

April 8, 2017

Mr. Timothy Johnson
Executive Director
Jacksonville Police and Fire Pension Fund
One West Adams Street, Suite 100
Jacksonville, FL 32202

Re: Jacksonville Police and Fire Pension Fund – Actuarial Impact Statement for Ordinance Nos. 2017-259 and 2017-257

Dear Tim:

As requested, we are enclosing an Actuarial Impact Statement for Ordinance Nos. 2017-259 and 2017-257, illustrating the first-year impact of proposed assumption, plan, and funding policy changes to the Jacksonville Police and Fire Pension Fund (Fund). The results are based on census and asset data as of October 1, 2016.

This is the third of three actuarial impact statements that we have been requested to prepare. The Board should decide which actuarial impact statement to accept and submit to the City of Jacksonville and the Florida Division of Retirement. The three impact statements differ with regard to the payroll growth rate assumption used for purposes of amortizing the unfunded actuarial accrued liability (UAAL) and the assumed rate of growth in the annual pension liability surtax proceeds. This actuarial impact statement includes a 1.25% payroll growth assumption and a 4.25% annual pension liability surtax growth assumption.

Please note that this actuarial impact statement is the first actuarial valuation of the Fund that the Fund's new actuary, Gabriel, Roeder, Smith & Company, has prepared. We had a limited amount of time to prepare the impact statement based on the City Council's schedule. For this reason, we did not have sufficient time to fully evaluate all of the actuarial assumptions and methods employed by the previous actuary, Pension Board Consultants, Inc. Based on our initial review of the assumptions and methods, we have concerns regarding the approach used by the previous actuary to value the impact of the fixed DROP interest crediting rate of 8.4%, which is higher than the Fund's assumed rate of investment return of 7.0%. In the actuarial impact statement, we have continued to utilize the previous actuary's 2.0% "load" on the Fund's liabilities and normal costs to account for the higher fixed interest crediting rate on DROP accounts than 7.0%. Prior to preparation of the October 1, 2017 actuarial valuation report, we recommend a full analysis be completed on the long-term impact of this interest crediting rate being 1.4% higher than the Fund's assumed investment return, the results of which could have a significant impact on the liabilities and future costs of the Fund.

The enclosed exhibits show the following:

- **October 1, 2016 Actuarial Valuation Results** – Results as prepared by the prior actuary, Pension Board Consultants, Inc., report dated January 18, 2017.
- **Revised Baseline** – Same plan provisions and actuarial assumptions as used in the October 1, 2016 Actuarial Valuation Report, except with adjustments to reflect the precise timing of the annual Cost-of-Living Adjustment.

- **Assumption Changes** – Same as the Revised Baseline, but also incorporating the collectively bargained across-the-board salary increases of 6.5% in 2017 and 2018 and 7.0% in 2019 as well as a change in the payroll growth rate (used to amortize the unfunded actuarial accrued liability (UAAL) and project the contribution amount to the contribution year) from 0.067% to 1.25%. Please refer to our experience study dated April 4, 2017 for our analysis regarding this assumption. The temporary additional salary increases have been added to the current salary increase assumption of 3.5% per year, including inflation, for total projected salary increases of 10.0% in 2017 and 2018 and 10.5% in 2019 (reducing to 3.5% per year for 2020 and subsequent years). This was done to include the impact of promotions and longevity/step increases.
- **Impact of Ordinance Nos. 2017-259 and 2017-257** – Reflecting the changes listed above as well as the proposed changes in accordance with Ordinance Nos. 2017-259 and 2017-257, as listed below:
 - Effective October 1, 2017, the Jacksonville Police and Fire Pension Fund will be closed to new entrants.
 - For all members of the Fund, the member contribution rate is changed to 10% of pay.
 - All members (including members hired after June 19, 2015 and previously in Group II) of the Fund will be eligible for the benefits which were in place prior to the adoption of Ordinance 2015-304-E. Benefits that were specifically applicable to Group II are eliminated, and language differentiating separate groups is being removed. In particular, all members will be eligible for the following benefit provisions:
 - The accrued benefit is equal to 3% of average salary for each of the first 20 years of service plus 2% of average salary for each of the next 10 years of service.
 - The normal retirement date is when a member attains 20 years of service.
 - The average salary is computed as the average of the final 2 years (52 pay periods).
 - Cost of living adjustments are 3% annually, beginning with the first January following the commencement of benefits.
 - All members are eligible to participate in the DROP with interest accrued at an annual rate of return of 8.4%.

