

Jacksonville Police and Fire Pension Fund

REVISED ACTUARIAL VALUATION REPORT AS OF
OCTOBER 1, 2017

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR
ENDING SEPTEMBER 30, 2019





May 22, 2018

Board of Trustees
Jacksonville Police and Fire Pension Fund
Jacksonville, Florida

**Re: Jacksonville Police and Fire Pension Fund Revised Actuarial Valuation as of October 1, 2017
and Actuarial Disclosures**

Dear Trustees:

The results of the Revised October 1, 2017 Annual Actuarial Valuation of the Jacksonville Police and Fire Pension Fund are presented in this report. This report was revised to reflect adjustments to both the assets and liabilities. The revised assets reflect adjustments made during the audit process. The revised liabilities reflect changes to the originally reported compensation amounts, which were also discovered during the audit process.

The computed contribution rates shown on page 1 may be considered as a minimum contribution rate that complies with the Board's funding policy. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the Fund in excess of those presented in this report be considered.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section B of this report. This report does not include a robust assessment of the risks of future experience not meeting the actuarial assumptions, as the assessment of these risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the Fund's financial condition.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the Fund only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending September 30, 2019, and to determine the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 67. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The findings in this report are based on data through July 1, 2017 and financial information through September 30, 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 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 Fund's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The actuarial information for GASB Statement No. 67 is intended to assist in preparation of the financial statements of the Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes. Our calculation of the Net Pension Liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 67. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 67 may produce significantly different results.

The valuation was based upon information furnished by the Executive Director concerning Retirement Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the Executive Director.

In addition, this report was prepared using certain assumptions and methods approved by the Board and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Cost Methods. The prescribed assumptions are the assumed mortality rates detailed in the Actuarial Assumptions and Cost Methods section in accordance with Florida House Bill 1309 (codified in Chapter 2015-157). The prescribed methods include the use of a 30-year amortization period for amortizing the unfunded liability as required under Florida Statute 112.64(6)(a), the recognition of the present value of future Pension Liability Surtax proceeds as required by Florida Statute 112.64(6), and the use of a payroll growth assumption to amortize the unfunded liability as required under Florida Statute 112.64(6)(b). Additional information and disclosures regarding these prescribed methods can be found on pages 5 and 6 of this actuarial



valuation 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, 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. These actuaries 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.

This actuarial valuation and/or cost determination was prepared and completed by us or under our direct supervision, and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate. In our opinion, the techniques and assumptions used are reasonable, meet the requirements and intent of Part VII, Chapter 112, Florida Statutes, and are based on generally accepted actuarial principles and practices, with some exceptions noted on pages 5 and 6 under the section entitled "Disclosures Regarding the Pension Liability Surtax and Florida Statute 112.64(6)." There is no benefit or expense to be provided by the plan and/or paid from the Fund'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.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY



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TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
A	Discussion of Valuation Results	
	1. Discussion of Valuation Results	1
B	Valuation Results	
	1. Participant Data	7
	2. Actuarially Determined Contribution	8
	3. Actuarial Value of Benefits and Assets	9
	4. Calculation of Employer Normal Cost	10
	5. Pension Liability Surtax Estimates	11
	5. Unfunded Actuarial Accrued Liability	12
	6. Actuarial Gains and Losses	14
	7. Recent History of Valuation Results	18
	8. Recent History of Required and Actual Contributions	19
	9. Actuarial Assumptions and Cost Method	20
	10. Glossary of Terms	26
C	Pension Fund Information	
	1. Statement of Plan Assets at Market Value	29
	2. Reconciliation of Plan Assets	30
	3. Reserve Account Balances	31
	4. Investment Rate of Return	33
D	Financial Accounting Information	
	1. FASB No. 35	34
	2. GASB No. 67	35
E	Miscellaneous Information	
	1. Reconciliation of Membership Data	49
	2. Age/Service/Salary Distributions	50
F	Summary of Plan Provisions	52

SECTION A

DISCUSSION OF VALUATION RESULTS

DISCUSSION OF VALUATION RESULTS

Closed Plan

In reviewing this Report, it is important for the reader to keep in mind that this Fund has been closed to new members since October 1, 2017. One consequence of this closure is that the annual payment on the unfunded accrued liability will tend to increase as a percentage of covered payroll over time, as such payroll decreases from year to year. Effective with the fiscal year ending September 30, 2018, it is our understanding that the Plan sponsor will be contributing the dollar amount of the calculated required employer contribution.

Comparison of Required Employer Contributions

The required employer contribution developed in this year's valuation is compared below to the last valuation.

	For FYE 9/30/19 Based on 10/1/2017 Valuation (if contributed on 12/1/2018)	For FYE 9/30/18 Based on 10/1/2016 Valuation* (if contributed on 12/1/2017)
Required Employer Contribution** As % of Contribution Year Payroll	\$ 135,264,010 88.36 %	\$ 135,648,057 97.63 %

*From the Actuarial Impact Statement dated April 19, 2017.

**This does not reflect the potential use of reserves that have been allocated to the City that may be used to offset the City's required contribution amount. Of the \$68.46 million in reserves that are available for use by the City as of October 1, 2017, it is our understanding that the City intends to use \$24,736,292 on December 1, 2018 and \$20 million per year in each of the next 2 years thereafter.

Payment of Required Contribution

The required employer contributions developed in this valuation have been calculated as though the payment is contributed on December 1.

The actual employer (City) contributions for the year ending September 30, 2017 were \$167,788,151, an amount which met the minimum required City payment for the year, assuming 50% of the Chapter 175/185 Funds received in 2017 are also applied towards the required contribution.

Revisions in Benefits

There have been the following revisions in benefits since the previous valuation as a result of Ordinance Nos. 2017-259 and 2017-257:

- 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 changed to 10% of pay effective October 1, 2017.
- All members (including members hired after June 19, 2015 and previously in Group II) of the Fund are eligible for the benefits which were in place prior to the adoption of Ordinance No. 2015-304-E. Benefits that were specifically applicable to Group II are eliminated, and language differentiating separate groups was removed. In particular, all members are 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%.

These revisions in benefits were measured in the Actuarial Impact Statement for Ordinance Nos. 2017-259 and 2017-257 dated April 19, 2017.

Revisions in Funding Policy

Ordinance 2017-259 also amended the Fund as follows:

- Removal of the funding policy setting up 13 years of extra payments toward the UAAL as set forth in Ordinance No. 2015-304-E, where funds of the created Unfunded Actuarial Liability Payment Account (UALPA) provided 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 were 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 5.0, 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 5.0.
 - Beginning with the Fiscal Year 2017-2018, the City shall, subject to annual appropriation, make an annual contribution of at least \$110 million, less any amount paid to restore the liquidity ratio to the minimum level of 5.0.
 - 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; and,
 - 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.

These revisions in the funding policy were discussed in the Actuarial Impact Statement for Ordinance Nos. 2017-259 and 2017-257 dated April 19, 2017.

Revisions in Actuarial Assumptions and Methods

There have been the following revisions in actuarial assumptions and methods since the previous valuation:

- Assumed salary increases for the years 2017-2019 include the negotiated across-the-board salary increases of 6.5% per year 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% per year 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 promotion and longevity/step increases.
- A pro rata share 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. 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%.

The impact of these revisions in actuarial assumptions and methods was measured in the Actuarial Impact Statement for Ordinance Nos. 2017-259 and 2017-257 dated April 19, 2017.

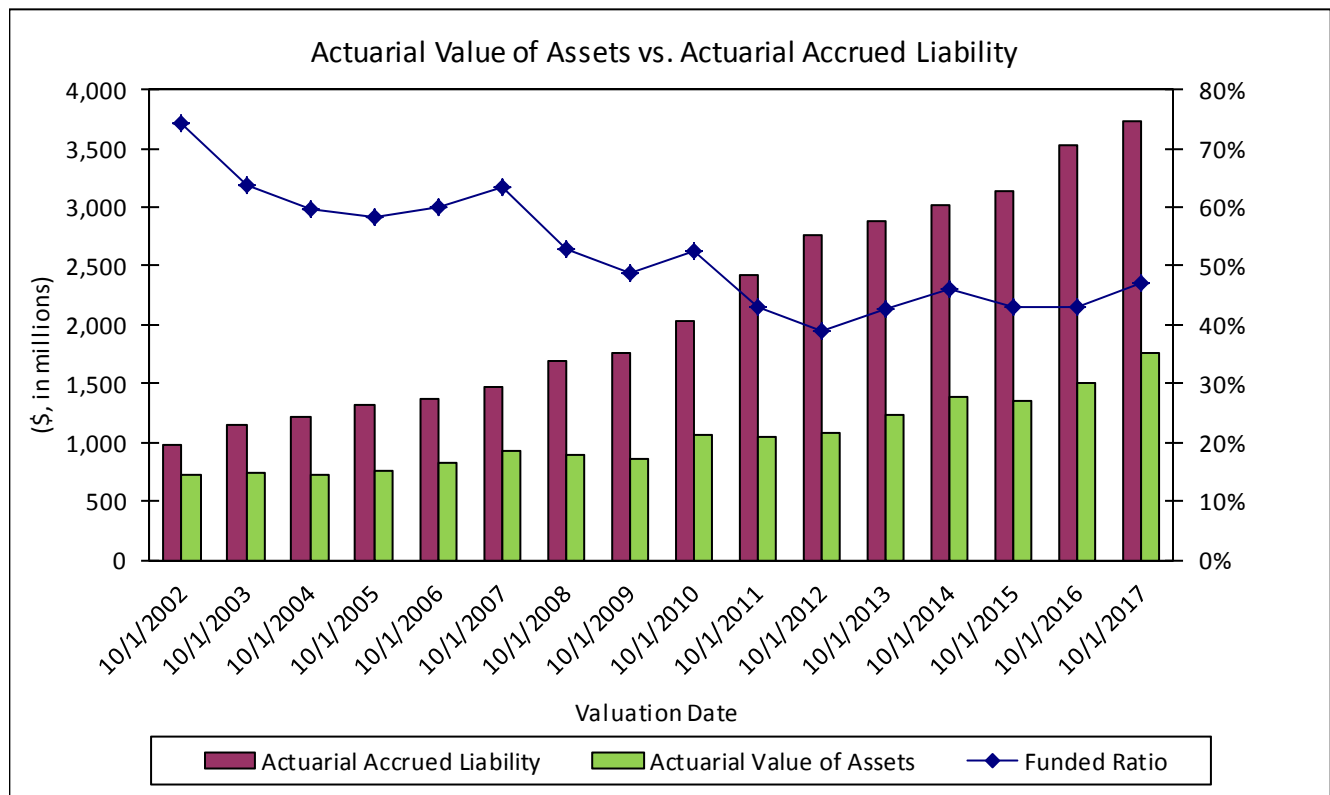
The DROP Assumption used to account for the higher DROP interest crediting rate than the assumed investment return assumption has been changed from the use of a 2.0% "load" on the Fund's DROP-related liabilities and normal costs to an explicit valuation of the liabilities and costs associated with the actual DROP interest crediting rate using procedures described in the DROP Interest Study dated September 28, 2017 and summarized on page 24 of this report. The assumption change resulted in an increase of the required Employer Contribution rate of \$5,488,029.

