City of Jacksonville General Employees Retirement Plan

Actuarial Valuation and Review as of October 1, 2016

Segal Consulting

Segal Consulting
2018 Powers Ferry Road, Suite 850 Atlanta, GA 30339
T 678.306.3100 www.segalco.com

May 24, 2017

Board of Trustees
City of Jacksonville General Employees Retirement Plan
107 West Duval Street, Suite 302330
Jacksonville, FL 32202

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2016. The census information on which our calculations were based was prepared by the Retirement System Administrative Office and the financial information was provided by the The City's Finance Department. That assistance is gratefully acknowledged .

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.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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); and changes in plan provisions or applicable law.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

I look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: ____________________________________

Jeffrey S. Williams, FCA, ASA, MAAA, EA
Vice President and Consulting Actuary
Enrolled Actuary No. 17-7009.

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

Purpose

This report has been prepared by Segal Consulting to present a valuation of the City of Jacksonville General Employees Retirement Plan as of October 1, 2016. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement Plan, as administered by the Board;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of September 30, 2016, provided by the Retirement System Administrative Office;
- The assets of the Plan as of September 30, 2016, provided by the City's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

1. This valuation determines the Actuarially Determined Employer Contribution (ADEC), or recommended contribution, for the fiscal year beginning October 1, 2017. The recommended contribution has decreased from $94,526,754 for the fiscal year beginning October 1, 2016 to $93,743,647 for the fiscal year beginning October 1, 2017. As a percentage of projected pay, the contribution has increased slightly from 36.79% of projected pay to 36.81% of projected pay.
2. This valuation includes the calculation of an offset for discounted allocated surtax revenue, amortized over 30 years, pursuant to Florida Law Chapter 2016-146 and City of Jacksonville Ordinances 2017-257-E and 2017-258-E. The offset applicable as of October 1, 2016 is $22,352,595. After this offset is adjusted for the timing of contributions and projected to October 1, 2017, the City's required contribution for fiscal year beginning October 1, 2017 is $70,166,221, or 27.55% of projected pay.
3. Throughout the report, $94,743,647 will be referred to as the ADEC, or recommended contribution; $70,166,221 will be referred to as the City's required contribution.
4. Actuarial Standard of Practice No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions, states that an actuary preparing calculations of actuarially determined contributions should assess the

material implications of the funding policy. This report includes two distinct contribution amounts, each with different implications.

a. The **Actuarially Determined Employer Contribution (ADEC)** is an amount consistent with a funding policy which seeks to stabilize the unfunded actuarial accrued liability (UAAL) as a percentage of total General Employees Retirement Plan (GERP) payroll, including Defined Contribution participants, where UAAL is measured relative to assets currently available to make benefit payments. Under this policy, assuming that all assumptions are met in aggregate, the UAAL is expected to be reduced to zero over a period of 30 years after reflecting an amortization period reset. Over the short term, this contribution policy would be expected to keep the UAAL roughly level over the next few years, primarily making payments on interest, and begin paying down the UAAL after that point.

b. The **City's required contribution**, which is the ADEC adjusted to comply with state law, reduced by amortization of discounted allocated surtax revenue, is an amount consistent with a funding policy which seeks to stabilize the contribution requirement as a percentage of total GERP payroll, including General Employee Defined Contribution Plan participants, relative to an anticipated increase in contribution income set to begin in the fiscal year beginning October 1, 2030. Under this policy, assuming that all assumptions are met in aggregate, the UAAL is expected to be reduced to zero by October 1, 2060, after all of the surtax revenue allocated to the plan is collected and contributed. Over the short term, this contribution policy is expected to lead to an increase in the UAAL, prior to the revenue stream commencing and paying it down.

   Use of this contribution policy has been authorized by the Florida State Legislature and Jacksonville City Council

5. GASB accounting does not permit any recognition of the allocated surtax revenue in determining the Net Pension Liability or Pension Expense. Segal has previously made the City aware of this fact and it is our understanding the City has had a similar discussion with their external auditors.

6. Per Part VII, Chapter 112.64(5)(a) of Florida Statutes, the payroll growth assumption used for amortization of the unfunded liability is not allowed to exceed the average annual payroll growth for the proceeding ten years. Based on applying this limitation to plan payroll as shown in Exhibit L, the payroll growth assumption for amortization purposes would decrease from 1.14% to 0.57%. However, pursuant to Chapter 112.64(5)(b), and after adjusting this analysis to account for bargained pay level increases and inclusion of DC plan participants in the total payroll, the assumption was set at 1.50%.

7. The following plan and funding policy changes were reflected in this valuation:

- The Plan will be closed to new active members effective September 30, 2017 and new employees hired after this date will enter the General Employees Defined Contribution Plan with a 12% employer contribution rate and a 10% employee contribution rate.
- Ongoing GERP participants will have their employee contribution rate increased from 8% to 10% of pay effective October 1, 2017.
- Pursuant to state legislation, the payroll growth assumption is set based on the combined payroll of the General Employees Retirement Plan and the General Employees Defined Contribution Plan.
- Pursuant to state legislation, the amortization period for the unfunded liabilities as of October 1, 2016 will be set to 30 years.
- Pursuant to state legislation, the amortization of the unfunded liability must be offset by the amortized discounted value of allocated surtax revenue.

8. The following assumption changes were reflected in this valuation:

   - Mortality was updated pursuant to Florida Statute Section 112.63(f).
   - Discount rate was lowered from 7.50% to 7.40%.
   - Based on the proposed agreement with unions representing COJ employees, the inflation component of the salary scale has been adjusted from 2.75% to 5.00% for the first year, 4.50% for the following two years, with subsequent increases resuming at the assumed inflation rate of 2.75%.
   - Based on the proposed agreement with unions representing JEA employees, the inflation component of the salary scale has been adjusted from 2.75% to 3.00% for the next three years, with subsequent increases resuming at the assumed inflation rate of 2.75%.
   - Based on the proposed agreement with unions representing JHA employees, the inflation component of the salary scale has been adjusted from 2.75% to 2.00% for the first year, with subsequent increases resuming at the assumed inflation rate of 2.75%.
   - Based on inclusion of General Employees Defined Contribution Plan payroll in the ten year payroll history used to support the payroll growth and analysis of the impact of these pay increases over the next three years, the payroll growth rate for funding purposes was changed from 0.57% to 1.50%.

9. The recommended contribution is calculated as of October 1, 2016 and projected to October 1, 2017 for payment by the City in fiscal 2018. Since employee contributions are 8% during the year beginning October 1, 2016, expected contributions have been valued at 8% of pay in this valuation. Beginning with the October 1, 2017 actuarial valuation, expected employee contributions will be valued at 10% of pay.

10. The City is solely responsible for the assumption as to what percentage the surtax revenue will grow and Segal relies on the City for this assumption. This rate was initially set at 4.25% by the City for the projection period October 1, 2017 through September 30, 2060, and will be recalculated every year. Segal will ask the City each year to provide actual surtax revenue for the preceding fiscal year and an assumption as to future growth. The difference in actual and projected surtax revenue each year will be amortized as a gain or loss over 30 years. If surtax revenue grows more slowly or more quickly than expected, contribution requirements will increase or decrease accordingly.
11. In the October 1, 2016 actuarial valuation, GERP was allocated 31% of the present value of projected surtax revenue. The allocation methodology was determined by the City based on the October 1, 2015 unfunded actuarial accrued liabilities of the Corrections Officers Retirement Plan, the General Employees Retirement Plan, and the Police and Fire Pension Plan. The City is responsible for the determination as to when and how this allocation method should change.
12. The present value of the projected surtax revenue was determined and used in determination of the City's required contribution as follows:
    a. Actual 2016 surtax revenue was projected to increase by 4.62% for fiscal 2017, based on actual collections to date, and then 4.25% each year thereafter through fiscal 2060.
    b. A share of 31% of the projected revenue for fiscal years 2031 through 2060 was allocated to GERP.
    c. The revenue allocated to GERP was discounted at the valuation discount rate of 7.40% to October 1, 2016.
    d. The present value of projected surtax revenue as of October 1, 2016 allocated to GERP is $332,190,859.
    e. The present value amount of $332,190,859 was then amortized over a 30-year period (Section 3, Exhibit I).
    f. After the amortized value amount was adjusted for the timing of contributions and projected to October 1, 2017, this amount was used as an offset to the Actuarially Determined Employer Contribution to determine the City's required contribution.
13. The present value of projected surtax revenue does not decrease the UAAL. The amortized value of the projected surtax revenue is used as an offset to the ADEC.
14. By resetting the amortization period to 30 years as of October 1, 2016, and by making contributions that are expected to be less than recommended for the foreseeable future, it is anticipated that GERP's UAAL will increase for several years before it begins to once again decline, even if all assumptions are exactly met. This is due to the negative amortization that occurs in the early years of a 30-year level percentage of pay amortization period.
15. Since the projected surtax revenue is being included now as an offset to the City's contribution, it should not be counted again as an offset once the surtax begins. At that time, as has been discussed with the City, the surtax contributions should be an additional contribution in addition to the recommended contribution.

16. As indicated in Section 2, Subsection B of this report, the total unrecognized investment loss as of September 30, 2016 is $43,548,100. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience. This implies that earning the assumed rate of investment return of 7.40% per year (net of expenses) on a market value basis will result in investment losses on the actuarial value of assets in the next few years. Therefore, if the actual market return is equal to the assumed 7.40% rate and all other actuarial assumptions are met, the contribution requirements would still increase in each of the next few years.
17. The IRS Section 415(b) annual benefit limit for 2016 is $210,000, the same as the limit for 2015. The IRS Section 401(a)17 covered pay limit for 2016 is $265,000, the same as the limit for 2015.
18. The financial information received states all results rounded to the nearest thousand. The results in this valuation are shown to the nearest dollar. Therefore, occasionally rounded numbers are combined with unrounded ones.

Summary of Key Valuation Results

	2017	2016	2015
Contributions for fiscal year beginning October 1:			
Actuarially determined employer contribution	$93,743,647	$94,526,754	$89,058,931
As a percentage of projected payroll	36.81%	36.79%	33.20%
Actual employer contribution	- -	- -	84,898,000
Actual percentage of payroll contributed	- -	- -	33.20%
City's required contribution*	$70,166,221	N/A	N/A
As a percentage of projected payroll	27.55%	N/A	N/A
Funding elements for plan year beginning October 1:			
Total normal cost, including administrative expenses		$39,255,809	$38,439,794
Market value of assets		1,829,242,000	1,739,891,000
Actuarial value of assets		1,872,790,100	1,811,172,111
Actuarial accrued liability		2,897,287,172	2,711,408,803
Unfunded actuarial accrued liability		1,024,497,072	900,236,692
Funded ratio – actuarial value of assets		64.64%	66.80%
Funded ratio – market value of assets		63.14%	64.17%
Demographic data for plan year beginning October 1:			
Number of retired participants and beneficiaries		5,065	4,976
Number of vested former participants		217	65
Number of active participants		4,678	4,817
Covered payroll		$250,894,295	$254,034,479
Average payroll		53,633	52,737
Projected payroll for next fiscal year		254,657,709	256,930,472

**Pursuant to State Law Chapter 2016-146 and City of Jacksonville Ordinances 2017-257-E and 2017-258-E*

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the Retirement System Administrative Office. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** The valuation is based on the market value of assets as of the valuation date, as provided by the City's Finance Department. The Plan uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Retirement Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If the City is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Retirement Board should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, vested terminated participants, retired participants and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the participant population has changed over the past ten valuations can be seen in this chart.