Ordinance 2017-259 also amends the Fund as follows (but these changes will not have an immediate impact on the initial year's contribution requirement or the funded status of the Fund):

- Removal of the funding policy setting up 13 years of extra payments to write down the UAAL as set forth in Ordinance 2015-304-E, where funds from the newly created Unfunded Actuarial Liability Payment Account (UALPA) would provide extra payments toward the UAAL in conjunction with extra payments from the City towards the UAAL through fiscal year 2028. During this 13-year period, the extra payments used to write down the UAAL would have totaled \$460 million (\$110 million from the UALPA account plus \$350 million in extra City payments).
- The following funding policy changes are instated:
 - The below provisions shall remain in place until the Fund is 100 percent funded:

- Beginning with the Fiscal Year 2017-2018, a liquidity ratio, defined as the market value of assets divided by the annual benefit payments, is instated, where in any year if the liquidity ratio falls below a predetermined rate, the City shall, subject to annual appropriation, make a contribution or payment in an amount sufficient to restore the Fund's liquidity ratio to at least the predetermined rate, as determined by the plan actuary.
- Beginning with the Fiscal Year 2017-2018, the City shall, subject to annual appropriation, make an annual contribution from a source other than the pension liability surtax in a predefined minimum amount, less any amount paid to restore the liquidity ratio to the minimum predetermined level.
- Effective October 1, 2017, the accumulated balances existing on September 30, 2017, together with interest thereon, in the UALPA and the Supplemental Payment Account (SPA), will be allocated as follows:
 - 20% shall be administered by the Board for the legal use of police officer members, as determined by the legally recognized collective bargaining unit.
 - 20% shall be administered by the Board for the legal use of firefighter members, as determined by the legally recognized collective bargaining unit.
 - 60% shall be administered by the Board for the sole purpose of being applied to the City's Actuarially Determined Employer Contribution (ADEC) for the year(s) selected by the City, at the discretion of the City.

As of October 1, 2016, the balance in the UALPA was approximately \$71.7 million, and the balance in the SPA was \$10.0 million.
- Effective October 1, 2017, 100% of the accumulated balances existing on September 30, 2017, in the City Budget Stabilization Account (CBSA) and the Enhanced Benefit Account (EBA), together with interest thereon, shall be administered by the Board for the sole purpose of being applied to the City's ADEC for the year(s) selected by the City, at the discretion of the City.

As of October 1, 2016, the balance in the EBA was approximately \$5.3 million, and the balance in the CBSA was approximately \$5.1 million.
- Effective October 1, 2017, all Chapter 175 and 185 Florida Insurance Premium Tax Rebate Dollars shall be administered by the Board for the legal use of the firefighter and police officer members, as determined by the legally recognized collective bargaining unit.

Ordinance No. 2017-257 implements the changes required to reflect the present value of the City of Jacksonville's pension liability surtax, in accordance with Florida Statute 112.64(6). Ordinance 2017-257 creates a new Chapter 776 entitled "Pension Liability Surtax" in the City of Jacksonville Ordinance Code.

Florida Statute 112.64(6) authorizes a county to apply the proceeds of a sales surtax, hereinafter referred to as the "pension liability surtax", to reduce the unfunded liability of a defined benefit retirement plan or system. Florida Statute 112.64(6)(a) requires the Fund to then amortize the unfunded actuarial accrued liabilities (UAAL), net of the present value of the pension liability surtax, over 30 years immediately following approval of the pension liability surtax. Florida Statute 112.64(6)(b) requires the payroll of all employees in job classifications which are covered by a closed retirement plan (regardless of the plan they participate in) to be included when determining the payroll growth assumption to be used to amortize the UAAL.

Ordinance No. 2017-257 outlines the use of the pension liability surtax for the City of Jacksonville's three defined benefit pension funds: the Police and Fire Pension Fund, the Corrections Officers Fund, and the General Employee Pension Fund. The net present value of the total projected proceeds of the pension liability surtax is to be recognized for the fiscal beginning October 1, 2017 and each fiscal year thereafter. Each eligible defined benefit plan will apply the present value of the total projected proceeds of the surtax, as determined by the City, with respect to the pro rata share of each plan's proportion of the City's total unfunded liability as determined by the October 1, 2015 actuarial valuation and each subsequent year's actuarial valuation. The pension liability surtax will begin on January 1 immediately following the expiration of The Better Jacksonville ½-cent Sales Surtax, but in no event shall collection begin later than January 1, 2031. The surtax will remain in effect no longer than 30 years and will terminate for an eligible plan prior to the end of the 30 years once that plan is 100% funded.

The impact of Ordinance Nos. 2017-259 and 2017-257 reflects the present value of a 63% share of the pension liability surtax proceeds to be allocated to the Jacksonville Police and Fire Pension Fund commencing in calendar year 2031 and continuing through calendar year 2060. The 63% share was determined based on the pro rata share of the UAAL for the Jacksonville Police and Fire Pension Fund versus the sum of the UAAL's for all three of the City of Jacksonville's defined benefit pension plans as of October 1, 2015.

