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March 23, 2017

Mr. Patrick (Joey) Greive, CFA, CFP  
City Treasurer  
City of Jacksonville  
117 West Duval Street - Suite 300  
Jacksonville, FL 32202

**Re: Actuarial Impact Statement for City of Jacksonville General Employees Retirement Plan – Pension Reform**

Dear Joey:

Pursuant to Section 112.63 of Florida Statutes, enclosed is an impact statement presenting the assumption, method, and plan changes that were first valued in the October 1, 2016 actuarial valuation, along with the plan changes proposed in the City's Pension Reform. Please note that the signature of an authorized plan representative is required on the last page of the impact statement. Please provide a copy of the latest ordinance to the state once the ordinance is available.

The work herein was completed under my supervision. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

If you have any questions or need any additional information, please let us know.

Sincerely,

A handwritten signature in black ink that reads "Jeffrey S. Williams".

Jeffrey S. Williams, FCA, ASA, MAAA, EA  
Vice President and Consulting Actuary

**City of Jacksonville General Employees Retirement Plan**  
**Actuarial Impact Statement**

Ordinance \_\_\_\_\_ proposes the following plan and funding policy changes:

- The General Employees Retirement Plan is closed to new entrants and future hires will enter the General Employees Defined Contribution Plan with a 12% employer contribution rate and an 8% employee contribution rate.
- 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 unfunded liabilities as of October 1, 2016 will be set to 30 years.
- Pursuant to state legislation, the amortization of the unfunded liability will be offset by the amortized discounted value of allocated surtax revenue.

In conjunction with the changes above, we have made the following adjustments to the assumptions:

- 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%.

<b>City of Jacksonville General Employees Retirement Plan</b> <b>Summary of Impact of the October 1, 2016 Changes and Proposed Ordinance _____</b>
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	10/01/2016 Preliminary Valuation <u>Results</u>	10/01/2016 Proposed Plan, New <u>Assumptions</u>
(A) Participant Data		
Active members	4,678	4,678
Total annual payroll	\$250,894,295	\$250,894,295
Retired members and beneficiaries	5,065	5,065
Total annualized benefit	\$167,523,741	\$167,523,741
Terminated vested members	217	217
Total annualized benefit	\$3,882,093	\$3,882,093
(B) Actuarial Value of Assets	\$1,872,790,100	\$1,872,790,100
(C) Present value of all future expected benefit payments:		
Active members:		
Retirement benefits	\$966,283,973	\$983,373,760
Vesting benefits	21,988,373	22,203,038
Disability benefits	--	--
Death benefits	29,344,445	29,845,285
Return of contributions	<u>179,368,608</u>	<u>179,368,608</u>
Total	\$1,196,985,399	\$1,214,790,691
Terminated vested members	25,434,609	25,434,609
Retired members and beneficiaries	<u>1,967,961,491</u>	<u>1,967,961,491</u>
Total	\$3,190,381,499	\$3,208,186,791

	10/01/2016 Preliminary Valuation <u>Results</u>	10/01/2016 Proposed Plan, New <u>Assumptions</u>
Actuarial accrued liability	\$2,886,125,278	\$2,897,287,172
Unfunded actuarial accrued liability	1,013,335,178	1,024,497,072
(D) Actuarial present value of accrued benefits:		
Vested accrued benefits:		
Active members	\$689,449,681	\$689,449,681
Inactive members	25,434,609	25,434,609
Pensioners and beneficiaries	1,967,961,491	1,967,961,491
Non-vested active members	<u>7,572,055</u>	<u>7,572,055</u>
Total	\$2,690,417,836	\$2,690,417,836
(E) Pension cost		
Normal cost, including administrative expenses	\$39,254,456	\$39,255,809
Expected employee contributions	-19,318,861	-19,318,861
Level % of payroll payment to amortize unfunded actuarial accrued liability	83,599,930	68,936,780
Reduction due to amortized value of discounted value of allocated surtax revenue	<u>0</u>	<u>-22,352,595</u>
Total minimum annual cost payable monthly at valuation date	\$107,594,927	\$69,129,281
Total employer cost projected to budget year	\$108,208,218	\$70,166,221
Projected payroll	\$252,324,392	\$254,657,709
As % of projected payroll	42.88%	27.55%
(F) Present value of active members' future salaries at attained age	\$1,953,645,533	\$1,996,127,908

The above changes are in compliance with Part VII, Chapter 112, Florida Statutes, and Section 14, Article X of the State Constitution.