CHART 1

Participant Population: 2007 – 2016

Year Ended September 30	Active Participants	Vested Terminated Participants*	Retired Participants and Beneficiaries	Ratio of Non-Actives to Actives
2007	5,104	72	4,397	0.88
2008	5,151	78	4,456	0.88
2009	5,113	82	4,465	0.89
2010	6,280	97	4,504	0.73
2011	6,109	90	4,603	0.77
2012	5,485	81	4,783	0.89
2013	5,139	78	4,896	0.97
2014	5,026	76	4,907	0.99
2015	4,817	65	4,976	1.05
2016	4,678	217	5,065	1.13

**Excludes terminated participants due a refund of employee contributions*

Active Participants

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 4,678 active participants with an average age of 48.5, average years of service of 12.5 years and average payroll of $53,633. The 4,817 active participants in the prior valuation had an average age of 48.5, average service of 12.1 years and average payroll of $52,737.

Inactive Participants

In this year's valuation, there were 217 participants with a vested right to a deferred or immediate vested benefit.

These graphs show a distribution of active participants by age and by years of service.

CHART 2

Distribution of Active Participants by Age as of September 30, 2016

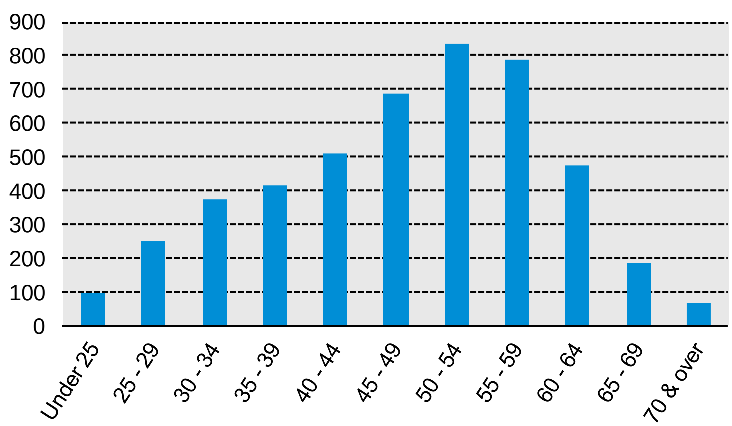
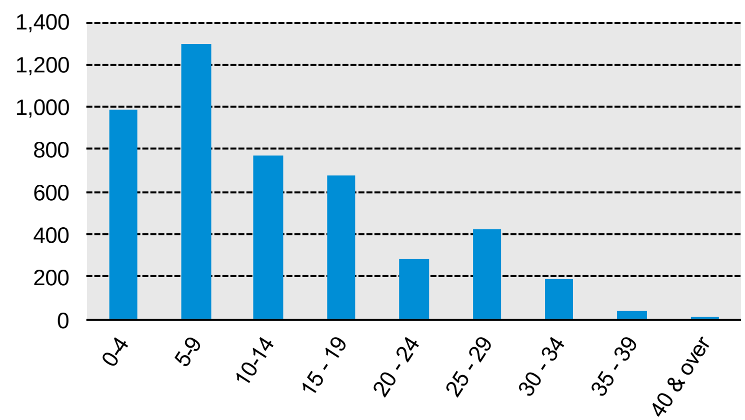


CHART 3

Distribution of Active Participants by Years of Service as of September 30, 2016



Retired Participants and Beneficiaries

As of September 30, 2016, 3,855 retired participants and 1,210 beneficiaries were receiving total monthly benefits of $13,960,312 For comparison, in the previous valuation, there were 3,777 retired participants and 1,199 beneficiaries receiving monthly benefits of $13,310,130.

These graphs show a distribution of the current retired participants based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Participants by Type and by Monthly Amount as of September 30, 2016

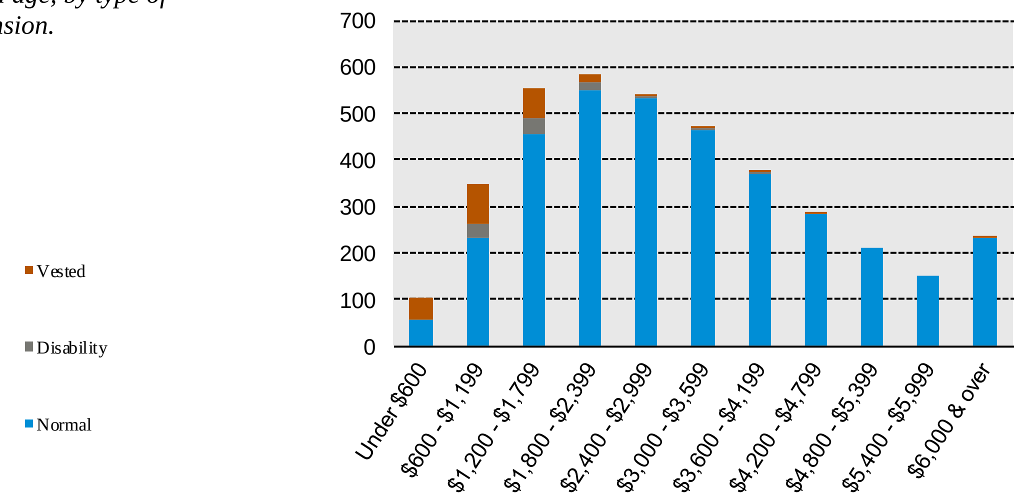
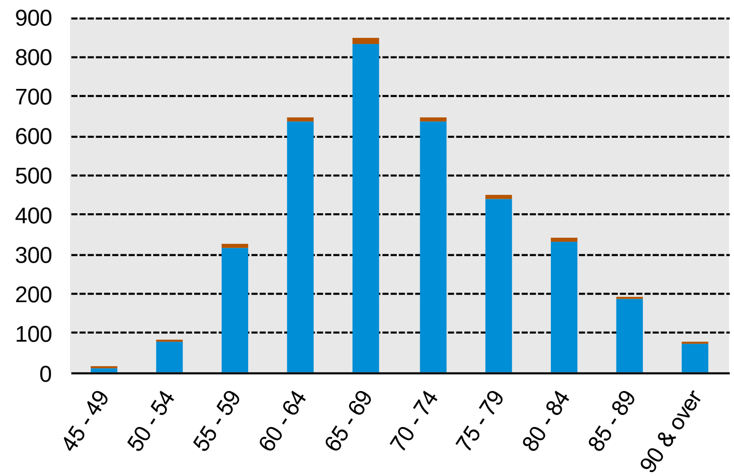


CHART 5

Distribution of Retired Participants by Type and by Age as of September 30, 2016



B. FINANCIAL INFORMATION

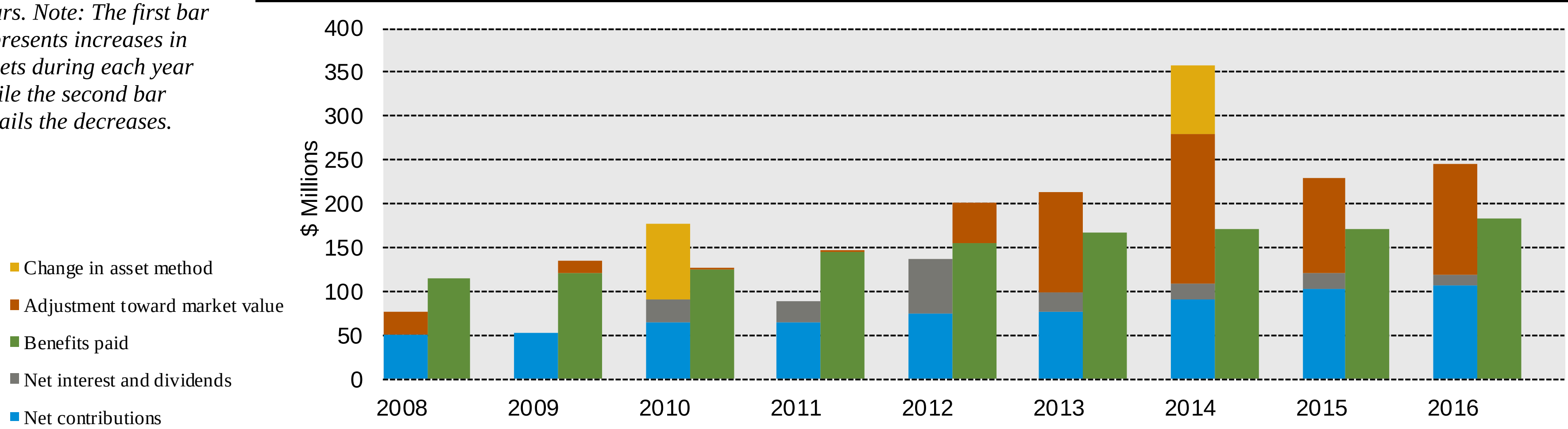
Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D, E and F.