Prescribed Assumption

The annual pension liability surtax revenue is projected to increase 4.25% annually from calendar year 2016 to calendar year 2060. This assumption was set by the City of Jacksonville. Assumptions regarding future growth in municipal sales tax revenues fall outside of our area of expertise. It is our understanding that an independent municipal finance expert, GAPublic Solutions, Inc. - A Registered Municipal Advisor Firm, has analyzed the historical and projected sales tax revenue of the City of Jacksonville, and they believe an annual growth rate assumption of 3.34% is more reasonable for a long-term projection. Since municipal finance projections fall outside of our area of expertise, we are unable to assess the reasonableness of the City's 4.25% annual surtax growth assumption, but we would be more comfortable relying on a source for analysis of this assumption that is independent of the City. If GAPublic Solutions, Inc.'s recommendation of 3.34% were used instead of 4.25%, the present value of the pension liability surtax would decrease by approximately \$156.7 million and the required City contribution would increase by approximately \$10.7 million.

Disclosures Regarding the Pension Liability Surtax and Florida Statute 112.64(6)

Ordinance 2017-257 implements the changes required to reflect the present value of the City of Jacksonville's pension liability surtax, in accordance with Florida Statute 112.64(6). Reflecting the pension liability surtax will involve a reduction in the Fund's current UAAL equal to the present value of a future revenue stream (generated by the pension liability surtax) to be received by the Fund in calendar years 2031 through 2060. This will delay the Fund's projected full funding date until the year 2060 and will result in annual contributions to the Fund in fiscal years 2018 through 2030 which will be significantly lower than the recommended contribution levels would be to ensure the Fund accumulates adequate assets to make all benefit payments. The maintenance of a minimum liquidity ratio (defined as the market value of assets divided by the annual benefit payments), as described in Ordinance 2017-259, will likely help prevent an insolvency in the event the Fund incurs adverse experience, but this is dependent upon the minimum liquidity ratio being adhered to. A full analysis of the impact of the liquidity ratio was outside of the scope of this assignment.

We are unable to assess the risk that the timing and/or amount of future pension liability surtax proceeds may significantly deviate from the projections (due to legal challenges, economic hardships, or any other reason). Any such deviations could have a significant impact on the required contribution amount shown herein and on the future solvency risk that the Fund's future assets may be insufficient to cover all future benefit payments.

The long-term payroll growth assumption for purposes of amortizing the UAAL and projecting the contribution amount to the contribution year (the year beginning one year after the valuation date) is 1.25%. For a closed pension fund, it is our recommendation to use a 0% payroll growth assumption. Based on our understanding, Florida Statute 112.64(6)(b) requires the future payroll of police officers and firefighters expected to be hired after October 1, 2017 (who will not become members of the Fund) to be included when setting this assumption. This deviates from our recommended practice for closed pension funds. In consideration of this prescribed method described under Florida Statute 112.64(6)(b) for determining the payroll growth assumption, our recommendation is that the payroll growth assumption used to amortize the UAAL not exceed 1.25%. This recommendation is based on the projected 10-year compound average payroll growth rate through 2021, which is 1.269% (reflecting the across-the-board negotiated salary increases in 2017-2019 and an OPEN group projection), and a goal of preventing negative amortization on the reduced UAAL (net of the present value of the pension liability surtax). Please refer to our experience study report on the payroll growth assumption dated April 4, 2017 for additional information and background on this assumption.

In conjunction with offsetting the UAAL by the present value of the pension liability surtax, Florida Statute 112.64(6)(a) requires the use of a 30-year amortization period for the entire net UAAL. It is important to note that the average expected future service of current active members is 10.02 years, which is far less than the required 30-year amortization period. Though required, a long amortization period carries more risk, especially in a closed plan, and the funded status could deteriorate in the short run. Furthermore, amortizing the UAAL over 30 years, in effect, transfers costs to future taxpayers, which deviates from language in Florida Statute 112.61 which says "*Accordingly, except as herein provided, it is the intent of this act to prohibit the use of any procedure, methodology, or assumptions the effect of which is to transfer to future taxpayers any portion of the costs which may reasonably have been expected to be paid by the current taxpayers.*" When combined with advance recognition of the pension liability surtax, it is our opinion that current costs will be transferred to future taxpayers under this arrangement.

