a hearing before the Board of Trustees. An applicant for benefits must appeal said denial within 20 days of being informed of the denial by filing an appeal with the Board Secretary. If no appeal is filed within the time period then the denial shall be final.

**DISCLAIMER:** The preceding summary briefly describes the principle benefits of the Retirement System. Detailed benefit conditions and limitations are contained in the City of Jacksonville Beach General Employees' Retirement System Ordinance as amended, which establishes the System. The Internal Revenue Code, Florida Statutes, and the Ordinance all govern the operation of the System, and should be consulted before you take any action concerning your membership or benefits. In case of any conflict between this Summary and the Ordinance or other applicable law, the Ordinance or other applicable law will prevail. Copies of the Ordinance are available at the office of the City Clerk.

# ACCOUNTING INFORMATION SUBMITTED FOR VALUATION

## Revenues and Expenditures

	Year Ended September 30, 2016	Year Ended September 30, 2015
<b>Revenues:</b>		
a. Member contributions	\$ 927,251	\$ 853,057
b. City contributions	1,321,320	1,387,165
c. Total contributions to System	\$2,248,571	\$2,240,222
d. Investment income		
1. Interest and dividends	1,374,332	1,412,859
2. Realized gain on investments	331,523	1,392,431
3. Unrealized gain on investments	2,210,493	(2,801,699)
4. Investment expense	(133,757)	(157,087)
e. Total investment income	3,782,591	(153,496)
f. Total revenues	\$6,031,162	\$2,086,726
<b>Expenditures:</b>		
a. Refunds of member contributions	153,923	276,366
b. Benefits paid	3,929,634	4,052,263
c. Administrative expenses	111,995	92,050
d. Total expenditures	4,195,552	4,420,679
<b>Reserve Increase:</b>		
Total revenues minus total expenditures	\$1,835,610	\$(2,333,953)
Adjustment - Prior Period		1

## Summary of Assets (Market Value)

	September 30, 2016	September 30, 2015
Cash and equivalents	\$ 521,417	\$ 998,243
Receivables less payables	70,548	87,669
Certificates of deposit & savings	none	none
U.S. Government Securities	5,325,283	6,344,377
Bonds: - government	none	none
- corporate	9,196,856	10,292,515
Stocks: - common	none	none
- preferred	none	none
Other (Equity, Mutual Funds)	34,023,367	29,579,057
Total Assets	\$49,137,471	\$47,301,861

## DERIVATION OF FUNDING VALUE OF RETIREMENT SYSTEM ASSETS

	2014	2015	2016	2017	2018	2019
<b><u>Beginning of Year Values</u></b>						
(1) Market Value	\$47,023,784	\$49,635,813	\$47,301,861			
(2) Funding Value	45,066,035	47,137,601	49,152,702			
<b><u>End of Year</u></b>						
(3) Market Value	49,635,813	47,301,861	49,137,471			
(4) Net Addition to Assets Excluding Investment Income#	(2,085,235)	(2,180,457)	(1,946,981)			
(5) Total Net Investment Income# =(3)-(1)-(4)	4,697,264	(153,495)	3,782,591			
(6) Projected Net Rate of Return#	8.00%	8.00%	8.00%	7.90%		
(7) Projected Investment Income =(6) x [ (2)+0.5 x (4) ]	3,521,873	3,683,790	3,854,337			
(8) Investment Income in Excess of Projected <b>Excess Investment Income Recognized</b>	1,175,391	(3,837,285)	(71,746)			
(9a) From Current Year = .25 x (8)	293,848	(959,321)	(17,937)			
(9b) From One Year Prior	439,429	293,848	(959,321)	\$ (17,937)		
(9c) From Two Years Prior	737,814	439,429	293,848	(959,321)	\$ (17,937)	
(9d) From Three Years Prior	(836,163)	737,812	439,428	293,847	(959,322)	\$ (17,935)
(9e) Total Cap. Val. Change Recogn. = (9a)+(9b)+(9c)+(9d)	634,928	511,768	(243,982)	(683,411)	(977,259)	(17,935)
(10) Increase(Decr.) in Funding Value = (4) + (7) + (9e)	2,071,566	2,015,101	1,663,374			
<b><u>End of Year</u></b>						
(11) Market Value	49,635,813	47,301,861	49,137,471			
(12) Funding Value = (2)+(10)	47,137,601	49,152,702	50,816,076			
(13) Market Value Rate of Return	10.2%	(0.3)%	8.2%			
(14) Funding Value Rate of Return	9.4%	9.1%	7.5%			
(15) Ratio of Market to Funding Value	105.3%	96.2%	96.7%			
<i># Net of expenses paid from investment income.</i>						

**ACCOUNTING INFORMATION SUBMITTED FOR VALUATION  
RECONCILIATION TO MARKET VALUE OF ASSETS**

**Reserve Accounts**

	<u>9/30/2016</u>	<u>9/30/2015</u>
Member Contributions (Members' Savings Reserve Fund)	<b>\$ 9,984,294</b>	\$ 9,921,280
City Contributions (Pension Reserve Fund)	<b>0</b>	0
Retired Members and Beneficiaries (Retirement Reserve Fund)	<b>38,776,876</b>	36,963,734
DROP Balances (Pension Payments Fund)	<u>376,301</u>	<u>416,847</u>
Total Reserve Accounts	<b>49,137,471</b>	47,301,861
Funding Value Adjustment	<u>1,678,605</u>	<u>1,850,841</u>
Funding Value of Assets	<b>\$50,816,076</b>	\$49,152,702

The Retirement System reserve accounts are maintained and reported on a market value basis by the outside auditor.