Actuarial Experience

There were net actuarial experience gains during the past year which means that actual experience was more favorable than expected. The gains were primarily due to favorable investment experience (the total net investment return was 14.27% compared to the assumed annual investment return of 7.0%). Gains were offset somewhat by a net overall experience loss due to salary increases which were higher than expected (12.1% actual versus 10% assumed for the year, including the 6.5% across-the-board-salary increase given on October 1, 2017) and demographic experience. Retirement experience was slightly higher than expected (110 actual versus 107 expected). Turnover experience was also higher than expected (47 actual versus 25 expected). There were also more new hires than expected (231 actual versus 163 expected), mortality experience was somewhat lower than expected, and there were data adjustments (from service purchases, rehires and changes in retiree marital status from single to married). The net actuarial experience gain resulted in a decrease of the required Employer Contribution of \$6,965,868.

Funded Ratio

This year's funded ratio is 47.24% compared to 43.02% last year (after reflecting all Actuarial Impact Statements). Before reflecting the assumption changes, the funded ratio would have been 48.11%. The funded ratio is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability. Below is a historical comparison of the total actuarial value of assets versus the total actuarial accrued liability:



Analysis of Employer Contribution

The components of change in the required contribution as a percent of payroll are as follows:

Contribution Rate Last Year	97.63 %
Experience (Gains) or Losses	(4.55)
Revision in Assumptions	3.58
Amortization Payment on UAAL	(7.03)
Normal Cost Rate	0.05
Administrative/Investment Expenses	(1.43)
Court Fines	0.11
Benefit Changes	0.00
Contribution Rate This Year	88.36 %

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

The annual pension liability surtax revenue is projected to increase 4.25% annually from calendar year 2017 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. 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.

Ordinance 2017-257 implemented 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 offsets the Fund's current UAAL by 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 delays the Fund's projected full funding date until almost the fiscal year 2060 and results in annual contributions to the Fund in fiscal years 2018 through 2030 which are significantly lower than the recommended contribution levels would be to ensure the Fund accumulates adequate assets to make all benefit payments (in the absence of the pension liability surtax). 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 is a prescribed method under Florida Statutes for setting this assumption which deviates from our recommended practice for closed pension funds. The 1.25% assumption was set based on the projected 10-year compound average payroll growth rate through 2021. 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 amortizing the UAAL. It is important to note that the average expected future service of current active members is 10.29 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 is likely to transfer costs to future taxpayers, which would deviate 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 are likely to be transferred to future taxpayers under this arrangement.

Conclusion

It is important to note that the Fund’s assets are insufficient to cover the actuarial liabilities for inactive members. As of October 1, 2017, the market value of assets, net of reserves, is approximately \$1.77 billion, and the actuarial liability for current inactive members is approximately \$2.80 billion. Given the low funded ratio and the fact that the pension liability surtax revenues will not be received until more than 13 years from now, it is advisable to consider making contributions to the Fund in excess of the minimum required contribution shown in this report.

The remainder of this Report includes detailed actuarial valuation results, information relating to the pension fund, financial accounting information, miscellaneous employee data and summaries of Plan provisions.

SECTION B

VALUATION RESULTS

PARTICIPANT DATA¹		
	October 1, 2017	October 1, 2016
ACTIVE MEMBERS		
Number	2,362	2,294
Annual Payroll	\$ 149,664,813	\$ 135,965,222
Average Annual Payroll	\$ 63,364	\$ 59,270
Average Age	39.3	39.4
Average Past Service	10.6	10.6
Average Age at Hire	28.7	28.8
RETIREES, BENEFICIARIES & DROP		
Number	2,927	2,831
Annual Benefits ²	\$ 159,922,640	\$ 151,286,417
Average Annual Benefit ²	\$ 54,637	\$ 53,439
Average Age	63.7	63.5
DISABILITY RETIREES		
Number	55	55
Annual Benefits	\$ 2,117,003	\$ 2,079,776
Average Annual Benefit	\$ 38,491	\$ 37,814
Average Age	62.8	62.3
TERMINATED VESTED MEMBERS		
Number	73	77
Annual Benefits	\$ 1,306,115	\$ 1,375,534
Average Annual Benefit	\$ 17,892	\$ 17,864
Average Age	43.7	43.4

¹Participant data is collected as of July 1.

²Not including distributions or installment payments from DROP accounts.

ACTUARIALLY DETERMINED CONTRIBUTION (ADC)			
A. Valuation Date	October 1, 2017 <i>After Assumption Changes</i>	October 1, 2017 <i>Before Assumption Changes</i>	October 1, 2016 [#]
B. ADC to Be Paid During Fiscal Year Ending	9/30/2019	9/30/2019	9/30/2018
C. Assumed Date of Employer Contributions	12/1/2018	12/1/2018	12/1/2017
D. Expected Covered Payroll for the Year Beginning on the Valuation Date	\$ 149,489,571	\$ 149,489,571	\$ 135,684,787
E. Annual Payment to Amortize Unfunded Actuarial Liability	78,162,211	73,670,824	82,574,878
F. Employer Normal Cost	54,693,160	53,825,050	50,728,791
G. ADC if Paid on the Valuation Date: E + F	132,855,371	127,495,874	133,303,669
H. Contributions from Court Fines	759,291	759,291	832,536
I. City Contribution: G - H as % of Covered Payroll	132,096,080 88.36 %	126,736,583 84.78 %	132,471,133 97.63 %
J. Actuarially Determined Contribution (ADC) in Contribution Year*	135,264,010	129,775,981	135,648,057

Reflects all Actuarial Impact Statements through April 2017.

* = City Contribution (item I.) x (1+payroll growth of 1.25%) x 1.07 ^ (2/12)

ACTUARIAL VALUE OF BENEFITS AND ASSETS

A. Valuation Date	October 1, 2017 <i>After Assumption Changes</i>	October 1, 2017 <i>Before Assumption Changes</i>	October 1, 2016 [#]
B. Actuarial Present Value of All Projected Benefits for			
1. Active Members			
a. Service Retirement Benefits	1,412,877,640	1,390,161,421	1,337,400,712
b. Vesting Benefits	31,140,875	31,140,875	28,692,561
c. Disability Benefits	26,066,781	26,066,781	24,637,615
d. Preretirement Death Benefits	16,462,838	16,462,838	15,484,059
e. Return of Member Contributions	940,386	940,386	842,757
f. Total	<u>1,487,488,520</u>	<u>1,464,772,301</u>	<u>1,407,057,704</u>
2. Inactive Members*			
a. Service Retirees	2,062,585,229	2,039,962,585	1,625,594,144
b. DROP Retirees	501,744,295	471,914,913	775,212,097 **
c. Disability Retirees	29,719,425	29,719,425	29,332,456
d. Beneficiaries	191,132,350	190,618,084	169,993,554
e. Terminated Vested Members	18,659,710	18,659,710	20,757,424
f. Total	<u>2,803,841,009</u>	<u>2,750,874,717</u>	<u>2,620,889,675</u>
3. Total for All Members	4,291,329,529	4,215,647,018	4,027,947,379
C. Actuarial Accrued (Past Service) Liability			
1. Active Members	932,768,615	918,094,062	897,362,173
2. Inactive Members	<u>2,803,841,009</u>	<u>2,750,874,717</u>	<u>2,620,889,675</u>
3. Total for All Members	3,736,609,624	3,668,968,779	3,518,251,848
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	3,477,828,321	3,415,854,868	3,282,220,030
E. Market Value of Assets			
1. Gross Market Value	1,892,797,131	1,892,797,131	1,613,043,823
2. Reserve Accounts, including Share Plan	(123,233,435)	(123,233,435)	(95,543,156)
3. Sr. Staff Plan Assets	<u>(4,404,690)</u>	<u>(4,404,690)</u>	<u>(4,102,201)</u>
4. Net Market Value	1,765,159,006	1,765,159,006	1,513,398,466
F. Net Present Value of Total Pension Liability Surtax Proceeds According to Pro Rata Share	810,535,348	810,535,348	761,265,474
G. Net Unfunded Actuarial Accrued Liability: C3 - E4 - F	1,160,915,270	1,093,274,425	1,243,587,908
H. Funded Ratio: E4 / C3	47.24%	48.11%	43.02%
I. Percent of Actuarial Accrued Liability Covered by Assets and Total Pension Liability Surtax Proceeds: (F + E4) / C3	68.93%	70.20%	64.65%
J. Liquidity Ratio			
1. DROP Balance as of Valuation Date	328,296,551	328,296,551	310,283,837
2. Net Market Value (Net of DROP): E4 - J1	1,436,862,455	1,436,862,455	1,203,114,629
3. Annual Benefit Payments in Pay Status	162,039,643	162,039,643	153,366,193
4. Ratio: J2 : J3	8.87 : 1	8.87 : 1	7.84 : 1

Reflects all Actuarial Impact Statements through April 2017.

*Inactive members liabilities include DROP Account Balances, split based on status as of October 1, 2017.

**A breakdown of the DROP Account Balance between Phase I (current DROP Retirees) and Phase II (current Service Retirees and Beneficiaries in receipt of DROP withdrawals) was not provided, so all DROP Account Balances as of October 1, 2016 are included here.

CALCULATION OF EMPLOYER NORMAL COST

A. Valuation Date	October 1, 2017 <i>After Assumption Changes</i>	October 1, 2017 <i>Before Assumption Changes</i>	October 1, 2016 [#]
B. Expected Covered Payroll for the Year Beginning on the Valuation Date	\$ 149,489,571	\$ 149,489,571	\$ 135,684,787
C. Normal Cost (Individual Entry Age) for			
1. Service Retirement Benefits	54,225,824	53,357,714	48,461,976
2. Vesting Benefits	2,739,518	2,739,518	2,462,526
3. Disability Benefits	1,724,735	1,724,735	1,559,472
4. Preretirement Death Benefits	1,285,731	1,285,731	1,167,857
5. Return of Member Contributions	<u>178,350</u>	<u>178,350</u>	<u>160,455</u>
6. Total for Future Benefits	60,154,158	59,286,048	53,812,286
7. Assumed Amount for Expenses	<u>10,175,781</u>	<u>10,175,781</u>	<u>11,180,135</u>
8. Total Normal Cost	70,329,939	69,461,829	64,992,421
D. Expected Member (including DROP) Contribution	15,636,779	15,636,779	14,263,630
E. Employer Normal Cost: C8 - D	54,693,160	53,825,050	50,728,791
F. Employer Normal Cost as a % of Covered Payroll: E / B	36.59%	36.01%	37.39%

Reflects all Actuarial Impact Statements through April 2017.