Summary of Findings

- The negotiated salary increases cause the total present value of expected benefit payments from the Fund to increase by \$176,716,366, from \$3,786,881,936 to \$3,963,598,302.
- Ordinance No. 2017-259 causes the total present value of expected benefit payments from the Fund to increase by \$64,349,077, from \$3,963,598,302 to \$4,027,947,379.
- Reflecting Ordinance Nos. 2017-259 and 2017-257 and the prescribed methods and assumptions described above, the fiscal year 2018 required City contribution decreases by 50.95% of covered payroll, from 149.74% to 98.79%, or by a dollar amount of \$68,225,601, from \$205,488,666 to \$137,263,065. If the present value of the pension liability surtax were not reflected until the money is deposited into the Pension Fund and the UAAL continued to be amortized according to the schedule shown in the October 1, 2016 actuarial valuation report, the required City contribution for fiscal year 2018 would be 156.12% of covered payroll (or \$216,913,548).

- The Fund's funded ratio (market value of assets divided by the actuarial accrued liability) reflecting Ordinance 2017-259 decreases from the level shown in the October 1, 2016 Actuarial Valuation Report prepared by Pension Board Consultants, from 45.24% to 43.02%.
- Reflecting Ordinance 2017-257, when the Fund's UAAL is adjusted by the present value of the pension liability surtax, it decreases from \$2,004,853,382 to \$1,267,340,486. The sum of the market value of assets and the present value of the pension liability surtax is 63.98% of the actuarial accrued liability. However, this is not the revised funded ratio for the Fund, as the present value of the pension liability surtax is not identified as an asset of the Fund, but instead as an offset to the UAAL.

Additional Disclosures

This report was prepared for the Jacksonville Police and Fire Pension Fund and those designated or approved by the Fund. This report may be provided to parties other than the Fund only in its entirety and only with the permission of the Board of Trustees.

The purpose of this report is to describe the immediate financial effect of the proposed changes. No statement in this report is intended to be interpreted as a recommendation in favor of the changes, or in opposition to them. This report should not be relied on for any purpose other than the purpose described above. We are neither attorneys nor legal professionals, and the above information should not be construed as legal advice or opinion. There is no guarantee that the State will agree with the approaches used. We recommend qualified legal counsel review our interpretation of Florida Statutes.

The results in this report are based on census data as of July 1, 2016 and asset data as of October 1, 2016, as provided by Pension Board Consultants and as used for the October 1, 2016 Actuarial Valuation. We reviewed this information for reasonability, but did not audit the data. We are not responsible for the accuracy or completeness of this information. Please refer to the Actuarial Valuation report, as prepared by Pension Board Consultants, Inc., dated January 18, 2017, the Experience Study on Payroll Growth Assumption letter, dated April 4, 2017, and the Replication of October 1, 2016 Actuarial Valuation Results letter, dated April 4, 2017, for all actuarial assumptions, methods and disclosures.

Please note that the closure of the Fund may lead to future changes in investment policy over time to reflect the changing income needs of the Fund as the ratio of retirees to active members increases. An analysis of the impact of any future change in investment policy was outside the scope of this assignment. It is possible that when such changes in investment policy occur, even if the changes are not made for several years, they may have a material effect on the valuation results. We recommend the Board discuss the potential impact of the plan closure with the Fund's investment consultant and consider preparing a financial analysis of one or more scenarios.

As with any actuarial valuation, the calculation results shown herein are based upon assumptions regarding future events, which may or may not materialize. They are also based on the assumptions, methods, and plan provisions outlined in this report and in the Actuarial Valuation report dated January 18, 2017. 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

Mr. Timothy Johnson
April 8, 2017
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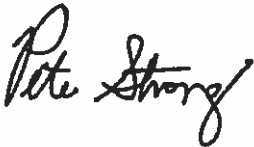
expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in this report.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Jacksonville Police and Fire Pension Fund as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Peter N. Strong and Jeffrey Amrose are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,



Peter N. Strong, FSA, MAAA, FCA
Enrolled Actuary No. 17-06975



Jeffrey Amrose, MAAA, FCA
Enrolled Actuary No. 17-06599

JACKSONVILLE POLICE AND FIRE PENSION FUND

Impact Statement – April 8, 2017

Description of Amendments

Ordinance 2017-259 amends the Fund as follows:

- Effective October 1, 2017, the Jacksonville Police and Fire Pension Fund will be closed to new entrants.
- For all members of the Fund, the member contribution rate is changed to 10% of pay.
- All members (including members hired after June 19, 2015 and previously in Group II) of the Fund will be eligible for the benefits which were in place prior to the adoption of Ordinance 2015-304-E. Benefits that were specifically applicable to Group II are eliminated, and language differentiating separate groups is being removed. In particular, all members will be eligible for the following benefit provisions:
 - The accrued benefit is equal to 3% of average salary for each of the first 20 years of service plus 2% of average salary for each of the next 10 years of service.
 - The normal retirement date is when a member attains 20 years of service.
 - The average salary is computed as the average of the final 2 years (52 pay periods).
 - Cost of living adjustments are 3% annually, beginning with the first January following the commencement of benefits.
 - All members are eligible to participate in the DROP with interest accrued at an annual rate of return of 8.4%.