	<u>9/30/2016</u>	<u>9/30/2015</u>
DROP Reconciliation		
Beginning of Period	<b>\$ 416,848</b>	\$ 815,521
Accrual of Monthly Benefits	146,433	300,775
Interest	12,790	20,167
Actual Disbursements	(197,029)	(715,295)
Administrative Expenses	<u>(2,741)</u>	<u>(4,322)</u>
End of Period	<b>\$ 376,301</b>	\$ 416,848

## RETIRED MEMBER AND BENEFICIARY DATA HISTORICAL SCHEDULE

Year Ended	Added		Removed		Net Increase		End of Year		Expected Removals	
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Pensions
9/30/1987	3	\$ 17,843	2	\$ 3,074	1	\$ 14,769	61	\$ 289,976	1.6	\$ 4,955
9/30/1988	1	5,391	1	970	-	4,421	61	294,397	1.6	5,476
9/30/1989	2	5,579	1	2,946	1	2,633	62	297,030	1.8	6,098
9/30/1990	6	63,868	5	14,043	1	49,825	63	346,855	1.9	6,447
9/30/1991	3	67,943	3	11,449	-	56,494	63	403,349	1.9	7,388
9/30/1992	16	232,066	5	13,210	11	218,856	74	622,205	1.9	8,303
9/30/1993	6	87,030	7	27,306	(1)	59,724	73	681,929	2.2	11,617
9/30/1994	12	187,409	2	14,164	10	173,245	83	855,174	2.1	12,465
9/30/1995	8	184,693	6	24,617	2	160,076	85	1,015,250	2.3	14,657
9/30/1996	14	247,257	7	33,348	7	213,909	92	1,229,159	1.9	14,218
9/30/1997	5	65,068	4	22,208	1	42,860	93	1,272,018	2	16,685
9/30/1998							76	800,890		
9/30/1999 #	10	172,208	1	6,329	9	165,878	85	966,768	2.2	14,706
9/30/2000	10	136,587	7	59,619	3	76,968	88	1,043,736	2.4	18,374
9/30/2001	4	24,217	2	11,788	2	12,429	90	1,056,165	2.4	19,964
9/30/2002	11	151,501	3	10,618	8	140,883	98	1,197,048	2.7	21,848
9/30/2003	8	172,085	1	10,667	7	161,418	105	1,358,466	2.7	24,633
9/30/2004	11	134,489	3	15,936	8	118,553	113	1,477,019	3.0	27,076
9/30/2005	6	49,379	5	62,667	1	(13,288)	114	1,463,731	2.9	29,309
9/30/2006	10	202,781	5	22,299	5	180,482	119	1,644,213	3.1	31,396
9/30/2007	14	322,021	5	65,654	9	256,367	128	1,900,580	3.2	34,413
9/30/2008	10	298,652	8	44,625	2	254,027	130	2,154,607	3.6	39,721
9/30/2009	9	195,633	4	63,680	5	131,953	135	2,286,560	3.7	43,533
9/30/2010	10	184,355	3	64,710	7	119,645	142	2,406,205	3.9	47,327
9/30/2011	16	363,208	7	119,896	9	243,312	151	2,649,517	4.3	51,034
9/30/2012	13	435,110	4	39,274	9	395,836	160	3,045,353	4.6	54,980
9/30/2013	13	323,154	3	15,400	10	307,754	170	3,353,107	4.9	62,669
9/30/2014	19	484,768	11	263,155	8	221,613	178	3,574,720	5.3	70,395
9/30/2015	9	181,304	5	68,058	4	113,246	182	3,687,966	5.7	76,746
<b>9/30/2016</b>	<b>10</b>	<b>304,651</b>	<b>5</b>	<b>79,399</b>	<b>5</b>	<b>225,252</b>	<b>187</b>	<b>3,913,218</b>	<b>5.9</b>	<b>80,101</b>
Expected for 9/30/2017	-----								5.7	78,887

# Prior to 1999 valuation, numbers include General, Police and Fire.

## NORMAL (AGE AND SERVICE) RETIREMENTS\*\*

Valuation Year	No.	Average			Newly Retired During Year			
		Attained Age	Retirement Age	Annual Pensions	No.	Retirement Age	Service Averages	Annual Pensions
2002	73	68.6 yrs.	61.3 yrs.	13,759	10	64.2 yrs.	17.2 yrs.	\$ 11,983
2003	79	68.7	60.8	15,712	6	52.0	20.2	17,390
2004	88	68.6	60.9	14,222	9	61.3	14.4	11,827
2005	87	69.0	61.1	13,996	4	63.6	12.1	7,197
2006	93	68.9	60.8	14,669	8	59.1	17.5	19,444
2007	100	68.6	60.1	15,822	12	59.6	19.2	23,639
2008	104	68.8	59.7	17,352	9	61.0	22.9	30,855
2009	109	69.1	60.4	17,871	4	55.8	23.9	36,241
2010	113	69.4	60.5	17,861	7	62.1	18.7	19,289
2011	120	69.1	60.3	18,762	13	60.8	20.4	26,434
2012	131	69.1	60.2	20,282	13	60.0	24.5	33,470
2013	143	69.2	60.1	21,008	13	59.1	19.0	24,858
2014	144	69.3	60.0	21,460	11	64.2	17.4	30,863
2015	148	69.7	60.1	21,767	8	59.6	18.8	22,159
<b>2016</b>	<b>153</b>	<b>70.1</b>	<b>60.1</b>	<b>21,776</b>	<b>8</b>	<b>61.4</b>	<b>21.3</b>	<b>29,172</b>

\*\* Includes DROP members.

## RETIRED MEMBERS AND BENEFICIARIES HISTORICAL COMPARISON

Valuation Date	% Incr. in	No. of Active Per Retired	Pension	Average Pension
	Annual Pensions		Payroll as % of Active Payroll	
10/1/2002	13.3 %	2.5	14.2 %	\$ 12,215
10/1/2003	13.5	2.3	14.7	12,938
10/1/2004	8.7	2.2	15.2	13,071
10/1/2005	(0.9)	2.2	13.7	12,840
10/1/2006	12.3	2.1	14.2	13,817
10/1/2007	15.6	2.0	16.2	14,848
10/1/2008	13.4	1.8	18.6	16,574
10/1/2009	6.1	1.8	19.6	16,937
10/1/2010	5.2	1.6	21.0	16,945
10/1/2011	10.1	1.5	23.1	17,546
10/1/2012	14.9	1.3	28.0	19,033
10/1/2013	10.1	1.3	31.3	19,724
10/1/2014	6.6	1.2	33.5	20,083
10/1/2015	3.2	1.3	32.9	20,264
<b>10/1/2016</b>	<b>6.1</b>	<b>1.2</b>	<b>33.9</b>	<b>20,926</b>