PENSION LIABILITY SURTAX ESTIMATES			
4.25% GROWTH			
Fiscal Year	Projected Total 1/2-Penny Sales Tax	Projected Pension Liability Surtax	62.5% of Revenue for Police and Fire Pension Fund
2017	\$ 86,148,000		
2018	89,809,290		
2019	93,626,185		
2020	97,605,298		
2021	101,753,523		
2022	106,078,048		
2023	110,586,365		
2024	115,286,285		
2025	120,185,952		
2026	125,293,855		
2027	130,618,844		
2028	136,170,145		
2029	141,957,376		
2030	147,990,565		
2031	154,280,163	\$ 115,710,123	\$ 72,318,827
2032	160,837,070	160,837,070	100,523,169
2033	167,672,646	167,672,646	104,795,404
2034	174,798,733	174,798,733	109,249,208
2035	182,227,680	182,227,680	113,892,300
2036	189,972,356	189,972,356	118,732,722
2037	198,046,181	198,046,181	123,778,863
2038	206,463,144	206,463,144	129,039,465
2039	215,237,827	215,237,827	134,523,642
2040	224,385,435	224,385,435	140,240,897
2041	233,921,816	233,921,816	146,201,135
2042	243,863,493	243,863,493	152,414,683
2043	254,227,692	254,227,692	158,892,307
2044	265,032,369	265,032,369	165,645,230
2045	276,296,244	276,296,244	172,685,153
2046	288,038,835	288,038,835	180,024,272
2047	300,280,485	300,280,485	187,675,303
2048	313,042,406	313,042,406	195,651,504
2049	326,346,708	326,346,708	203,966,692
2050	340,216,443	340,216,443	212,635,277
2051	354,675,642	354,675,642	221,672,276
2052	369,749,357	369,749,357	231,093,348
2053	385,463,704	385,463,704	240,914,815
2054	401,845,912	401,845,912	251,153,695
2055	418,924,363	418,924,363	261,827,727
2056	436,728,648	436,728,648	272,955,405
2057	455,289,616	455,289,616	284,556,010
2058	474,639,425	474,639,425	296,649,640
2059	494,811,600	494,811,600	309,257,250
2060	515,841,093	515,841,093	322,400,683
2061	537,764,340	134,441,085	84,025,678
Total Proceeds from 2031-2061:		\$ 9,119,028,130	\$ 5,699,392,581
Net Present Value of Proceeds as of 10/1/17:		\$ 1,296,856,556	\$ 810,535,348

LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

(Before Changes)

UAAL AMORTIZATION PERIOD AND PAYMENTS						
Original UAAL				Current UAAL*		
Date Established	Type of Amortization Base	Amortization Period (Years)	Amount	Years Remaining	Amount	Payment
10/1/2016	Fresh Start	30	\$ 1,243,587,908	29	\$ 1,195,724,302	\$ 80,473,549
10/1/2017	Experience (Gain)/Loss	30	<u>(102,449,877)</u>	30	<u>(102,449,877)</u>	<u>(6,802,725)</u>
			1,141,138,031		1,093,274,425	73,670,824

(After Assumption Changes)

UAAL AMORTIZATION PERIOD AND PAYMENTS						
Original UAAL				Current UAAL*		
Date Established	Type of Amortization Base	Amortization Period (Years)	Amount	Years Remaining	Amount	Payment
10/1/2016	Fresh Start	30	\$ 1,243,587,908	29	\$ 1,195,724,302	\$ 80,473,549
10/1/2017	Experience (Gain)/Loss	30	(102,449,877)	30	(102,449,877)	(6,802,725)
10/1/2017	Assumption Changes	30	<u>67,640,845</u>	30	<u>67,640,845</u>	<u>4,491,387</u>
			1,208,778,876		1,160,915,270	78,162,211

*Reflects an offset equal to the net present value of the total pension liability surtax proceeds based on a pro rata share of 62.5%.

Amortization Schedule

The UAAL is being amortized as a level percent of pay over the number of years remaining in each amortization period. The following schedule illustrates the expected amortization of the UAAL:

Amortization Schedule	
Year	Expected UAAL*
2017	\$ 1,160,915,270
2018	1,158,545,769
2019	1,154,964,987
2020	1,150,075,064
2021	1,143,771,127
2022	1,135,940,800
2027	1,069,364,988
2032	942,419,486
2037	728,651,161
2042	390,820,279
2047	-

*Reflects an offset equal to the net present value of the total pension liability surtax proceeds based on a pro rata share of 62.5%.

ACTUARIAL GAINS AND LOSSES

The assumptions used to anticipate mortality, employment turnover, investment income, expenses, salary increases, and other factors have been based on long range trends and expectations. Actual experience can vary from these expectations. The variance is measured by the gain and loss for the period involved. If significant long term experience reveals consistent deviation from what has been expected and that deviation is expected to continue, the assumptions should be modified. The net actuarial gain (loss) for the past year is computed as follows:

1. UAAL at 10/1/2016	\$ 1,243,587,908
2. 2016-17 Total Normal Cost (BOY)	64,992,421
3. 2016-17 Contributions	194,344,760
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	91,600,623
b. 3 from dates paid	10,111,890
c. a - b	81,488,733
5. 10/1/2017 Expected UAAL Prior to Revision: 1 + 2 - 3 + 4c	1,195,724,302
6. Change in UAAL Due to Plan Amendments and/or Changes in Actuarial Assumptions	67,640,845
7. This Year's Expected UAAL (after changes):	1,263,365,147
8. This Year's Actual UAAL (after changes):	1,160,915,270
9. Net Actuarial Gain/(Loss):	102,449,877
10. Gain/(Loss) Due to Investments (net of reserves):	118,357,975
11. Gain/(Loss) Due to Changes in Projected Pension Liability Surtax Proceeds:	(4,018,709)
12. Gain/(Loss) Due to Other Sources:	(11,889,389)

The annual experience gains/(losses) in previous years have been as follows:

Year Ending	Experience Gain / (Loss)
9/30/2013	\$ 86,047,514
9/30/2014	34,912,618
9/30/2015	(182,600,912)
9/30/2016	45,616,836
9/30/2017	102,449,877

The fund earnings and salary increase assumptions have considerable impact on the cost of the plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:

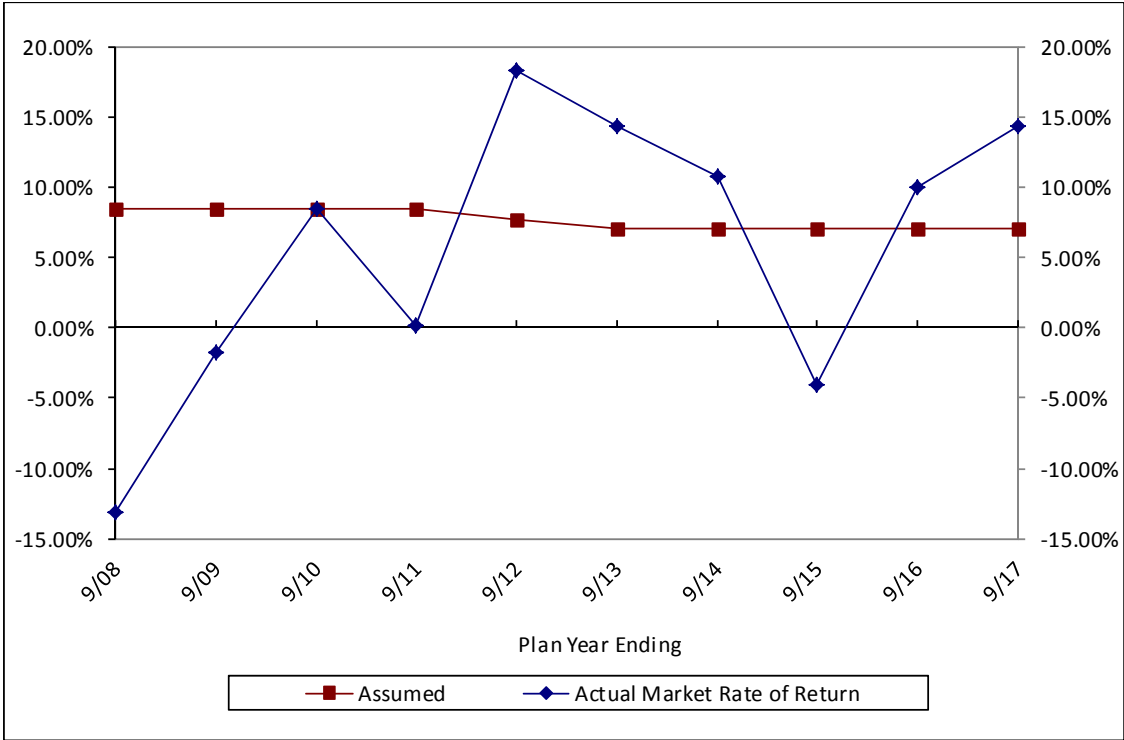
Year Ending	Investment Return	
	Actual Market Rate of Return	Assumed
9/30/2008	(13.07) %	8.50 %
9/30/2009	(1.70)	8.50
9/30/2010	8.45	8.50
9/30/2011	0.13	8.50
9/30/2012	18.25	7.75
9/30/2013	14.29	7.00
9/30/2014	10.73	7.00
9/30/2015	(4.01)	7.00
9/30/2016	10.00	7.00
9/30/2017	14.27	7.00
Average	5.30 %	7.67 %

Period Ending	Salary Increases	
	Actual*	Assumed*
9/30/2009	7.0 %	5.5 %
9/30/2010	3.0	5.5
9/30/2011	2.5	5.5
9/30/2012	0.4	5.0
9/30/2013	2.9	4.0
9/30/2014	3.0	4.0
9/30/2015	3.8	3.5
9/30/2016	2.2	3.5
9/30/2017	12.1	10.0
Average	4.1 %	5.2 %

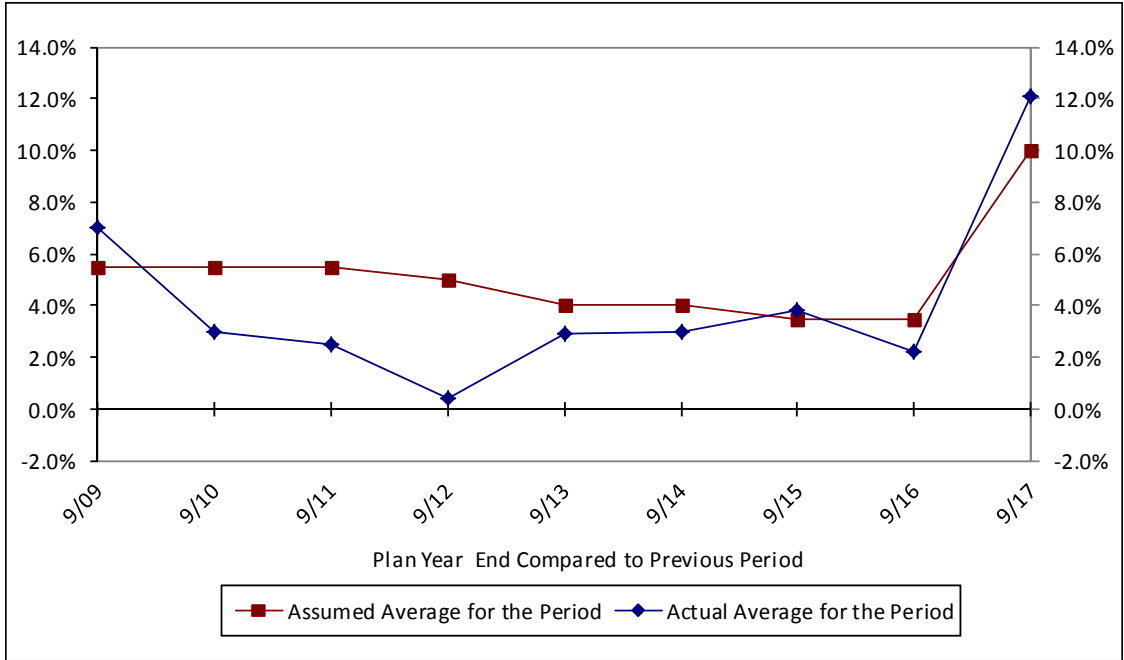
*Actual and assumed rates are based on average compound increases for the period

The actual investment return rates shown above are based on the actuarial value of assets. The actual salary increase rates shown above are the increases received by those active members who were included in the actuarial valuations both at the beginning and end of each period.