The chart depicts the components of changes in the actuarial value of assets over the last nine years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended September 30, 2008 – 2016



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial Value of Assets for Year Ended September 30, 2016

1. Market value of assets, September 30, 2016			$1,829,242,000
	Original	Unrecognized	
2. Calculation of unrecognized return	Amount *	Return**	
(a) Year ended September 30, 2016	$39,489,525	$31,591,620	
(b) Year ended September 30, 2015	-175,540,475	-105,324,285	
(c) Year ended September 30, 2014	63,631,545	13,994,538	
(d) Year ended September 30, 2013	147,228,359	16,190,027	
(e) Year ended September 30, 2012	143,494,282	0	
(f) Total unrecognized return			-43,548,100
3. Preliminary actuarial value: (1) - (2f)			1,872,790,100
4. Adjustment to be within 20% corridor			0
5. Final actuarial value of assets as of September 30, 2016: (3) + (4)			$1,872,790,100
6. Actuarial value as a percentage of market value: (5) ÷ (1)			102.4%
7. Amount deferred for future recognition: (1) - (5)			-$43,548,100

**Total return minus expected return on a market value basis*

***Recognition at 20% per year over five years; effective October 1, 2014, the Plan accelerated the recognition of prior year asset gain/loss bases by reflecting 45% of the outstanding asset gains/losses immediately.*

****Deferred return as of September 30, 2016 recognized in each of the next four years:*

(a) Amount recognized on September 30, 2017 -$4,022,894

(b) Amount recognized on September 30, 2018 -20,212,921

(c) Amount recognized on September 30, 2019 -27,210,190

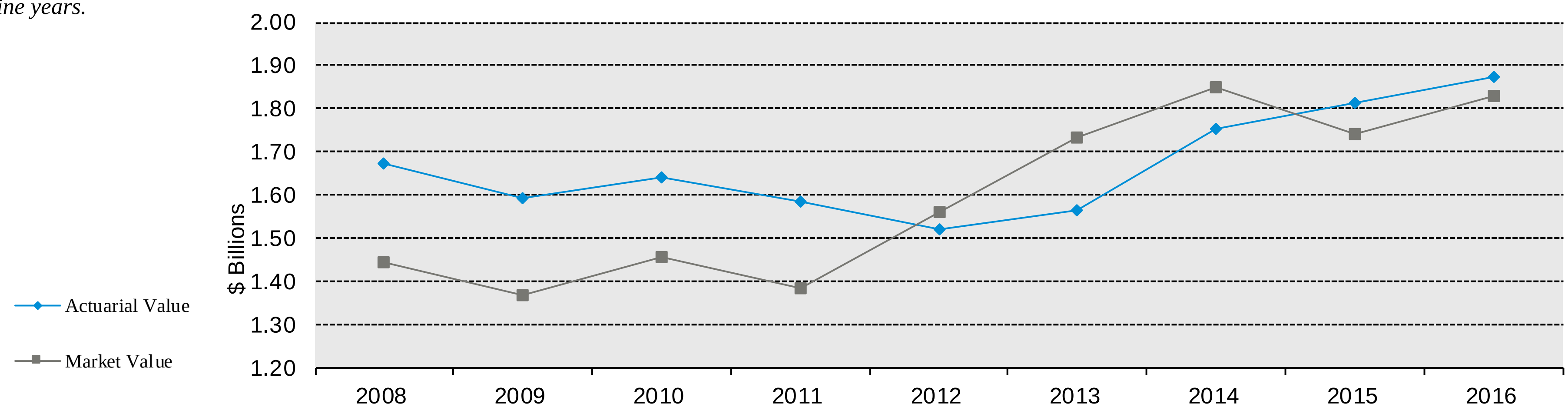
(d) Amount recognized on September 30, 2020 7,897,905

Both the actuarial value and market value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past nine years.

CHART 7

Actuarial Value of Assets vs. Market Value of Assets as of September 30, 2008 – 2016



C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is $49,291,927, consisting of $6,410,431 from investment gains and $55,702,358 in losses from all other sources. The net experience variation from individual sources other than investments was 2.0% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 8

Actuarial Experience for Year Ended September 30, 2016

1.	Net gain from investments*	$6,410,431
2.	Net gain from administrative expenses	31,298
3.	Net loss from other experience	-55,733,656
4.	Net experience loss: (1) + (2) + (3)	-$49,291,927

** Details in Chart 9*

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets was 7.50% for fiscal 2016. The actual rate of return on an actuarial basis for the 2016 plan year was 7.86%.

Since the actual return for the year was greater than the assumed return, the Plan experienced an actuarial gain during the year ended September 30, 2016 with regard to its investments.

This chart shows the gain due to investment experience.

CHART 9

Actuarial Value Investment Experience for Year Ended September 30, 2016

1.	Actual return	$139,333,989
2.	Average value of assets	1,772,314,111
3.	Actual rate of return: (1) ÷ (2)	7.86%
4.	Assumed rate of return	7.50%
5.	Expected return: (2) x (4)	$132,923,558
6.	Actuarial gain: (1) – (5)	$6,410,431

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last ten years, including five-year and seven-year averages.

Based upon this experience and future expectations, the Board has changed the assumed rate of return to 7.40%.

CHART 10

Investment Return – Actuarial Value vs. Market Value: 2007 - 2016

	Net Interest and Dividend Income		Recognition of Capital Appreciation		Change in Asset Method		Actuarial Value Investment Return		Market Value Investment Return	
Year Ended September 30	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
2007								11.43%		14.04%
2008								1.59		-15.65
2009								-0.70		-0.31
2010	$24,497,000	1.57%	-$1,829,100	-0.12%	$87,612,723	5.61%	$110,280,623	7.07	$148,054,000	11.07
2011	24,639,000	1.54	-2,325,094	-0.15	- -	- -	22,313,906	1.39	9,313,000	0.66
2012	63,315,000	4.11	-46,802,747	-3.04	- -	- -	16,512,253	1.07	254,394,000	18.92
2013	21,180,000	1.44	115,400,384	7.83	- -	- -	136,580,384	9.27	264,541,000	17.48
2014	18,106,000	1.19	169,638,818	11.12	78,846,382	5.17	266,591,200	17.48	194,864,000	11.51
2015	19,212,000	1.12	108,863,601	6.34	- -	- -	128,075,601	7.46	-39,506,000	-2.18
2016	13,528,000	0.76	125,805,989	7.10	- -	- -	139,333,989	7.86	167,067,000	9.82
Total	$184,477,000		$468,751,851		$166,459,105		$819,687,956		$998,727,000	
							Five-year average return	8.56%		10.43%
							Seven-year average return	7.32%		9.24%

Note: Each year's yield is weighted by the average asset value in that year.

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

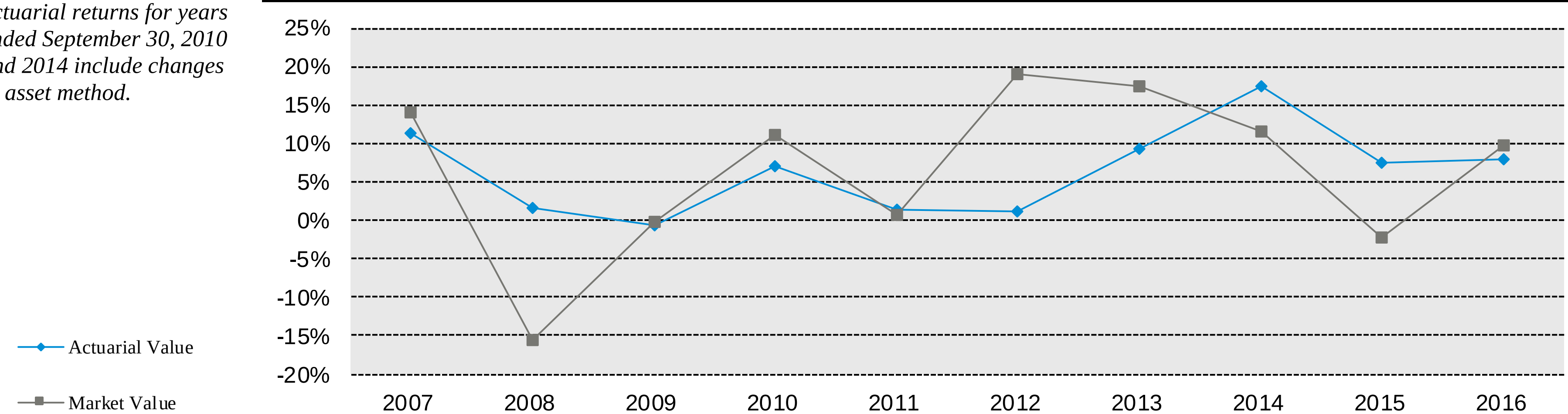
Administrative Expenses

Administrative expenses for the year ended September 30, 2016 totaled $762,000 throughout the year compared to the assumption of $762,000, payable at the beginning of the year. This resulted in a gain of $31,298 for the year.

This chart illustrates how this leveling effect has actually worked over the years 2007 - 2016. The actuarial returns for years ended September 30, 2010 and 2014 include changes in asset method.

CHART 11

Market and Actuarial Rates of Return for Years Ended September 30, 2007 - 2016



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

The net loss from this other experience for the year ended September 30, 2016 amounted to $55,733,656, which is 2.0% of the actuarial accrued liability. The primary components of the loss are the inclusion of terminated vested participants that were not previously valued and the restatement of years of service for some participants.

D. ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION

The amount of annual contribution required to fund the Plan is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the funding rate of 36.81% of payroll.

The contribution requirements as of October 1, 2016 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 12

Actuarially Determined Employer Contribution and City's Required Contribution

	Year Beginning October 1			
	2016		2015	
	Amount	% of Payroll	Amount	% of Payroll
1. Total normal cost	$38,493,809	15.34%	$37,677,794	14.83%
2. Administrative expenses	762,000	0.30%	762,000	0.30%
3. Expected employee contributions	-19,318,861	-7.70%	-19,560,655	-7.70%
4. Employer normal cost: (1) + (2) + (3)	$19,936,948	7.95%	$18,879,139	7.43%
5. Actuarial accrued liability	2,897,287,172		2,711,408,803	
6. Actuarial value of assets	1,872,790,100		1,811,172,111	
7. Unfunded actuarial accrued liability: (5) - (6)	$1,024,497,072		$900,236,692	
8. Payment on unfunded actuarial accrued liability	68,936,780	27.48%	71,011,167	27.95%
9. Total actuarially determined employer contribution: (4) + (8)*	93,743,647	36.81%	94,526,754	36.79%
10. Amortized value of discounted value of projected surtax revenue*	-23,577,426	-9.26%	N/A	N/A
11. City's required contribution: (9) + (10)*	$70,166,221	27.55%	N/A	N/A
12. Projected payroll	$254,657,709		$256,930,472	

**Adjusted for timing and projected to next fiscal year; contributions are assumed to be paid at the end of every month.*

Reconciliation of Recommended Contribution
The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation.

The chart reconciles the contribution from the prior valuation to the amount determined in this valuation.