**RETIRED MEMBERS AND BENEFICIARIES AS OF OCTOBER 1, 2016  
BY TYPE OF PENSION BEING PAID\***

**New Plan Pensions**

<b>Type of Pension Being Paid</b>	<b>No.</b>	<b>Annual Pension</b>	<b>Average Pension</b>	<b>Actuarial Liability</b>
<i>Age and Service Pensions</i>				
Regular	68	\$1,403,513	\$20,640	\$ 12,983,154
Option I	16	\$215,320	13,458	1,867,268
Option II	37	\$844,754	22,831	9,589,417
Option III	25	\$694,673	27,787	7,345,549
Surviving Beneficiaries	17	\$258,061	15,180	2,053,270
DROP	3	\$122,508	40,836	1,358,317
<b>Total Age and Service Pensions</b>	<b>166</b>	<b>3,538,829</b>	<b>21,318</b>	<b>35,196,975</b>
<i>Death-in-Service</i>				
Surviving Beneficiaries	6	140,806	23,468	1,435,515
<i>Disability Pensions</i>				
Regular	3	62,829	20,943	514,426
Option I	0	0	0	0
Option II	3	64,977	21,659	763,789
Option III	1	22,402	22,402	198,717
Surviving Beneficiaries	3	26,416	8,805	257,346
<b>Total Disability Pensions</b>	<b>10</b>	<b>176,624</b>	<b>17,662</b>	<b>1,734,278</b>
<b>Total New Plan Pensions</b>	<b>182</b>	<b>\$3,856,259</b>	<b>\$21,188</b>	<b>\$38,366,768</b>

\* Regular - benefit terminating upon death of retired member.

Option I - 10-year certain.

Option II - 100% joint and survivor benefit.

Option III - 50%/67%/75% joint and survivor benefit.

Surviving Beneficiaries - benefit terminating upon death of beneficiary.

**RETIRED MEMBERS AND BENEFICIARIES AS OF OCTOBER 1, 2016  
BY TYPE OF PENSION BEING PAID\***

**Old Plan Pensions**

<b>Type of Pension Being Paid</b>	<b>No.</b>	<b>Annual Pension</b>	<b>Average Pension</b>	<b>Actuarial Liability</b>
<i>Age and Service Pensions</i>				
Regular	1	\$ 10,992	\$10,992	\$ 26,475
Option III	2	39,967	19,984	248,375
Survivor Beneficiaries	1	2,400	2,400	14,096
<b>Total Age and Service Pensions</b>	<b>4</b>	<b>53,359</b>	<b>13,340</b>	<b>288,946</b>
<i>Disability Pensions</i>				
Survivor Beneficiaries	1	3,600	3,600	15,678
<b>Total Disability Pensions</b>	<b>1</b>	<b>3,600</b>	<b>3,600</b>	<b>15,678</b>
<b>Total Old Plan Pensions</b>	<b>5</b>	<b>\$ 56,959</b>	<b>\$11,392</b>	<b>\$ 304,624</b>
<i>Total New &amp; Old Plan</i>				
<b>Pensions Being Paid</b>	<b>187</b>	<b>\$3,913,218</b>	<b>\$20,926</b>	<b>\$38,671,392</b>

\* Regular - benefit terminating upon death of retired member.  
Automatic Spouse Benefit - 75% joint and survivor benefit.  
Surviving Beneficiaries - benefit terminating upon death of beneficiary.

**RETIRED MEMBER AND BENEFICIARY DATA AS OF OCTOBER 1, 2016  
BY ATTAINED AGES**

Attained Ages	New Plan		Old Plan		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
49	1	\$ 18,238			1	\$ 18,238
51	2	21,106			2	21,106
53	2	56,603			2	56,603
54	2	41,389			2	41,389
55	1	35,415			1	35,415
56	2	79,464			2	79,464
57	4	173,285			4	173,285
58	8	264,027			8	264,027
59	5	217,699			5	217,699
60	6	160,367			6	160,367
61	6	164,203			6	164,203
62	11	351,358			11	351,358
63	7	189,902			7	189,902
64	11	339,041			11	339,041
65	3	49,253			3	49,253
66	10	159,466			10	159,466
67	5	102,877			5	102,877
68	9	251,635			9	251,635
69	11	223,312			11	223,312
70	5	100,798			5	100,798
71	2	16,834			2	16,834
72	8	107,175			8	107,175
73	8	116,110			8	116,110
74	4	55,747			4	55,747
75	1	23,066			1	23,066
76	3	36,454			3	36,454
77	7	79,807			7	79,807
78	3	61,514			3	61,514
79	5	50,731			5	50,731
80	3	44,772			3	44,772
81	1	13,989			1	13,989
82	3	46,635			3	46,635
83	3	36,186	1	\$ 2,400	4	38,586
84	5	36,304			5	36,304
85	2	21,237	1	34,053	3	55,290
86	7	57,811			7	57,811
87	1	21,350			1	21,350
89	2	18,778	2	9,514	4	28,292
92	2	7,521			2	7,521
96			1	10,992	2	10,992
98	1	4,800				4,800
<b>Totals</b>	<b>182</b>	<b>\$3,856,259</b>	<b>5</b>	<b>\$56,959</b>	<b>187</b>	<b>\$3,913,218</b>

**VESTED TERMINATED MEMBERS AS OF OCTOBER 1, 2016  
BY ATTAINED AGES**

Attained Ages	No.	Annual Benefits
41	1	\$ 11,774
45	1	16,356
46	1	5,996
47	1	7,327
48	1	37,774
50	1	17,401
53	1	10,961
54	1	12,705
56	1	8,535
58	2	10,416
59	2	20,434
<b>Totals</b>	<b>13</b>	<b>\$159,679</b>