History of Investment Return Based on Market Value of Assets



History of Salary Increases



**Number Added To and Removed from Active Participation
Actual (A) Compared to Expected (E)**

Year Ended	Number Added During Year		Service & DROP Retirement		Disability Retirement		Died In Service		Terminations				Active Members End of Year
									Vested	Other	Totals		
	A	E	A	E	A	E	A	E	A	A	A	E	
9/30/2017	231	163	110	107	2	3	4	3	16	31	47	25	2,362
1-Yr Total	231	163	110	107	2	3	4	3	16	31	47	25	

RECENT HISTORY OF VALUATION RESULTS

Valuation Date	Number of		Covered Annual Payroll	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets	Funded Ratio	Unfunded AAL (UAAL)	UAAL as a % of Covered Payroll
	Active Members	Inactive Members						
10/1/2000	2,049	1,797	\$ 97,207	\$ 939,802	\$ 814,889	86.7 %	\$ 124,913	128.5 %
10/1/2001	2,037	1,883	96,199	927,625	790,823	85.3	136,802	142.2
10/1/2002	2,068	1,975	101,698	977,779	725,416	74.2	252,363	248.1
10/1/2003	2,182	1,994	109,637	1,146,459	732,526	63.9	413,933	377.6
10/1/2004	2,347	2,019	118,510	1,222,355	727,955	59.6	494,400	417.2
10/1/2005	2,450	2,046	130,392	1,314,424	765,180	58.2	549,244	421.2
10/1/2006	2,509	2,068	134,694	1,376,659	827,338	60.1	549,321	407.8
10/1/2007	2,541	2,117	143,006	1,464,508	930,454	63.5	534,054	373.4
10/1/2008	2,534	2,164	148,277	1,692,975	894,903	52.9	798,072	538.2
10/1/2009	2,583	2,278	155,558	1,753,946	855,997	48.8	897,949	577.2
10/1/2010	2,620	2,353	158,047	2,024,453	1,060,406	52.4	964,047	610.0
10/1/2011	2,451	2,481	148,968	2,427,198	1,039,894	42.8	1,387,304	931.3
10/1/2012	2,213	2,647	133,611	2,762,977	1,078,907	39.0	1,684,070	1,260.4
10/1/2013	2,150	2,725	130,972	2,876,606	1,228,131	42.7	1,648,475	1,258.6
10/1/2014	2,237	2,801	134,521	2,983,906	1,389,748	46.6	1,594,158	1,185.1
10/1/2015	2,202	2,906	132,735	3,142,228	1,354,405	43.1	1,787,823	1,346.9
10/1/2016	2,294	2,963	135,600	3,518,252	1,513,398	43.0	2,004,853	1,478.5
10/1/2017	2,362	3,055	149,490	3,736,610	1,765,159	47.2	1,971,451	1,318.8

Note: Dollar amounts are in thousands.

RECENT HISTORY OF REQUIRED AND ACTUAL CITY CONTRIBUTIONS					
Valuation Date	End of Year To Which Valuation Applies	Required Contributions		Actual Contributions*	
		Amount	% of Payroll	Amount	% of Payroll
10/1/2003	9/30/2005	\$ 35,929	27.55 %	\$ 27,176	20.84 %
10/1/2003	9/30/2006	38,230	28.38	36,124	26.82
10/1/2003	9/30/2007	39,850	27.87	44,208	30.91
10/1/2006	9/30/2008	48,807	32.92	48,364	32.62
10/1/2006	9/30/2009	50,564	32.51	50,235	32.29
10/1/2008	9/30/2010	77,182	48.83	82,197	52.01
10/1/2008	9/30/2011	77,065	51.73	75,903	50.95
10/1/2008	9/30/2012	73,729	55.18	70,599	52.84
10/1/2011	9/30/2013	99,997	76.35	122,580	93.59
10/1/2012	9/30/2014	142,433	105.88	149,159	110.88
10/1/2013	9/30/2015	153,604	115.72	153,936	115.97
10/1/2014	9/30/2016	149,499	110.70	149,499	110.70
10/1/2015	9/30/2017	167,788	119.60	167,788	119.60
10/1/2016	9/30/2018	135,648	97.63	---	---
10/1/2017	9/30/2019	135,264	88.36	---	---

Note: Dollar amounts are in thousands.

*Excess contributions from all sources are accumulated in the City Budget Stabilization Account which is drawn upon if contributions fall below the annual required contribution.

ACTUARIAL ASSUMPTIONS AND COST METHOD

Valuation Methods

Actuarial Cost Method - Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the dates of expected retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Financing of Unfunded Actuarial Accrued Liabilities - Unfunded Actuarial Accrued Liabilities were amortized as a level (principal & interest combined) percent of payroll over a prescribed period of future years. The assumed payroll growth rate is 1.25%.

Actuarial Value of Assets - Market Value as of the valuation date.

Valuation Assumptions

The actuarial assumptions used in the valuation are shown in this Section.

Economic Assumptions

The **investment return rate** assumed in the valuation is 7.00% per year, compounded annually (net after investment expenses).

The **inflation rate** assumed in this valuation was 2.50% per year.

The assumed **real rate of return** over inflation is defined to be the portion of total investment return that is more than the assumed inflation rate. Considering other economic assumptions, the 7.00% investment return rate translates to an assumed real rate of return over inflation of 4.50%.

The **assumed rate of salary increase** is 10% per year in 2017 and 2018, 10.5% in 2019, then 3.5% per year in subsequent years. (This was done to include the negotiated across-the-board salary increases of 6.5% per year in 2017 and 2018 and 7.0% in 2019.) Part of the assumption is for merit and/or seniority service increase, and 2.5% recognizes inflation. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

Demographic Assumptions

The **mortality table** is the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 90% blue collar adjustment and a 10% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates currently in use for Special Risk class members of the Florida Retirement System (FRS), as mandated by Florida House Bill 1309.

FRS Healthy Post-Retirement Mortality for Special Risk Class Members

Sample Attained Ages in 2017	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.54 %	0.23 %	33.90	38.31
55	0.67	0.32	29.26	33.29
60	0.90	0.47	24.68	28.39
65	1.31	0.74	20.28	23.65
70	2.01	1.24	16.15	19.19
75	3.26	2.09	12.43	15.11
80	5.37	3.51	9.23	11.49

This assumption is used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Pre-Retirement Mortality for Special Risk Class Members

Sample Attained Ages in 2017	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.23 %	0.15 %	34.89	38.66
55	0.39	0.24	29.77	33.51
60	0.71	0.39	24.89	28.49
65	1.23	0.70	20.33	23.67
70	2.01	1.24	16.15	19.19
75	3.26	2.09	12.43	15.11
80	5.37	3.51	9.23	11.49

This assumption is used to measure the probabilities of active members dying prior to retirement.

For disabled retirees, the mortality table was 60% of the RP-2000 Combined Mortality Table for Disabled Annuitants with ages set back 4 years for males and set forward 2 years for females, and 40% of the RP-2000 Annuitant Mortality Table with a white collar adjustment with no age setback, both with no provision being made for future mortality improvements. These are the same rates currently in use for Special Risk class members of the Florida Retirement System (FRS), as mandated by Florida House Bill 1309.

FRS Disabled Mortality for Special Risk Class Members

Sample Attained Ages in 2017	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	1.67 %	0.91 %	23.74	27.06
55	2.03	1.26	20.77	23.37
60	2.47	1.67	17.91	19.90
65	3.07	2.24	15.15	16.62
70	3.90	3.18	12.52	13.58
75	5.30	4.60	10.02	10.86
80	7.59	6.66	7.80	8.48

The **rates of retirement** used to measure the probability of eligible members retiring during the next year were as follows:

Age	Service	Service Retirement
60 & Under	20	40.0%
	21 - 29	30.0
	30	100.0
61	20 & Over	100.0

Rates of separation from active membership were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members separating from employment for reasons other than death, disability or retirement.

Sample Ages	% of Active Members Separating Within Next Year
20	3.6%
25	3.6
30	1.8
35	0.9
40	0.9
45	0.0

Rates of disability among active members are shown below.

% Becoming Disabled Within Next Year

<u>Sample Ages</u>	<u>Male/Female</u>
20	0.036%
25	0.036
30	0.036
35	0.048
40	0.060
45	0.120
50	0.264
55	0.540
60	1.080
64	0.672

Miscellaneous and Technical Assumptions

<i>Administrative & Investment Expenses</i>	Annual administrative and investment expenses are assumed to be equal to the prior year's expenses. Assumed administrative and investment expenses are added to the Normal Cost.
<i>Benefit Service</i>	Exact fractional service is used to determine the amount of benefit payable. Actual credited service as of the July 1 st prior to the valuation date is used in the valuation.
<i>Decrement Operation</i>	Disability and mortality decrements operate during retirement eligibility.
<i>Decrement Relativity</i>	Decrement rates are used without adjustment for multiple decrement table effects.
<i>Decrement Timing</i>	Decrements of all types are assumed to occur at the beginning of the year.
<i>DROP Load</i>	2% on active and DROP liabilities prior to the assumption changes. After assumption changes, explicit valuation of the liabilities and costs associated with the actual DROP interest crediting rate using procedures described in the DROP Interest Study dated September 28, 2017.
<i>DROP Participation</i>	For purposes of the explicit valuation of the DROP Load, active members who choose to retire are assumed to elect to enter the DROP (as a Phase I member) 96% of the time (versus separating from employment). Members whose DROP entry dates are less than 18 months prior to the valuation date are assumed to remain employed (as a Phase I member) for an average total active DROP participation period of 4 years and 7 months. Phase I members whose DROP entry dates are 18 or more months prior to the valuation date are assumed to remain employed (as a Phase I member) for the 5-year maximum DROP participation period. At the end of the DROP participation period, Phase I members are assumed to elect a bi-weekly distribution (as a Phase II member) 95% of the time (versus electing a lump sum) over an assumed distribution period of 30 years.
<i>Eligibility Testing</i>	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<i>Forfeitures</i>	No vested terminated refunds or disability recoveries are assumed to occur.