Ordinance 2017-259 also amends the Fund as follows (but these changes will not have an immediate impact on the initial year's contribution requirement or the funded status of the Fund):

- Removal of the funding policy setting up 13 years of extra payments toward the UAAL as set forth in Ordinance 2015-304-E, where funds the newly created Unfunded Actuarial Liability Payment Account (UALPA) would provide extra payments toward the UAAL in conjunction with extra payments from the City towards the UAAL through fiscal year 2028.
- The following funding policy changes are instated:
 - The below provisions shall remain in place until the Fund is 100 percent funded:
 - Beginning with the Fiscal Year 2017-2018, a liquidity ratio, defined as the market value of assets divided by the annual benefit payments, is instated, where in any year if the liquidity ratio falls below a predetermined rate, the City shall, subject to annual appropriation, make a contribution or payment in an amount sufficient to restore the Fund's liquidity ratio to at least the predetermined rate, as determined by the plan actuary.
 - Beginning with the Fiscal Year 2017-2018, the City shall, subject to annual appropriation, make an annual contribution in a predefined minimum amount, less any amount paid to restore the liquidity ratio to the minimum predetermined level.

JACKSONVILLE POLICE AND FIRE PENSION FUND

Impact Statement – April 8, 2017

Description of Amendments (continued)

- Effective October 1, 2017, the accumulated balances existing on September 30, 2017, together with interest thereon, in the UALPA and the Supplemental Payment Account (SBA), will be allocated as follows:
 - 20% shall be administered by the Board for the legal use of police officer members, as determined by the legally recognized collective bargaining unit. 20% shall be administered by the Board for the legal use of firefighter members, as determined by the legally recognized collective bargaining unit.
 - 60% shall be administered by the Board for the sole purpose of being applied to the City's Actuarially Determined Employer Contribution (ADEC) for the year(s) selected by the City, at the discretion of the City.
- Effective October 1, 2017, 100% of the accumulated balances existing on September 30, 2017, in the City Budget Stabilization Account (CBSA) and the Enhanced Benefit Account (EBA), together with interest thereon, shall be administered by the Board for the sole purpose of being applied to the City's ADEC for the year(s) selected by the City, at the discretion of the City.
- Effective October 1, 2017, all Chapter 175 and 185 Florida Insurance Premium Tax Rebate Dollars shall be administered by the Board for the legal use of the firefighter and police officer members, as determined by the legally recognized collective bargaining unit.

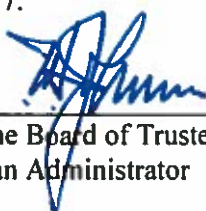
Ordinance No. 2017-257 implements the changes required to reflect the present value of the City of Jacksonville's pension liability surtax, in accordance with Florida Statute 112.64(6). Ordinance 2017-257 creates a new Chapter 776 entitled "Pension Liability Surtax" in the City of Jacksonville Ordinance Code.

Funding Implications of Amendment

An actuarial cost estimate is attached.

Certification of Administrator

I certify that this actuarial impact statement was adopted by the Board of Trustees of the Jacksonville Police and Fire Pension Fund on April 10, 2017.



For the Board of Trustees
as Plan Administrator

**JACKSONVILLE POLICE AND FIRE PENSION FUND
SUPPLEMENTAL ACTUARIAL VALUATION REPORT**

Plan

Jacksonville Police and Fire Pension Fund

Valuation Date

October 1, 2016

Date of Report

April 8, 2017

Report Requested by

Board of Trustees

Prepared by

Peter Strong and Jeffrey Amrose

Group Valued

All active and inactive Police Officers and Firefighters

Changes in Plan Provisions

Present Provision Before Change

Employees hired before June 19, 2015 are classified as Group I members. Employees hired on or after June 19, 2015, the effective date of Ordinance 2015-304-E, are classified as Group II Members and are eligible for the following benefit provisions:

- Average salary is computed as the average of the final 5 years.
- Members are eligible for a time service retirement upon reaching 30 years of credited service with a benefit equal to 75% of FAE and a dollar maximum of \$99,999.99.
- Members are eligible for a reduced early retirement benefit with at least 25 years of credited service.
- Members are eligible for a disability retirement with benefit equal to the greater of 50% of average salary, or benefit eligible from a time service retirement.
- Members that terminate employment with at least 10 years of credited service, but less than 25, are eligible to receive a deferred retirement benefit of 2.0% per year of credited service of average salary, commencing at age 62.
- The Cost of Living Adjustment (COLA) is equal to the Social Security COLA for the same plan year, not to exceed 1.5%, beginning in the third January following commencement of benefits.
- Members are not eligible to participate in the Deferred Retirement Option Program (DROP). Members can participate in the BACKDROP at retirement eligibility with interest accrued based on the plan's actual rate of return, with the minimum interest at 0% and maximum at 10%.
- Members contribute at a rate of 10% of pay.

