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City of Melbourne

Firefighters' Pension Plan

Actuarial Valuation as of October 1, 2017

January 25, 2018

REPORT TO DETERMINE MINIMUM FUNDING REQUIREMENTS
FOR THE PLAN AND FISCAL YEAR
ENDING SEPTEMBER 30, 2018 AND 2019

January 25, 2018

Board of Trustees
City of Melbourne Firefighters' Pension Plan
Melbourne, Florida

RE: Actuarial Valuation as of October 1, 2017

Dear Board Members:

We are pleased to present the actuarial valuation as of October 1, 2017 for the City of Melbourne Firefighters' Pension Plan (the Plan). This report provides a review of the current funded status of the Plan, establishes the minimum funding requirements for the fiscal years ending September 30, 2018 and 2019 and provides an analysis of experience since the last valuation. In addition to providing the summary and derivation of actuarial findings, this report describes the data, assumptions, and methods used to create these results.

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.

Statement by Enrolled Actuary:

"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, 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."

We look forward to presenting these results to you in person and are always available to answer any questions you may have.

Sincerely,

Chad M. Little, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-6619

Paula C. Freiman, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-5796

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Section 1 Board Summary

This report presents the results of the October 1, 2017 actuarial valuation.

Summary of Principal Valuation Results

Fiscal Year Ending September 30,	Prior Report 2018	Plan Change 2018	2019
Expected Contribution from City	$2,645,963	$2,634,391	$3,026,235
Estimated State Contribution	545,561	545,561	514,983
City Plus State Contribution Requirement	$3,191,524	$3,179,952	$3,541,218
Expected City Contribution % Pay	35.72%	35.57%	38.88%
Estimated State Contribution % Pay	7.37%	7.37%	6.62%
City Plus State Contribution % Pay	43.09%	42.94%	45.50%
Expected Contribution from City % Pay Including DROP Pay	31.24%	31.10%	34.86%

Plan Year Beginning October 1,	Prior Report 2016	Plan Change 2016	2017
Accrued Liability (AL)	$81,060,815	$81,190,125	$85,195,006
Actuarial Value of Assets	63,670,662	63,929,282	67,582,483
Unfunded Accrued Liability (UAL)	$17,390,153	$17,260,843	$17,612,523
Funded Percentage	78.55%	78.74%	79.33%

Plan Year Beginning October 1,	2016	2016	2017
Assumed Net Investment Return	8.00%	8.00%	7.75%
Individual Salary Increase Assumption	6.00%	6.00%	6.00%
Funding Method	Entry Age	Entry Age	Entry Age

Summary of Significant Events

Determination of the funded status of the Plan and minimum funding requirements are based on participant data, asset information, Plan provisions, actuarial methods and assumptions, as well as contributions made to the Plan by the State of Florida. Any significant events associated with these items are discussed in the following.

In preparing our report we relied, without audit, on information (some oral and some written) supplied by the Plan Administrator. This information includes, but is not limited to, statutory provisions, employee census, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

Participant Data

The number of active members increased by 4 along with an increase in the inactive population of 3. Average individual salary increases amongst continuing active members were more than expected at 7.2% compared to the 6.0% individual salary increase assumption. A small demographic gain was experienced primarily due to two vested terminations (one having received a refund of employee contributions) and three retiree deaths offset by pay increases more than expected.

The following provides a summary of the actual to expected pay increases over the last ten years. The 6.0% long-term individual salary increase assumption still appears reasonable.

Fiscal Year Ending 9/30	Average Individual Salary Actual	Average Individual Salary Expected	Actual Total Payroll	Actual Payroll Increase
2017	7.2 %	6.0 %	7,566,356	9.77%
2016	4.6 %	6.0 %	6,893,083	5.82 %
2015	3.7 %	6.0 %	6,513,920	7.21 %
2014	5.6 %	6.0 %	6,075,965	(2.73)%
2013	2.6 %	6.0 %	6,246,560	(10.32)%
2012	3.3 %	6.0 %	6,965,758	(2.65)%
2011	3.1 %	6.0 %	7,155,492	(8.47)%
2010	3.6 %	6.0 %	7,817,408	(2.11)%
2009	2.9 %	6.0 %	7,986,115	3.72 %
2008	8.7 %	6.0 %	7,700,032	6.85 %
10-Yr Avg	4.5 %	6.0 %		0.49%

The actual total payroll upon which employee contributions were collected increased 9.77% from the prior year. Florida Statutes 112.64(5)(a) requires that the payroll growth assumption not exceed the average payroll growth for the prior ten years. Because the average payroll growth for the prior ten years was 0.49%, we recommend moving to level dollar amortization at this time (as discussed with the Board of Trustees at their January 25, 2017 meeting). In comparison, the Unfunded Accrued Liability was amortized as a percent of pay assuming 1.01% total pay increases in the prior valuation of the Plan.

In general, should a pattern of consistent gains or losses develop, assumptions may require revision.

Assets

While the return on the Market Value of Assets was 12.44%, the return on the Actuarial Value of Assets was 9.24% producing a gain on an actuarial basis. The following provides a summary of the actual to the expected return on investments for the 12-month periods ending on the date specified.

Fiscal Year Ending 9/30	% Market Return	% Actuarial Return	% Assumed Return
2017	12.4 %	9.2 %	8.0 %
2016	10.6 %	9.9 %	8.0 %
2015	0.2 %	8.7 %	8.0 %
2014	11.2 %	10.2 %	8.0 %
2013	13.4 %	3.1 %	8.0 %
2012	19.3 %	(2.5)%	8.0 %
2011	(1.8)%	(0.2)%	8.0 %
2010	6.6 %	3.2 %	8.0 %
2009	(4.2)%	0.7 %	8.0 %
2008	(11.3)%	4.7 %	8.0 %
2007	12.7 %	10.4 %	8.0 %
2006	8.7 %	11.2 %	8.0 %
2005	10.7 %	7.0 %	8.0 %
2004	9.7 %	3.6 %	8.0 %
2003	16.5 %	3.6 %	8.0 %
2002	(7.4)%	2.7 %	8.0 %
2001	(3.0)%	6.0 %	8.0 %
2000	9.9 %	13.5 %	8.0 %
1999	12.5 %	14.5 %	8.0 %
1998	5.2 %	15.7 %	8.0 %
1997	30.2 %	17.2 %	8.0 %
1996	13.3 %	11.4 %	8.0 %
22 Yr Avg	7.6 %	7.3 %	8.0 %
10 Yr Avg	5.2 %	4.6 %	8.0 %
5 Yr Avg	9.5 %	8.2 %	8.0 %

Effective for the 12-month period ended September 30, 2009 the return on the market value of assets has been computed to include DROP balances. Effective for the 12-month period ended September 30, 2014 the return on the actuarial value of assets has been computed to include DROP balances.

Investment returns less than the assumed rate of return result in increased annual minimum required contributions.

Assumptions and Methods

For the October 1, 2016 actuarial valuation, the mortality table was that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2015, as required by state statute. For the October 1, 2017 actuarial valuation, the mortality table has been revised to that used for special risk employees in the valuation of FRS as of July 1, 2016 and 2017, as required by state statute. While healthy post-retirement mortality and disabled mortality rates were unchanged, healthy pre-retirement was revised. The mortality rates as of October 1, 2017 are as follows:

Healthy mortality (Pre-retirement):		
	Males:	10% RP-00 Combined Healthy White Collar +
		90% RP-00 Combined Healthy Blue Collar
	Females:	100% RP-00 Combined Healthy White Collar
	Both male and female rates fully generational using Scale BB	
Healthy mortality (Post-retirement):		
	Males:	10% RP-00 Annuitant White Collar +
		90% RP-00 Annuitant Blue Collar
	Females:	100% RP-00 Annuitant White Collar
	Both male and female rates fully generational using Scale BB	
Disabled mortality:	Males:	60% RP-00 Disabled Retiree Set Back 4 Years +
		40% RP-00 Annuitant White Collar
	Females:	60% RP-00 Disabled Retiree Set Forward 2 Yrs +
		40% RP-00 Annuitant White Collar
	No mortality improvement is assumed for disabled lives.	

The net assumed rate of return has been revised from 8.0% used in the October 1, 2016 actuarial valuation to 7.75% for this October 1, 2017 actuarial valuation. The decision made by the Board of Trustees to lower this assumption was based on investment trends. We agree the net assumed rate of return should be decreased. We recommend consideration regarding lowering the net assumed return further.

Florida Statutes 112.64(5)(a) requires that the payroll growth assumption not exceed the average payroll growth for the prior ten years. While an assumption of 1.01% was used to amortize the Unfunded Accrued Liability as a percent of pay effective October 1, 2016, this October 1, 2017 actuarial valuation uses level dollar amortization.

We recommend that a fresh start be implemented for the amortization of the Unfunded Accrued Liability in the October 1, 2018 actuarial valuation of the Plan. Had a fresh start occurred in this valuation, the Unfunded Accrued Liability would have been paid off in 18.15 years, assuming all assumptions are realized. In addition, whereas future expected amortizations total $32,928,782 in this report, had a fresh start been implemented future expected amortizations would total $30,997,008.

Plan Provisions

Ordinance No. 2017-46 became effective upon adoption on October 10, 2017. This ordinance (1) requires employee contributions of 6.5% of Salary from Members who enter the DROP after October 10, 2017, (2) for Members employed after October 10, 2017, the Accrued Benefit is 3.0% x Average Final Compensation x Credited Service, and for Members employed on or before October 10, 2017 and retiring on or after October 1, 2008 the Accrued Benefit is 3.25% x Average Final Compensation x Credited Service, and (3) a Share Plan is established where accumulated excess premium tax revenues as of October 1, 2015 (totaling $258,620) are split where 50% is allocated to the Share Plan and 50% is used to pay down the unfunded liability of the Plan. For premium tax revenues received in any Plan year after October 1, 2015 over that for calendar 2012 in the amount of $587,845, 50% is allocated to the Share Plan and 50% is used to reduce the city's annual required pension contributions. However, the Share Plan becomes operative when the city and the union reach agreement on the details of the Share Plan. An impact statement for this change in Plan provisions was dated August 18, 2017 which revised the results of the October 1, 2016 actuarial valuation retroactively. Both the October 1, 2016 and 2017 share balances are set to $129,310 for this actuarial valuation report. After decisions are made with regard to interest crediting and other administrative decisions, the share balances may be revised.