<i>Incidence of Contributions</i>	Member contributions are assumed to be received continuously throughout the year based upon the member contribution rate. Employer contributions are assumed to be received in full on December 1 st and are assumed to be equal to the dollar amount shown.
<i>Marriage Assumption</i>	75% of males and 75% of females are assumed to be married. Males are assumed to be three years older than their spouses for active members.
<i>Normal Form of Benefit</i>	A 75% joint and contingent life annuity is the normal form of benefit.
<i>Pension Liability Surtax</i>	62.5% of the total proceeds from the City of Jacksonville's pension liability is assumed to be allocated to the Jacksonville Police and Fire Pension Fund beginning with fiscal year 2031. Sales tax revenue is projected to increase by 4.25% annually from the year 2017. In the previous valuation, the pro rata share of the total proceeds was 63.0%. This allocation percentage is updated each year by the City based on the relative unfunded actuarial liabilities for all three of the City's pension plans.
<i>Pay Increase Timing</i>	Reported pays as of June 2017 were loaded by 6.5% to reflect the across-the-board pay increases effective October 1, 2017. These adjusted pays were assumed to be the pays for the current year beginning on the valuation date. Future pay increases are assumed to occur at the end of the year.
<i>Service Credit Accruals</i>	It is assumed that members accrue one year of service credit per year.

GLOSSARY

<i>Actuarial Accrued Liability (AAL)</i>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<i>Actuarial Assumptions</i>	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
<i>Actuarial Cost Method</i>	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.
<i>Actuarial Equivalent</i>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<i>Actuarial Present Value (APV)</i>	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
<i>Actuarial Present Value of Future Benefits (APVFB)</i>	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<i>Actuarial Valuation</i>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan.
<i>Actuarial Value of Assets</i>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution (ADC).

<i>Amortization Method</i>	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
<i>Amortization Payment</i>	That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<i>Amortization Period</i>	The period used in calculating the Amortization Payment.
<i>Actuarially Determined Contribution (ADC)</i>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB. The ADC consists of the Employer Normal Cost and Amortization Payment.
<i>Closed Amortization Period</i>	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
<i>Employer Normal Cost</i>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<i>Equivalent Single Amortization Period</i>	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
<i>Experience Gain/Loss</i>	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

<i>Funded Ratio</i>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
<i>GASB</i>	Governmental Accounting Standards Board.
<i>Normal Cost</i>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<i>Valuation Date</i>	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.

SECTION C

PENSION FUND INFORMATION

Statement of Total Plan Assets at Market Value

Item	September 30	
	2017	2016
A. Cash and Short-Term Investments (Operating Cash)	\$ 9,191,583	\$ 3,263,098
B. Receivables:		
1. Accounts Receivable	\$ 10,956,119	\$ 10,761,896
2. Interest and Dividends	1,901,011	1,782,528
3. Employer Contribution	7,112,996	5,651,397
4. Prepaid Items and Recoverable Taxes	81,675	81,753
5. Securities Lending Collateral	98,411,738	92,760,152
6. Deferred Outflows	112,110	204,810
7. Total Receivables	\$ 118,575,649	\$ 111,242,536
C. Property, Plant and Equipment		
1. Furniture and Equipment	\$ 323,991	\$ 311,510
2. Accumulated Depreciation	(311,510)	(304,760)
3. Net Total	\$ 12,481	\$ 6,750
D. Investments		
1. Cash and Cash Equivalents	\$ 12,809,251	\$ 28,252,353
2. Domestic and International Equities	1,175,935,866	1,053,394,238
3. Fixed Income Securities	369,640,812	326,147,367
4. Real Estate	311,480,475	195,943,522
5. Total Investments	\$ 1,869,866,404	\$ 1,603,737,480
E. Liabilities		
1. Accounts Payable	\$ (6,261,486)	\$ (12,161,583)
2. Other Post Employment Benefits	(79,857)	(60,348)
3. Securities Lending Collateral	(98,411,738)	(92,760,152)
4. Other Liabilities and Deferred Inflows	(95,905)	(223,958)
5. Total Liabilities	\$ (104,848,986)	\$ (105,206,041)
F. Total Market Value of Assets	\$ 1,892,797,131	\$ 1,613,043,823
G. Allocation of Investments		
1. Cash and Cash Equivalents	0.7%	1.8%
2. Domestic and International Equities	62.9%	65.7%
3. Fixed Income Securities	19.8%	20.3%
4. Real Estate	16.6%	12.2%
5. Total Investments	100.0%	100.0%

Reconciliation of Plan Assets

Item	September 30	
	2017	2016
A. Market Value of Assets at Beginning of Year	\$ 1,613,043,823	\$1,437,776,634
B. Revenues and Expenditures		
1. Contributions		
a. Member Contributions	\$ 12,036,456	\$ 11,633,724
b. Plan Member Buybacks and Pension Transfers	1,534,027	1,197,137
c. Employer Contributions	167,788,151	152,494,371 *
d. Employer Pension Transfers	6,738,047	-
e. State Contributions	10,874,768	10,680,624
f. Court Fines and Penalties	759,291	832,536
g. Supplemental Payment	10,000,000	5,000,000
h. Miscellaneous	51,404	122,888
i. Total	<u>\$ 209,782,144</u>	<u>\$ 181,961,280</u>
2. Investment Income		
a. Parking and Rental Revenue	\$ 771,181	\$ 704,536
b. Securities Lending Net Revenue	487,738	433,493
c. Investment Income and Realized Gains	90,846,001	55,618,519
d. Unrealized Gains/(Losses)	159,319,174	105,143,061
e. Investment Expenses	<u>(8,002,164)</u>	<u>(7,586,467)</u>
f. Net Investment Income	<u>\$ 243,421,930</u>	<u>\$ 154,313,142</u>
3. Benefits and Refunds		
a. Regular Monthly Benefits	\$ (139,255,840)	\$ (129,091,475)
b. Refunds	(811,383)	(384,838)
c. DROP Payments and RLA interest	<u>(31,209,926)</u>	<u>(30,249,696)</u>
d. Total	<u>\$ (171,277,149)</u>	<u>\$ (159,726,009)</u>
4. Administrative and Miscellaneous Expenses	\$ (2,173,617)	\$ (3,519,224)
C. Cumulative Effect of Change in Accounting Principle	\$ -	\$ 2,238,000
D. Market Value of Assets at End of Year	\$ 1,892,797,131	\$1,613,043,823

*A breakdown between Employer Contributions and Employer Pension Transfers was not provided, so all Employer Contributions as of September 30, 2016 are included here.

RESERVE ACCOUNT BALANCES AS OF SEPTEMBER 30, 2017

	<u>CBSA</u>	<u>EBA</u>	<u>UALPA</u>	<u>SPA</u>	<u>TOTALS</u>
Account Value, 10/1/2016	\$5,085,300	(\$62,194)	\$71,733,907	\$10,000,000	\$86,757,013
FY 2016 Chapter Funds received after 10/1/16		\$5,340,312			\$5,340,312
Annual Retiree Bonus paid December 2016		(\$1,993,155)			(\$1,993,155)
Share Plan Contribution paid January 2017		(\$3,347,157)			(\$3,347,157)
City Contribution to SPA (December 2016)				\$10,000,000	\$10,000,000
Annual Earnings (14.27%)	\$725,672	\$34,951	\$10,236,429	\$2,497,250	\$13,494,302
Transfer on 9/30/17			(\$10,000,000)	\$10,000,000	\$0
Account Value, 9/30/17	\$5,810,972	(\$27,243)	\$71,970,336	\$32,497,250	\$110,251,315

<u>Balances to be Allocated to:</u>	<u>CBSA</u>	<u>EBA</u>	<u>UALPA</u>	<u>SPA</u>	<u>TOTALS</u>
City of Jacksonville	\$5,810,972	(\$27,243)	\$43,182,202	\$19,498,350	\$68,464,281
Firefighters	\$0	\$0	\$14,394,067	\$6,499,450	\$20,893,517
Police Officers	\$0	\$0	\$14,394,067	\$6,499,450	\$20,893,517

FY 2017 Chapter Funds Received after 10/1/17 Not Being Used to Fund Pension Fund

Annual Retiree Bonus Paid December 2017	\$2,137,186
Remaining 2017 Premium Tax Distributions	<u>\$3,300,198</u>
Total FY 2017 Chapter Funds in Reserve	\$5,437,384

RECONCILIATION OF SHARE PLAN	
Account Value, 9/30/2016	\$ 3,445,831
Contributions credited to accounts	+ 3,347,157
Investment Earnings credited (14.27%)	+ 843,613 ¹
Payments from accounts	- <u>91,865</u>
Account Value, 9/30/2017	7,544,736

RECONCILIATION OF SENIOR STAFF RETIREMENT PLAN	
Account Value, 9/30/2016	\$ 4,102,201
Contributions credited to accounts	+ 0
Investment Earnings credited (14.27%)	+ 567,131 ²
Payments from accounts	- <u>264,642</u>
Account Value, 9/30/2017	4,404,690

¹ $(14.27\% * 3,445,831) + (14.27\% * 9/12 * 3,347,157) - (\text{mid-year timing interest on payments from accounts})$

² 14.27% applied to beginning-of-year account value; mid-year timing assumed on payments from accounts during the year

Period Ending	Net Investment Rate of Return	
	Total Market Value	Total Actuarial Value
9/30/2008	(13.1) %	N/A
9/30/2009	(1.7)	(1.6) %
9/30/2010	8.5	0.4
9/30/2011	0.1	(2.4)
9/30/2012	18.3	4.3
9/30/2013	14.3	14.3 *
9/30/2014	10.7	10.7
9/30/2015	(4.0)	(4.0)
9/30/2016	10.0	10.0
9/30/2017	14.3	14.3
Average Returns:		
Last 5 Years	8.8 %	8.8 %
All Years Shown Above	5.3 %	4.9 %

*Beginning 9/30/2013 the Actuarial Value of Assets is equal to the Market Value of Assets.

The above rates are based on the retirement system's financial information reported to the actuary. They may differ from figures that the investment consultant reports, in part because of differences in the handling of administrative and investment expenses, and in part because of differences in the handling of cash flows.