## ACTIVE AND VESTED TERMINATED MEMBERS INCLUDED IN VALUATION (EXCLUDING DROP MEMBERS)

Valuation Date	Active Members	Vested Terminated Members	Valuation Payroll	Average		
				Age	Service	Pay
10/1/2007	250	14	\$ 11,699,741	45.2 yrs.	10.1 yrs.	\$46,799
10/1/2008	239	14	11,556,083	45.9	10.5	48,352
10/1/2009	239	11	11,676,911	47.0	11.0	48,857
10/1/2010	227	12	11,484,650	47.0	11.6	50,593
10/1/2011	219	11	11,449,082	47.3	11.7	52,279
10/1/2012	214	16	10,884,445	47.0	11.2	50,862
10/1/2013	213	16	10,713,988	47.2	11.1	50,300
10/1/2014	218	16	10,662,900	46.6	10.3	48,912
10/1/2015	233 *	13	11,196,298 *	46.1	9.8	48,053
<b>10/1/2016</b>	<b>231 *</b>	<b>13</b>	<b>11,528,990 *</b>	<b>46.6</b>	<b>9.9</b>	<b>49,909</b>

\* In 2016 there were 3 DROP members with an estimated payroll of \$214,387.

## NUMBER ADDED TO AND REMOVED FROM ACTIVE MEMBERSHIP

Year Ended	Number Added During Year		Terminations During Year										Active Members End of Year
			Normal Retirement		Disability Retirement		Died-in-Service		Withdrawal				
	A	E	A	E	A	E	A	E	A	A	A	E	
2007	27	28	3	10.3	1	0.3	0	0.2	2	22	24	20.6	250
2008	9	20	1	8.3	0	0.3	1	0.2	1	17	18	20.6	239
2009	16	16	4	10.3	0	0.3	0	0.2	0	12	12	15.7	239
2010	12	24	7	12.6	1	0.3	0	0.2	1	15	16	13.8	227
2011	18	26	12	11.0	0	0.3	0	0.2	1	13	14	12.2	219
2012	19	24	13	10.6	0	0.3	0	0.3	5	6	11	14.1	214
2013	15	16	11	9.5	0	0.3	0	0.2	1	4	5	14.5	213
2014	35	30	11	9.5	1	0.3	0	0.3	2	16	18	14.2	218
2015	35	20	5	7.1	0	0.3	0	0.2	1	14	15	19.9	233
<b>2016</b>	<b>30</b>	<b>32</b>	<b>6</b>	<b>9.7</b>	<b>0</b>	<b>0.3</b>	<b>1</b>	<b>0.2</b>	<b>2</b>	<b>23</b>	<b>25</b>	<b>23.8</b>	<b>231</b>
5-yr. Totals													
2012 - 2016	134	122	46	46	1	2	1	1	11	63	74	87	
Expected for 2017				7.2		0.3		0.4				21.7	

A Represents actual number.

E Represents expected number.

**ACTIVE MEMBERS AS OF OCTOBER 1, 2016  
BY NEAR AGE AND YEARS OF SERVICE  
(EXCLUDING DROP MEMBERS)**

Near Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19								0	\$ 0
20-24	2	1						3	76,969
25-29	20	2	1					23	794,663
30-34	9	9	5	1				24	1,099,713
35-39	18	5	3	2				28	1,396,921
40-44	4	1	3	3				11	611,410
45-49	12	2	4	2	4	1		25	1,215,726
50-54	7	5	16	2	6	8	3	47	2,659,874
55-59	14	2	7	5	4	6		38	2,049,350
60	4	1	1	2			2	10	530,768
61	3	1	2		1			7	260,980
62			2	1				3	160,682
63		1			1	1		3	240,151
64									
65	2	1	1		1			5	361,505
66			1					1	38,200
67									
68	1							1	14,103
69	1							1	8,394
70									
71									
72		1						1	9,581
<b>Totals</b>	<b>97</b>	<b>32</b>	<b>46</b>	<b>18</b>	<b>17</b>	<b>16</b>	<b>5</b>	<b>231</b>	<b>\$11,528,990</b>

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 46.6 years  
Service: 9.9 years  
Annual Pay: \$49,909

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## **SECTION C**

**ACTUARIAL COST METHOD, ACTUARIAL  
ASSUMPTIONS AND DEFINITIONS OF TECHNICAL  
TERMS**

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## 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 estimated active status exit ages. This was 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-11 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 2.5% a year for the purpose of determining the level percent contributions, except to the extent needed for FS 112.64(5) compliance. 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 PARTICIPANT PAYROLL AMORTIZATION  
OF UNFUNDED ACTUARIAL ACCRUED LIABILITY\*  
(AMORTIZATION SCHEDULE \$ AMOUNTS IN THOUSANDS)**

Year Ended September 30	Payroll		Unfunded		Contribution	
	Inflated Dollars	Constant Value	Inflated Dollars	Constant Value	Inflated Dollars	Constant Value
2016	\$11,529	\$11,529	\$ 13,836	\$ 13,836	\$ 1,160	\$ 1,160
2017	11,817	11,529	13,709	13,375	1,189	1,160
2018	12,113	11,529	13,542	12,889	1,219	1,160
2019	12,415	11,529	13,330	12,378	1,249	1,160
2020	12,726	11,529	13,069	11,840	1,816	1,646
2025	14,398	11,529	7,934	6,353	1,850	1,481
2030	16,290	11,529	2,175	1,540	436	308
2035	18,431	11,529	593	371	157	98
2039	20,344	11,529	729	413	438	248
2040	20,853	11,529	326	180	335	185
2041	11,248	11,529	0	0	0	0
* \$ 2,605,804	over 25 years		362,026	over 15 years		
871,199	over 24 years		2,384,103	over 14 years		
(1,370,732)	over 23 years		3,193,038	over 13 years		
(3,362,808)	over 22 years		4,034,814	over 12 years		
160,484	over 21 years		1,238,221	over 11 years		
2,430,725	over 20 years		230,538	over 9 years		
1,065,669	over 19 years		682,014	over 6 years		
1,093,991	over 18 years		-	over 5 years		
921,151	over 17 years		(1,756,343)	over 4 years		
\$(947,961)	over 16 years					
			<b>\$13,835,933</b>			

Level percent-of-payroll financing of unfunded actuarial accrued liability 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 participant payroll used to compute the level percent-of-payroll contribution is the same rate of payroll growth used to compute actuarial liability 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 liability will tend to decline.