CHART 13

Reconciliation of Recommended Contribution from October 1, 2016 to October 1, 2017

Recommended Contribution as of October 1, 2016	$94,526,754
Effect of statutory benefit limit update	1,020
Effect of expected change in amortization payment due to payroll growth	851,282
Effect of resetting amortization period to 30 years	-15,767,600
Effect of change in other actuarial assumptions	10,531,439
Effect of contribution deferral to budget year	115,106
Effect of investment gain	-475,061
Effect of other gains and losses on accrued liability	4,127,962
Effect of net other changes	-167,255
Total change	-$783,107
Recommended Contribution as of October 1, 2017	$93,743,647

EXHIBIT A

Table of Plan Coverage

Category	Year Ended September 30 2016	2015	Change From Prior Year
Active participants in valuation:			
Number	4,678	4,817	-2.9%
Average age	48.5	48.5	N/A
Average years of service	12.5	12.1	N/A
Projected total payroll	$250,894,295	$254,034,479	-1.2%
Projected average payroll	53,633	52,737	1.7%
Account balances	179,368,608	188,753,098	-5.0%
Total active vested participants	3,687	3,785	-2.6%
Vested terminated participants	217	65	233.8%
Retired participants:			
Number in pay status	3,773	3,689	2.3%
Average age	70.2	69.9	N/A
Average monthly benefit	$3,095	$3,023	2.4%
Disabled participants:			
Number in pay status	82	88	-6.8%
Average age	69.3	68.7	N/A
Average monthly benefit	$1,510	$1,442	4.7%
Beneficiaries in pay status:			
Number in pay status	1,210	1,199	0.9%
Average age	75.6	75.5	N/A
Average monthly benefit	$1,784	$1,695	5.3%

EXHIBIT B

Participants in Active Service as of September 30, 2016
By Age, Years of Service, and Average Unlimited Payroll

		Years of Service								
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	93	93	- -	- -	- -	- -	- -	- -	- -	- -
	$30,381	$30,381	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	249	163	82	4	- -	- -	- -	- -	- -	- -
	43,595	39,211	$52,132	$47,253	- -	- -	- -	- -	- -	- -
30 - 34	375	167	151	56	1	- -	- -	- -	- -	- -
	46,696	39,989	52,691	50,653	$39,968	- -	- -	- -	- -	- -
35 - 39	417	108	175	96	37	1	- -	- -	- -	- -
	53,440	43,467	55,824	61,479	49,967	$70,158	- -	- -	- -	- -
40 - 44	509	120	161	114	95	17	2	- -	- -	- -
	54,363	48,133	52,111	59,611	57,921	63,853	$60,629	- -	- -	- -
45 - 49	689	117	173	123	149	59	65	3	- -	- -
	56,110	45,036	49,995	59,073	61,532	64,498	65,676	$77,711	- -	- -
50 - 54	835	95	194	133	118	84	155	55	1	- -
	57,288	53,006	46,600	58,571	54,236	68,272	65,022	66,868	$78,946	- -
55 - 59	790	83	175	131	146	54	106	77	18	- -
	57,425	52,027	46,661	55,931	59,311	57,028	62,181	76,176	75,526	- -
60 - 64	475	33	125	70	94	35	62	39	13	4
	53,104	50,010	42,111	57,085	58,360	56,383	55,536	58,997	64,572	$67,830
65 - 69	182	7	48	31	28	24	23	12	4	5
	52,833	31,506	40,942	47,397	61,196	56,057	62,300	58,518	71,989	95,742
70 & over	64	5	17	10	11	6	8	2	3	2
	50,521	70,277	39,037	62,721	47,309	52,527	41,918	82,057	42,580	64,189
Total	4,678	991	1,301	768	679	280	421	188	39	11
	$53,673	$43,603	$49,299	$57,550	$57,936	$62,176	$62,402	$68,849	$69,065	$79,855

	Active Participants	Vested Former Participants	Disableds	Retired Participants	Beneficiaries	Total
Number as of October 1, 2015	4,817	65	88	3,689	1,199	9,858
New participants	308	N/A	N/A	N/A	N/A	308
Terminations – with vested rights	-22	22	N/A	N/A	N/A	0
Terminations – without vested rights	-223	N/A	N/A	N/A	N/A	-223
Retirements	-192	-6	N/A	198	N/A	0
New disabilities	-1	0	N/A	N/A	N/A	-1
New beneficiaries	N/A	N/A	0	0	74	74
Deceased	-7	0	-6	-126	-66	-205
Rehire	2	-1	N/A	-1	N/A	0
Certain period expired	N/A	N/A	0	0	0	0
Data adjustments	1	137	0	13	3	154
Net transfers (to)/from DC Plan or Corrections	-5	0	0	0	0	-5
Number as of October 1, 2016	4,678	217	82	3,773	1,210	9,960

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended September 30, 2016		Year Ended September 30, 2015	
Net assets at actuarial value at the beginning of the year		$1,811,172,111		$1,751,888,510
Contribution income:				
Employer contributions	$84,898,000		$81,751,000	
Employee contributions	21,840,000		20,893,000	
Less administrative expenses	-762,000		-762,000	
Net contribution income		105,976,000		101,882,000
Investment income:				
Interest, dividends and other income	$22,581,000		$28,284,000	
Recognition of capital appreciation	125,805,989		108,863,601	
Less investment fees	-9,053,000		-9,072,000	
Net investment income		139,333,989		128,075,601
Total income available for benefits		$245,309,989		$229,957,601
Less benefit payments:				
Benefit payments	-$163,671,000		-$157,104,000	
Refunds	-20,021,000		-13,570,000	
Net benefit payments		-$183,692,000		-$170,674,000
Change in actuarial value of assets		$61,617,989		$59,283,601
Net assets at actuarial value at the end of the year		$1,872,790,100		$1,811,172,111

EXHIBIT E

Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended September 30, 2016		Year Ended September 30, 2015	
Net assets at market value at the beginning of the year		$1,739,891,000		$1,848,189,000
Contribution income:				
Employer contributions	$84,898,000		$81,751,000	
Employee contributions	21,840,000		20,893,000	
Less administrative expenses	-762,000		-762,000	
Net contribution income		105,976,000		101,882,000
Investment income:				
Interest, dividends and other income	$22,581,000		$28,284,000	
Asset appreciation	153,539,000		-58,718,000	
Less investment fees	-9,053,000		-9,072,000	
Net investment income		167,067,000		-39,506,000
Total income available for benefits		$273,043,000		$62,376,000
Less benefit payments:				
Benefit payments	-$163,671,000		-$157,104,000	
Refunds	-20,021,000		-13,570,000	
Net benefit payments		-$183,692,000		-$170,674,000
Change in market value of assets		$89,351,000		-$108,298,000
Net assets at market value at the end of the year		$1,829,242,000		$1,739,891,000

EXHIBIT F

Summary Statement of Plan Assets

	Year Ended September 30, 2016		Year Ended September 30, 2015	
Equity in pooled cash equivalents and short term investments		$11,937,000		$41,652,000
Accounts receivable:				
Interest and dividends	$2,272,000		$2,866,000	
Other	1,533,000		1,343,000	
Total accounts receivable		3,805,000		4,209,000
Investments:				
Equities	$1,120,459,000		$1,084,364,000	
Fixed income	363,434,000		375,868,000	
Real estate	389,759,000		284,299,000	
Other assets	129,194,000		114,077,000	
Equity in pooled investments*	-185,680,000		-161,576,000	
Total investments at market value		1,817,166,000		1,697,032,000
Total assets		$1,832,908,000		$1,742,893,000
Less accounts payable:				
Obligations under securities lending agreement (less collateral)	-$384,000		-$644,000	
Accounts payable and accrued Liabilities	-3,221,000		-2,301,000	
Accrued compensated absences	-12,000		-15,000	
Other post employment benefits	-49,000		-42,000	
Total accounts payable		-$3,666,000		-$3,002,000
Net assets at market value		$1,829,242,000		$1,739,891,000
Net assets at actuarial value		$1,872,790,100		$1,811,172,111

** The plan's assets are pooled with other City of Jacksonville retirement plans.*

EXHIBIT G

Development of the Fund Through September 30, 2016

Year Ended September 30	Employer Contributions	Employee Contributions	Other Contributions and Miscellaneous Items[1]	Net Investment Return[2]	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2008	$28,296,188	$22,291,455	$21,284	$26,755,181	$888,327	$115,501,933	$1,673,434,615
2009	28,337,121	22,738,683	1,042,282	-13,510,521	560,801	121,183,180	1,590,298,199
2010	40,551,000	25,196,000	-2,000	110,280,623[3]	775,000	124,656,000	1,640,892,767
2011	39,378,000	25,051,000	-6,000	22,313,906	701,000	144,899,000	1,582,041,673
2012	49,899,000	24,098,000	1,040,000	16,512,253	705,000	154,308,000	1,518,577,926
2013	55,386,000	21,878,000	0	136,580,384	671,000	166,460,000	1,565,291,310
2014	71,000,000	20,961,000	0	266,591,200[4]	828,000	171,127,000	1,751,888,510
2015	81,751,000	20,893,000	0	128,075,601	762,000	170,674,000	1,811,172,111
2016	84,898,000	21,840,000	0	139,333,989	762,000	183,692,000	1,872,790,100

[1] *Includes miscellaneous income and adjustments to the market value of assets*
[2] *Net of investment fees*
[3] *Includes a change in asset method of $87,612,723*
[4] *Includes a change in asset method of $78,846,382*

EXHIBIT H

Development of Unfunded Actuarial Accrued Liability for Year Ended September 30, 2016

1.	Unfunded actuarial accrued liability at beginning of year		$900,236,692
2.	Employer normal cost at beginning of year		18,879,139
3.	Employer contributions		-84,898,000
4.	Interest		
	(a) For whole year on (1) + (2)	$68,933,687	
	(b) For monthly payments on (3)	-2,880,264	
	(c) Total interest		66,053,423
5.	Expected unfunded actuarial accrued liability		900,271,254
6.	Changes due to:		
	(a) Net experience loss (excluding impact of contribution deferral to budget year)	$49,291,927	
	(b) Assumptions	74,933,891	
	(c) Total changes		124,225,818
7.	Unfunded actuarial accrued liability at end of year		$1,024,497,072

EXHIBIT I

Table of Amortization Bases

Type*	Date Established	Initial Years	Initial Amount	Annual Payment**	Years Remaining	Outstanding Balance
Fresh Start	10/01/2016	30	$1,024,497,072	$68,936,780	30	$1,024,497,072
Total				$68,936,780		$1,024,497,072
Discounted surtax revenue applied	10/01/2016	30	-$332,190,859	-$22,352,595		-$332,190,859

** Level percentage of payroll; per Part VII, Chapter 112.64(5)(a) and 112.64(5)(b) of Florida Statutes, outstanding balances were amortized using a 1.50% payroll growth rate for the October 1, 2016 actuarial valuation.*

***Experience gain/loss bases include impact of contributions deferred to budget years on outstanding balance of prior year bases.*

EXHIBIT J

Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $210,000 for 2016. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

EXHIBIT K
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Withdrawal rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives: The value of all projected benefit payments for current members less the portion that will be paid by future normal costs.

Actuarial Accrued Liability For Pensioners: The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded Actuarial Accrued Liability:	Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

EXHIBIT L

Supplementary State of Florida Information - Summary of Salary Changes

Year Ended September 30	Total Salary	Percent Change in Total Salary	Percent Change in Salary of Employees Remaining Active	Expected Percent Change in Salary of Employees Remaining Active
2006	$237,108,000	4.54%	4.81%	5.55%
2007	248,887,000	4.97%	6.03%	5.71%
2008	262,345,000	5.41%	5.08%	5.72%
2009	276,257,000	5.30%	3.16%	5.42%
2010*	275,173,962	-0.39%	0.61%	5.36%
2010	322,530,502	17.21%	N/A	N/A
2011	314,054,361	-2.63%	0.94%	5.62%
2012	283,020,575	-9.88%	2.31%	5.83%
2013	265,404,735	-6.22%	1.60%	2.84%
2014	262,368,813	-1.14%	0.04%	2.84%
2015	254,034,479	-3.18%	3.85%	2.48%
2016	250,894,295	-1.24%	2.76%	4.27%

Note: The average total payroll growth for the most recent ten years was 0.57% per year. Additional analysis of bargained pay increases applicable for the next three years was used to support a payroll growth rate of 1.50%.

Salary history prior to October 1, 2016 was taken from the City's Comprehensive Annual Financial Report.