SECTION D

FINANCIAL ACCOUNTING INFORMATION

FASB NO. 35 INFORMATION		
A. Valuation Date	October 1, 2017	October 1, 2016 [#]
B. Actuarial Present Value of Accumulated Plan Benefits	<i>Total</i>	<i>Total</i>
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 2,785,181,299	\$ 2,600,132,251
b. Terminated Vested Members	18,659,710	20,757,424
c. Other Members	650,690,553	642,154,519
d. Total	<u>3,454,531,562</u>	<u>3,263,044,194</u>
2. Non-Vested Benefits	23,296,759	19,175,836
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	3,477,828,321	3,282,220,030
4. Accumulated Contributions of Active Members	94,995,968	93,088,510
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	3,282,220,030	2,974,801,944
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendments	0	5,847,823
b. Change in Actuarial Assumptions	61,973,453	180,711,097
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	304,911,987	280,585,175
d. Benefits Paid	<u>(171,277,149)</u>	<u>(159,726,009)</u>
e. Net Increase	195,608,291	307,418,086
3. Total Value at End of Period	3,477,828,321	3,282,220,030
D. Market Value of Assets	1,765,159,006	1,513,398,466
E. Funded Ratio Using Market Value: D / C3	50.8%	46.1%
F. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods		

Reflects all Actuarial Impact Statements through April 2017.

SUMMARY OF DISCLOSURES

GASB Statement No. 67

Actuarial Valuation Date September 30, 2017
 Pension Plan's Fiscal Year Ending Date (Asset Measurement Date & Reporting Date) September 30, 2017

Membership

Number of	
- Retirees and Beneficiaries	2,982
- Inactive, Nonretired Members	73
- Active Members	2,362
- Total	5,417
Covered Payroll	\$ 149,489,571

Net Pension Liability

Total Pension Liability	\$ 3,736,609,624
Total Plan Fiduciary Net Position	1,765,159,006
City's Net Pension Liability	\$ 1,971,450,618
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	47.24%
Net Pension Liability as a Percentage of Covered Payroll	1,318.79%

Development of the Single Discount Rate

Single Discount Rate	7.00%
Long-Term Expected Rate of Return	7.00%
Long-Term Municipal Bond Rate*	3.50%
Last year ending September 30 in the 2018 to 2117 projection period for which projected benefit payments are fully funded	2117

* Source: Fidelity General Obligation AA rate as of September 29, 2017. This is the rate for Fixed Income Market Data/Yield Curve/Data Municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index." In describing this index, Fidelity notes that the municipal curves are constructed using option adjusted analytics of a diverse population of over 10,000 tax exempt securities.

SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS

GASB Statement No. 67

Fiscal year ending September 30,	2017	2016	2015	2014	2013	2012
Total pension liability						
Service Cost	\$ 45,257,077	\$ 44,087,089	\$ 46,662,780	\$ 47,915,012	\$ 46,109,290	\$ 47,569,761
Interest on the Total Pension Liability	233,338,035	217,546,212	210,942,612	203,577,435	195,519,742	190,343,631
Benefit Changes	26,818,328	-	(28,684,960)	-	-	-
Difference between actual & expected experience	24,030,616	3,566,449	24,831,339	22,671,112	(4,675,994)	(12,512,641)
Assumption Changes	232,927,458	97,813,304	24,514,349	-	5,332,605	227,333,255
Benefit Payments	(170,465,766)	(159,726,007)	(148,628,476)	(138,179,183)	(128,655,957)	(116,955,126)
Refunds	(811,383)	-	-	-	-	-
Other	-	-	-	-	-	-
Net Change in Total Pension Liability	391,094,365	203,287,047	129,637,644	135,984,376	113,629,686	335,778,880
Total Pension Liability - Beginning	3,345,515,259	3,142,228,212	3,012,590,568	2,876,606,192	2,762,976,506	2,427,197,626
Total Pension Liability - Ending (a)	\$ 3,736,609,624	\$ 3,345,515,259	\$ 3,142,228,212	\$ 3,012,590,568	\$ 2,876,606,192	\$ 2,762,976,506
Plan Fiduciary Net Position						
Contributions - Employer (City) (Including Buyback)	\$ 184,526,198	\$ 157,494,371	\$ 154,664,523	\$ 150,520,270	\$ 121,822,333	\$ 72,642,853
Contributions - Employer (State)	10,874,768	10,680,624	10,577,853	10,110,493	9,667,185	9,275,828
Contributions - Non-Employer Contributing Entity	-	-	-	-	-	-
Contributions - Employee (Including Buyback)	13,570,483	12,830,861	12,061,321	11,583,565	10,753,501	11,610,870
Net Investment Income, including Securities Lending	243,421,930	154,313,142	(62,884,634)	147,332,798	169,202,439	181,653,432
Benefit Payments	(170,465,766)	(159,726,007)	(148,628,476)	(138,179,183)	(128,655,957)	(116,955,126)
Refunds	(811,383)	-	-	-	-	-
Administrative Expense	(2,173,617)	(3,519,224)	(2,228,452)	(2,224,248)	(2,505,985)	(2,351,598)
Court Fines	759,291	832,536	920,774	881,291	757,984	770,125
Other	51,404	122,886	327,418	141,855	1,187,289	55,383
Net Change in Plan Fiduciary Net Position	279,753,308	173,029,189	(35,189,673)	180,166,841	182,228,789	156,701,767
Cummulative Effect of Change in Accounting Principle	-	2,238,000	-	-	-	-
Plan Fiduciary Net Position - Beginning (adjusted)	1,613,043,823	1,437,776,634	1,473,097,052	1,292,930,211	1,110,737,208	954,035,541
Plan Fiduciary Net Position - Ending	\$ 1,892,797,131	\$ 1,613,043,823	\$ 1,437,907,379	\$ 1,473,097,052	\$ 1,292,965,997	\$ 1,110,737,308
less Reserve Accounts and Sr. Staff Assets	(127,638,125)	(99,645,357)	(83,502,014)	(83,349,437)	(64,834,813)	(31,830,621)
Total Plan Fiduciary Net Position - Ending (b)	\$ 1,765,159,006	\$ 1,513,398,466	\$ 1,354,405,365	\$ 1,389,747,615	\$ 1,228,131,184	\$ 1,078,906,687
City's Net Pension Liability - Ending (a) - (b)	\$ 1,971,450,618	\$ 1,832,116,793	\$ 1,787,822,847	\$ 1,622,842,953	\$ 1,648,475,008	\$ 1,684,069,819
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	47.24 %	45.24 %	43.10 %	46.13 %	42.69 %	39.05 %
Covered Employee Payroll	\$ 149,489,571	\$ 135,599,741	\$ 132,735,243	\$ 134,521,216	\$ 130,972,174	\$ 133,611,459
Net Pension Liability as a Percentage of Covered Payroll	1,318.79 %	1,351.12 %	1,346.91 %	1,206.38 %	1,258.65 %	1,260.42 %

SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY

GASB Statement No. 67

FY Ending September 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2012	\$ 2,762,976,506	\$ 1,078,906,687	\$ 1,684,069,819	39.05%	\$ 133,611,459	1,260%
2013	2,876,606,192	1,228,131,184	1,648,475,008	42.69%	130,972,174	1,259%
2014	3,012,590,568	1,389,747,615	1,622,842,953	46.13%	134,521,216	1,206%
2015	3,142,228,212	1,354,405,365	1,787,822,847	43.10%	132,735,243	1,347%
2016	3,345,515,259	1,513,398,466	1,832,116,793	45.24%	135,599,741	1,351%
2017	3,736,609,624	1,765,159,006	1,971,450,618	47.24%	149,489,571	1,319%

NOTES TO NET PENSION LIABILITY

GASB Statement No. 67

Valuation Date: September 30, 2017
Measurement Date: September 30, 2017

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.5%
Salary Increases	10% in 2017 and 2018, 10.5% in 2019, then 3.5% per year in 2020 and subsequent years, including inflation
Investment Rate of Return	7.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for postretirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 90% blue collar adjustment and a 10% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates currently in use for Special Risk Class members of the Florida Retirement System (FRS), as mandated by Florida House Bill 1309.

Other Information:

Notes See Discussion of Valuation Results in the October 1, 2017 Actuarial Valuation Report and the Actuarial Impact Statement for Ordinances Nos. 2017-257 and 2017-259, dated April 19, 2017.

SCHEDULE OF CONTRIBUTIONS

GASB Statement No. 67

FY Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess) ¹	Covered Payroll	Actual Contribution as a % of Covered Payroll
2007	\$ 39,849,713	\$ 44,207,970	\$ (4,358,257)	\$143,006,154	30.91%
2008	48,806,879	48,364,103	442,776	148,276,743	32.62%
2009	50,564,207	50,234,759	329,448	155,557,729	32.29%
2010	77,182,058	82,196,878	(5,014,820)	158,046,680	52.01%
2011	77,065,314	75,902,934	1,162,380	148,967,906	50.95%
2012	73,729,000	70,598,682	3,130,318	133,611,459	52.84%
2013	99,996,835	122,580,317	(22,583,482)	130,972,174	93.59%
2014	142,432,577	149,158,659	(6,726,082)	134,521,216	110.88%
2015	153,603,996	153,935,565	(331,569)	132,735,243	115.97%
2016	149,499,492	149,499,492 *	-	135,599,741	110.25%
2017	167,788,151	167,788,151 **	-	149,489,571	112.24%

¹Contribution deficiency (excess) was assigned to the City Budget Stabilization Account prior to fiscal year ending September 30, 2016.

*Plus \$5,000,000 Supplemental Payment

**Plus \$10,000,000 Supplemental Payment

NOTES TO SCHEDULE OF CONTRIBUTIONS

GASB Statement No. 67

Valuation Date: October 1, 2015
Notes Actuarially determined contribution rates are calculated as of October 1, which is two years prior to the end of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Payroll, Closed
Remaining Amortization Period	30 years (longest remaining period), 19 years (average single equivalent period)
Asset Valuation Method	Market Value
Inflation	2.50%
Salary Increases	3.5%, including inflation
Investment Rate of Return	7.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2014 Blue Collar, age set forward 2 years for males and 1 year for females, with MP-2014 Improvement Scale, generational, sex distinct

Other Information:

Notes See Discussion of Valuation Results in the October 1, 2015 Actuarial Valuation Report dated January 29, 2016.

SINGLE DISCOUNT RATE

GASB Statement No. 67

A single discount rate of 7.00% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.00%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between the total actuarially determined contribution rates and the member rate. Based on these assumptions, the pension 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 pension plan investments (7.00%) was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 7.00%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption

1% Decrease	Current Single Discount Rate Assumption	1% Increase
6.00%	7.00%	8.00%
\$2,520,105,892	\$1,971,450,618	\$1,529,004,044

CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, future pension liability surtax revenue (using the prescribed annual increase assumption of 4.25%, which was set by the City of Jacksonville), employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a “risk-free” rate is required, as described in the following paragraph.