If future payroll growth is less than the assumed rate due to decreases in the number of participants, the percent-of-payroll contribution rate for unfunded actuarial accrued liability 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 plan activities (actuarial assumptions) to the benefit provisions and people information of the system, using the actuarial cost method described on page C-1. All actuarial assumptions used in this report are estimates of future experience.

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

- (i) long-term rates of investment return to be generated by the assets of the system
- (ii) patterns of pay increases to active members
- (iii) rates of mortality among active members, retired members and beneficiaries
- (iv) rates of withdrawal of active members
- (v) rates of disability among active members
- (vi) the age patterns of actual retirements

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.

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Actual activities of the System 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 activity 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 assumptions are modified to reflect experience trends (but not random or temporary year-to-year fluctuations).

The actuarial assumptions are adopted by the Board of Trustees after consultation with the actuary. In general, the actuarial assumptions were based on the System's experience, as well as experience of plans similar in nature where the System's experience was insufficient. In addition, the mortality tables also reflect actual trends. The reasonableness of the economic assumptions was based upon capital market expectations provided by various investment consultants and other sources such as the Social Security Trustees report. All actuarial assumptions are based on future expectations, not market measures.

The actuarial assumptions regarding the INFLATION rate, the SALARY INCREASE rates, and REAL INVESTMENT RETURN were effective October 1, 2016. These actuarial assumptions are used, in combination with the other actuarial 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 covered payroll.

The annual interest rate used in making this valuation was 7.9%. It is composed of inflation and real investment return.

**PRICE INFLATION.** 2.5% per annum, compounded annually. 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					Average	
	2016	2015	2014	2013	2012	3-Year	5-Year
Actual	<b>1.5%</b>	0.0%	1.7%	1.2%	2.0%	1.0%	1.3%
Assumed	<b>3.0%</b>	3.5%	3.5%	3.5%	3.5%	3.3%	3.4%

**REAL INVESTMENT RETURN.** 5.4% per annum, compounded annually. 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 for the Retirement System has been:

	Year Ended September 30					Average	
	2016	2015	2014	2013	2012	3-Year	5-Year
Net Rate	<b>7.5%</b>	9.1%	9.4%	8.6%	6.1%	8.6%	8.1%
Less Inflation Rate	<u><b>1.5%</b></u>	<u>0.0%</u>	<u>1.7%</u>	<u>1.2%</u>	<u>2.0%</u>	<u>1.0%</u>	<u>1.3%</u>
Net Real Rate	<b>6.0%</b>	9.1%	7.8%	7.5%	4.1%	7.5%	6.9%
Target Real Rate	<b>5.0%</b>	4.5%	4.5%	4.5%	4.5%	4.6%	4.6%

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

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

**SALARY INCREASES.** Employee salaries are estimated 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 estimated rates of increases in individual salaries for sample ages follows:

Attributable to:	Annual Rates for Salary Increase for Sample Ages				
	20	30	40	50	60
Merit & Seniority	3.8%	2.7%	2.1%	1.1%	0.2%
General Increase in Wage Level Due to:					
Price Inflation	2.5	2.5	2.5	2.5	2.5
Other Factors	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Total	6.3%	5.2%	4.6%	3.6%	2.7%

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 2.5% a year.

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

	Year Ended September 30					Average		
	2016	2015	2014	2013	2012	3-Year	5-Year	10-Year
% Change:								
Actual (1)	5.9%	0.2%	3.8%	2.0%	2.5%	3.3%	2.9%	3.9%
Assumed	4.8%	5.6%	5.5%	5.6%	5.5%	5.3%	5.4%	5.6%
% Change in Total Payroll (2)	1.8%	(0.9)%	(1.1)%	0.1%	(3.8)%	(0.1)%	(0.8)%	(0.2)%

(1) Excluding terminations and new members.

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

In order to achieve the funding objective of a contribution rate which remains level as a percent-of-payroll, the total rate of investment return 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.

	<b>Year Ended September 30</b>					<b>Average</b>	
	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>3-Year</b>	<b>5-Year</b>
Net Investment Return Rate	7.5%	9.1%	9.4%	8.6%	6.1%	8.6%	8.1%
Rate of Change in Average Pay	5.9%	0.2%	3.8%	2.0%	2.5%	3.2%	2.9%
Difference: Actual	1.6%	8.9%	5.6%	6.6%	3.6%	5.3%	5.2%
Target	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%

**Mortality Table.** The mortality tables used to measure retired life mortality were the Florida Retirement System (FRS) Mortality Tables, as described below:

- Male non-disabled pre-retirement mortality: fully generational mortality. 50% of the RP-2000 Annuitant White Collar Table and 50% of the RP-2000 Annuitant Blue Collar Table, projected with scale BB.
- Female non-disabled pre-retirement mortality: fully generational mortality. 100% of the RP-2000 Annuitant White Collar Table, projected with scale BB.
- Male non-disabled post-retirement mortality: fully generational mortality. 50% of the RP-2000 Annuitant White Collar Table and 50% of the RP-2000 Annuitant Blue Collar Table, projected with scale BB.
- Female non-disabled post-retirement mortality: fully generational mortality. 100% of the RP-2000 Annuitant White Collar Table, projected with scale BB.
- Male disabled mortality: 100% of the RP-2000 Disabled Male Table set back 4 years.
- Female disabled mortality: 100% of the RP-2000 Disabled Female Table, set forward 2 years.