State Contributions

Per Ordinance No. 2017-46 effective October 10, 2017, for premium tax revenues received in any Plan year after October 1, 2015 over that for calendar 2012 in the amount of $587,845, 50% is allocated to the Share Plan and 50% is used to reduce the City's annual required pension contributions.

The "Minimum Funding Requirement Expected Contribution from City" shown on page 1 assumes that the premium tax money received from the State will be in the same amount received in the prior year. Should the amounts received be less than expected, the City will need to contribute any potential shortfall to the Plan.

Enhanced Benefit Account (EBA)

See the Outline of Plan Provisions in section 4 of this report for a description of the EBA.

Per direction of the Board of Trustees at their January 25, 2017 meeting, in years when the beginning balance of the EBA is negative, there is no interest crediting applied in carrying forward the EBA balance to the next year. This change has been made retroactively to when the EBA first became negative with the October 1, 2017 actuarial valuation.

Note that commencing annually from March 1, 1997, the sum of (a) and (b), as follows, is credited to or deducted from the EBA to provide a lump sum variable cost of living adjustment:

(a) 50% of positive or negative net investment income compared to fund's investment objective for the preceding fiscal year, and
(b) 50% of the amount by which the premium taxes collected and distributed by the state exceed 5.6% of covered payroll during the preceding fiscal year.

The ordinance states that the cumulative value of the EBA allocation provided by (a), above, may not exceed the cumulative net actuarial gains and losses from all sources incurred from the inception of this provision.

We have created a chart that shows historical EBA carryforward components along with a comparison of the cumulative value of the 50% of excess net investment income allocation to the cumulative net actuarial gains and losses. We based the historical information on information produced by the prior actuary along with information produced in our prior actuarial valuation reports. In particular annual net actuarial gains and losses for the years ending in 2002 through 2004 were problematic to derive due information available in the prior actuary's report and the use of the Frozen Initial Liability funding method in those years.

You will see in the following that there are three years where the cumulative value of the 50% of excess net actuarial investment income allocation shown in column (4) is larger than the to the cumulative net actuarial gains and losses shown in column (2). The following provides a discussion of why we believe the cumulative value of the 50% of excess net actuarial investment income allocation shown in column (4) should be larger than the to the cumulative net actuarial gains and losses shown in column (2) for the Board of Trustees review and direction.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Year Ending 9/30	**Annual Net Actuarial Gains and (Losses)**	**Cumulative Net Actuarial Gains and (Losses)**	**50% of Net Excess Actuarial Investment Income**	**Cumulative Net Investment Income Allocation**	**(4) > (2)**
1996	593,282	593,282	274,468	274,468	FALSE
1997	1,783,513	2,376,795	837,059	1,111,527	FALSE
1998	1,376,514	3,753,309	838,054	1,949,581	FALSE
1999	1,522,035	5,275,344	810,864	2,760,445	FALSE
2000	1,391,747	6,667,091	781,964	3,542,409	FALSE
2001	(42,738)	6,624,353	(226,370)	3,316,039	FALSE
2002	(154,495)	6,469,858	(887,504)	2,428,535	FALSE
2003	712,792	7,182,650	(736,209)	1,692,326	FALSE
2004	785,731	7,968,381	(744,155)	948,171	FALSE
2005	(1,470,591)	6,497,790	(176,580)	771,591	FALSE
2006	(880,911)	5,616,879	573,248	1,344,839	FALSE
2007	(302,886)	5,313,993	463,530	1,808,369	FALSE
2008	(887,818)	4,426,175	(684,570)	1,123,799	FALSE
2009	(2,537,911)	1,888,264	(1,617,980)	(494,181)	FALSE
2010	(1,396,478)	491,786	(1,082,281)	(1,576,462)	FALSE
2011	(3,758,443)	(3,266,657)	(1,848,820)	(3,425,282)	FALSE
2012	(4,711,885)	(7,978,542)	(2,313,548)	(5,738,830)	TRUE
2013	(459,535)	(8,438,077)	(1,055,525)	(6,794,355)	TRUE
2014	1,802,297	(6,635,780)	563,505	(6,230,850)	TRUE
2015	816,622	(5,819,158)	198,827	(6,032,023)	FALSE
2016	1,881,803	(3,937,355)	573,254	(5,458,769)	FALSE
2017	862,163	(3,075,192)	398,776	(5,059,993)	FALSE

For the year ending September 30, 2012, the net return on the actuarial value of assets was (2.5%) in comparison to the 8.0% net assumed rate of return used for funding purposes. This means that the EBA allocation associated with 50% of positive or negative net investment income compared to fund's investment objective for the preceding fiscal year was $(2,313,548) resulting in a cumulative net investment income allocation at September 30, 2012 of $(5,738,830) in comparison to the $(7,978,542) cumulative net actuarial gains and losses from all sources. There is no provision allowing an allocation of more than 50% of positive or negative net investment income compared to fund's investment objective. This means that there cannot be a larger than 50% net investment income allocation that could be credited to the EBA to make the cumulative value of the EBA allocation provided by 50% of positive or negative net investment income compared to fund's investment objective for the preceding fiscal year be at least equal to the cumulative net actuarial gains and losses from all sources incurred from the inception of this provision. For this reason, we believe no adjustment is necessary for the year ending September 30, 2012 to meet with this Plan provision.

The year ending September 30, 2013 is similar to that for the year ending September 30, 2012. The net return on the actuarial value of assets for the year ending September 30, 2013 was 3.1% in comparison to the 8.0% net assumed rate of return used for funding purposes. This means that the EBA allocation associated with 50% of positive or negative net investment income compared to fund's investment objective for the preceding fiscal year was $(1,055,525) resulting in a cumulative net investment income allocation at September 30, 2013 of $(6,794,355) in comparison to the $(8,438,077) cumulative net actuarial gains and losses from all sources. There is no provision allowing an allocation of more than 50% of positive or negative net investment income compared to fund's investment objective. This means that there cannot be a larger than 50% net investment income allocation that could be credited to the EBA to make the cumulative value of the EBA allocation provided by 50% of positive or negative net investment income compared to fund's investment objective for the preceding fiscal year be at least equal to the cumulative net actuarial gains and losses from all sources incurred from the inception of this provision. For this reason, we believe no adjustment is necessary for the year ending September 30, 2013 to meet with this Plan provision.

For the year ending September 30, 2014, the net return on the actuarial value of assets was 10.2% in comparison to the 8.0% net assumed rate of return used for funding purposes. This means that the EBA allocation associated with 50% of positive or negative net investment income compared to fund's investment objective for the preceding fiscal year was $563,505 resulting in a cumulative net investment income allocation at September 30, 2014 of $(6,230,850) in comparison to the $(6,635,780) cumulative net actuarial gains and losses from all sources. Let's say for a moment that the $563,505 investment allocation should have instead been $158,575. That would have resulted in a cumulative net investment income allocation at September 30, 2014 of $(6,635,780) equal to the $(6,635,780) cumulative net actuarial gains and losses from all sources. However, it seems more likely that the intent of the limitation made on the cumulative net investment income allocation would apply in the event that the Plan was in a net gain position for the cumulative net actuarial gains and losses from all sources to limit the crediting of 50% of positive net investment income compared to fund's investment objective so that the cumulative net investment income allocation would not exceed cumulative net actuarial gains and losses from all sources.

We ask the Board of Trustees to review this Plan provision and provide guidance to confirm our suggested interpretation or to ask that we revise our calculations based on an alternative interpretation.

Section 2 Results Derivation

In this section, the assets and liabilities of the Plan are shown in detail. Assets and liabilities are then compared to determine the funded status and minimum funding requirements. Finally, analysis is performed to explain movement in results from the prior valuation.

While asset information is based on the fair market value of assets, along with any techniques used to smooth out market fluctuations, liabilities are determined through a combination of the benefit provisions, participant census data which contains information for the members who will receive those benefits, and the methods and assumptions used with regard to how benefits will be paid to members. A summary of participant data, an outline of the benefit provisions, and a description of the methods and assumptions used in this valuation are described in Section 4.

Financial Information

Over the life of the Plan, the majority of assets are typically generated from investment return. In this section, we describe how the assets of the Plan are invested, show how the actuarial value of assets is derived, and review the investment results since the prior valuation.

Investment Allocation

Valuation Date	October 1, 2016		October 1, 2017	
U.S. government obligations	$ 8,301,428	14 %	$ 7,486,440	11 %
Corporate bonds	5,406,161	8 %	6,730,922	10 %
Common/preferred stocks	48,299,941	76 %	53,041,173	76 %
Cash and cash equivalents	2,007,693	3 %	2,275,514	3 %
Net receivables	(376,227)	(1)%	(261,715)	0 %
Fair Market Value of Assets	$ 63,638,996	100 %	$ 69,272,334	100 %

Reconciliation of Market Value of Assets

Year Ending			**September 30, 2017**	
			Market Value	**Actuarial Value**
1.	Beginning of year		$63,638,996	$63,929,282
2.	Contributions			
	a.	City	$2,767,223	$2,767,223
	b.	State	514,983	514,983
	c.	Members	748,579	748,579
	d.	Total	$4,030,785	$4,030,785
3.	Investment earnings			
	a.	Unrealized gains and losses	$3,235,173	
	b.	Realized gains and losses	3,122,741	
	c.	Interest and dividends	1,781,503	
	d.	Investment expense	(354,065)	
	e.	Total	$7,785,352	$5,805,215
4.	Deductions			
	a.	Pension benefits	$(5,983,213)	
	b.	Contribution refunds	(63,789)	
	c.	Administrative expenses	(135,797)	
	d.	Total	$(6,182,799)	$(6,182,799)
5.	Net increase		$5,633,338	$3,653,201
6.	End of year		$69,272,334	$67,582,483

Note: The Actuarial Value of Assets as of October 1, 2016 was $63,670,662 in the prior report. It has been revised to $63,929,282 to reflect the Plan change associated with Ordinance No. 2017-46.