** Prior to the inclusion of new participants with greater than one year of employment.*

EXHIBIT L (continued)

Supplementary State of Florida Information – Recent History of Recommended and Actual Contributions

Fiscal Year Ended September 30	Valuation Date September 30	Contribution Rate as Percent of Valuation Payroll	Valuation Payroll	Recommended Contribution	Actual Contribution
2011	2008*	13.50%	$289,807,191	$39,123,971	$39,378,000
2012	2010	17.22%	333,819,070	57,497,706	49,899,000
2013	2011	20.51%	325,046,264	66,659,915	55,386,000
2014	2012	27.91%	291,511,192	81,351,295	71,000,000
2015	2013	31.60%	272,358,339	86,069,361	81,751,000
2016	2014	33.20%	268,245,874	89,058,931	84,898,000
2017	2015	36.79%	256,930,472	94,526,764	- -
2018	2016	36.81%	254,657,709	93,743,647	- -

All amounts prior to the 2010 valuation date were prepared by the prior actuary.

**An actuarial valuation was not performed for the plan year beginning October 1, 2009. The recommended contribution is based on the 2008 valuation's contribution rate.*

EXHIBIT L (continued)

Supplementary State of Florida Information - Comparative Summary of Principal Valuation Results

	Year Ended September 30, 2016			
	New Plan New Mortality, Interest, Salary, and Payroll Growth Assumptions	**Old Plan New Mortality and Interest Assumptions**	**Old Plan Old Assumptions**	**Year Ended September 30, 2015**
Participant data				
Active members	4,678	4,678	4,678	4,817
Total annual payroll	$250,894,295	$250,894,295	$250,894,295	$254,034,479
Retired members and beneficiaries	5,065	5,065	5,065	4,976
Total annualized benefit	$167,523,741	$167,523,741	$167,523,741	$159,721,556
Terminated vested members	217	217	217	65
Total annualized benefit	$3,882,093	$3,882,093	$3,882,093	$1,093,293
Actuarial value of assets	$1,872,790,100	$1,872,790,100	$1,872,790,100	$1,811,172,111
Present value of all future expected benefit payments:				
Active members:				
Retirement benefits	$983,373,760	$966,283,973	$944,126,472	$908,969,383
Vesting benefits	22,203,038	21,988,373	21,912,202	26,749,733
Disability benefits	- -	- -	- -	- -
Death benefits	29,845,285	29,344,445	22,109,301	22,502,862
Return of contributions	179,368,608	179,368,608	179,368,608	204,091,839
Total	$1,214,790,691	$1,196,985,399	$1,167,516,583	$1,162,313,817
Terminated vested members	25,434,609	25,434,609	24,962,194	7,977,766
Retired members and beneficiaries	1,967,961,491	1,967,961,491	1,923,934,993	1,841,431,230
Total	$3,208,186,791	$3,190,381,499	$3,116,413,770	$3,011,722,813

EXHIBIT L (continued)

Supplementary State of Florida Information – Comparative Summary of Principal Valuation Results

	Year Ended September 30, 2016			
	New Plan New Mortality, Salary, Interest and Payroll Assumptions	**Old Plan New Mortality and Interest Assumptions**	**Old Plan Old Assumptions**	**Year Ended September 30, 2015**
Unfunded actuarial accrued liability	$1,024,502,811	$1,024,502,811	$949,563,181	$900,236,692
Actuarial present value of accrued benefits				
Vested accrued benefits				
Active members	$689,449,681	$689,444,681	$671,669,432	$675,813,136
Inactive members	25,434,609	25,434,609	24,962,194	7,977,766
Pensioners and beneficiaries	1,967,961,491	1,967,961,491	1,923,934,993	1,841,431,230
Non-vested active members	7,572,055	7,572,055	7,179,883	6,646,362
Total	$2,690,417,836	$2,690,417,836	$2,627,746,502	$2,531,868,494
Pension cost				
Normal cost, including administrative expenses	$39,255,809	$39,254,456	$38,038,948	$38,439,794
Expected employee contributions	-19,318,861	-19,318,861	-19,318,861	-19,560,655
Level % of payroll payment to amortize unfunded actuarial accrued liability	68,936,780	83,599,930	75,403,885	71,011,167
Amortized value of discounted value of allocated surtax revenue	-22,352,595	0	0	0
Total City annual cost payable monthly at valuation date	$69,129,281	$107,594,927	$97,863,148	$93,461,295
Total employer cost projected to budget year	70,166,221	108,208,218	98,978,788	94,526,754
As % of payroll	27.55%	42.88%	39.01%	36.79%
Present value of active members' future salaries at attained age	$1,996,127,908	$1,953,645,533	$1,952,709,527	$2,014,393,909
Present value of expected future employee contributions	188,608,521	150,430,708	150,358,634	155,108,331

EXHIBIT L (continued)

Supplementary State of Florida Information - Actuarial Present Value of Accumulated Plan Benefits

The factors that affected the change in the actuarial present value of accumulated plan benefits from the preceding to the current benefit information date are as follows:

Factors	Change in Actuarial Present Value of Accumulated Plan Benefits	
Actuarial present value of accumulated benefits as of October 1, 2015		$2,531,868,494
Benefits accumulated, net experience gain or loss, changes in data	$97,142,388	
Change in assumptions	62,662,329	
Change in statutory limits	8,975	
Benefits paid	-183,692,000	
Interest	182,427,650	
Net increase		$158,549,342
Actuarial present value of accumulated benefits as of October 1, 2016		$2,690,417,836

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Retired participants as of the valuation date (including 1,210 beneficiaries in pay status)		5,065
2.	Participants inactive during year ended September 30, 2016 with vested rights		217
3.	Participants active during the year ended September 30, 2016		4,678
	Fully vested	3,687	
	Not vested	991	

The actuarial factors as of the valuation date are as follows:

1.	Normal cost, including administrative expenses		$39,255,809
2.	Actuarial accrued liability		2,897,287,172
	Retired participants and beneficiaries	$1,967,961,491	
	Inactive participants with vested rights	25,434,609	
	Active participants	903,891,072	
3.	Actuarial value of assets ($1,829,242,000 at market value as reported by the City)		1,872,790,100
4.	Unfunded actuarial accrued liability		$1,024,497,072

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the actuarially determined employer contribution and City's required contribution is as follows:

1.	Total normal cost	$38,493,809
2.	Administrative expenses	762,000
3.	Expected employee contributions	-19,318,861
4.	Employer normal cost: (1) + (2) + (3)	$19,936,948
5.	Payment on projected unfunded actuarial accrued liability	68,936,780
6.	Total actuarially determined employer contribution: (4) + (5)*	$93,743,647
7.	Projected payroll to October 1, 2017	254,657,709
8.	Total ADEC as a percentage of projected payroll: (6) ÷ (7)	36.81%
9.	Amortized value of discounted value of projected surtax revenue*	$23,577,426
10.	City's required contribution: (6) – (9)	70,166,221
11.	City's required contribution as a percentage of projected payroll: (10) ÷ (7)	27.55%

**Adjusted for timing and projected to October 1, 2017*

EXHIBIT II

History of Employer Contributions

Plan Year Ended September 30	Actuarially Determined Employer Contributions (ADEC)*	Actual Contributions	Percentage Contributed
2009	$29,491,000	$29,530,000	100.1%
2010	38,611,842	40,551,000	105.0%
2011	39,123,971	39,378,000	100.6%
2012	57,497,706	49,899,000	86.8%
2013	66,659,915	55,386,000	83.1%
2014	81,351,295	71,000,000	87.3%
2015	86,069,361	81,751,000	95.0%
2016	89,058,931	84,898,000	95.3%
2017	94,526,754	--	--
2018	93,743,647	--	--

Note: The Actuarially Determined Employer Contribution was previously referred to as the Annual Required Contribution.

** An actuarial valuation was not performed for the plan year beginning October 1, 2009. The recommended contribution is based on the 2008 valuation's contribution rate.*

***The City contributes based on the contribution rate percentage. Actual dollar contributions were less than recommended dollar contributions due to actual payroll being less than projected payroll.*

EXHIBIT III

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
10/01/2007	$1,712,461,000	$1,904,929,000	$192,468,000	89.90%	$248,887,000	77.33%
10/01/2008	1,673,435,000	2,004,279,000	330,844,000	83.49%	262,345,000	126.11%
10/01/2009*	1,591,345,000	2,065,464,000	474,119,000	77.05%	276,257,000	171.62%
10/01/2010	1,640,892,767	2,163,079,984	522,187,217	75.86%	322,530,502	161.90%
10/01/2011	1,582,041,673	2,217,380,856	635,339,183	71.35%	314,054,361	202.30%
10/01/2012	1,518,577,926	2,434,274,957	915,697,031	62.38%	283,020,575	323.54%
10/01/2013	1,565,291,310	2,512,635,436	947,344,126	62.30%	265,404,735	356.94%
10/01/2014	1,751,888,510	2,662,187,817	910,299,307	65.81%	262,368,813	346.95%
10/01/2015	1,811,172,111	2,711,408,803	900,236,692	66.80%	254,034,479	354.38%
10/01/2016	1,872,790,100	2,897,287,172	1,024,497,072	64.64%	250,894,295	408.34%

All results prior to October 1, 2010 were taken from the City's September 30, 2009 Comprehensive Annual Financial Report.

An actuarial valuation was not performed for the plan year beginning October 1, 2009

EXHIBIT IV

Funded Ratio

A critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

The chart below depicts a history of the funded ratios for this plan, on both an actuarial value (AVA) basic and a market value (MVA) basis.