Sample values follow:

<b>RP-2000 Fully Generational Mortality Tables</b>				
<b>Sample Ages in 2016</b>	<b>Value of \$1 Monthly for Life</b>		<b>Future Life Expectancy (Years)</b>	
	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>
50	\$138.26	\$143.49	34.51	38.17
55	133.11	138.41	29.88	33.15
60	125.57	131.60	25.21	28.25
65	115.62	122.61	20.69	23.51
70	103.24	111.42	16.45	19.06
75	88.66	98.15	12.60	14.99
80	72.81	83.14	9.28	11.38

The margin for future mortality improvements is included in the projection scales. 25% of pre-retirement deaths were assumed to be duty related.

**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 During Next Year
ALL	0	37.00%
	1	23.50%
	2	14.10%
	3	9.40%
	4	6.58%
25	5 & Over	11.01%
30		8.90%
35		6.15%
40		4.23%
45		2.98%
50		2.22%
55		1.78%
60		1.50%

These rates were first used for the October 1, 2002.

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

Sample Ages	% of Active Members
	Becoming Disabled During Next Year
20	0.04%
25	0.04%
30	0.04%
35	0.08%
40	0.12%
45	0.16%
50	0.23%
55	0.42%
60	0.61%
65	0.77%

The mortality table was set forward ten years from the age at disability for projecting disability costs, of which 25% were assumed to be duty related.

These rates were first used for the October 1, 1995 valuation.

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

Retirement Ages	Age Based		Yrs. of Service	Service Based	Early Retirement Ages	Early Retirement Rates
	With 10 Years of Service at 11/25/2013	With Less Than 10 Years of Service at 11/25/2013				
55		75%	30	75%	45	5%
56		75%	31	30%	46	5%
57		75%	32	30%	47	5%
58		75%	33	30%	48	5%
59		75%	34	30%	49	5%
60	40%	75%	35	30%	50	5%
61	10%	75%	36	30%	51	5%
62	20%	40%	37	30%	52	5%
63	20%	20%	38	30%	53	5%
64	20%	20%	39	30%	54	5%
65	20%	20%	40	100%	55-59	5%
66	20%	20%				
67	25%	25%				
68	25%	25%				
69	25%	25%				
70	100%	100%				

A General member with at least 10 years of service at November 25, 2013 is eligible for normal retirement after 30 years of service or after attaining age 60 with 5 years of service. Members with less than 10 years of service at November 25, 2013 are eligible for normal retirement at age 55 with 30 years of service or age 62 with 10 years of service.

A General member is eligible for early retirement after 20 years of service.

These rates were first used for the October 1, 2013 valuation.

**ADMINISTRATIVE EXPENSES.** Administrative expenses are projected to continue at the same percent-of-payroll as experienced during the preceding fiscal year.

**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.

**VESTED MEMBERS** who terminate with a benefit worth less than 100% of their own accumulated contributions were assumed to forfeit their vested benefit.

**COMPENSATION** reported for the actuarial valuation includes all amounts included in final average compensation for benefit purposes.

**SUMMARY OF ASSUMPTIONS USED  
SEPTEMBER 30, 2016**

**Pensions in an Inflationary Environment**

**Value of \$1,000/month Retirement Benefit  
to an Individual Who Retires at Age 60  
in an Environment of 2.5% Inflation**

<u>Age</u>	<u>Value</u>
60	\$1,000
61	976
62	952
63	929
64	906
65	884
70	780
75	689
80	609
85	539
90	476
95	420

The life expectancy of a 60 year old male retiree is age 85. The life expectancy for a 60 year old female retiree is age 88. 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 MISCELLANEOUS AND TECHNICAL ASSUMPTIONS**

**Marriage Assumption.** 100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits.

**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.

**Decrement Operation.** Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.

**Normal Form of Benefit.** The assumed normal form of benefit is the straight life form. Optional benefit forms are available on an actuarial equivalent basis.

**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 system 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.

## DEFINITIONS OF TECHNICAL TERMS

**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 system assets. Sometimes referred to as "unfunded past service liability," "unfunded accrued liability" or "unfunded supplemental present value."

Most retirement systems have unfunded actuarial accrued liability. An amount arises each time new benefits are added and each time an experience loss occurs.

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 the amount (after due allowance for devaluation of the dollar).

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## **SECTION D**

### **ADDITIONAL DISCLOSURE INFORMATION**

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**GASB Statements No. 67 and No. 68 are the accounting standards which replaced GASB Statements No. 25 and No. 27. GASB Statement No. 67 is first effective for fiscal year 2014 and GASB Statement No. 68 is first effective for fiscal year 2015. A separate GASB Statements No. 67 and No. 68 report has been issued outside of this report. This section contains historical GASB Statements No. 25 and No. 27 reporting information for prior fiscal years and illustrative information for fiscal year 2015 and after.**

## CONTRIBUTIONS REQUIRED AND CONTRIBUTIONS MADE

The City's funding policy provides for periodic employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are designed to accumulate sufficient assets to pay benefits when due. The normal cost and actuarial accrued liability are determined using an entry-age actuarial funding method. Unfunded actuarial accrued liability is being amortized as a level percent-of-payroll over periods of 4 to 25 years.

During the year ended September 30, 2016 contributions totaling \$2,248,571 -- \$1,321,320 employer and \$927,251 employee -- were made in accordance with contribution requirements determined by an actuarial valuation of the plan as of October 1, 2014. The employer contributions consisted of \$447,325 for normal cost and administrative expenses and \$873,995 for amortization of the unfunded actuarial accrued liability. Employer contributions represented 11.46% of covered payroll.

Significant actuarial assumptions used to compute contribution requirements were the same as those used to compute the standardized measure of the actuarial accrued liability.