Development of Historical Asset Gains (Losses)

			2017		2016
1.	Market Value of Assets - Beginning of Year	$	63,638,996	$	58,341,219
2.	Expected Interest on Assets		5,091,120		4,667,298
3.	Contributions		4,030,785		3,746,662
4.	Benefit Payments + Administrative Expenses		(6,182,799)		(4,587,348)
5.	Interest on items (3) and (4)		(106,680)		(55,450)
6.	Expected Value of Assets at End of Year	$	66,471,422	$	62,112,381
7.	Market Value of Assets - End of Year	$	69,272,334	$	63,638,996
8.	Gain (Loss) for Plan Year = (7) - (6)	$	2,800,912	$	1,526,615

			2015		2014
1.	Market Value of Assets - Beginning of Year	$	58,760,194	$	53,786,580
2.	Expected Interest on Assets		4,700,816		4,302,926
3.	Contributions		3,738,624		3,329,157
4.	Benefit Payments + Administrative Expenses		(4,283,601)		(4,320,839)
5.	Interest on items (3) and (4)		(44,593)		(63,828)
6.	Expected Value of Assets at End of Year	$	62,871,440	$	57,033,996
7.	Market Value of Assets - End of Year	$	58,341,219	$	58,760,194
8.	Gain (Loss) for Plan Year = (7) - (6)	$	(4,530,221)	$	1,726,198

Note: These gain (loss) calculations include State contribution reserves, if any, and DROP account balances in the Market Value of Assets.

Development of Actuarial Value of Assets

The Market Value of Assets is adjusted to recognize investment earnings greater than (or less than) the assumed investment return over a five-year period. The Actuarial Value of Assets shall not be more than 120% or less than 80% of the Market Value of Assets.

1.	Gross Market Value of Assets as of September 30, 2017				$	69,272,334
2.	Phase-In Gains (Losses) Over Five Year Period					
	Year Ending		Original Gain (Loss)	Percent Unrecognized		Unrecognized Gain (Loss)
a.	September 30, 2017	$	2,800,912	80%	$	2,240,730
b.	September 30, 2016		1,526,615	60%		915,969
c.	September 30, 2015		(4,530,221)	40%		(1,812,088)
d.	September 30, 2014		1,726,198	20%		345,240
e.	Total				$	1,689,851
3.	Preliminary Gross Actuarial Value of Assets				$	67,582,483
4.	Corridor Around Market Value					
a.	Minimum = 80% of Market Value of Assets				$	55,417,867
b.	Maximum = 120% of Market Value of Assets				$	83,126,801
c.	Corridor Adjustment to Preliminary Actuarial Value				$	0
5.	Gross Actuarial Value of Assets as of September 30, 2017				$	67,582,483
6.	Actuarial Value of Assets as of September 30, 2017				$	67,582,483

Note: The prior valuation showed a State contribution reserve of $258,620. An impact statement for Ordinance No. 2017-46 dated August 18, 2017 revised the results of the October 1, 2016 actuarial valuation to release this reserve into the actuarial value of assets.

Reconciliation of DROP Account Balances

Year Ending September 30,	**2016**	**2017**
DROP Balances as of Beginning of Year	$7,627,400	$8,209,291
Additions	1,081,478	697,136
Investment Return	511,426	505,826
Distributions	(1,011,013)	(1,911,213)
DROP Balances as of End of Year	$8,209,291	$7,501,040

Derivation of State Contribution Funding Reserves

Year Ending September 30	Regular	Supplemental	Total	Recurring Cost
2017	$508,280	$6,703	$514,983	$0
2016	510,798	34,763	545,561	0
2015	499,843	69,994	569,837	0
2014	500,390	103,616	604,006	0
2013	512,084	75,762	587,845	0
2012	489,487	78,491	567,978	2,299(6)
2011	495,487	49,815	545,302	0
2010	525,935	37,974	563,909	0
2009	505,855	62,143	567,998	0
2008	519,992	262,030	782,022	0
2007	497,785	187,105	684,890	0
2006	481,939	8,382	490,321	0
2005	468,885	0	468,885	0
2004	424,627	0	424,627	0
2003	392,038	0	392,038	211,825(4)
2002	340,995	0	340,995	0
2001	295,965	0	295,965	0
2000	310,698	0	310,698	16,309(1)
1999	286,709	0	286,709	0
1998	267,933	0	267,933	0

Year Ending September 30	Base Plus Benefit Improvements	One-time Use Benefit Improvements	Recognized State Funding	Balance for Benefit Improvements
2017	$498,366	$0	$773,603	$0
2016	498,366	0	545,561	258,620
2015	498,366	0	569,837	258,620
2014	498,366	0	604,006	258,620
2013	498,366	0	587,845	258,620
2012	498,366	0	498,366	258,620
2011	496,067	0	496,067	189,008
2010	496,067	0	496,067	139,773
2009	496,067	474,778(5)	970,845	71,931
2008	496,067	0	496,067	474,778
2007	496,067	0	496,067	188,823
2006	496,067	0	490,321	0
2005	496,067	0	468,885	0
2004	496,067	0	424,627	0
2003	496,067	56,753(3)	448,791	0
2002	284,242	56,955(2)	341,197	56,753
2001	284,242	0	284,242	56,955
2000	284,242	0	284,242	45,232
1999	267,933	0	267,933	18,776
1998	267,933	0	267,933	0

Notes:
1. The base plus benefit improvements increased by $16,309 to fund Chapter 175 minimum benefits defined in Ordinance No. 2000-27.
2. The reserve amount of $56,955 was used to fund benefit improvements defined in Ordinance No. 2002-72.
3. The reserve amount of $56,753 was used to fund benefit improvements defined in Ordinance No. 2003-66.
4. The base plus benefit improvements increased $48,009 for Ordinance No. 2000-27 (subsequent to having met minimum benefits), $23,049 for Ordinance No. 2002-72 (remaining minimum benefits), and $140,767 for Ordinance No. 2003-66 (monthly supplement), a total of $211,825.
5. The reserve amount of $474,778 was used to fund benefit improvements defined in Ordinance No. 2009-35
6. The base plus benefit improvements increased $2,299 to fund benefit improvements defined in Ordinance No. 2009-35, as adopted in Ordinance No. 2011-57.
7. Ordinance No. 2017-46 became effective October 10, 2017 where a Share Plan is established where accumulated excess premium taxes totaling $258,620 are split where 50% is allocated to the Share Plan and 50% is used to pay down the UAL. For premium tax revenues received in any Plan year after October 1, 2015 over that for calendar 2012 in the amount of $587,845, 50% is allocated to the Share Plan and 50% is used to reduce the city's annual required pension contributions.

Enhanced Benefit Account

Year Ended September 30,			2016	2017
1.	Enhanced Benefit Account BOY		(5,648,236)	(4,988,926)
2.	Interest on Beginning Balance			
	a.	Return on Actuarial Value of Assets	9.9 %	9.2 %
	b.	Interest on Beginning Balance	0	0
3.	Net Investment Income Allocation			
	a.	Actuarial Value Beginning of Year (A)	58,722,492	63,929,282
	b.	Actuarial Value End of Year (B)	63,670,662	67,582,483
	c.	Contributions (C)	3,746,662	4,030,785
	d.	Benefits Paid (P)	(4,459,046)	(6,047,002)
	e.	Administrative Expenses (E)	(128,302)	(135,797)
	f.	Net Investment Income (I) = (B)-(A)-(C)-(P)-(E)	5,788,856	5,805,215
	g.	Return on Actuarial Value of Assets = 2I/(A + B - I)	9.9 %	9.2 %
	h.	Net Investment Income had 8% Return Occurred	4,642,349	5,007,663
		i. Reduction to Net Investment Income	1,146,507	797,552
		ii. Actuarial Value End of Year After Reduction	62,524,155	66,784,931
		iii. Return on After Reduction	8.0 %	8.0 %
	i.	Net Investment Income in Excess of 8%	1,146,507	797,552
	j.	50% of Net Investment Income in Excess of 8%	573,254	398,776
4.	Premium Tax Distribution Allocation			
	a.	Premium Tax Distribution During Year	545,561	514,983
	b.	Covered Payroll During Year*	6,619,701	7,130,628
	c.	Premium Tax as % of Covered Payroll	8.2 %	7.2 %
	d.	Excess of Premium Tax Over 5.6%	2.6 %	1.6 %
	e.	50% x (b) x (d)	86,056	57,045
5.	Allocation to Members in Payment Status/DROP		0	0
6.	Net Allocation to Enhanced Benefit Account		659,310	455,821
7.	Enhanced Benefit Account at End of Year		(4,988,926)	(4,533,105)
8.	Comparison of Investment Income to Gains/Losses			
	a.	Annual Net Actuarial Gains and (Losses)	1,881,803	862,163
	b.	Cumulative Net Actuarial Gains and (Losses)	(3,937,355)	(3,075,192)
	c.	50% of Net Investment Income in Excess of 8%	573,254	398,776
	d.	Cumulative Net Investment Income Allocation	(5,458,769)	(5,059,993)

*The covered payroll during year is calculated as an average of the total valuation salary for the current and prior years.