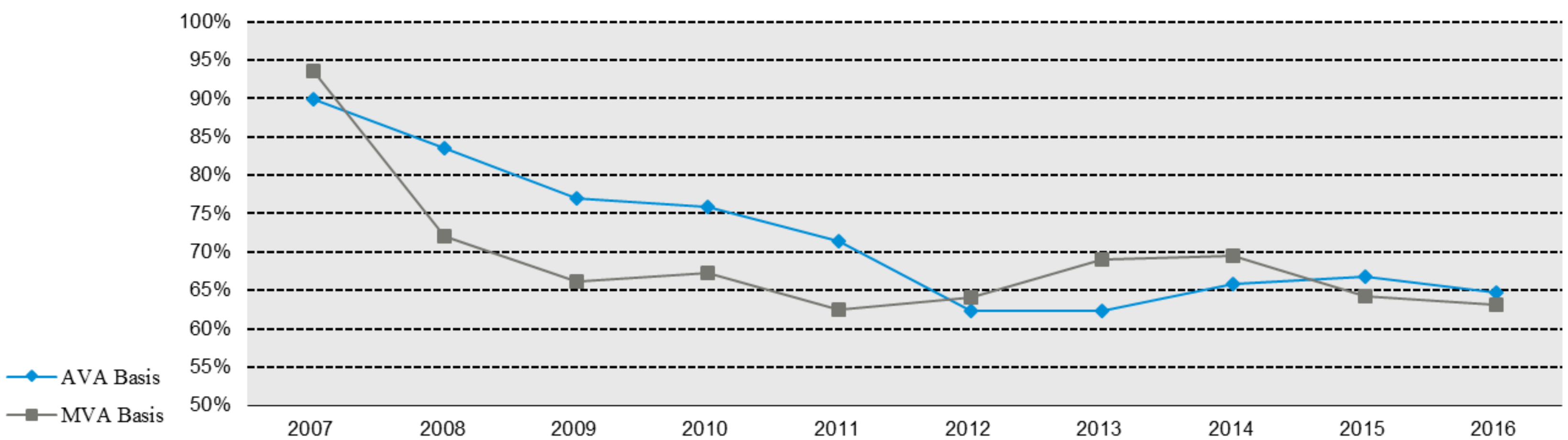


EXHIBIT V

Actuarial Assumptions and Actuarial Cost Method

Rationale for Demographic and Noneconomic Assumptions:	The information and analysis used in selecting each demographic assumption that has a significant effect on this actuarial valuation is shown in the Experience Study Report for the five-year period ended September 30, 2012. Experience data is reviewed in conjunction with each annual valuation, and updates to the mortality improvement scale and discount rate have been made this year. Based on professional judgment, no additional assumption changes are warranted at this time.
Mortality Rates:	
Healthy pre-retirement:	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, set forward 2.5 years, projected generationally with Scale BB for females.
Healthy post-retirement:	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for females.
Disabled:	RP-2000 Disabled Retiree Mortality Table, setback four years for males and set forward two years for females
	The FRS Non-Special Risk Tables, set forward 2.5 years reasonably reflect the healthy annuitant mortality experience of the General Employees Retirement Plan as of the measurement date. The RP-2000 Disabled Retiree Mortality Table, set back four years for males and set forward two years for females reasonably reflect the disabled annuitant mortality experience as of the measurement date. The mortality improvement assumptions are mandated under state law.

Termination Rates before Retirement:

	Rate (%)			
	Mortality*		Disability**	
Age	Male	Female	Male	Female
20	0.04	0.02	0.01	0.01
25	0.04	0.02	0.02	0.01
30	0.07	0.04	0.02	0.02
35	0.10	0.05	0.03	0.03
40	0.13	0.08	0.04	0.04
45	0.19	0.13	0.06	0.06
50	0.29	0.20	0.11	0.10
55	0.52	0.35	0.17	0.15
60	0.97	0.64	0.29	0.20
65	1.77	1.16	0.00	0.00

**Mortality rates shown for base table.*
***100% of disabilities are assumed to be non-service incurred.*

	Withdrawal**			
Service	COJ Male Withdrawal***	COJ Female Withdrawal***	JEA Male Withdrawal	JEA Female Withdrawal
0-1	12.00	15.00	6.50	7.00
1-2	10.00	9.00	5.00	5.00
2-3	8.00	9.00	3.50	5.00
3-4	7.00	9.00	3.50	5.00
4-5	7.00	7.00	3.50	5.00
5-6	7.00	7.00	3.50	4.00
6-7	6.00	7.00	3.00	4.00
7-8	6.00	7.00	2.50	3.50
8-9	5.00	5.00	2.50	3.50
9-10	4.00	5.00	2.50	3.50
10+	1.50	2.00	1.50	2.00

***All withdrawal rates are set to 0% after eligibility for retirement.*
****COJ withdrawal rates above are increased by 5.00% for ages under 30.*

Retirement Rates:

COJ	
Age	**Rate (%)***
Under 50	2.50
50-52	5.00
53-54	10.00
55-59	15.00
60-64	20.00
65-69	30.00
70 & Over	100.00

**Above rates are increased by 20% for the year in which a participant attains 30 years of service (if age < 55) and by 15 % for the year in which a participant attains 32 years of service. The rate is set to 50% for years of service 37 through 39 and to 100% after 40 years of service, regardless of age.*

JEA	
Service	**Rate (%)****
20	10
21-29	8
30	15
31	10
32-34	20
35	25
36	15
37-39	50
40 & Over	100

***The rate is set to 100% for ages 65-69 with less than 20 years of service and age 70 or older, regardless of service*

BackDROP Election: 90% of eligible participants are assumed to elect a BackDROP at retirement

Refund of Contributions: 95% of participants that are vested and terminate are assumed to take a refund of their employee contributions in lieu of their accrued benefit deferred to age 65

Retirement Age for Inactive Vested Participants: 65

Percent Married: 65% of males and 50% of females

Age of Spouse: Females three years younger than males

Unknown Data for Participants: Same as those exhibited by participants with similar known characteristics. If not, specified, participants are assumed to be male.

Net Investment Return: 7.40%

The net investment return assumption was chosen by the Retirement System's Board of Trustees, with input from the actuary. This assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the Plan's target asset allocation.

Salary Increases (including inflation):

Service	Rate (%)
0-4	6.0
5-9	5.0
10-14	4.0
15+	3.0

- The inflation component of the salary scale for COJ employees has been adjusted from 2.75% to 5.00% for the first year, 4.50% for the following two years, with subsequent increases resuming at the assumed inflation rate of 2.75%.
- The inflation component of the salary scale for JEA employees has been adjusted from 2.75% to 3.00% for the next three years, with subsequent increases resuming at the assumed inflation rate of 2.75%.
- The inflation component of the salary scale for JHA employees has been adjusted from 2.75% to 2.00% for the first year, with subsequent increases resuming at the assumed inflation rate of 2.75%.

Inflation Rate: 2.75%

Payroll Growth Rate: 1.50% used for amortization of unfunded liability amounts, based on the requirement in the Florida Statutes that the assumption for this purpose may not exceed the average annual growth for the preceding ten years. Negotiated pay level increases were taken into consideration in setting a payroll growth that is expected to be achieved and maintained on a ten-year average basis. The Fund's long-term payroll growth assumption is equal to the inflation assumption of 2.75%.

Interest in BackDROP Account: 4.00%

Initial Value of Applicable Tax Revenue: Actual revenue of $82,875,723 for fiscal 2016 is used as the basis of the City's revenue projection. This amount is prior to application of the allocation percentage.

Tax Revenue Growth Rate:	4.62% for fiscal 2017 and 4.25% thereafter. This assumption is determined by the City. Segal has not reviewed the information used to set this assumption, but Segal has reviewed the sensitivity of this assumption.
Projected Tax Revenue Allocation:	31%. This method is determined by the City.
Administrative Expenses:	Previous year's actual expenses; $762,000 for October 1, 2015.
Actuarial Value of Assets:	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected market return, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.

Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by compensation, with Normal Cost determined as if the current benefit accrual rate had always been in effect. Normal Cost is not included for participants who are assumed to retire with 100% certainty in the upcoming plan year based on the retirement assumptions.
Changes in Assumptions:	The following assumption changes were reflected in this valuation: ➤ Mortality was updated pursuant to Florida Statute Section 112.63(f). ➤ Discount rate was lowered from 7.50% to 7.40%. ➤ Based on the proposed agreement with unions representing COJ employees, the inflation component of the salary scale has been adjusted from 2.75% to 5.00% for the first year, 4.50% for the following two years, with subsequent increases resuming at the assumed inflation rate of 2.75%. ➤ Based on the proposed agreement with unions representing JEA employees, the inflation component of the salary scale has been adjusted from 2.75% to 3.00% for the next three years, with subsequent increases resuming at the assumed inflation rate of 2.75%. ➤ Based on the proposed agreement with unions representing JHA employees, the inflation component of the salary scale has been adjusted from 2.75% to 2.00% for the first year, with subsequent increases resuming at the assumed inflation rate of 2.75%. ➤ Based on inclusion of General Employees Defined Contribution Plan payroll in the ten year payroll history used to support the payroll growth and analysis of the impact of these pay increases over the next three years, the payroll growth rate for funding purposes was changed from 0.57% to 1.50%. ➤ The City’s required contribution was determined based on Florida Statute 112.64(6) as follows: • A fresh-start 30-year amortization base equal to the unfunded actuarial accrued liability was determined.

- The actuarially determined employer contribution (ADEC) is calculated. Once that amount has been determined, it is reduced by the amortized value of the discounted value of allocated surtax revenue.

➤ The City provided actual surtax revenue for 2016 and projected surtax revenue for 2017. The projected 2017 surtax revenue was projected to 2060 at 4.25%, an assumption provided by the City. The General Employees Retirement Plan is allocated 31% of the projected revenue. For each year from 2031 – 2060, the General Employees allocated share was discounted to 2016 at the discount rate of 7.40%. The sum of these discounted values were then amortized over a 30-year period, and this amortized amount was subtracted from the ADEC to determine the amount the City will contribute.

EXHIBIT VI
Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	October 1 through September 30
Service Retirement:	
Age Requirement	Age 65 with five years of Credited Service, age 55 with 20 years of Credited Service or any age with 30 years of Credited Service.
Regular Benefit Amount	2.5% of Final Monthly Compensation times years of Credited Service, not more than 80% of Final Monthly Compensation.
Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
Minimum Benefit Amount	$59.25 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Early Retirement:	
Age Requirement	Age 50 with 20 years of Credited Service
Regular Benefit Amount	Accrued Service Retirement Regular Benefit Amount reduced by 0.5 percent for each month the benefit commencement precedes age 55.
Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
Minimum Benefit Amount	$59.25 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.

Age Requirement	Any age with 25 years of Credited Service
Regular Benefit Amount	2.0% of Final Monthly Compensation times years of Credited Service
Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
Minimum Benefit Amount	$59.25 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.

Vesting:

Age Requirement	None
Service Requirement	5 years of Credited Service
Regular Benefit Amount	Accrued Service Retirement Regular Benefit payable at age 65.
Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month. Payable at Age 65.
Minimum Benefit Amount	$59.25 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.

Spouse's Pre-Retirement Death Benefit:

Age Requirement	None
Service Requirement	None
Regular Benefit Amount	If the Member is eligible for retirement, the surviving spouse is entitled to 75% of the member's accrued regular benefit. If the Member is not eligible for retirement, the surviving spouse is entitled to 75% of the pension the Member would have received if the Member had worked to eligibility for a Service Retirement at current salary with the benefit based on a 2% accrual rate.
Supplemental Benefit Amount	Monthly benefit of $5 times years of Member's Credited Service, not less than $25 per month or more than $150 per month.
Minimum Benefit Amount	75% of $59.25 per whole year of Member's Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.

Spouse's Post-Retirement Death Benefit:

Regular Benefit Amount	Surviving spouse is entitled to 75% of the Member's regular benefit.
Supplemental Benefit Amount	Surviving spouse is entitled to 100% of the Member's supplemental benefit.
Minimum Benefit Amount	75% of $59.25 per whole year of Member's Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.