**JACKSONVILLE POLICE AND FIRE PENSION FUND
SUPPLEMENTAL ACTUARIAL VALUATION REPORT – CONTINUED**

As a result of Ordinance 2015-304-E, the following benefit changes were made for Group I members:

- For Group I members with less than 5 years of service as of June 19, 2015, the average salary period was increased to the final four years, with the average salary no less than the 2-year average salary as of June 19, 2015.
- For Group I members with less than 20 years of service as of June 19, 2015, the COLA is 3% annually for service accrued as of June 19, 2015 and the Social Security COLA (not to exceed 6.0%) for service accrued after June 19, 2015.
- For Group I members with less than 20 years of service as of June 19, 2015, members that elect to enter the DROP will receive interest accrued based on the plan's actual rate of return, with the minimum interest at 2% and maximum at 14.4%.

Proposed Provision After Change

Effective October 1, 2017, the Jacksonville Police and Fire Pension Fund is closed to new entrants.

For all members of the Fund, the member contribution rate is 10% of pay.

All members of the Fund are eligible for benefits that were changed as a result of Ordinance 2015-304-E. In particular, all members hired prior to October 1, 2017 are eligible for the following benefit provisions:

- Average salary is computed as the average of the final 2 years.
- Members are eligible for a time service retirement upon reaching 20 years of credited service with benefit accrual at a rate of 3% for the first 20 years of service plus 2% after 20 years of service, maximum 80% of average salary.
- Members are eligible for a disability retirement with benefit equal to the greater of 60% of average salary, or benefit eligible from a time service retirement.
- Members that terminate employment with 5 or more years of credited service, but less than 20, are eligible to receive a deferred retirement benefit of 3.0% per year of credited service of average salary, with benefit commencing at the date the member would have been eligible to receive a time service retirement.
- The COLA is 3% annually, beginning with the first January following the commencement of benefits.
- All members are eligible to participate in the DROP with interest accrued at an annual rate of return of 8.4%.

Changes in Actuarial Assumptions and Methods

Assumed salary increases for the years 2017-2019 include the negotiated across-the-board salary increases of 6.5% in 2017 and 2018 and 7.0% in 2019. These temporary additional salary increases have been added to the current salary increase assumption of 3.5% per year, including inflation, for total projected salary increases of 10.0% in 2017 and 2018 and 10.5% in 2019 (reducing to 3.5% per year for 2020 and subsequent years). This was done to include the impact of promotions and longevity/step increases.

**JACKSONVILLE POLICE AND FIRE PENSION FUND
SUPPLEMENTAL ACTUARIAL VALUATION REPORT – CONTINUED**

A share of 63% of the total proceeds from the City of Jacksonville's pension liability surtax is assumed to be allocated to the Jacksonville Police and Fire Pension Fund beginning with calendar year 2031. Sales tax revenue is projected to increase by 4.25% annually from the year 2016. The total unfunded actuarial accrued liability (UAAL), net of the present value of the pension liability surtax, is amortized over 30 years in accordance to Florida Statute 112.64(6).

The long-term payroll growth assumption for purposes of amortizing the UAAL and projecting the contribution amount to the contribution year (the year beginning one year after the valuation date) has been changed from 0.067% to 1.25%.

Please refer to our letter for important disclosures regarding the above assumptions.

All other actuarial assumptions and methods are the same as those used in the October 1, 2016 Actuarial Valuation Report.

Amortization Period for New Changes in Actuarial Accrued Liability
30 years

Actuarial Impact of Changes
See attached page(s).

ACTUARIALLY DETERMINED CONTRIBUTION (ADC)