Historical Enhanced Benefit Account Tracking

Year Ending 9/30	EBA BOY	Actuarial ROR	Interest on Beginning Balance	50% of Net Excess Actuarial Investment Income	50% of Excess of Premium Tax Over 5.6% Payroll	Allocation to Members in Payment Status/ DROP	Net Allocation to EBA	EBA EOY	Annual Net Actuarial Gains and (Losses)	Cumulative Net Actuarial Gains and (Losses)	Cumulative Net Investment Income Allocation
1996	0	11.4%	0	274,468	23,268	0	297,736	297,736	593,282	593,282	274,468
1997	297,736	17.2%	0	837,059	22,558	0	859,617	1,157,353	1,783,513	2,376,795	1,111,527
1998	1,157,353	15.7%	0	838,054	20,994	23,401	835,647	1,993,000	1,376,514	3,753,309	1,949,581
1999	1,993,000	14.5%	0	810,864	15,633	13,711	812,786	2,805,786	1,522,035	5,275,344	2,760,445
2000	2,805,786	13.5%	377,640	781,964	14,307	22,956	1,150,955	3,956,741	1,391,747	6,667,091	3,542,409
2001	3,956,741	6.0%	254,023	(226,370)	15,998	25,831	17,820	3,974,560	(42,738)	6,624,353	3,316,039
2002	3,974,560	2.7%	105,425	(887,504)	18,911	26,722	(789,890)	3,184,671	(154,495)	6,469,858	2,428,535
2003	3,184,671	3.6%	113,406	(736,209)	64,271	26,267	(584,799)	2,599,871	712,792	7,182,650	1,692,326
2004	2,599,871	3.6%	92,512	(744,155)	72,944	27,621	(606,320)	1,993,550	785,731	7,968,381	948,171
2005	1,993,550	7.0%	138,756	(176,580)	83,029	21,889	23,316	2,016,866	(1,470,591)	6,497,790	771,591
2006	2,016,866	11.2%	226,696	573,248	73,312	58,225	815,031	2,831,897	(880,911)	5,616,879	1,344,839
2007	2,831,897	10.4%	295,084	463,530	55,898	57,819	756,693	3,588,590	(302,886)	5,313,993	1,808,369
2008	3,588,590	4.7%	168,664	(684,570)	40,698	57,694	(2,605,934)	982,656	(887,818)	4,426,175	1,123,799
2009	982,656	0.7%	7,272	(1,617,980)	35,024	58,628	(1,634,312)	(651,656)	(2,537,911)	1,888,264	(494,181)
2010	(651,656)	3.2%	0	(1,082,281)	40,106	0	(1,042,175)	(1,693,831)	(1,396,478)	491,786	(1,576,462)
2011	(1,693,831)	(0.2%)	0	(1,848,820)	53,746	0	(1,795,074)	(3,488,905)	(3,758,443)	(3,266,657)	(3,425,282)
2012	(3,488,905)	(2.5%)	0	(2,313,548)	72,792	0	(2,240,756)	(5,729,661)	(4,711,885)	(7,978,542)	(5,738,830)
2013	(5,729,661)	3.1%	0	(1,055,525)	127,202	0	(928,323)	(6,657,984)	(459,535)	(8,438,077)	(6,794,355)
2014	(6,657,984)	10.2%	0	563,505	136,221	0	699,726	(5,958,258)	1,802,297	(6,635,780)	(6,230,850)
2015	(5,958,258)	8.7%	0	198,827	111,195	0	310,022	(5,648,236)	816,622	(5,819,158)	(6,032,023)
2016	(5,648,236)	9.9%	0	573,254	86,056	0	659,310	(4,988,926)	1,881,803	(3,937,355)	(5,458,769)
2017	(4,988,926)	9.2%	0	398,776	57,045	0	455,821	(4,533,105)	862,163	(3,075,192)	(5,059,993)

Note: Effective October 13, 2009, Ordinance No. 2009-35 reduced EBA funds retroactively to October 1, 2008 by a one-time deduction of $2,073,032, which was related to the cost to provide the increased 3.25% benefit accrual rate.

Present Value of Benefits

Valuation as of October 1,		Prior Report 2016	Plan Change 2016	2017
1.	**Active Members**			
a.	Retirement Benefits	$32,647,540	$32,647,540	$36,700,576
b.	Deferred Benefits	677,750	677,750	775,095
c.	Survivor Benefits	1,001,950	1,001,950	477,222
d.	Disability Retirement	2,773,289	2,773,289	3,064,048
e.	Total for Active Members	$37,100,529	$37,100,529	$41,016,941
2.	**Inactive Members**			
a.	Retirement Including DROP	$52,926,187	$52,926,187	$54,923,853
b.	Terminated Vested	1,562,494	1,562,494	1,086,010
c.	Beneficiaries	3,214,803	3,214,803	3,403,369
d.	Disability Retirement	572,340	572,340	579,316
e.	Total in Payment Status	$58,275,824	$58,275,824	$59,992,548
3.	**Enhanced Benefit Account Reserve***	$0	$0	$0
4.	**Share Plan**		$129,310	$129,310
5.	**Present Value of Benefits**	$95,376,353	$95,505,663	$101,138,799

*Enhanced Benefit Account balances less than zero are limited to zero.

Accrued Liability

Valuation as of October 1,		Prior Report 2016	Plan Change 2016	Valuation 2017
1.	**Active Members**			
a.	Retirement Benefits	$21,880,262	$21,880,262	$24,181,511
b.	Deferred Benefits	141,684	141,684	151,267
c.	Survivor Benefits	181,178	181,178	91,562
d.	Disability Retirement	581,867	581,867	648,808
e.	Total for Active Members	$22,784,991	$22,784,991	$25,073,148
2.	**Inactive Members**			
a.	Retirement Including DROP	$52,926,187	$52,926,187	$54,923,853
b.	Terminated Vested	1,562,494	1,562,494	1,086,010
c.	Beneficiaries	3,214,803	3,214,803	3,403,369
d.	Disability Retirement	572,340	572,340	579,316
e.	Total in Payment Status	$58,275,824	$58,275,824	$59,992,548
3.	**Enhanced Benefit Account Reserve***	$0	$0	$0
4.	**Share Plan**		$129,310	$129,310
5.	**Accrued Liability**	$81,060,815	$81,190,125	$85,195,006

*Enhanced Benefit Account balances less than zero are limited to zero.

Normal Cost

Valuation as of October 1,		2016	2017
1.	**Preliminary Normal Cost**		
a.	Retirement Benefits	$1,243,487	$1,442,413
b.	Deferred Benefits	57,822	65,967
c.	Survivor Benefits	92,931	43,949
d.	Disability Retirement	249,001	272,386
e.	Total	$1,643,241	$1,824,715
2.	**Total Normal Cost**		
a.	Preliminary Normal Cost	$1,643,241	$1,824,715
b.	Estimated Administrative Expense	128,302	135,797
c.	Total Normal Cost	$1,771,543	$1,960,512
d.	Total Normal Cost as a % of Pay	24.16%	25.18%
3.	**Employer Normal Cost**		
a.	Total Normal Cost	$1,643,241	
b.	Actual Administrative Expense	135,797	
c.	Actual Employee Contributions	(748,579)	
d.	Employer Normal Cost	$1,030,459	
e.	Employer Normal Cost as a % of Pay	14.05%	
4.	**Valuation Payroll**	$7,332,478	$7,784,453

Unfunded Accrued Liability

Actuarial Valuation as of October 1,	2017
Unfunded Accrued Liability	
1. Actuarial Accrued Liability	$85,195,006
2. Actuarial Value of Assets	(67,582,483)
3. Unfunded Accrued Liability	$17,612,523
Determination of Expected Unfunded Accrued Liability	
1. Unfunded Accrued Liability as of Prior Year	$17,260,843
2. Employer Normal Cost (Including Administrative Expenses)	1,030,459
3. Interest for a full year on (1) and (2)	1,463,304
4. Contribution from City and State	
a. Contribution from City	$(2,767,223)
b. Recognized Contribution from State	(514,983)
c. Total Contribution	$(3,282,206)
5. Interest on Contribution for Time on Deposit	(110,689)
6. Change in Plan, Methods or Assumptions	2,112,975
7. Expected Unfunded Accrued Liability	$18,474,686
Calculation of (Gain) or Loss	
1. Actual Unfunded Accrued Liability	$17,612,523
2. Expected Unfunded Accrued Liability	18,474,686
3. Total (Gain) or Loss	(862,163)
Reconciliation of Unfunded Accrued Liability	
1. Unfunded Actuarial Liability as of Prior Year	$17,260,843
2. Total Change in Unfunded Accrued Liability	
a. Expected Change in Unfunded Accrued Liability	(899,132)
b. Change in Plan, Methods or Assumptions	2,112,975
c. Change Due to (Gain) or Loss	
i. Portion of (Gain) / Loss Due to Investments	(797,552)
ii. Portion of (Gain) / Loss Due to Demographics	(64,611)
iii. Total (Gain) or Loss	(862,163)
d. Total Change in Unfunded Accrued Liability	$351,680
3. Unfunded Accrued Liability	$17,612,523
Calculation of Actuarial Asset (Gain) or Loss	
1. Actuarial Value of Assets - Beginning of Year	$63,929,282
2. Contributions	4,030,785
3. Benefit Payments + Administrative Expenses	(6,182,799)
4. Expected Return on Assets	5,007,663
5. Expected Actuarial Value at End of Year	$66,784,931
6. Actuarial Value of Assets - End of Year	$67,582,483
7. Gain (Loss) for Plan Year = (6) - (5)	$797,552
8. Actual Investment Income	$5,805,215
9. Actual % Return	9.24%