Member:	All full-time JEA, JHA, NFTPO, and City General Employees are eligible for membership in the Plan upon date of hire.
Member Contributions:	7.7% of Earnable Compensation for fiscal year beginning October 1, 2016, 9.7% of Earnable Compensation thereafter. These percentages are net of the 0.3% contribution rate for the Disability Program.
Credited Service:	The number of full years and months worked from date of participation to date of termination or retirement, plus any prior service purchased.
Final Monthly Compensation:	Average monthly rate of Earnable Compensation during the highest 36 consecutive months (78 pay periods) out of the last ten years of employment.
Earnable Compensation:	Base pay for regular hours worked as an employee, plus service raises and excluding bonuses, adjusted compensation, overtime or any extra compensation over and above regularly budgeted salaries.

Cost of Living Adjustment:	On the April 1st nearest the fifth anniversary of the initial benefit commencement date, and on each April 1st thereafter, the regular benefit is increased by 3%.
BackDROP:	Members with 30 or more years of service may elect to have their retirement benefits calculated as if the member had retired up to 5 years earlier on or after October 1, 2005. Benefits that would have been payable are accumulated with interest to date of termination and paid or rolled over in a single sum, and payments are made directly to the Member thereafter. The 5-year wait to receive COLA increases starts at termination of employment rather than at the start of BackDROP.
Partial Lump-sum Option (PLOP):	Members who are eligible for retirement may elect to receive a lump-sum benefit of up to 15% of the benefit value and a reduced life annuity actuarially equivalent to the benefit that would otherwise be payable.

Changes in Plan Provisions:	The folloing plan chances have been reflected since the previous valuation: The Plan will be closed to new active members effective September 30, 2017 and new employees hired after this date will enter the General Employees Defined Contribution Plan with a 12% employer contribution rate and a 10% employee contribution rate. Ongoing GERP participants will have their employee contribution rate increase from 8% to 10% effective October 1, 2017

8547608v1/13398.001

EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Single Employer Pension Plan

Plan Membership

At September 30, 2016, pension plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits	5,065
Inactive employees entitled to but not yet receiving benefits	217
Active employees	4,678
Total	9,960

EXHIBIT 2

Summary of Plan Provisions

Please see Section 4, Exhibit VI, of the October 1, 2016 actuarial valuation for a summary of plan provisions.

EXHIBIT 3

Net Pension Liability

The components of the net pension liability of the Jacksonville General Employees Retirement Plan at September 30, 2016 were as follows:

Total pension liability	$2,903,344,013
Plan fiduciary net position	1,829,242,000
Net pension liability	1,074,102,013
Plan fiduciary net position as a percentage of the total pension liability	63.00%

Actuarial assumptions. The total pension liability was determined based on an actuarial valuation as of September 30, 2016, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%*
Salary increases was	3.00% - 6.00%, of which 2.75% is the Plan's long-term payroll inflation assumption. The inflation component of the salary increase assumption adjusted to reflect bargained increases over the next three years.
Investment rate of return	7.40%, net of pension plan investment expenses, including inflation
Pre-retirement mortality rates	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, set forward 2.5 years, projected generationally with Scale BB for females.
Healthy annuitant mortality rates	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB

* *The Plan's payroll inflation assumption is 2.75%. However, based on Part VII, Chapter 112.64(5)(a) of Florida Statutes, an assumption of 1.50% was used for amortization purposes in the October 1, 2016 valuation.*

	for males; RP2000 White Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for females.
Disabled annuitant mortality rates	RP-2000 Disabled Retiree Mortality Table, setback four years for males and set forward two years for females

The FRS Non-Special Risk Tables, set forward 2.5 years reasonably reflect the healthy annuitant mortality experience of the General Employees Retirement Plan as of the measurement date. The RP-2000 Disabled Retiree Mortality Table, set back four years for males and set forward two years for females reasonably reflect the disabled annuitant mortality experience as of the measurement date. The mortality improvement assumptions are mandated under state law.

With the exception of the mortality assumption, the demographic assumptions used in the October 1, 2016 valuation were based on the results of an experience study for the period October 1, 2007 to September 30, 2012. The base tables and projection scale used in the mortality assumption are mandated by law and have been adjusted based on an interim study of the plan’s mortality experience through September 30, 2016.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2016 are summarized in the following table. The long-term expected real rates of return are based on 20-year projections of capital market assumptions provided by Segal Marco Advisors.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	35%	6.71%
International equity	20%	7.71%
Fixed income	19%	2.11%
Real estate	25%	5.21%
Cash	1%	1.10%
Total	100%	

Discount rate: The discount rate used to measure the total pension liability is 7.40%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at their applicable contribution rates and that City contributions will be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability. Cash flow projections were run for a 120-year period.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the Jacksonville General Employees Retirement Plan, calculated using the discount rate of 7.40%, as well as what the Jacksonville General Employees Retirement Plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.40%) or 1-percentage-point higher (8.40%) than the current rate:

	1% Decrease (6.40%)	**Current Discount (7.40%)**	**1% Increase (8.40%)**
Jacksonville General Employees Retirement Plan's net pension liability	$1,415,901,922	$1,074,102,013	$788,932,156

EXHIBIT 4

Schedules of Changes in Jacksonville GERP Net Pension Liability – Last Four Fiscal Years

	2016	2015	2014	2013
Total pension liability				
Service cost*	$36,759,065	$40,238,707	$36,949,678	$39,626,946
Interest*	199,659,346	194,312,040	189,064,662	183,151,171
Change of benefit term	0	0	0	0
Differences between expected and actual experience	60,436,838	-4,784,947	-5,356,346	22,318,483
Changes of assumptions	72,969,220	-18,044,461	101,525,690	0
Benefit payments, including refunds of employee contributions	-183,692,000	-170,674,000	-171,127,000	-166,460,000
Net change in total pension liability	$186,132,469	$41,047,339	$151,056,684	$78,636,600
Total pension liability – beginning	2,717,211,544	2,676,164,205	2,525,107,521	2,446,470,921
Total pension liability – ending (a)	$2,903,344,013	$2,717,211,544	$2,676,164,205	$2,525,107,521
Plan fiduciary net position				
Contributions – employer	$84,898,000	$81,751,000	$71,000,000	$55,386,000
Contributions – employee	21,840,000	20,893,000	20,961,000	21,878,000
Net investment income	167,067,000	-39,506,000	194,864,000	264,541,000
Benefit payments, including refunds of employee contributions	-183,692,000	-170,674,000	-171,127,000	-166,460,000
Administrative expense	-762,000	-762,000	-828,000	-671,000
Other	0	0	0	0
Net change in plan fiduciary net position	$89,351,000	-$108,298,000	$114,870,000	$174,674,000
Plan fiduciary net position – beginning	1,739,891,000	1,848,189,000	1,733,319,000	1,558,645,000
Plan fiduciary net position – ending (b)	$1,829,242,000	$1,739,891,000	$1,848,189,000	$1,733,319,000
Net pension liability – ending (a) – (b)	$1,074,102,013	$977,320,544	$827,975,205	$791,788,521
Plan fiduciary net position as a percentage of the total pension liability	63.00%	64.03%	69.06%	68.64%
Covered employee payroll	$250,894,295	$254,034,479	$262,368,813	$265,404,735
Net pension liability as percentage of covered employee payroll	428.11%	384.72%	315.58%	298.33%

Prior to 2016, the service cost included interest to the end of the measurement year. After 2016, this interest is reflected under the interest on the total pension liability, consistent with typical actuarial practice.

Notes to Schedule:

Benefit changes: There have been no changes in benefit provisions since GASB 67 implementation.

Change of Assumptions: As of September 30, 2015, based on the Society of Actuaries' most recently published analysis and guidance on projected national mortality improvements, the mortality improvement scale was changed from MP2014 to MP2015.

As of September 30, 2016, the mortality assumption was updated pursuant to Florida Statute Section 112.63(f), the assumed investment return was lowered from 7.50% to 7.40%, and the inflation component of the salary scale was adjusted for the following three years to reflect bargained increases with employee unions.

EXHIBIT 5

Schedule of Jacksonville GERP's Contributions – Last Ten Fiscal Years

Year Ended September 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered-Employee Payroll[1]	Contributions as a Percentage of Covered Employee Payroll	Percentage of Payroll Actually Contributed Throughout the Year[2]
2008	$29,371,000	$29,488,000	($117,000)	$262,345,000	11.24%	10.96%
2009	29,374,000	29,530,000	(156,000)	276,257,000	10.69%	10.43%
2010	38,611,842	40,551,000	(1,939,158)	322,530,502	12.57%	13.50%
2011	39,123,971	39,378,000	(254,029)	314,054,361	12.54%	13.50%
2012	57,497,706	49,899,000	7,598,706	283,020,575	17.63%	17.22%
2013	66,659,915	55,386,000	11,273,915	265,404,735	20.87%	20.51%
2014	81,351,295	71,000,000	10,351,295	262,368,813	27.06%	27.91%
2015	86,069,361	81,751,000	4,318,361	254,034,479	32.18%	31.60%
2016	89,058,931	84,898,000	4,160,931	250,894,295	33.84%	33.20%

[1] Pensionable payroll as of the valuation measurement date.

[2] The City contributes the percentage of payroll represented by the actuarially determined contribution in the corresponding actuarial valuation. Actual dollar contributions may be more or less than the actuarially determined contributions due to actual payroll being different from projected payroll.

EXHIBIT 6

Notes to Required Supplementary Information

Valuation date	October 1, 2016
Methods and used assumptions to determine contribution rates:	
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level percent of payroll, using 1.50% annual increases*
Remaining amortization period	All new bases are amortized over 30 years. The amortization schedule was reset to 30 years effective October 1, 2016. The effective period was 24 years remaining as of October 1, 2015 prior to this reset.
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial assumptions:	
Investment rate of return	7.40%, including inflation, net of pension plan investment expense
Inflation rate	2.75%*
Projected salary increases	3.00% - 6.00%, of which 2.75% is the Plan's long-term payroll inflation assumption. The inflation component of the salary increase assumption was adjusted to reflect bargained increases over the next three years.
Cost-of-living adjustments	The Plan provisions contain a 3.00% COLA.

* *The Fund's payroll inflation assumption is 2.75%. However, based on Part VII, Chapter 112.64(5)(a) of Florida Statutes, an assumption of 1.50% was used for amortization purposes in the October 1, 2016 valuation.*

Retirement rates

COJ		JEA	
Age	**Rate (%)***	**Service**	**Rate (%)****
Under 50	2.50	20	10
50-52	5.00	21-29	8
53-54	10.00	30	15
55-59	15.00	31	10
60-64	20.00	32-34	20
65-69	30.00	35	25
70 & Over	100.00	36	15
		37-39	50
		40 & Over	100

**Above rates are increased by 20% for the year in which a participant attains 30 years of service (if age < 55) and by 15% for the year in which a participant attains 32 years of service. The rate is set to 50% for years of service 37 through 39 and to 100% after 40 years of service, regardless of age.*

***The rate is set to 100% for ages 65-69 with less than 20 years of service and age 70 or older, regardless of service.*

Mortality:

Pre-retirement

50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, set forward 2.5 years, projected generationally with Scale BB for females.

Healthy annuitants

50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for females.