A. Valuation Date	October 1, 2016 <i>Valuation (PBC, Inc.)</i>	October 1, 2016 <i>Valuation with COLA Timing Adjustment</i>	October 1, 2016 <i>After Negotiated Salary Increases and Payroll Growth Assumption Change</i>	October 1, 2016 <i>After Assumption Changes and Ordinances 2017-257 and 2017-259</i>
B. ADC to Be Paid During Fiscal Year Ending	9/30/2018	9/30/2018	9/30/2018	9/30/2018
C. Assumed Date of Employer Contributions	12/1/2017	12/1/2017	12/1/2017	12/1/2017
D. Covered October 1 Payroll	\$ 135,599,741	\$ 135,684,787	\$ 135,684,787	\$ 135,684,787
E. Annual Payment to Amortize Unfunded Actuarial Liability	164,417,818	169,702,069	160,374,273	84,152,061
F. Employer Normal Cost	44,803,488	45,873,065	50,076,797	50,728,791
G. ADC if Paid on the Valuation Date: E + F	209,221,306	215,575,134	210,451,070	134,880,852
H. Chapter Funds Allocation	5,340,312	5,340,312	5,340,312	0
I. Contribution from Court Fines	832,536	832,536	832,536	832,536
J. City Contribution: G - H - I as % of Covered Payroll	203,048,458 149.74 %	209,402,286 154.33 %	204,278,222 150.55 %	134,048,316 98.79 %
K. Actuarially Determined Contribution (ADC) in Contribution Year*	205,488,666	211,918,852	209,177,225	137,263,065
M. Change in ADC from Valuation	0	6,430,186	3,688,559	(68,225,601)

*= City Contribution (item J.) x payroll growth x 1.07 ^ (2/12)

ACTUARIAL VALUE OF BENEFITS AND ASSETS

A. Valuation Date	October 1, 2016 <i>Valuation (PBC, Inc.)</i>	October 1, 2016 <i>Valuation with COLA Timing Adjustment</i>	October 1, 2016 <i>After Negotiated Salary Increases and Payroll Growth Assumption Change</i>	October 1, 2016 <i>After Assumption Changes and Ordinances 2017-257 and 2017-259</i>
B. Actuarially Determined Contribution (ADC) to Be Paid During Fiscal Year Ending	9/30/2018	9/30/2018	9/30/2018	9/30/2018
C. Covered October 1 Payroll	\$ 135,599,741	\$ 135,684,787	\$ 135,684,787	\$ 135,684,787
D. Actuarial Present Value of All Projected Benefits for				
1. Active Members	1,146,037,063	1,165,992,261	1,342,708,627	1,407,057,704
2. Inactive Members	2,577,054,098	2,620,889,675	2,620,889,675	2,620,889,675
3. Total for All Members	<u>3,723,091,161</u>	<u>3,786,881,936</u>	<u>3,963,598,302</u>	<u>4,027,947,379</u>
E. Actuarial Accrued Liabilities				
1. Active Members	768,461,161	795,248,746	873,825,745	897,362,173
2. Inactive Members	2,577,054,098	2,620,889,675	2,620,889,675	2,620,889,675
3. Total for All Members	<u>3,345,515,259</u>	<u>3,416,138,421</u>	<u>3,494,715,420</u>	<u>3,518,251,848</u>
F. Market Value of Assets				
1. Gross Market Value	1,613,043,823	1,613,043,823	1,613,043,823	1,613,043,823
2. Reserve Accounts	(95,543,156)	(95,543,156)	(95,543,156)	(95,543,156)
3. Sr. Staff Plan Assets	(4,102,201)	(4,102,201)	(4,102,201)	(4,102,201)
4. Net Market Value	<u>1,513,398,466</u>	<u>1,513,398,466</u>	<u>1,513,398,466</u>	<u>1,513,398,466</u>
G. Net Present Value of Total Pension Liability Surtax Proceeds According to Pro Rata Share of 63%	0	0	0	737,512,896
H. Unfunded Actuarial Accrued Liability: E3 - F4 - G	1,832,116,793	1,902,739,955	1,981,316,954	1,267,340,486
I. Funded Ratio: F4 / E3	45.24 %	44.30 %	43.31 %	43.02 %
J. Percent of Actuarial Accrued Liability Covered by Assets and Total Pension Liability Surtax Proceeds: (G + F4) / E3	45.24 %	44.30 %	43.31 %	63.98 %
K. Liquidity Ratio				
1. DROP Balance as of 10/1/16	310,283,837	310,283,837	310,283,837	310,283,837
2. Net Market Value (Net of DROP): F4 - K1	1,203,114,629	1,203,114,629	1,203,114,629	1,203,114,629
3. Annual Benefit Payments in Pay Status	153,366,193	153,366,193	153,366,193	153,366,193
4. Ratio: K2 : K3	7.84 : 1	7.84 : 1	7.84 : 1	7.84 : 1