Amortization Bases

	10/1	Type	Original	Outstanding Before Adjustment	Outstanding Amount	Years Remaining	Amortization Amount
1.	1993	Assump+Method Chg	$(1,253,126)	$(888,573)	$(856,008)	6	$(170,548)
2.	1994	Benefits	2,109,568	1,636,635	1,576,652	7	278,651
3.	1995	Assump	346,020	287,739	277,193	8	44,342
4.	1996	(Gain)/Loss+EBA	(295,546)	(120,380)	(115,968)	21	(10,539)
5.	1997	(Gain)/Loss+EBA	(923,896)	(511,335)	(492,594)	21	(44,767)
6.	1998	(Gain)/Loss+EBA	(517,466)	(309,711)	(298,360)	21	(27,115)
7.	1999	(Gain)/Loss+EBA	(695,538)	(469,075)	(451,883)	21	(41,067)
8.	1999	Assump	748,754	723,277	696,769	12	84,699
9.	2000	Benefits	359,666	353,151	340,208	13	39,400
10.	2000	(Gain)/Loss+EBA	(217,836)	(160,951)	(155,052)	21	(14,091)
11.	2001	Method Chg	(9,525)	872,222	840,255	14	93,221
12.	2002	Benefits	937,998	368,553	355,045	15	37,911
13.	2004	Method Chg	2,143,532	2,781,637	2,679,689	17	268,113
14.	2005	(Gain)/Loss+EBA	1,425,387	1,808,236	1,741,963	18	169,522
15.	2006	Method Chg	1,250,396	1,558,225	1,501,115	19	142,466
16.	2006	(Gain)/Loss+EBA	7,655	9,539	9,189	19	872
17.	2007	Method Chg	263,887	324,064	312,187	20	28,963
18.	2007	(Gain)/Loss+EBA	(511,626)	(636,558)	(613,228)	21	(55,730)
19.	2008	(Gain)/Loss+EBA	1,363,026	1,650,528	1,590,036	21	144,502
20.	2008	Method Chg	(1,898,396)	(2,298,825)	(2,214,572)	21	(201,260)
21.	2009	(Gain)/Loss+EBA	1,555,255	1,719,075	1,656,070	22	147,704
22.	2009	Method Chg	(287,717)	(318,021)	(306,365)	22	(27,325)
23.	2010	(Gain)/Loss	1,396,478	1,487,273	1,432,764	23	125,619
24.	2011	(Gain)/Loss	3,758,443	3,853,957	3,712,708	24	320,467
25.	2012	(Gain)/Loss	4,711,885	4,708,101	4,535,547	25	385,938
26.	2012	Assumption Change	1,777,834	1,776,406	1,711,300	25	145,618
27.	2013	(Gain)/Loss	459,535	447,373	430,977	26	36,196
28.	2013	Assumption Change	70,611	68,743	66,224	26	5,562
29.	2014	(Gain)/Loss	(1,802,297)	(1,742,433)	(1,678,572)	27	(139,297)
30.	2014	Assumption Change	73,088	70,661	68,071	27	5,649
31.	2014	Method Change	1,116,620	1,079,530	1,039,965	27	86,302
32.	2014	Plan Change	(1,042,704)	(1,008,071)	(971,125)	27	(80,589)
33.	2015	(Gain)/Loss	(816,622)	(795,263)	(766,116)	23	(67,170)
34.	2015	Assumption Change	76,676	74,671	71,934	23	6,307
35.	2016	(Gain)/Loss	(1,881,803)	(1,870,410)	(1,801,859)	24	(155,530)
36.	2016	Assumption Change	586,275	582,726	561,369	24	48,455
37.	2016	Plan Change	(129,310)	(128,528)	(123,817)	24	(10,687)
38.	2017	(Gain)/Loss	(862,163)	(862,163)	(862,163)	25	(73,363)
39.	2017	Mortality Change	165,833	165,833	165,833	25	14,111
40.	2017	Assumed Net 7.75%	1,947,142	1,947,142	1,947,142	25	165,686
		Total		$18,235,000	$17,612,523		$1,707,198

Amortization of Unfunded Liability

New bases set up for changes in the Unfunded Accrued Liability due to plan changes, assumption changes, method changes, or gains and losses are all amortized over a 25-year period effective October 1, 2015. Prior to October 1, 2015 a 30-year period was used. Prior to October 1, 2017, the Unfunded Accrued Liability was being amortized as a level percentage of payroll based on the interest and payroll growth assumptions. Effective October 1, 2017 the Unfunded Accrued Liability is amortized on a level dollar basis.

Actions Taken to Reduce Unfunded Actuarial Accrued Liability

The required contributions calculated each year include a payment for the amortization of the unfunded actuarial accrued liability. This payment is designed to reduce the unfunded actuarial accrued liability in an orderly fashion over the next 25 to 27 years.

Projected Unfunded Accrued Liability and Amortization Payments

Plan Year Beginning October 1	Outstanding Bases	Amortization Payment
2017	$17,612,523	$1,707,198
2018	17,137,988	1,707,202
2019	16,626,672	1,707,197
2020	16,075,734	1,707,202
2021	15,482,093	1,707,193
2022	14,842,455	1,707,204
2023	14,153,233	1,877,745
2024	13,226,838	1,599,099
2025	12,528,888	1,554,749
2026	11,824,635	1,554,755
2027	11,065,796	1,554,752
2028	10,248,150	1,554,754
2029	9,367,134	1,470,051
2030	8,509,107	1,430,653
2031	7,627,034	1,337,427
2032	6,777,052	1,299,523
2033	5,902,037	1,299,520
2034	4,959,212	1,031,405
2035	4,232,212	861,884
2036	3,631,528	718,548
2037	3,138,736	689,582
2038	2,638,963	939,650
2039	1,831,010	819,276
2040	1,090,143	754,519
2041	361,635	551,808
2042	(204,912)	(86,179)
2043	(127,935)	(127,935)

Minimum Funding Requirements

Actuarial Valuation as of October 1, Minimum Funding for FYE September 30,	Prior Report 2016 2018	Plan Change 2016 2018	 2017 2019
1. Total Required Contribution (Prior to Projection)			
a. Total Normal Cost	$1,771,543	$1,771,543	$1,960,512
b. Amortization of Unfunded Accrued Liability	1,545,045	1,534,742	1,707,198
c. Total Required Contribution	$3,316,588	$3,306,285	$3,667,710
2. Total Required Contribution (Projected to Beginning of Next Fiscal Year)			
a. Total Required Contribution	$3,581,915	$3,570,788	$3,951,958
b. Projection Rate to Next Fiscal Year	8.00%	8.00%	7.75%
3. Contribution (Adjusted for Periodic Payments)	$3,747,014	$3,735,442	$4,125,052
4. Total Required Contribution (Adjusted for Periodic Payments)			
a. Expected City Contributions	$2,645,963	$2,634,391	$3,026,235
b. Estimated State Contributions	545,561	545,561	514,983
c. Expected Member Contributions	555,490	555,490	583,834
d. Total Required Contribution	$3,747,014	$3,735,442	$4,125,052
e. Expected City Contributions as a % of Pay	35.72%	35.57%	38.88%
f. Estimated State Contributions as a % of Pay	7.37%	7.37%	6.62%
g. Expected Member Contributions as a % of Pay	7.50%	7.50%	7.50%
h. Total Required Contribution as a % of Pay	50.59%	50.44%	53.00%
5. Valuation Payroll			
a. Payroll Expected	$7,332,478	$7,332,478	$7,784,453
b. Projected to Next Valuation Year	7,406,536	7,406,536	7,784,453
c. Expected Total Payroll Increase	1.01%	1.01%	0.00%

Note: The minimum required contribution for fiscal 2018 has been revised from that shown in the October 1, 2016 actuarial valuation due to the adoption of Ordinance No. 2017-46 as indicated in Section 1 of this report. Actual funding required from the City will be based on actual contributions received from the state when those amounts are known.

Reconciliations

Change in Funded Percentage

	Unfunded Accrued Liability	Funded Percentage	Change in Unfunded Accrued Liability	Change in Funded Percentage
Prior Valuation Report	$17,390,153	78.55%		
Prior Valuation After Plan Change	$17,260,843	78.74%	$(129,310)	0.19%
Changes in Funded Ratio due to:				
Normal Operation of Plan	$16,361,711	80.32%	$(899,132)	1.58%
Actuarial Investment Experience	15,564,159	81.28%	(797,552)	0.96%
Demographic Experience	15,499,548	81.34%	(64,611)	0.06%
Required Mortality Change	15,665,381	81.18%	165,833	(0.16%)
Revise Net Interest Assumption	17,612,523	79.33%	1,947,142	(1.85%)
Total Changes			$351,680	0.59%
As of Current Valuation	$17,612,523	79.33%		

Change in City Contribution

	Dollar Amount	% of Pay
Prior Valuation Report	$2,645,963	35.72 %
Plan Change	$(11,572)	(0.15)%
Prior Valuation After Plan Change	$2,634,391	35.57 %
Changes in Contribution due to:		
Normal Operation of Plan	$72,244	0.61 %
Change in Expected State Contribution	29,355	0.39 %
Actuarial Investment Experience	(71,378)	(0.95)%
Demographic Experience	4,584	(1.67)%
Required Mortality Change	(5,894)	(0.08)%
Revise Net Interest Assumption	229,064	2.91 %
Revise Total Payroll Increase Assumption	133,869	2.10 %
Total Changes	$391,844	3.31 %
As of Current Valuation	$3,026,235	38.88 %

Section 3 Accounting Information

Information Required by GASB 67/68

Supplemental reports provide information under Governmental Accounting Standards Board No. 67/68.

