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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 Corrections Officers' 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,

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

**City of Jacksonville Corrections Officers' Retirement Plan**  
**Actuarial Impact Statement**

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

- The Corrections Officers' Retirement Plan is closed to new entrants and future hires will enter the Corrections Officers' Defined Contribution Plan with a 25% employer contribution rate and a 10% employee contribution rate.
- Pursuant to state legislation, the payroll growth assumption is set based on the combined payroll of the Corrections Officers' Retirement Plan and the Corrections Officers' 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 Corrections employees, the inflation component of the salary scale has been adjusted from 2.75% to 6.50% for the first two years, 7.00% for the third year, with subsequent increases resuming at the assumed inflation rate of 2.75%.
- Based on analysis of the impact of these pay increases over the next three years, the payroll growth rate for funding purposes was changed from 0.00% to 1.25%.

**City of Jacksonville Corrections Officers' Retirement Plan**  
**Summary of Impact of the October 1, 2016 Changes and Proposed Ordinance \_\_\_\_\_**

	10/01/2016 Preliminary Valuation <u>Results</u>	10/01/2016 Proposed Plan, New <u>Assumptions</u>
(A) Participant Data		
Active members	610	610
Total annual payroll	\$26,585,054	\$26,585,054
Retired members and beneficiaries	219	219
Total annualized benefit	\$9,822,440	\$9,822,440
DROP Participants	136	136
Total annualized benefit	\$5,746,071	\$5,746,071
Terminated vested members	4	4
Total annualized benefit	\$71,075	\$71,075
(B) Actuarial Value of Assets	\$175,333,405	\$175,333,405
(C) Present value of all future expected benefit payments:		
Active members:		
Retirement benefits	\$136,709,883	\$150,811,090
Vesting benefits	2,270,669	2,355,617
Disability benefits	3,275,018	3,550,766
Death benefits	1,596,976	1,745,078
Return of contributions	<u>15,946,800</u>	<u>15,946,800</u>
Total	\$159,799,346	\$174,409,351
Terminated vested members	473,417	473,417
Retired members and beneficiaries	<u>248,567,082</u>	<u>248,567,082</u>
Total	\$408,839,845	\$423,449,850

	10/01/2016 Preliminary Valuation <u>Results</u>	10/01/2016 Proposed Plan, New <u>Assumptions</u>
Actuarial accrued liability	\$345,376,170	\$354,234,673
Unfunded actuarial accrued liability	170,042,765	178,901,268
(D) Actuarial present value of accrued benefits:		
Vested accrued benefits:		
Active members	\$74,586,156	\$74,586,156
Inactive members	473,417	473,417
Pensioners and beneficiaries	248,567,082	248,567,082
Non-vested active members	<u>1,002,110</u>	<u>1,002,110</u>
Total	\$324,628,765	\$324,628,765
(E) Pension cost		
Normal cost, including administrative expenses	\$7,495,160	\$7,495,160
Expected employee contributions	-2,126,804	-2,126,804
Level % of payroll payment to amortize unfunded actuarial accrued liability	14,602,297	12,350,015
Reduction due to amortized value of discounted value of allocated surtax revenue	<u>0</u>	<u>-4,438,450</u>
Total minimum annual cost payable monthly at valuation date	\$20,753,658	\$13,800,598
Total employer cost projected to budget year	\$20,753,658	\$13,973,105
Projected payroll	\$26,585,054	\$26,917,367
As % of projected payroll	78.07%	51.91%
(F) Present value of active members' future salaries at attained age	\$227,380,804	\$247,984,129