Disabled annuitants

RP-2000 Disabled Retiree Mortality Table, setback four years for males and set forward two years for females

Other information:

See Exhibit 4 for the history of changes to plan provisions and assumptions, if any.

EXHIBIT 7
Collective Pension Expense

Components of collective pension expense

Service cost	$36,759,065
Interest on the total pension liability	199,659,346
Projected earnings on plan investments	-127,577,475
Employee contributions	-21,840,000
Administrative expense	762,000
Current year recognition of:	
Changes of assumptions	14,593,844
Difference between expected and actual experience	12,087,366
Difference between projected and actual earnings on pension plan investments	-7,897,905
Change of benefit terms	0
Deferred outflows established in prior years	55,413,233
Deferred inflows established in prior years	-18,363,462
Total collective pension expense	$143,596,012

APPENDIX: GASB Information for City of Jacksonville General Employees Retirement Plan

Summary of Net Pension Liability and Pension Expense Allocations

	2016			
	Employer Contributions in Fiscal 2016	**Proportion of net pension liability**	**Proportionate share of net pension liability**	**Share of pension expense*, including recognition of change in proportion**
City of Jacksonville	$40,424,000	47.61%	$511,379,968	$64,903,033
Jacksonville Electric Authority	42,765,000	50.37%	541,025,184	74,849,413
Jacksonville Housing Authority	1,558,000	1.84%	19,763,477	3,440,070
North Florida Transportation Planning Organization	151,000	0.18%	1,933,384	403,496
Total	$84,898,000	100.00%	$1,074,102,013	$143,596,012

* *Excludes recognition of differences between employer contributions and proportionate share of contributions*

GASB 68 information drafted for inclusion in a September 30, 2017 CAFR for City of Jacksonville

Net pension liability. The City of Jacksonville is allocated a proportional share of 47.61% of the net pension liability of the City of Jacksonville General Employees Retirement Plan based on an allocation proportional to the actual contributions paid during the year ended September 30, 2016. The City of Jacksonville's allocated share of the net pension liability is $511,379,968.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the City of Jacksonville's proportional share of the net pension liability of the Jacksonville General Employees Retirement Plan, calculated using the discount rate of 7.40%, as well as what the proportional share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.40%) or 1-percentage-point higher (8.40%) than the current rate:

	1% Decrease (6.40%)	Current Discount (7.40%)	1% Increase (8.40%)
City of Jacksonville's proportional share of net pension liability	$674,110,906	$511,379,968	$375,610,599

For the year ended September 30, 2017 the City of Jacksonville's recognized pension expense is $64,903,033*. At September 30, 2017, the City reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$23,019,184	$2,386,931
Changes of assumptions	47,127,069	5,154,580
Changes in proportion*	- -	12,344,456
Net difference between projected and actual earnings on pension plan investments	22,986,130	- -
Total	$93,132,383	$19,885,967

* *Excludes recognition of differences between employer contributions and proportionate share of contributions*

APPENDIX: GASB Information for City of Jacksonville General Employees Retirement Plan

Contributions of $X were reported as deferred outflows of resources related to pensions resulting from City of Jacksonville contributions subsequent to the September 30, 2016 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2017. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended	Recognition of deferred outflows/(inflows)
September 30, 2018	$23,119,101
September 30, 2019	23,119,101
September 30, 2020	20,020,853
September 30, 2021	6,987,361
September 30, 2022	- -
Thereafter	- -

Schedules of Changes in City of Jacksonville's proportional share of Net Pension Liability – Last Four Fiscal Years*

	2016	2015	2014	2013
Proportional share percentage	47.61%	48.78%	49.72%	49.72%
Net pension liability	$511,379,968	$476,736,962	$411,669,271	$393,677,252
Covered employee payroll	118,972,519	121,601,265	128,869,371	129,951,180
Net pension liability as percentage of covered employee payroll	429.83%	392.05%	319.45%	302.94%
Plan fiduciary net position as a percentage of the total pension liability	63.00%	64.03%	69.06%	68.64%

**All information is on a measurement year basis.*

GASB 68 information drafted for inclusion in a September 30, 2017 CAFR for Jacksonville Electric Authority

Net pension liability. The Jacksonville Electric Authority is allocated a proportional share of 50.37% of the net pension liability of the City of Jacksonville General Employees Retirement Plan based on an allocation proportional to the actual contributions paid during the year ended September 30, 2016. The Jacksonville Electric Authority's allocated share of the net pension liability is $541,025,184.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the Jacksonville Electric Authority's proportional share of the net pension liability of the Jacksonville General Employees Retirement Plan, calculated using the discount rate of 7.40%, as well as what the proportional share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.40%) or 1-percentage-point higher (8.40%) than the current rate:

	1% Decrease (6.40%)	Current Discount (7.40%)	1% Increase (8.40%)
Jacksonville Electric Authority's proportional share of net pension liability	$713,189,798	$541,025,184	$397,385,127

For the year ended September 30, 2017 the Jacksonville Electric Authority's recognized pension expense is $74,849,413*. At September 30, 2017, the Jacksonville Electric Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$24,353,629	$2,525,302
Changes of assumptions	49,859,073	5,453,397
Changes in proportion*	9,599,241	- -
Net difference between projected and actual earnings on pension plan investments	24,318,660	- -
Total	$108,130,603	$7,978,699

* *Excludes recognition of differences between employer contributions and proportionate share of contributions*

APPENDIX: GASB Information for City of Jacksonville General Employees Retirement Plan

Contributions of $X were reported as deferred outflows of resources related to pensions resulting from Jacksonville Electric Authority contributions subsequent to the September 30, 2016 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2017. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended	Recognition of deferred outflows/(inflows)
September 30, 2018	$30,643,225
September 30, 2019	30,643,225
September 30, 2020	27,365,367
September 30, 2021	11,500,087
September 30, 2022	- -
Thereafter	- -

Schedules of Changes in Jacksonville Electric Authority's proportional share of Net Pension Liability – Last Four Fiscal Years*

	2016	2015	2014	2013
Proportional share percentage	50.37%	49.15%	48.85%	48.85%
Net pension liability	$541,025,184	$480,353,047	$404,465,888	$386,788,693
Covered employee payroll	126,807,590	127,440,243	128,083,647	129,922,363
Net pension liability as percentage of covered employee payroll	426.65%	376.92%	315.78%	297.71%
Plan fiduciary net position as a percentage of the total pension liability	63.00%	64.03%	69.06%	68.64%

**All information is on a measurement year basis.*

GASB 68 information drafted for inclusion in a September 30, 2017 CAFR for Jacksonville Housing Authority

Net pension liability. The Jacksonville Housing Authority is allocated a proportional share of 1.84% of the net pension liability of the City of Jacksonville General Employees Retirement Plan based on an allocation proportional to the actual contributions paid during the year ended September 30, 2016. The Jacksonville Housing Authority's allocated share of the net pension liability is $19,763,477.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the Jacksonville Housing Authority's proportional share of the net pension liability of the Jacksonville General Employees Retirement Plan, calculated using the discount rate of 7.40%, as well as what the proportional share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.40%) or 1-percentage-point higher (8.40%) than the current rate:

	1% Decrease (6.40%)	Current Discount (7.40%)	1% Increase (8.40%)
Jacksonville Housing Authority's proportional share of net pension liability	$26,052,595	$19,763,477	$14,516,352

For the year ended September 30, 2017 the Jacksonville Housing Authority's recognized pension expense is $3,440,070*. At September 30, 2017, the Jacksonville Housing Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$889,630	$92,248
Changes of assumptions	1,821,336	199,211
Changes in proportion*	2,694,534	401,100
Net difference between projected and actual earnings on pension plan investments	888,353	- -
Total	$6,293,853	$692,559

* *Excludes recognition of differences between employer contributions and proportionate share of contributions*

Contributions of $X were reported as deferred outflows of resources related to pensions resulting from Jacksonville Housing Authority contributions subsequent to the September 30, 2016 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2017. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended	Recognition of deferred outflows/(inflows)
September 30, 2018	$1,825,232
September 30, 2019	1,825,232
September 30, 2020	1,705,492
September 30, 2021	245,338
September 30, 2022	- -
Thereafter	- -

Schedules of Changes in Jacksonville Housing Authority's proportional share of Net Pension Liability – Last Four Fiscal Years*

	2016	2015	2014	2013
Proportional share percentage	1.84%	1.90%	1.34%	1.34%
Net pension liability	$19,763,477	$18,569,090	$11,094,868	$10,609,966
Covered employee payroll	4,710,802	4,535,512	4,961,709	5,090,332
Net pension liability as percentage of covered employee payroll	419.54%	409.42%	223.61%	208.43%
Plan fiduciary net position as a percentage of the total pension liability	63.00%	64.03%	69.06%	68.64%

**All information is on a measurement year basis.*

GASB 68 information drafted for inclusion in a September 30, 2017 CAFR for North Florida Transportation Planning Organization

Net pension liability. The North Florida Transportation Planning Organization is allocated a proportional share of 0.18% of the net pension liability of the City of Jacksonville General Employees Retirement Plan based on an allocation proportional to the actual contributions paid during the year ended September 30, 2016. The North Florida Transportation Planning Organization's allocated share of the net pension liability is $1,933,384.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the North Florida Transportation Planning Organization's proportional share of the net pension liability of the Jacksonville General Employees Retirement Plan, calculated using the discount rate of 7.40%, as well as what the proportional share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.40%) or 1-percentage-point higher (8.40%) than the current rate:

	1% Decrease (6.40%)	Current Discount (7.40%)	1% Increase (8.40%)
North Florida Transportation Planning Organization's proportional share of net pension liability	$2,548,623	$1,933,384	$1,420,078

For the year ended September 30, 2017 the North Florida Transportation Planning Organization's recognized pension expense is $403,496*. At September 30, 2017, the North Florida Transportation Planning Organization reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$87,029	$9,024
Changes of assumptions	178,174	19,488
Changes in proportion*	451,781	- -
Net difference between projected and actual earnings on pension plan investments	86,904	- -
Total	$803,888	$28,512

* *Excludes recognition of differences between employer contributions and proportionate share of contributions*

Contributions of $X were reported as deferred outflows of resources related to pensions resulting from North Florida Transportation Planning Organization contributions subsequent to the September 30, 2016 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2017. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended	Recognition of deferred outflows/(inflows)
September 30, 2018	$245,523
September 30, 2019	245,523
September 30, 2020	233,809
September 30, 2021	50,521
September 30, 2022	- -
Thereafter	- -

Schedules of Changes in North Florida Transportation Planning Organization's proportional share of Net Pension Liability – Last Four Fiscal Years*

	2016	2015	2014	2013
Proportional share percentage	0.18%	0.17%	0.09%	0.09%
Net pension liability	$1,933,384	$1,661,445	$745,178	$712,610
Covered employee payroll	403,384	457,459	454,086	440,860
Net pension liability as percentage of covered employee payroll	479.29%	363.19%	164.11%	161.64%
Plan fiduciary net position as a percentage of the total pension liability	63.00%	64.03%	69.06%	68.64%

**All information is on a measurement year basis.*