Statement of Accumulated Plan Benefits

Valuation as of October 1,	2016	2017
1. Actuarial present value of accumulated plan benefits		
a. Participants currently receiving benefits	$56,713,330	$58,906,538
b. Inactive vested with deferred benefits and active vested including contributions	17,325,282	18,288,486
c. Total vested plan benefits	$74,038,612	$77,195,024
d. Total non-vested plan benefits	2,225,463	2,257,416
e. Total accumulated plan benefits	$76,264,075	$79,452,440
2. Change in accumulated plan benefits		
a. Accumulated plan benefits beginning of year		$76,264,075
b. Increase (decrease) during year attributable to:		
i. Plan amendment		$0
ii. Change in assumptions or methods		1,644,884
iii. Benefits paid		(6,047,002)
iv. Increase for interest and probability of payment due to decrease in discount period and benefits accrued		7,590,483
v. Net increase (decrease)		$3,188,365
c. Accumulated plan benefits end of year		$79,452,440

Note: Share balances are excluded in the above accumulated benefit information. The share balance was $129,310 at both October 1, 2016 and October 1, 2017.

Other Disclosures Required by the State of Florida

Valuation as of October 1,	2016	2017
Other Disclosures (where applicable)		
Present value of active member:		
Future salaries (attained age)	$63,983,914	$70,334,556
Future contributions (attained age)	$4,798,794	$5,275,092
Employee contributions without interest	$3,375,228	$3,615,453

Required Disclosure Under F.S. 112.664(1)

As required under F.S. Section 112.664(1) we have produced the following information:

(a) Total pension liability calculated based on mortality used in one of the last two Florida Retirement System (FRS) valuations. This actuarial valuation assumes mortality as used in the July 1, 2016 and 2017 actuarial valuation for special risk members of FRS.

(b) Total pension liability calculated using an assumed interest rate that is 200 basis points lower than that assumed in the valuation of the Plan.

(c) Determination of the number of months or years for which the current market value of assets is adequate to sustain the payment of expected retirement benefits.

(d) Recommended contribution to the Plan using the most recent valuation and the contributions necessary prepared pursuant to (a) and (b) stated as a dollar amount and % of payroll.

	2% Decrease (5.75%)	Current Discount Rate (7.75%)	2% Increase (9.75%)
Total pension liability	$104,396,983	$85,195,006	$71,681,994
Plan fiduciary net position	(69,272,334)	(69,272,334)	(69,272,334)
Net pension liability	$35,124,649	$15,922,672	$2,409,660
Plan fiduciary net position as a percentage of the total pension liability	66.35%	81.31%	96.64%
Years of benefit payments:			
Expected for current members:	100	100	100
Paid for with current assets:	13.19	15.82	20.94
City Plus State Contribution Requirement, Plus Expected Employee Contributions			
Dollar Amount	$6,308,479	$4,125,052	$2,298,881
Percent of Payroll	81.04%	53.00%	29.54%

Required Disclosure Under F.S. 112.664(2)(b)2.

F.S. Section 112.664(2)(b)2. - For the previous five years, beginning with 2013, a side-by-side comparison of the plan's assumed rate of return compared to the actual rate of return, as well as the percentages of cash, equity, bond and alternative investments in the plan portfolio.

Year Ending September 30,	**2017**	**2016**	**2015**	**2014**	**2013**
Assumed rate of return	8.0%	8.0%	8.0%	8.0%	8.0%
Actual rate of return	12.4%	10.6%	0.2%	11.2%	13.4%
Percentages of assets in:					
Cash	3%	3%	3%	5%	2%
Equity	76%	76%	74%	70%	76%
Bond	21%	22%	23%	25%	22%
Alternative	0%	(1%)	0%	0%	0%
Total	100%	100%	100%	100%	100%

Section 4 Supplementary Information

Summary of Participant Data

Member Statistics

Valuation as of October 1,	2016	2017
Active Participants		
Number	117	121
Average Age	38.4	37.7
Average Credited Service	10.0	9.9
Percent Male	99.2	99.2
Average Valuation Salary	$59,123	$60,693
Total Valuation Salary	$6,917,432	$7,343,824
Total Valuation Salary (Imputed)	$7,332,478	$7,784,453
Terminated With Rights to Deferred Benefits		
Number	6	5
Average Age	45.1	44.2
Percent Male	83.3	80.0
Average Monthly Benefit	$2,817	$2,222
DROP Participants		
Number	14	10
Average Age	56.3	57.1
Percent Male	92.9	100.0
Average Monthly Benefit	$5,213	$4,945
DROP Account Balances	$3,205,241	$1,826,534

Member Statistics (Continued)

Valuation as of October 1,	**2016**	**2017**
Retirees		
Number	79	85
Average Age	66.1	65.1
Percent Male	97.5	96.5
Average Monthly Benefit	$3,477	$3,688
DROP Account Balances	$4,822,043	$5,502,380
Beneficiaries		
Number	10	12
Average Age	68.9	70.0
Percent Male	0.0	0.0
Average Monthly Benefit	$2,812	$2,527
DROP Account Balances	$182,008	$172,126
Disability Retirements		
Number	5	5
Average Age	53.9	54.9
Percent Male	80.0	80.0
Average Monthly Benefit	$953	$953
Total In Payment Status		
Number	94	102
Average Age	65.7	65.2
Percent Male	86.2	84.3
Average Monthly Benefit	$3,272	$3,417

Note: One survivor is in receipt of an annuity for the remainder of a 10-year certain period. The average age for beneficiaries shown above is the average for other survivors who are in receipt of a life only annuity.

Number of Active Members by Age and Service as of October 1, 2017

	x < 1	x < 5	x < 10	x < 15	x < 20	x < 25	x < 30	Total
x < 20								
x < 25	3	2						5
x < 30	6	11	5					22
x < 35		9	8	8				25
x < 40	1	4	3	9				17
x < 45		2	3	11	5	1		22
x < 50			1	6	5	9		21
x < 55		1		2	2	3		8
x < 60				1				1
60+								
Total	10	29	20	37	12	13		121

Active Valuation Pay by Age and Service as of October 1, 2017

	x < 1	x < 5	x < 10	x < 15	x < 20	x < 25	x < 30	Total
x < 20								
x < 25	42,918	49,192						45,428
x < 30	37,347	48,281	54,022					46,604
x < 35		47,111	56,534	64,759				55,774
x < 40	13,558	49,049	56,732	64,194				56,335
x < 45		69,596	56,769	63,735	77,118	90,568		67,579
x < 50			56,937	65,523	75,840	81,200		74,289
x < 55		129,827		63,103	76,028	72,628		78,247
x < 60				66,570				66,570
60+								
Total	36,639	52,369	55,991	64,400	76,404	79,943		60,693

Reconciliation of Plan Participants

	Active	Vested Term.	DROP	Retired	Survivor	Disabled	Total
October 1, 2016	117	6	14	79	10	5	231
Enter DROP	(3)		3				0
Vested Termination	(1)	1					0
Vested Term Refunded	(1)						(1)
Nonvested							0
Retired	(1)	(2)	(7)	10			0
Survivor				(2)	2		0
Death - No Benefits				(2)			(2)
New Hires	10						10
October 1, 2017	121	5	10	85	12	5	238

Outline of Plan Provisions

Plan Type: Single-employer Defined Benefit Pension Plan

Legal Authority: The Plan was established and is amended by local ordinance.

Board Composition: The Board consists of five Trustees, two of whom are legal residents of the City who are appointed by the City Commission, two of whom are full-time firefighters who are members of the Plan and who are elected by a majority of the Firefighter members, and a fifth Trustee who is chosen by a majority of the first four Trustees.

Plan Administrator: The Board of Trustees

Funding Requirements: Employer contributions are actuarially determined and subject to State statute. Employee contributions are as described below and may be amended by ordinance.

Effective Date: Ordinance No. 2006-07 adopted January 24, 2006 amended the Plan provisions in their entirety. The following provides the history of subsequent ordinances:

- Ordinance No. 2009-17 adopted effective May 12, 2009 amended the definition of Actuarial Equivalence to be based on assumptions adopted by the Board; included USERRA military service as Credited Service; updated ordinance language with respect to IRC Section 401(a) qualification, 401(a)(9) minimum required distributions, 401(a)(17) pay limitations, 414(d) qualification, 415 benefit limitations, and 503(b) prohibited transactions; simplified language to indicate City contributions are based on the applicable actuarial valuation; revised language regarding the optional form of benefits payable to disability retirees and when payments end; to indicate a survivor may be paid a lump sum if the present value of benefits is less than $1,000; and included language revision to pertaining to domestic relations orders, forfeitures and rollovers.
- Ordinance No. 2009-25 adopted effective June 23, 2009 amended the section of the Plan regarding finances and management to provide for more liberal investment options, including an increase in the allowable percentage allocated for international investments.
- Ordinance No. 2009-35 adopted effective October 13, 2009 changed employee contributions from 4.75% to 6.0% of pay, increased the benefit accrual rate from 3.0% to 3.25% for retirements on and after October 1, 2008 (which is partially paid for with a one-time deduction from the Enhanced Benefit Account), clarified the Enhanced Benefit Account carry-forward methodology, changed the Supplemental Benefit to be payable for the life of the member only, and provides for an additional Supplemental Benefit of $2.50 full years of Credited Service in the fifth year of retirement from available Enhanced Benefit Account funds.
- Ordinance No. 2010-04 adopted effective January 26, 2010 amended language regarding the repeal or termination of the system, allowing for retiree directed payments, to no longer allow the purchase of a non-forfeitable fixed annuity with respect to DROP distributions, to allow the purchase of military and prior firefighter service over up to a five year period, and to allow the purchase of certain prior firefighter outside the state of Florida.
- Ordinance 2011-57 was adopted December 13, 2011. This amendment provides for the use of up to 50% of the cumulative balance is State contributions available for benefit improvement to pay for any increase in the total normal cost rate more than 1.25% of pay. This ordinance states that the 6.0% employee contribution rate is set for three years and that for the fiscal year beginning October 1, 2011 and October 1, 2014 an actuarial valuation is performed to recalculate the cost of the benefit improvement.
- Ordinance No. 2015-06 became effective upon adoption on March 24, 2015 revising (1) the definition of Salary to exclude payments for overtime in excess of 300 hours per fiscal year and payments for accrued sick and annual leave from the definition of Salary [except that for

members employed on March 24, 2015 Salary does include the lesser of (a) the amount of sick and annual leave accrued as of March 24, 2015 and (b) the actual amount of sick and annual leave for which the member receives payment at retirement], (2) employee contributions effective April 1, 2015 from 6.0% to 7.5% of Salary, (3) the Supplemental Benefit to indicate that if there are insufficient funds available in the EBA to pay for both the increased supplement and the variable COLA, the monthly supplement is payable first and then for the remaining funds in the EBA are used to provide the variable COLA on a prorate basis, (4) the maximum pension benefit to be $90,000 annually for members hired on or after March 24, 2015 and also members employed on March 24, 2015 who have not reached the normal retirement date [except that the accrued a benefit in excess of $90,000 annually as of March 24, 2015 is not reduced to $90,000 but no additional benefits will accrue], and (5) DROP interest crediting for members who elect the fixed rate from an annual rate of 6.5% to 1.3% for those who enter the DROP on or after March 24, 2015.