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**

*Alan 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	--	\$1,841,086	17	\$18,781,480
Liability decrease	10/01/2004	30	--	-232,793	18	-2,443,964
Liability decrease	10/01/2005	30	--	-87,056	19	-938,030
Liability increase	10/01/2006	30	--	1,672,157	20	18,448,327
Liability increase	10/01/2006	30	--	471,151	20	5,198,041
Liability increase	10/01/2007	30	--	565,631	21	6,376,064
Liability increase	10/01/2007	30	--	48,663	21	548,551
Experience loss	10/01/2008	30	\$8,945,587	802,754	22	9,228,302
Plan amendment	10/01/2008	30	29,032,009	2,592,733	22	29,805,538
Experience loss	10/01/2010	30	19,146,644	1,640,398	24	19,516,335
Change in assumptions	10/01/2010	30	3,963,142	339,544	24	4,039,663
Change in asset method	10/01/2010	30	-2,590,106	-221,908	24	-2,640,115
Plan amendment	10/01/2010	30	343,771	29,453	24	350,410
Experience loss	10/01/2011	30	11,931,785	994,499	25	12,011,137
Experience loss	10/01/2012	30	8,306,777	673,422	26	8,246,337
Change in assumptions	10/01/2012	30	11,171,194	905,638	26	11,089,913
Experience loss	10/01/2013	30	7,381,814	584,745	27	7,251,823
Experience loss	10/01/2014	30	6,606,525	520,362	28	6,529,090
Change in assumptions	10/01/2014	30	10,426,843	821,269	28	10,304,631
Change in asset method	10/01/2014	30	-8,894,571	-700,580	28	-8,790,318
Experience loss	10/01/2015	30	6,163,421	483,882	29	6,136,919
Change in assumptions	10/01/2015	30	-1,241,501	-97,469	29	-1,236,163
Experience loss	10/01/2016	30	1,947,913	152,076	30	1,947,913
Change in assumptions	10/01/2016	30	10,280,881	<u>802,640</u>	30	<u>10,280,881</u>
Total				\$14,602,297		\$170,042,765
<b><i>Bases after proposed changes**</i></b>						
Fresh start	10/01/2016	30	\$178,901,268	\$12,350,015	30	\$178,901,268
Discounted surtax revenue	10/01/2016	30	-64,295,005	-4,438,450	30	-64,295,005

\* Level percentage of pay using payroll growth of 0.00%.

\*\* Level percentage of pay using payroll growth of 1.25%.

**SECTION 4: Reporting Information for the City of Jacksonville Corrections Officers 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:**

*Pre-retirement:*

Male Non-Disabled (Special Risk): RP2000, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, set forward 2.5 years, projected generationally with Scale BBM

Female Non-Disabled: RP2000, 100% Combined Healthy White Collar, set forward 2.5 years, projected generationally with Scale BBF

*Healthy annuitants:*

Male Non-Disabled (Special Risk): RP2000, 10% Annuitant White Collar / 90% Annuitant Blue Collar, set forward 2.5 years, projected generationally with Scale BBM

Female Non-Disabled: RP2000, 100% Annuitant White Collar, set forward 2.5 years, projected generationally with Scale BBF

*Disabled annuitants:*

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

**SECTION 4: Reporting Information for the City of Jacksonville Corrections Officers Retirement Plan**

**Termination Rates before Retirement:**

Age	Rate (%)			
	Mortality*		Disability**	
	Male	Female	Male	Female
20	0.07	0.02	0.04	0.02
25	0.06	0.02	0.04	0.03
30	0.07	0.03	0.06	0.05
35	0.08	0.04	0.08	0.08
40	0.11	0.06	0.12	0.11
45	0.20	0.10	0.18	0.17
50	0.33	0.16	0.31	0.27
55	0.54	0.24	0.49	0.43
60	0.95	0.35	0.82	0.56
65	1.57	0.57	0.00	0.00

\* Mortality rates shown for base table

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

Service	Withdrawal**
0-1	7.00
1-2	7.00
2-3	5.00
3-4	5.00
4-5	5.00
5-6	5.00
6-7	4.00
7-8	4.00
8-9	4.00
9-10	4.00
10+	1.00

\*\*Rate set to 1.00% after age 45. All withdrawal rates are set to 0% after eligibility for retirement.



## Impact Statement Assumptions for the City of Jacksonville Corrections Officers Retirement Plan

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**Retirement Rates:**

100% retirement assumed at age 65 with 5 years of service; for ages less than 65, retirement rate assumptions are based on service as follows:

<b>Service</b>	<b>Rate (%)*</b>
Under 20	0%
20	50
21-23	30
24	40
25-29	50
30 & Over	100

*\*Above rates are adjusted by a factor of 75%  
for ages under 45.*

**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:**

50%

**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.

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**Impact Statement Assumptions for the City of Jacksonville Corrections Officers 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 has been adjusted from 2.75% to 6.50% for the first two years, 7.00% for the third year, with subsequent increases resuming at the assumed inflation rate of 2.75%.

**Inflation Rate:** 2.75%

**Payroll Growth Rate:** 1.25% 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 1.25% has been determined. Were it not for Pension Reform, the payroll growth rate for amortization purposes would be 0.00%. The Fund’s long-term payroll growth assumption is equal to the inflation assumption of 2.75%.