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 *Single Discount Rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on the Bond Buyer 20-Bond Index of general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.00%; the municipal bond rate is 3.50%; and the resulting single discount rate is 7.00%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the **Single Discount Rate (SDR)**. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS ENDING SEPTEMBER 30 FOR 2018 TO 2067

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense		UAL	Pension Liability		Additional Contributions	Total Contributions
			Contributions		Contributions	Surtax Contributions			
	(a)	(b)	(c)		(d)	(e)	(f)	(g)=(b)+(c)+(d)+(e)+(f)	
1	149,489,571	\$ 15,463,321	\$ 49,009,030	\$	80,851,620	\$ -	\$ -	\$ 145,323,972	
2	154,637,895	15,995,868	50,858,957		81,878,893	-	-	148,733,718	
3	161,509,454	16,706,668	53,219,773		82,902,379	-	-	152,828,820	
4	158,045,868	16,348,392	52,283,964		83,938,659	-	-	152,571,015	
5	153,128,441	15,839,729	50,824,811		84,987,892	-	-	151,652,432	
6	148,266,232	15,336,778	49,299,038		86,050,241	-	-	150,686,057	
7	141,298,845	14,616,066	47,050,081		87,125,869	-	-	148,792,017	
8	131,663,889	13,619,419	43,923,384		88,214,942	-	-	145,757,745	
9	121,036,077	12,520,069	40,468,113		89,317,629	-	-	142,305,811	
10	113,050,454	11,694,030	37,904,807		90,434,099	-	-	140,032,936	
11	103,578,686	10,714,263	34,868,839		91,564,526	-	-	137,147,628	
12	95,056,620	9,832,733	32,165,619		92,709,082	-	-	134,707,435	
13	84,458,528	8,736,458	28,852,226		93,867,946	-	-	131,456,629	
14	73,189,679	7,570,799	25,319,267		95,041,295	72,318,827	-	200,250,188	
15	67,273,695	6,958,845	23,480,656		96,229,311	100,523,169	-	227,191,981	
16	62,921,860	6,508,688	22,143,060		97,432,178	104,795,404	-	230,879,329	
17	58,068,416	6,006,644	20,675,093		98,650,080	109,249,208	-	234,581,025	
18	50,850,306	5,259,997	18,520,419		99,883,206	113,892,300	-	237,555,921	
19	41,569,881	4,300,022	15,800,027		101,131,746	118,732,722	-	239,964,518	
20	32,934,376	3,406,758	13,291,042		102,395,893	123,778,863	-	242,872,556	
21	22,283,390	2,305,012	10,241,292		103,675,841	129,039,465	-	245,261,610	
22	15,209,202	1,573,252	8,251,833		104,971,789	134,523,642	-	249,320,516	
23	10,152,380	1,050,170	6,855,901		106,283,937	140,240,897	-	254,430,905	
24	7,053,091	729,577	6,043,852		107,612,486	146,201,135	-	260,587,050	
25	4,852,558	501,953	5,496,760		108,957,642	152,414,683	-	267,371,038	
26	3,232,860	334,410	5,120,306		110,319,613	158,892,307	-	274,666,636	
27	1,973,757	204,167	4,852,625		111,698,608	165,645,230	-	282,400,630	
28	1,020,351	105,546	4,678,286		113,094,840	172,685,153	-	290,563,825	
29	527,191	54,533	4,642,532		114,508,526	180,024,272	-	299,229,862	
30	67,365	6,968	4,620,177		-	187,675,303	105,379,823	297,682,271	
31	-	-	4,716,186		-	195,651,504	105,283,814	305,651,504	
32	-	-	4,834,091		-	203,966,692	105,165,909	313,966,692	
33	-	-	4,954,943		-	212,635,277	105,045,057	322,635,277	
34	-	-	5,078,816		-	221,672,276	104,921,184	331,672,276	
35	-	-	5,205,787		-	231,093,348	104,794,213	341,093,348	
36	-	-	5,335,932		-	240,914,815	104,664,068	350,914,815	
37	-	-	5,469,330		-	251,153,695	104,530,670	361,153,695	
38	-	-	5,606,063		-	261,827,727	104,393,937	371,827,727	
39	-	-	5,746,215		-	-	-	5,746,215	
40	-	-	5,889,871		-	-	-	5,889,871	
41	-	-	6,037,118		-	-	-	6,037,118	
42	-	-	6,188,046		-	-	-	6,188,046	
43	-	-	6,342,747		-	-	-	6,342,747	
44	-	-	6,501,316		-	-	-	6,501,316	
45	-	-	6,663,848		-	-	-	6,663,848	
46	-	-	6,830,445		-	-	-	6,830,445	
47	-	-	7,001,206		-	-	-	7,001,206	
48	-	-	7,176,236		-	-	-	7,176,236	
49	-	-	7,355,641		-	-	-	7,355,641	
50	-	-	7,539,532		-	-	-	7,539,532	

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS ENDING SEPTEMBER 30 FOR 2068 TO 2117

Year	Payroll for Current	Contributions from	Service Cost and	UAL	Pension Liability	Additional	Total Contributions
	Employees	Current Employees	Expense Contributions	Contributions	Surtax Contributions	Contributions	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(b)+(c)+(d)+(e)+(f)
51	-	-	7,728,021	-	-	-	7,728,021
52	-	-	7,921,222	-	-	-	7,921,222
53	-	-	8,119,252	-	-	-	8,119,252
54	-	-	8,322,233	-	-	-	8,322,233
55	-	-	8,530,288	-	-	-	8,530,288
56	-	-	8,743,546	-	-	-	8,743,546
57	-	-	8,962,135	-	-	-	8,962,135
58	-	-	9,186,189	-	-	-	9,186,189
59	-	-	9,415,844	-	-	-	9,415,844
60	-	-	9,651,240	-	-	-	9,651,240
61	-	-	9,892,521	-	-	-	9,892,521
62	-	-	10,139,834	-	-	-	10,139,834
63	-	-	10,393,331	-	-	-	10,393,331
64	-	-	10,653,164	-	-	-	10,653,164
65	-	-	10,919,493	-	-	-	10,919,493
66	-	-	11,192,480	-	-	-	11,192,480
67	-	-	11,472,292	-	-	-	11,472,292
68	-	-	11,759,099	-	-	-	11,759,099
69	-	-	12,053,077	-	-	-	12,053,077
70	-	-	12,354,404	-	-	-	12,354,404
71	-	-	12,663,264	-	-	-	12,663,264
72	-	-	12,979,845	-	-	-	12,979,845
73	-	-	13,304,341	-	-	-	13,304,341
74	-	-	13,636,950	-	-	-	13,636,950
75	-	-	13,977,873	-	-	-	13,977,873
76	-	-	14,327,320	-	-	-	14,327,320
77	-	-	14,685,503	-	-	-	14,685,503
78	-	-	15,052,641	-	-	-	15,052,641
79	-	-	15,428,956	-	-	-	15,428,956
80	-	-	15,814,680	-	-	-	15,814,680
81	-	-	16,210,047	-	-	-	16,210,047
82	-	-	16,615,298	-	-	-	16,615,298
83	-	-	17,030,680	-	-	-	17,030,680
84	-	-	17,456,448	-	-	-	17,456,448
85	-	-	17,892,859	-	-	-	17,892,859
86	-	-	18,340,181	-	-	-	18,340,181
87	-	-	18,798,685	-	-	-	18,798,685
88	-	-	19,268,652	-	-	-	19,268,652
89	-	-	19,750,369	-	-	-	19,750,369
90	-	-	20,244,128	-	-	-	20,244,128
91	-	-	20,750,231	-	-	-	20,750,231
92	-	-	21,268,986	-	-	-	21,268,986
93	-	-	21,800,711	-	-	-	21,800,711
94	-	-	22,345,729	-	-	-	22,345,729
95	-	-	22,904,373	-	-	-	22,904,373
96	-	-	23,476,982	-	-	-	23,476,982
97	-	-	24,063,906	-	-	-	24,063,906
98	-	-	24,665,503	-	-	-	24,665,503
99	-	-	25,282,141	-	-	-	25,282,141
100	-	-	25,914,194	-	-	-	25,914,194

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING SEPTEMBER 30 FOR 2018 TO 2067

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 1,765,159,006	\$ 145,323,972	\$ 178,258,557	\$ 2,248,407	\$ 122,350,553	\$ 1,852,326,566
2	1,852,326,566	148,733,718	186,354,124	2,304,617	128,289,118	1,940,690,662
3	1,940,690,662	152,828,820	197,856,856	2,362,232	134,217,740	2,027,518,134
4	2,027,518,134	152,571,015	208,702,371	2,421,288	139,911,588	2,108,877,079
5	2,108,877,079	151,652,432	216,439,544	2,481,820	145,306,803	2,186,914,950
6	2,186,914,950	150,686,057	227,236,629	2,543,866	150,362,562	2,258,183,074
7	2,258,183,074	148,792,017	236,220,280	2,607,462	154,974,862	2,323,122,210
8	2,323,122,210	145,757,745	244,186,675	2,672,649	159,139,847	2,381,160,478
9	2,381,160,478	142,305,811	255,138,412	2,739,465	162,704,625	2,428,293,037
10	2,428,293,037	140,032,936	266,212,671	2,807,952	165,542,299	2,464,847,648
11	2,464,847,648	137,147,628	279,000,510	2,878,151	167,559,424	2,487,676,037
12	2,487,676,037	134,707,435	292,711,495	2,950,105	168,599,205	2,495,321,077
13	2,495,321,077	131,456,629	310,426,016	3,023,857	168,410,444	2,481,738,278
14	2,481,738,278	200,250,188	320,167,367	3,099,454	169,488,918	2,528,210,563
15	2,528,210,563	227,191,981	335,887,971	3,176,940	173,125,411	2,589,463,044
16	2,589,463,044	230,879,329	346,518,985	3,256,364	177,171,434	2,647,738,457
17	2,647,738,457	234,581,025	361,468,566	3,337,773	180,860,894	2,698,374,036
18	2,698,374,036	237,555,921	378,100,209	3,421,218	183,932,611	2,738,341,142
19	2,738,341,142	239,964,518	385,303,658	3,506,748	186,562,384	2,776,057,637
20	2,776,057,637	242,872,556	391,510,612	3,594,417	189,086,013	2,812,911,177
21	2,812,911,177	245,261,610	398,874,680	3,684,277	191,491,489	2,847,105,320
22	2,847,105,320	249,320,516	409,362,762	3,776,384	193,660,694	2,876,947,384
23	2,876,947,384	254,430,905	421,515,759	3,870,793	195,504,068	2,901,495,805
24	2,901,495,805	260,587,050	430,158,494	3,967,563	197,133,569	2,925,090,367
25	2,925,090,367	267,371,038	442,866,201	4,066,752	198,577,951	2,944,106,402
26	2,944,106,402	274,666,636	448,851,631	4,168,421	199,950,656	2,965,703,641
27	2,965,703,641	282,400,630	452,731,919	4,272,632	201,591,476	2,992,691,195
28	2,992,691,195	290,563,825	455,846,571	4,379,448	203,650,640	3,026,679,642
29	3,026,679,642	299,229,862	456,749,933	4,488,934	206,293,162	3,070,963,799
30	3,070,963,799	297,682,271	457,237,639	4,601,157	209,319,161	3,116,126,436
31	3,116,126,436	305,651,504	455,845,005	4,716,186	212,798,711	3,174,015,461
32	3,174,015,461	313,966,692	454,041,223	4,834,091	217,195,060	3,246,301,900
33	3,246,301,900	322,635,277	450,672,095	4,954,943	222,665,147	3,335,975,285
34	3,335,975,285	331,672,276	446,462,762	5,078,816	229,393,802	3,445,499,785
35	3,445,499,785	341,093,348	443,001,601	5,205,787	237,499,400	3,575,885,145
36	3,575,885,145	350,914,815	438,437,443	5,335,932	247,116,879	3,730,143,464
37	3,730,143,464	361,153,695	433,936,354	5,469,330	258,417,545	3,910,309,019
38	3,910,309,019	371,827,727	428,972,036	5,606,063	271,562,514	4,119,121,161
39	4,119,121,161	5,746,215	423,003,417	5,746,215	273,783,761	3,969,901,505
40	3,969,901,505	5,889,871	416,514,026	5,889,871	263,561,673	3,816,949,152
41	3,816,949,152	6,037,118	408,938,931	6,037,118	253,115,652	3,661,125,873
42	3,661,125,873	6,188,046	400,327,516	6,188,046	242,504,325	3,503,302,682
43	3,503,302,682	6,342,747	390,139,900	6,342,747	231,807,237	3,344,970,019
44	3,344,970,019	6,501,316	380,721,654	6,501,316	221,048,014	3,185,296,379
45	3,185,296,379	6,663,848	369,551,622	6,663,848	210,255,198	3,025,999,955
46	3,025,999,955	6,830,445	358,751,423	6,830,445	199,476,062	2,866,724,594
47	2,866,724,594	7,001,206	346,549,320	7,001,206	188,746,638	2,708,921,911
48	2,708,921,911	7,176,236	333,107,512	7,176,236	178,162,956	2,553,977,355
49	2,553,977,355	7,355,641	320,963,551	7,355,641	167,734,687	2,400,748,491
50	2,400,748,491	7,539,532	309,097,735	7,539,532	157,416,946	2,249,067,703