- Ordinance No. 2017-46 became effective upon adoption on October 10, 2017. This ordinance (1) requires employee contributions of 6.5% of Salary from Members who enter the DROP after October 10, 2017, (2) for Members employed after October 10, 2017, the Accrued Benefit is 3.0% x Average Final Compensation x Credited Service, and for Members employed on or before October 10, 2017 and retiring on or after October 1, 2008 the Accrued Benefit is 3.25% x Average Final Compensation x Credited Service, and (3) a Share Plan is established where accumulated excess premium tax revenues as of October 1, 2015 (totaling $258,620) are split where 50% is allocated to the Share Plan and 50% is used to pay down the unfunded liability of the Plan. For premium tax revenues received in any Plan year after October 1, 2015 over that for calendar 2012 in the amount of $587,845, 50% is allocated to the Share Plan and 50% is used to reduce the city's annual required pension contributions. However, the Share Plan becomes operative when the city and the union reach agreement on the details of the Share Plan.

<u>Plan Year:</u> The 12-month period from October 1st to the following September 30th.

<u>Member:</u> Full-time firefighters become Members immediately upon hire.

<u>Actuarial Equivalence:</u> Using the funding assumptions as adopted by the board.

<u>Credited Service:</u> Total years and fractional parts of years of service as a firefighter with Member contributions, when required. Credited Service also includes certain military service. Additional Credited Service may be purchased.

<u>Vesting:</u> 100% upon the earlier of earning ten years of Credited Service and reaching the Normal Retirement Date.

<u>Salary:</u> Total compensation for services rendered to the City as a firefighter reported on Form W-2 plus all tax-deferred, tax sheltered, or tax exempt items of income derived from elective employee payroll deductions.

Effective March 24, 2015 Salary excludes payments for overtime in excess of 300 hours per fiscal year and payments for accrued sick and annual leave from the definition of Salary [except that for members employed on March 24, 2015 Salary does include the lesser of (a) the amount of sick and annual leave accrued as of March 24, 2015 and (b) the actual amount of sick and annual leave for which the member receives payment at retirement].

Effective for benefits calculated after October, 2016, Salary used is that for the fiscal year.

<u>Regular Base Salary:</u> One-twelfth of the employee's annual base pay rate plus any incentive pay.

<u>Employee Contributions:</u> Prior to Ordinance No. 2009-35 adopted October 13, 2009, employees hired prior to May 9, 1978 contributed 5.0% of Salary. Employees hired after May 9, 1978 contributed 4.75%

of Salary. Effective October 13, 2009, Ordinance No. 2009-35 revised employee contributions to 6.0% of Salary. Special rules were put in place related to the multiplier increase from 3.0% to 3.25% associated with the 1.25% employee contribution rate increase from 4.75% to 6.5%. Effective April 1, 2015, Ordinance No. 2015-06 revised employee contributions from 6.0% to 7.5% of Salary. Ordinance No. 2017-46 requires employee contributions of 6.5% of Salary from Members who enter the DROP after October 10, 2017.

A Member who terminates non-vested is entitled to refund of accumulated Employee Contributions with interest at 4% per year. Contributions may be repaid with interest upon reentry into the Plan due to rehire. The annual 4% interest crediting is not applied to employee contributions associated with a service purchase.

Vested Members who terminate employment prior to being eligible to receive an annuity may leave their accumulated contributions in the fund, and upon reaching Early Retirement eligibility begin commencement of the reduced Accrued Benefit plus the Supplemental Benefit, as defined under Early Retirement.

<u>Average Final Compensation:</u> Average of Salary for the five highest years out of the last 10 years of Credited Service.

<u>Normal Retirement Date:</u> For those who were Members prior to May 9, 1978, the first day of the month coincident with or next following the earlier of (i) age 50, regardless of Credited Service, or (ii) 25 years Credited Service, regardless of age. For those becoming Members on or after May 9, 1978, the first day of the month coincident with or next following the earlier of (i) age 55 and completion of 10 years of Credited Service, or (ii) 25 years Credited Service, regardless of age.

For those who did not earn 25 years of Credited Service upon termination of employment, the Normal Retirement Date is the first day of the month coincident with or next following the earlier of (i) age 55 and completion of 10 years of Credited Service, or (ii) the date the member would have earned 25 years of Credited Service.

<u>Normal Retirement Benefit:</u> The Accrued Benefit plus the Supplemental Benefit.

Per Ordinance No. 2015-06, the maximum pension benefit is limited to $90,000 annually for members hired on or after March 24, 2015 and also members employed on March 24, 2015 who have not reached the normal retirement date [except that the accrued a benefit in excess of $90,000 annually as of March 24, 2015 is not reduced to $90,000 but no additional benefits will accrue].

The $90,000 limit does not apply to the Supplemental Benefit.

<u>Accrued Benefit:</u> Per Ordinance No. 2017-46, for Members employed after October 10, 2017:

3.0% x Average Final Compensation x Credited Service

For Members employed on or before October 10, 2017 and retiring on or after October 1, 2008:

3.25% x Average Final Compensation x Credited Service

For members retiring on or after October 1, 1995 the multiplier was 3.0%, as last used in the October 1, 2008 actuarial valuation of the Plan. Prior to October 1, 1995 the multiplier was 2.5%.

This benefit is payable as a 10 year certain and continuous annuity.

<u>Supplemental Benefit:</u> Effective October 1, 2003, a Supplemental Benefit is payable monthly for the joint lives of the member and their beneficiary equal to $5 for each full year of Credited Service. Effective October 13, 2009, Ordinance No. 2009-35 clarified that this benefit is payable over only the life of the

member. In addition, Ordinance No. 2009-35 provided for all current and future retirees to potentially receive an additional $2.50 for each full year of Credited Service (for a total of $7.50 for each full year of Credited Service) beginning on the fifth anniversary of retirement. DROP participation counts toward the satisfaction of the five years of retirement. The additional $2.50 is only provided through available funds from the Enhanced Benefit Account, if any.

Effective March 24, 2015 Ordinance No. 2015-06 provides that if there are insufficient funds available in the Enhanced Benefit Account to pay for both the $2.50 increased supplement and the variable cost of living adjustment, the monthly supplement is payable first and then the remaining funds in the Enhanced Benefit Account are used to provide the variable cost of living adjustment on a prorate basis.

<u>Early Retirement Date:</u> The first day of the month coincident with or next following the earlier of attainment of age 50 or the completion of 20 years of Credited Service.

For those who did not earn 20 years of Credited Service upon termination of employment, the Early Retirement Date is the first day of the month coincident with or next following the earlier of attainment of age 50 or the date the member would have earned 20 years of Credited Service.

<u>Early Retirement Benefit:</u> The Accrued Benefit reduced by 3% per year by which the commencement of benefits precedes the Normal Retirement Date, plus the Supplemental Benefit.

<u>Enhanced Benefit Account (EBA):</u> Provides for a lump sum variable cost of living adjustment for all members who retired, became disabled, or terminated vested on or after September 30, 1996, and their beneficiaries.

Commencing annually from March 1, 1997, the sum of (a) and (b), as follows, is credited to or deducted from the EBA to provide a lump sum variable cost of living adjustment:

(c) 50% of positive or negative net investment income compared to fund's investment objective for the preceding fiscal year, and

(d) 50% of the amount by which the premium taxes collected and distributed by the state exceed 5.6% of covered payroll during the preceding fiscal year.

Covered payroll during the preceding fiscal year has historically been the calculated as an average of the total valuation salary for the current and prior valuation.

The ordinance states that the cumulative value of the EBA allocation provided by (a), above, may not exceed the cumulative net actuarial gains and losses from all sources incurred from the inception of this provision. Note that any amount allocated to the EBA based on the language in (b) does not actually reduce premium taxes available to fund other benefits.

Effective October 13, 2009, Ordinance No. 2009-35 reduced EBA funds retroactively to October 1, 2008 by a one-time deduction equal to the cost to provide the increased 3.25% benefit accrual rate minus the amount of any unallocated premium tax money and defined use of EBA funds to first pay for an additional Supplemental Benefit of $2.50 for each full year of Credited Service after the fifth year of retirement (prior to the payment of any lump sum variable cost of living adjustment described in the following).