**Actuary**

**Plan Representative**

*Ally S. Will*

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**Date:** March 23, 2017

## Table of Amortization Bases

Type	Date Established	Initial Years	Initial Amount	Annual Payment*	Years Remaining	Outstanding Balance
<b><i>Bases prior to proposed changes*</i></b>						
Fresh Start	10/01/2004	29	--	\$30,527,939	17	\$322,945,553
Liability decrease	10/01/2004	30	--	-7,947,703	18	-86,677,227
Liability decrease	10/01/2005	30	--	-333,760	19	-3,742,249
Liability decrease	10/01/2006	30	--	-906,685	20	-10,426,286
Liability decrease	10/01/2007	30	--	-2,755,221	21	-32,423,615
Experience loss	10/01/2008	30	--	12,079,650	22	145,193,574
Experience loss	10/01/2010	30	\$248,759,927	20,967,619	24	261,590,739
Change in assumptions	10/01/2010	30	33,728,927	2,842,963	24	35,468,635
Change in asset method	10/01/2010	30	-87,612,723	-7,384,752	24	-92,131,710
Change in plan	10/01/2010	30	-9,782,006	-824,511	24	-10,286,554
Experience loss	10/01/2011	30	106,203,285	8,699,397	25	110,330,484
Experience loss	10/01/2012	30	116,662,267	9,285,311	26	119,557,748
Change in assumptions	10/01/2012	30	155,495,783	12,376,124	26	159,355,086
Experience loss	10/01/2013	30	23,737,082	1,844,244	27	24,080,610
Updated statutory limits	10/01/2013	30	24,992	1,942	27	25,355
Experience loss	10/01/2014	30	-62,474,647	-4,750,245	28	-62,830,610
Change in assumptions	10/01/2014	30	99,777,540	7,586,562	28	100,346,045
Change in asset method	10/01/2014	30	-78,846,382	-5,995,067	28	-79,295,627
Experience gain	10/01/2015	30	8,322,277	621,259	29	8,315,968
Change in assumptions	10/01/2015	30	-17,999,856	-1,343,692	29	-17,986,212
Updated statutory limits	10/01/2015	30	7,738	578	29	7,732
Experience loss	10/01/2016	30	50,845,171	3,756,731	30	50,845,171
Change in assumptions	10/01/2016	30	71,072,568	<u>5,251,247</u>	30	<u>71,072,568</u>
Total				\$83,599,930		\$1,013,335,178
<b><i>Bases after proposed changes**</i></b>						
Fresh start	10/01/2016	30	\$1,024,497,072	\$68,936,780	30	\$1,024,497,072
Discounted surtax revenue	10/01/2016	30	-332,190,859	-22,352,595	30	-332,190,859

\* Level percentage of pay using payroll growth of 0.57%.

\*\* Level percentage of pay using payroll growth of 1.50%.

## Impact Statement Assumptions for the City of Jacksonville General Employees Retirement Plan

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### EXHIBIT V

#### Actuarial Assumptions and Actuarial Cost Method

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##### **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, with subsequent changes to the discount rate and mortality. Experience data is reviewed in conjunction with each annual valuation. Based on professional judgment, no additional assumption changes are warranted at this time.

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##### **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

**Impact Statement Assumptions for the City of Jacksonville General Employees Retirement Plan**

**Termination Rates before Retirement:**

Age	Rate (%)			
	Mortality*		Disability**	
	Male	Female	Male	Female
20	0.05	0.02	0.01	0.01
25	0.04	0.02	0.02	0.01
30	0.05	0.03	0.02	0.02
35	0.06	0.03	0.03	0.03
40	0.09	0.05	0.04	0.04
45	0.16	0.09	0.06	0.06
50	0.25	0.14	0.11	0.10
55	0.42	0.21	0.17	0.15
60	0.74	0.31	0.29	0.20
65	1.25	0.51	0.00	0.00

\*Mortality rates shown for base table.

\*\*100% of disabilities are assumed to be non-service incurred.

**Withdrawal\*\***

Service	COJ		JEA	
	Male Withdrawal***	Female Withdrawal***	Male Withdrawal	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.