### COMPUTED EMPLOYER CONTRIBUTION COMPARATIVE SCHEDULE

Fiscal Year Beginning October 1	Valuation Date	Contribution Rates As Percents of Valuation Payroll	Valuation Payroll	Dollar Contribution for Fiscal Year	
				Computed	Actual
2008	10/1/2007	4.9	\$ 11,699,741	\$ 612,416	\$ 612,416
2009	10/1/2008	6.0	11,556,083	749,331	737,532
2010	10/1/2009	7.8	11,676,911	971,717	971,717
2011	10/1/2010	9.2	11,484,650	1,132,385	1,132,385
2012	10/1/2011	12.2	11,449,082	1,490,901	1,490,902
2013	10/1/2012	10.4	10,884,445	1,205,756	1,216,994
2014	10/1/2013 *	12.1	10,713,988	1,387,166	1,387,166
2015	10/1/2014	11.6	10,662,900	1,321,320	1,321,320
2016	10/1/2015 *	13.5	11,196,298	1,591,545	
<b>2017</b>	<b>10/1/2016 *</b>	<b>15.8</b>	<b>11,528,990</b>	<b>1,892,707</b>	

*\*After changes in benefit provisions and/or actuarial assumptions.*

## ACTUARIAL ACCRUED LIABILITY

The actuarial accrued liability is a measure intended to help users assess (i) a pension fund's funded status on a going-concern basis, and (ii) progress being made toward accumulating the assets needed to pay benefits as due. Allocation of the actuarial present value of projected benefits between past and future service was based on service using the individual entry-age actuarial cost method. Assumptions, including projected pay increases, were the same as used to determine the Fund's level percent of payroll annual required contribution between entry-age and assumed exit age. Entry-age was established by subtracting credited service from current age on the valuation date.

The preceding methods comply with the financial reporting standards established by the Governmental Accounting Standards Board.

The entry age actuarial accrued liability was determined as part of an actuarial valuation of the plan as of October 1, 2016. Significant actuarial assumptions used in determining the entry age actuarial accrued liability include (a) a rate of return on the investment of present and future assets of 7.9% per year compounded annually, (b) projected salary increases of 2.5% per year compounded annually, 2.5% attributable to inflation, (c) additional projected salary increases of 3.8% to 0.0% per year, depending on age, attributable to seniority/merit, and (d) the assumption that benefits will not increase after retirement.

As of October 1, 2016, the unfunded actuarial accrued liability was \$13,835,933 determined as follows:

Actuarial Accrued Liability:	
Active participants (118 vested and 113 non-vested)	\$24,697,403
Retired participants and beneficiaries currently receiving benefits (187 vested)	38,671,392
Vested terminated participants not yet receiving benefits (13 vested)	906,913
DROP balances	376,301
Total Actuarial Accrued Liability	64,652,009
Actuarial Value of Assets (market value was \$49,137,471)	50,816,076
Unfunded Actuarial Accrued Liability	<u>\$13,835,933</u>

During the year ended September 30, 2016, the plan experienced a net change of \$4,249,403 in the actuarial accrued liability, of which \$2,044,097 was attributable to changes in assumptions.

**SUPPLEMENTARY INFORMATION  
SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date October 1	Actuarial Value of Assets# (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (b)-(a)	Funded Ratio (a)/(b)	Active Participant Covered Payroll (c)	Unfunded AAL as a Percentage of Active Member Covered Payroll ((b-a)/c)
2002 *	\$34,361	\$30,057	\$ (4,304)	114.3 %	\$ 8,405	(\$51) %
2003	33,997	33,590	(407)	101.2	9,259	(4.4)
2004	33,674	36,614	2,940	92.0	9,697	30.3
2005	34,445	40,242	5,797	85.6	10,714	54.1
2006	36,644	43,650	7,006	83.9	11,575	60.5
2007	39,424	46,208	6,785	85.3	11,700	58.0
2008	40,975	49,110	8,135	83.4	11,556	70.4
2009	41,538	51,118	9,580	81.3	11,677	82.0
2010	41,771	53,050	11,279	78.7	11,485	98.2
2011	40,809	54,975	14,166	74.2	11,449	123.7
2012	42,288	57,220	14,932	73.9	10,884	137.2
2013 *	45,066	56,970	11,904	79.1	10,714	111.1
2014	47,138	57,746	10,608	81.6	10,663	99.5
2015 *	49,153	60,403	11,250	81.4	11,196	100.5
<b>2016 *</b>	<b>50,816</b>	<b>64,652</b>	<b>13,836</b>	<b>78.6</b>	<b>11,529</b>	<b>120.0</b>

Dollar amounts are in thousands.

\* After changes in benefits and/or actuarial assumptions and/or actuarial cost methods.

# The actuarial value of assets is four year smoothed market value.

Analysis of the dollar amounts of actuarial value of assets, actuarial accrued liability, or unfunded actuarial accrued liability in isolation can be misleading. Expressing the actuarial value of assets as a percentage of the actuarial accrued liability provides one indication of the System's funded status on a going-concern basis. Analysis of this percentage over time indicates whether the System is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the plan. The unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial accrued liability as a percentage of covered payroll approximately adjusts for the effects of inflation and aids analysis of the progress being made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the plan.

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**SECTION E**

SUMMARY OF VALUATION RESULTS IN STATE  
FORMAT

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

	<u>October 1, 2016</u>		<u>October 1, 2015</u>
	<u>After</u>	<u>Before</u>	
(a) Participant Data			
(i) Active members			
- number	231	231	233
- annual payroll	\$11,529	\$11,529	\$11,196
(ii) Retired members & beneficiaries (excl. disability)			
- number	176	176	173
- annualized benefit payroll	\$ 3,733	\$ 3,733	\$ 3,571
(iii) Disabled members & beneficiaries			
- number	11	11	9
- annualized benefit payroll	\$ 180	\$ 180	\$ 117
(iv) Terminated vested members			
- number	13	13	13
- annualized deferred benefit payroll	\$ 160	\$ 160	\$ 192
(b) Assets			
(i) Actuarial value for funding	50,816	50,816	49,153
(ii) Market value	49,137	49,137	47,302
(c) Actuarial Liability			
(i) Actuarial present value of active member benefits:			
service retirement	28,487	29,411	27,831
termination benefits - pension	2,134	2,033	2,005
disability retirement	587	648	626
survivor benefits (pre-retirement)	1,133	735	707
termination benefits - refunds	462	461	405
Total	<u>32,803</u>	<u>33,288</u>	<u>31,574</u>
(ii) Actuarial present value of terminated vested member benefits	907	855	1,232
(iii) Actuarial present value of retired member benefits:			
total service retirement & survivors	36,921	35,047	34,333
DROP reserve	376	376	417
disability retirement & survivors	1,750	1,718	1,128
Total	<u>39,048</u>	<u>37,141</u>	<u>35,877</u>
(iv) Total actuarial present value of future benefit payments	72,757	71,284	68,683
(v) Payables	0	0	0
(vi) Actuarial accrued liability	64,652	62,608	60,403
(vii) Unfunded actuarial accrued liability(1)	\$ 13,836	\$ 11,792	\$ 11,250

(1) Please refer to page A-11 for requested detail.