Each April 1 the EBA is allocated among the retirees as of the preceding September 30 based upon (i) the number of full months of retirement during the preceding fiscal year, and (ii) in proportion to the amount of each retiree's actual monthly retirement benefit. The allocation is limited to a maximum of 3% of the pension benefit (prorated if retired less than a full year). In the event that in any year the balance in the fund would result in a higher payment, the excess is returned to the EBA and carried forward to the next year. Any funds carried forward in the EBA are credited with the rate of return achieved by the fund. Per direction of the Board of Trustees at their January 25, 2017 meeting, in years when the beginning balance of the EBA is negative, there is no interest crediting applied in carrying forward the EBA balance to the next year. This change was made retroactively to when the EBA first became negative with the October 1, 2017 actuarial valuation.

Effective March 24, 2015 Ordinance No. 2015-06 provides that if there are insufficient funds available in the EBA to pay for both the $2.50 increased supplement and the variable cost of living adjustment, the monthly supplement is payable first and then the remaining funds in the EBA are used to provide the variable cost of living adjustment on a prorate basis.

<u>Death Benefits:</u> In the event of death in the line of duty prior to retirement eligibility, 40% of Regular Base Salary is payable to the spouse until their death. If there is no spouse, or upon the death of the spouse, 15% of Regular Base Salary is payable for each unmarried child until the age of 18 (or age 22 if a full-time student). The maximum amount payable to all such children is 40% of Regular Base Salary.

In the event of death not in the line of duty prior to retirement eligibility, the Employee Contributions accumulated with interest is payable or 10-year certain annuity reduced actuarially from the early retirement date.

For Members eligible for retirement at their date of death, the benefit payable is that greater in actuarial value between (i) the benefit defined for line of duty death prior to retirement eligibility and (ii) the benefit payable if the Member had retired on the date of death. The resulting amount is payable on a monthly basis for ten years, or on such other actuarially equivalent basis as approved by the board.

<u>Disability Retirement:</u> The benefit payable to any Member who becomes totally and permanently disabled in the line of duty is the greater of (i) 2% x Average Final Compensation x Credited Service, (ii) 42% x Average Final Compensation, and (iii) 40% x Regular Base Salary. The Supplemental Benefit is also payable.

The benefit payable to any Member who becomes totally and permanently disabled not in the line of duty after having earned 10 years of Credited Service is the greater of (i) 2% x Average Final Compensation x Credited Service, (ii) the Accrued Benefit as reduced for Early Retirement, further reduced actuarially in the event of disability prior to the Early Retirement Date, and (iii) 25% x Average Final Compensation. The Supplemental Benefit is also payable.

Disability Retirement benefits are payable on the first day of the first month after the board determines such entitlement. However, the monthly benefit is payable as of the date the board determined entitlement and any portion due for a partial month is paid together with the first payment.

<u>Optional Forms of Benefit:</u> The Accrued Benefit described above is payable in the form of a 10 year certain and continuous annuity. Members may optionally choose an actuarially equivalent single life annuity, joint and survivor annuity (with 50%, 66 2/3, 75% or 100% continuance), or a Social Security level income option (if a member retires prior to the time at which Social Security benefits are payable). Members who do not participate in the DROP may elect to receive 20% of the present value of their benefits as a single lump sum and the remainder of the value of their benefits as a 10 year certain and continuous annuity, a single life annuity, or a joint and survivor annuity (with 50%, 66 2/3%, 75% or 100% continuance).

<u>Deferred Retirement Option Plan (DROP):</u> Members are eligible to enter the DROP at the Normal Retirement Date. DROP participants are not eligible for death or disability benefits. The maximum DROP participation duration is 60 months. The Accrued Benefit plus Supplemental Benefit is frozen and no further Employee Contributions are payable at DROP entry. The Accrued Benefit accumulates in the DROP account with interest, credited quarterly, as elected by the Member (where this election may be changed by the Member annually effective October 1):

(a) An annual rate of 6.5%, compounded monthly, on the prior month's ending balance for members who enter the DROP before March 24, 2015, and 1.3%, compounded monthly, on the prior month's ending balance for members who enter the DROP on or after March

24, 2015. However, any member who was Normal Retirement eligible by October 1, 2012 receives 6.5% annual crediting even if they enter the DROP on or after March 24, 2015 per the legal opinion dated August 13, 2012.

(b) The average daily balance in the member's DROP account is credited or debited at a rate equal to the net investment return realized for the quarter.

(c) 50% of (a) plus 50% of (b).

A Member's final DROP account value for distribution is the value of the account at the end of the quarter immediately preceding termination of participation in the DROP, plus any monthly periodic additions made to the DROP account subsequent to the end of the previous quarter and prior to distribution.

The Supplemental Benefit is payable once the member actually terminates from employment and begins to receive monthly pension payments after the end of the DROP.

The $90,000 annual limit does limit deposits to the DROP, but does not limit DROP balance payouts.

Share Plan: Per Section 175.351(6), Florida Statutes, a defined contribution component (Share Plan) is established to be funded exclusively with Chapter 175 premium tax revenues where the accumulated excess premium tax revenues as of October 1, 2015 (totaling $258,620) are split where 50% is allocated to the Share Plan and 50% is used to pay down the unfunded liability of the Plan. For premium tax revenues received in any Plan year after October 1, 2015 over that for calendar 2012 in the amount of $587,845, 50% is allocated to the Share Plan and 50% is used to reduce the city's annual required pension contributions. Per Ordinance 2017-46, the Share Plan becomes operative when the city and the union reach agreement on the details of the Share Plan.

Description of Assumptions and Methods

Assumed Rate of Investment Return: 7.75% per year, net of investment expenses (changed from 8.0% per year, net of investment expenses for the prior valuation).

Salary Increase – Individual: 6.0% per year. The final year salary is increased using individualized percentages equal to the actual total accrued leave hours as of October 1, 2014 multiplied by the hourly rate of pay at October 1, 2014 divided by annualized fiscal 2014 salary after removing pay for overtime in excess of 300 hours.

Administrative Expenses: Prior year's actual expenses added to Normal Cost

Salary Increase – Total Payroll: No payroll growth is assumed in the amortization of unfunded accrued liability effective October 1, 2017. In the prior valuation an assumption of 1.01% was used.

Inflation: 2.5% per year

Mortality: In the prior valuation, the mortality table was that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2015, as required by state statute. The mortality table has been revised to that used for special risk employees in the valuation of FRS as of July 1, 2016 and 2017, as required by state statute. While healthy post-retirement mortality and disabled mortality rates were unchanged, healthy pre-retirement was revised. The mortality rates are as follows:

Healthy mortality (Pre-retirement):
Males: 10% RP-00 Combined Healthy White Collar +
90% RP-00 Combined Healthy Blue Collar
Females: 100% RP-00 Combined Healthy White Collar
Both male and female rates fully generational using Scale BB

Healthy mortality (Post-retirement):
Males: 10% RP-00 Annuitant White Collar +
90% RP-00 Annuitant Blue Collar
Females: 100% RP-00 Annuitant White Collar
Both male and female rates fully generational using Scale BB

Disabled mortality: Males: 60% RP-00 Disabled Retiree Set Back 4 Years +
40% RP-00 Annuitant White Collar
Females: 60% RP-00 Disabled Retiree Set Forward 2 Yrs +
40% RP-00 Annuitant White Collar
No mortality improvement is assumed for disabled lives.

Retirement: Unisex rates, as follows:

	Service			
Age	<=9	10-19	20-24	>=25
<=39	0%	0%	0%	0%
40-49	0%	0%	5%	100%
50-54	5%	5%	5%	100%
>=55	5%	100%	100%	100%

Termination: Unisex rates, as follows:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
<=19	0.00%	27	2.65%	35	1.90%	43	1.06%
20	3.00%	28	2.60%	36	1.78%	44	0.98%
21	2.95%	29	2.55%	37	1.66%	45	0.90%
22	2.90%	30	2.50%	38	1.54%	46	0.82%
23	2.85%	31	2.38%	39	1.42%	47	0.74%
24	2.80%	32	2.26%	40	1.30%	48	0.66%
25	2.75%	33	2.14%	41	1.22%	49	0.58%
26	2.70%	34	2.02%	42	1.14%	50	0.50%
						>=51	0.00%

Disability: Unisex rates, as follows:

Age	Rate	Age	Rate
<=19	0.000%	40	0.940%
20-30	0.300%	41	0.990%
31	0.364%	42	1.040%
32	0.428%	43	1.090%
33	0.492%	44	1.140%
34	0.556%	45	1.190%
35	0.620%	46	1.240%
36	0.684%	47	1.290%
37	0.748%	48	1.340%
38	0.812%	49	1.390%
39	0.876%	>=50	1.440%

On and Off Duty Disability and Death: 100% of deaths and disabilities are assumed to be in the line of duty.

Funding Method: Entry Age Normal (level percent of salary).

Glossary of Actuarial Terms

Present Value of Benefits (PVB): The present value, as of the valuation date, of all benefits that will become payable by the Plan for the current group of members in the census.

Normal Cost (NC): The value of the portion of the total benefit for active members which accrues in the year following the valuation date. Under the Entry Age Normal (Level Percent of Salary) funding method, the NC is a constant fraction of salary from the member's date of entry into the Plan to the member's assumed date of termination, retirement, disability or death.

Accrued Liability (AL): This is the portion of the PVB attributable to the past at the valuation date. For active members, AL is the annual NC accumulated from date of entry to the valuation date for each member. For retired and terminated members, the PVB and the AL are equal. The AL is the estimated liability owed by the pension fund at the valuation date.

Unfunded Accrued Liability (UAL): Any excess of the Accrued Liability over the fund assets. A negative UAL indicates fund assets are greater than the Accrued Liability, otherwise known as a surplus.

Actuarial Value of Assets: The value of assets used in the actuarial valuation of the Plan which is compared to the AL to determine the UAL and minimum funding requirements. A method may be used to smooth out short term volatility in the fair market value of assets.