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**Administrative Expenses:** Previous year’s actual expenses; \$75,000 for October 1, 2016.

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**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.

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**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

## Impact Statement Assumptions for the City of Jacksonville Corrections Officers Retirement Plan

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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.

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**Changes in Assumptions/Methods:**

The following assumption and method 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%.
- 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 Corrections Officers' Retirement Plan is allocated 6% of the projected revenue. For each year from 2031 – 2060, the Corrections Officers 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.

**Data Section (do not touch)**

Florida	1	"#"
FundingMethod	2	"#"
AssetMethod	6	"#"
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IntActual	0.0628	"#.00%"
IntActual1	0.1912	"#.00%"
MVIntActual	-0.0254	"#.00%"
MVIntActual1	0.1166	"#.00%"
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DollarLimit1	210,000	"#,###"
Valcycle	1	"#"
Fiscal	1	"#"
ActNumTot	651	"#,###"
ActNumTot1	616	"#,###"
ActNumUnknown	0	"#,###"
AveSalary	43,151	"#,###"
AveSalary1	44,438	"#,###"
ActAge	37.0	"#,###"
ActAge1	37.4	"#,###"
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Payroll	28,091,083	"#,###"
Payroll1	27,373,702	"#,###"
BenNum	19	"#,###"
BenNum1	16	"#,###"
BenBft	29,766	"#,###"
BenBft1	25,551	"#,###"
RDNum	309	"#,###"
RDNum1	290	"#,###"
SuspendedPens	0	"#,###"
SuspendedPens1	0	"#,###"
RDBft	1,101,976	"#,###"
RDBft1	1,020,864	"#,###"
InactNum	1	"#,###"
TotalCount	980	"#,###"
TotalCount1	923	"#,###"
AstMkt	150,223,000	"#,###"
AstAct	159,914,247	"#,###.###"
AstAct1	145,276,644	"#,###"
InvGL	-1,809,807	"#,###"
AstActAve	147,952,144	"#,###"

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CorridorAdjust	0	"#,###"
CalcUal	159,741,481	"#,###"
OtherGL	-3,356,838	"#,###"
ExpGL	-5,602	"#,###"
TotalGl	-5,172,247	"#,###"
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ActOPExpDol	73,000	"#,###"
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AsmExpDolPer1	65,000	"#,###"
SchAmtYrs	24	"#,###"
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FCRate1	0.6864	"#.00%"
RecCont	19,155,820	"#,###"
RecContDec	20,390,666	"#,###"
RecContInc	17,920,974	"#,###"
RecContPct	0.6773	"#.00%"
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RecContPctInc	0.6337	"#.00%"

	First
Chart1First	2006
Chart6First	2008
Chart8First	2006
Chart11First	2008
Chart12First	2006

	Last
Chart1Last	2015
Chart6Last	2015
Chart8Last	2015
Chart11Last	2015
Chart12Last	2015

	Num
Chart1Num	10
Chart6Num	8
Chart8Num	10
Chart11Num	8
Chart12Num	10

## Data Section (do not touch)

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PlanNameLongGASB PlanNameLong  
PlanNameShortGASB PlanNameShort  
ClientShortGASB ClientShort  
FundOfficeContactGASB FundOfficeContact  
OfficeAddr1GASB OfficeAddr1  
OfficeAddr2GASB OfficeAddr2  
ActuaryNameGASB Actuary  
ActuaryTitleGASB ActuaryTitle  
ActuaryCredentialsGASB ActuaryCredentials  
AnalystGASB TSO  
ReviewerGASB TSOO  
ConsultantNameGASB Consultant  
ConsultantTitleGASB ConsultantTitleGASB  
SegalOfficeGASB SegalOffice  
ValDateGASB "1/1/2013"  
DiscDate "12/31/2012"  
DiscDate1 "12/31/2011"

IntDisc	0.0775	"#.00%"
IntDisc1	0.0775	"#.00%"
InflRate	0.03	"#.00%"
SalRate	0.04	"#.00%"
ColaRate	0.05	"#.00%"

Results of last import: Last Import was  
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Date and time of import: 03/15/2016 2:13:21  
PM



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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 Correctional Officers 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 Correction Officers' Retirement Plan and the new Correction Officers' 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