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

	<u>October 1, 2016</u>		<u>October 1, 2015</u>
	<u>After</u>	<u>Before</u>	
(d) Actuarial Present Value of Accrued Benefits (calculated in accordance with FASB Statement No. 35)			
(i) Vested accrued benefits			
Retired members and beneficiaries	\$39,048	\$ 36,765	\$35,877
Terminated members	907	855	1,232
Active members (includes non-forfeitable accum. member contributions of \$9,309 for 2016 and \$9,012 for 2015)	19,177	18,473	18,634
Total	<u>\$59,132</u>	<u>\$56,093</u>	<u>\$55,743</u>
(ii) Non-vested accrued benefits	1,555	1,678	1,397
(iii) Total actuarial p.v. of accrued benefits	60,687	57,771	57,140
(iv) Actuarial p.v. of accrued benefits at begin. of year	57,140	57,140	53,988
(v) Changes attributable to:			
Amendments	0	0	0
Assumption change	2,916	0	2,755
Operation of decrements	4,715	4,715	4,726
Benefit payments	(4,084)	(4,084)	(4,329)
Other	<u>none</u>	<u>none</u>	<u>none</u>
(vi) Net change	3,547	631	3,152
(vii) Actuarial p.v. of accr. benefits at end of year	\$60,687	\$ 57,771	\$57,140
(e) Plan costs for fiscal year beginning October 1, 2017 and October 1, 2016 (EANC)			
(i) Normal costs			
Service pensions	7.40%	7.71%	7.71%
Disability pensions	0.31%	0.35%	0.35%
Survivor pensions (pre-retirement)	0.45%	0.30%	0.30%
Deferred service pensions	1.27%	1.23%	1.27%
Refunds of member contributions	1.32%	1.27%	1.24%
Total normal cost	<u>10.75%</u>	<u>10.86%</u>	<u>10.87%</u>
(ii) Payment to amortize unf'd. act. accr. liab.	10.05%	8.23%	7.90%
(iii) FS112.64(5) Compliance	2.00%	2.20%	1.86%
(iv) Administrative expenses	0.97%	0.97%	0.82%
(v) Amount to be paid by members	7.95%	7.95%	7.95%
(vi) Expected plan sponsor	15.82%	14.31%	13.50%
- dollars	\$ 1,893	\$ 1,737	\$ 1,592

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

		<u>October 1, 2016</u>		<u>October 1, 2015</u>
		<u>After</u>	<u>Before</u>	
(f)	Past Contributions (fiscal year ending 9/30/2016 & 2015)			
	(i) Required minimum:			
	Plan sponsor	\$ 1,321	\$ 1,321	\$ 1,387
	Members	906	906	910
	Total	<u>2,227</u>	<u>2,227</u>	<u>2,297</u>
	(ii) Actual:			
	Plan sponsor	1,321	1,321	1,387
	Members	927	927	853
	Total	<u>2,248</u>	<u>2,248</u>	<u>2,240</u>
(g)	Net Experience Gain (Loss)	(562)	(562)	1,659
(h)	Other Disclosures			
	(i) Present value of active member future salaries			
	from attained age	\$77,186	\$82,237	\$78,323
	from entry age		not applicable to individual EANC method	
	(ii) Present value of active member future contribs.			
	from attained age	\$ 6,136	\$6,538	\$ 6,227
	from entry age		not applicable to individual EANC method	

**RECONCILIATION OF MEMBERSHIP  
FOR THE PLAN YEAR ENDED SEPTEMBER 30, 2016**

	Active Members	Vested Terminated Members	Pension Recipients			
			Active DROP	Service Retired	Disability Retired	All Beneficiaries
<b>No. at Start of Year</b>	<b>233</b>	<b>13</b>	<b>6</b>	<b>144</b>	<b>5</b>	<b>27</b>
Increase (Decrease) From						
Service Retirement	(6)	(2)	(3)	11		
DROP Retirement						
Disability Retirement				(1)	1	
Deaths	(1)			(4)		(1)
Other Pension Terminations						
Vested Terminations	(2)	2				
Non-Vested Terminations	(23)					
Transfer to another division						
New Entrants/Rehires	30					2
<b>No. at End of Year</b>	<b>231</b>	<b>13</b>	<b>3</b>	<b>150</b>	<b>6</b>	<b>28</b>

April 18, 2017

Mr. Duston Scott  
Pension Administrator  
City of Jacksonville Beach  
11 North Third Street  
Jacksonville Beach, FL 32250

Dear Duston:

Enclosed are 15 copies of the report of the Sixty-Sixth Annual Actuarial Valuation of the City of Jacksonville Beach General Employees' Retirement System. As directed, copies have been sent directly to:

Attention: Mr. Ryan Tucker  
Purvis, Gray and Company  
222 N.E. 1<sup>st</sup> Street  
Gainesville, FL 32602

Attention: Mr. Douglas E. Beckendorf, Actuary  
Division of Retirement  
Bureau of Local Retirement Systems  
P.O. Box 9000  
Tallahassee, FL 32315-9000

Sincerely,



Brad Lee Armstrong, ASA, EA, FCA, MAAA

BLA:bd  
Enclosures

Purvis, Gray and Company  
Attention: Mr. Ryan Tucker  
P.O. Box 23999  
222 N. E. 1<sup>st</sup> Street  
Gainesville, FL 32602  
Fax (941-365-0238)

Mr. Douglas E. Beckendorf, Actuary  
Local Retirement Section  
Division of Retirement  
P.O. Box 9000  
Tallahassee, Florida 32315-9000