**Impact Statement Assumptions for the City of Jacksonville General Employees Retirement Plan**

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**Retirement Rates:**

<b>COJ</b>		<b>JEA</b>	
<b>Age</b>	<b>Rate (%)*</b>	<b>Service</b>	<b>Rate (%)**</b>
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*

<b>BackDROP Election:</b>	90% of eligible participants are assumed to elect a BackDROP at retirement
<b>Refund of Contributions:</b>	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
<b>Retirement Age for Inactive Vested Participants:</b>	65
<b>Percent Married:</b>	65% of males and 50% of females
<b>Age of Spouse:</b>	Females three years younger than males
<b>Unknown Data for Participants:</b>	Same as those exhibited by participants with similar known characteristics. If not, specified, participants are assumed to be male.

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## Impact Statement Assumptions for the City of Jacksonville General Employees Retirement Plan

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**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.

<b>Salary Increases (including inflation):</b>	<b>Service</b>	<b>Rate (%)</b>
	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. Florida Statue 112.64(5)(b) states that an amount other than the actual 10-year average payroll growth rate may be used if it is consistent with future expectation of payroll growth. It is on this basis that 1.50% has been determined. Were it not for Pension Reform, the payroll growth rate for amortization purposes would be 0.57%. The Fund's long-term payroll growth assumption is equal to the inflation assumption of 2.75%.

**Interest in BackDROP Account:** 4.00%

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**Administrative Expenses:** Previous year's actual expenses; \$762,000 for October 1, 2016.

## Impact Statement Assumptions for the City of Jacksonville General Employees Retirement Plan

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<b>Actuarial Value of Assets:</b>	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.
<b>Actuarial Cost Method:</b>	<p>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.</p> <p>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.</p>
<b>Changes in Assumptions/Methods:</b>	<p>The following assumption and method changes were reflected in this valuation:</p> <ul style="list-style-type: none"><li>➤ Mortality was updated pursuant to Florida Statute Section 112.63(f).</li><li>➤ Discount rate was lowered from 7.50% to 7.40%.</li><li>➤ The City's required contribution was determined based on Florida Statute 112.64(6) as follows:<ul style="list-style-type: none"><li>• A fresh-start 30-year amortization base equal to the unfunded actuarial accrued liability was determined.</li><li>• 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.</li><li>• 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.</li></ul></li></ul>



FLORIDA DEPARTMENT OF MANAGEMENT SERVICES

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Rick Scott, Governor

Erin Rock, Interim Secretary

April 11, 2017

Raymond Ferngren, Retirement System Administrator  
Employees Retirement System  
City of Jacksonville  
117 W. Duval Street, Ste. 302  
Jacksonville, FL 32202

Re: City of Jacksonville General Employees Pension Plan  
10/1/2016 Actuarial Impact Statements

Dear Mr. Ferngren:

This is to notify you that we have reviewed the above referenced Actuarial Impact Statements for compliance with Part VII of Chapter 112, FS and Chapter 60T, FAC. In our review, Chapter 112 FS includes the amendments to Section 112.64 relating to discretionary sales surtaxes.

As provided in Section 112.64(6)(a), a share of the 10/1/2016 present value of the total projected proceeds of the sales surtax is amortized over 30 years and applied as a credit to the annual required contribution. Additionally, as provided in Section 112.64(6)(b), the payroll growth assumption used to amortize the Plan's unfunded liabilities is determined based on the combined payroll of the General Employees Retirement Plan and the new General Employees Defined Contribution Plan, including the effect of projected payroll increases over the next three years.

Based upon our review of these impact statements, we have determined that the methods and assumptions used to calculate the annual required contribution for the Plan are in compliance with Part VII of Chapter 112, FS as amended.

Our review relied upon the actuarial costs and asset amounts as determined by the Plan actuary in the above referenced Actuarial Impact Statements. Although we reviewed the impact statements for compliance, consistency and reasonableness, we did not audit the asset or employee data information for accuracy. Accordingly, we express no opinion on the reasonableness of the estimates of the financial status of the Plan. An audit may or may not uncover material issues in the actuarial work performed.

Sincerely,

Joseph M. Edmonds, FSA, EA, FCA, MAAA  
Actuary  
Florida Division of Retirement

cc: Jeffrey Williams, ASA  
Joey Greive, City Treasurer