CALCULATION OF EMPLOYER NORMAL COST

A. Valuation Date	October 1, 2016 <i>Valuation (PBC, Inc.)</i>	October 1, 2016 <i>Valuation with COLA Timing Adjustment</i>	October 1, 2016 <i>After Negotiated Salary Increases and Payroll Growth Assumption Change</i>	October 1, 2016 <i>After Assumption Changes and Ordinances 2017-257 and 2017-259</i>
B. Covered October 1 Payroll	\$ 135,599,741	\$ 135,684,787	\$ 135,684,787	\$ 135,684,787
C. Normal Cost (Individual Entry Age)	\$ 45,257,077	\$ 46,326,654	\$ 50,530,386	\$ 53,812,286
D. Assumed Amount for Expenses	11,180,135	11,180,135	11,180,135	11,180,135
E. Expected Member (including DROP) Contribution	11,633,724	11,633,724	11,633,724	14,263,630
F. Employer Normal Cost: C + D - E	44,803,488	45,873,065	50,076,797	50,728,791
G. Employer Normal Cost as a % Covered Payroll: F / B	33.04 %	33.81 %	36.91 %	37.39 %

**PENSION LIABILITY SURTAX ESTIMATES
4.25% ASSUMED ANNUAL GROWTH**

<u>Calendar Year</u>	<u>Projected Surtax Revenue</u>	<u>63% of Revenue for Police and Fire Pension Fund</u>
2016*	\$ 80,642,986	
2017	84,070,313	
2018	87,643,301	
2019	91,368,142	
2020	95,251,288	
2021	99,299,467	
2022	103,519,695	
2023	107,919,282	
2024	112,505,851	
2025	117,287,350	
2026	122,272,062	
2027	127,468,625	
2028	132,886,041	
2029	138,533,698	
2030	144,421,380	
2031	150,559,289	\$ 94,852,352
2032	156,958,059	98,883,577
2033	163,628,776	103,086,129
2034	170,582,999	107,467,289
2035	177,832,777	112,034,649
2036	185,390,670	116,796,122
2037	193,269,773	121,759,957
2038	201,483,738	126,934,755
2039	210,046,797	132,329,482
2040	218,973,786	137,953,485
2041	228,280,172	143,816,508
2042	237,982,079	149,928,710
2043	248,096,318	156,300,680
2044	258,640,411	162,943,459
2045	269,632,629	169,868,556
2046	281,092,016	177,087,970
2047	293,038,426	184,614,208
2048	305,492,559	192,460,312
2049	318,475,993	200,639,876
2050	332,011,223	209,167,070
2051	346,121,700	218,056,671
2052	360,831,872	227,324,079
2053	376,167,227	236,985,353
2054	392,154,334	247,057,230
2055	408,820,893	257,557,162
2056	426,195,781	268,503,342
2057	444,309,101	279,914,734
2058	463,192,238	291,811,110
2059	482,877,908	304,213,082
2060	503,400,220	317,142,138
Total Proceeds from 2031-2060:	\$ 8,805,539,764	\$ 5,547,490,051
Net Present Value of Proceeds as of October 1, 2016:	\$ 1,170,655,390	\$ 737,512,896

*Based on the monthly surtax proceeds received in January 2016 through December 2016.

PARTICIPANT DATA				
	<i>October 1, 2016 Valuation (PBC, Inc.)</i>	<i>October 1, 2016 Valuation with COLA Timing Adjustment</i>	<i>October 1, 2016 After Negotiated Salary Increases</i>	<i>October 1, 2016 After Negotiated Salary Increases and Ord. 2017-259</i>
ACTIVE MEMBERS'				
Number	2,294	2,294	2,294	2,294
Annual Payroll	\$ 135,965,222	\$ 135,965,222	\$ 135,965,222	\$ 135,965,222
Average Annual Payroll	\$ 59,270	\$ 59,270	\$ 59,270	\$ 59,270
Average Age	39.4	39.4	39.4	39.4
Average Past Service	10.6	10.6	10.6	10.6
Average Age at Hire	28.8	28.8	28.8	28.8
RETIREES & BENEFICIARIES & DROP				
Number	2,831	2,831	2,831	2,831
Annual Benefits	\$ 151,286,417	\$ 151,286,417	\$ 151,286,417	\$ 151,286,417
Average Annual Benefit	\$ 53,448	\$ 53,439	\$ 53,439	\$ 53,439
Average Age	63.5	63.5	63.5	63.5
DISABILITY RETIREES				
Number	55	55	55	55
Annual Benefits	\$ 2,079,776	\$ 2,079,776	\$ 2,079,776	\$ 2,079,776
Average Annual Benefit	\$ 37,814	\$ 37,814	\$ 37,814	\$ 37,814
Average Age	62.3	62.3	62.3	62.3
TERMINATED VESTED MEMBERS				
Number	77	77	77	77
Annual Benefits	\$ 1,375,534	\$ 1,375,534	\$ 1,375,534	\$ 1,375,534
Average Annual Benefit	\$ 17,864	\$ 17,864	\$ 17,864	\$ 17,864
Average Age	43.4	43.4	43.4	43.4

'Active Participant data as of July 1, 2016.