Reserve Accounts and Sr. Staff Plan Assets are excluded from the Plan Net Position for the purpose of this projection.

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING SEPTEMBER 30 FOR 2068 TO 2117

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	2,249,067,703	7,728,021	296,805,146	7,728,021	147,222,255	2,099,484,812
52	2,099,484,812	7,921,222	283,693,362	7,921,222	137,202,603	1,952,994,053
53	1,952,994,053	8,119,252	269,630,440	8,119,252	127,432,128	1,810,795,741
54	1,810,795,741	8,322,233	255,757,922	8,322,233	117,955,572	1,672,993,391
55	1,672,993,391	8,530,288	240,903,718	8,530,288	108,820,512	1,540,910,185
56	1,540,910,185	8,743,546	227,009,337	8,743,546	100,052,766	1,413,953,614
57	1,413,953,614	8,962,135	213,685,860	8,962,135	91,624,241	1,291,891,995
58	1,291,891,995	9,186,189	200,600,635	9,186,189	83,530,164	1,174,821,525
59	1,174,821,525	9,415,844	187,859,703	9,415,844	75,773,622	1,062,735,444
60	1,062,735,444	9,651,240	175,238,578	9,651,240	68,361,864	955,858,730
61	955,858,730	9,892,521	162,705,631	9,892,521	61,311,729	854,464,827
62	854,464,827	10,139,834	150,257,295	10,139,834	54,642,478	758,850,010
63	758,850,010	10,393,331	137,953,018	10,393,331	48,372,807	669,269,800
64	669,269,800	10,653,164	125,917,340	10,653,164	42,516,317	585,868,776
65	585,868,776	10,919,493	114,106,092	10,919,493	37,084,647	508,847,331
66	508,847,331	11,192,480	102,705,916	11,192,480	32,085,404	438,226,819
67	438,226,819	11,472,292	91,713,820	11,472,292	27,520,184	374,033,183
68	374,033,183	11,759,099	81,182,155	11,759,099	23,389,004	316,240,031
69	316,240,031	12,053,077	71,188,997	12,053,077	19,687,328	264,738,363
70	264,738,363	12,354,404	61,813,022	12,354,404	16,404,820	219,330,161
71	219,330,161	12,663,264	53,107,144	12,663,264	13,525,798	179,748,815
72	179,748,815	12,979,845	45,123,030	12,979,845	11,029,822	145,655,607
73	145,655,607	13,304,341	37,890,776	13,304,341	8,892,145	116,656,976
74	116,656,976	13,636,950	31,430,456	13,636,950	7,084,528	92,311,048
75	92,311,048	13,977,873	25,748,054	13,977,873	5,575,833	72,138,827
76	72,138,827	14,327,320	20,823,226	14,327,320	4,333,231	55,648,833
77	55,648,833	14,685,503	16,619,360	14,685,503	3,323,579	42,353,051
78	42,353,051	15,052,641	13,080,293	15,052,641	2,514,646	31,787,405
79	31,787,405	15,428,956	10,151,447	15,428,956	1,875,827	23,511,785
80	23,511,785	15,814,680	7,759,740	15,814,680	1,378,827	17,130,873
81	17,130,873	16,210,047	5,839,576	16,210,047	998,233	12,289,529
82	12,289,529	16,615,298	4,322,091	16,615,298	711,552	8,678,990
83	8,678,990	17,030,680	3,145,610	17,030,680	499,295	6,032,675
84	6,032,675	17,456,448	2,250,737	17,456,448	344,844	4,126,782
85	4,126,782	17,892,859	1,582,736	17,892,859	234,416	2,778,462
86	2,778,462	18,340,181	1,093,761	18,340,181	156,858	1,841,559
87	1,841,559	18,798,685	742,792	18,798,685	103,351	1,202,119
88	1,202,119	19,268,652	496,225	19,268,652	67,074	772,968
89	772,968	19,750,369	326,195	19,750,369	42,884	489,657
90	489,657	20,244,128	211,169	20,244,128	27,010	305,499
91	305,499	20,750,231	134,744	20,750,231	16,749	187,503
92	187,503	21,268,986	84,637	21,268,986	10,213	113,079
93	113,079	21,800,711	52,394	21,800,711	6,113	66,798
94	66,798	22,345,729	31,976	22,345,729	3,576	38,398
95	38,398	22,904,373	19,072	22,904,373	2,032	21,358
96	21,358	23,476,982	11,073	23,476,982	1,114	11,399
97	11,399	24,063,906	6,150	24,063,906	586	5,836
98	5,836	24,665,503	3,306	24,665,503	295	2,824
99	2,824	25,282,141	1,699	25,282,141	139	1,265
100	1,265	25,914,194	1,265	25,914,194	45	45

Reserve Accounts and Sr. Staff Plan Assets are excluded from the Plan Net Position for the purpose of this projection.

SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS ENDING SEPTEMBER 30 FOR 2018 TO 2067

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a /(a)-.5	(g)=(e)*vf ^a /(a)-.5	(h)=((c)/(1+sdr) ^a)-.5
1	\$ 1,765,159,006	\$ 178,258,557	\$ 178,258,557	\$ -	\$ 172,329,051	\$ -	\$ 172,329,051
2	1,852,326,566	186,354,124	186,354,124	-	168,369,469	-	168,369,469
3	1,940,690,662	197,856,856	197,856,856	-	167,067,379	-	167,067,379
4	2,027,518,134	208,702,371	208,702,371	-	164,696,421	-	164,696,421
5	2,108,877,079	216,439,544	216,439,544	-	159,628,198	-	159,628,198
6	2,186,914,950	227,236,629	227,236,629	-	156,627,336	-	156,627,336
7	2,258,183,074	236,220,280	236,220,280	-	152,167,752	-	152,167,752
8	2,323,122,210	244,186,675	244,186,675	-	147,008,900	-	147,008,900
9	2,381,160,478	255,138,412	255,138,412	-	143,553,484	-	143,553,484
10	2,428,293,037	266,212,671	266,212,671	-	139,985,430	-	139,985,430
11	2,464,847,648	279,000,510	279,000,510	-	137,111,958	-	137,111,958
12	2,487,676,037	292,711,495	292,711,495	-	134,439,328	-	134,439,328
13	2,495,321,077	310,426,016	310,426,016	-	133,248,058	-	133,248,058
14	2,481,738,278	320,167,367	320,167,367	-	128,438,749	-	128,438,749
15	2,528,210,563	335,887,971	335,887,971	-	125,930,137	-	125,930,137
16	2,589,463,044	346,518,985	346,518,985	-	121,416,715	-	121,416,715
17	2,647,738,457	361,468,566	361,468,566	-	118,369,062	-	118,369,062
18	2,698,374,036	378,100,209	378,100,209	-	115,715,306	-	115,715,306
19	2,738,341,142	385,303,658	385,303,658	-	110,205,494	-	110,205,494
20	2,776,057,637	391,510,612	391,510,612	-	104,654,974	-	104,654,974
21	2,812,911,177	398,874,680	398,874,680	-	99,648,101	-	99,648,101
22	2,847,105,320	409,362,762	409,362,762	-	95,577,819	-	95,577,819
23	2,876,947,384	421,515,759	421,515,759	-	91,976,911	-	91,976,911
24	2,901,495,805	430,158,494	430,158,494	-	87,722,243	-	87,722,243
25	2,925,090,367	442,866,201	442,866,201	-	84,405,352	-	84,405,352
26	2,944,106,402	448,851,631	448,851,631	-	79,949,633	-	79,949,633
27	2,965,703,641	452,731,919	452,731,919	-	75,365,226	-	75,365,226
28	2,992,691,195	455,846,571	455,846,571	-	70,919,360	-	70,919,360
29	3,026,679,642	456,749,933	456,749,933	-	66,411,124	-	66,411,124
30	3,070,963,799	457,237,639	457,237,639	-	62,132,744	-	62,132,744
31	3,116,126,436	455,845,005	455,845,005	-	57,891,124	-	57,891,124
32	3,174,015,461	454,041,223	454,041,223	-	53,889,765	-	53,889,765
33	3,246,301,900	450,672,095	450,672,095	-	49,990,548	-	49,990,548
34	3,335,975,285	446,462,762	446,462,762	-	46,283,766	-	46,283,766
35	3,445,499,785	443,001,601	443,001,601	-	42,920,519	-	42,920,519
36	3,575,885,145	438,437,443	438,437,443	-	39,699,362	-	39,699,362
37	3,730,143,464	433,936,354	433,936,354	-	36,721,309	-	36,721,309
38	3,910,309,019	428,972,036	428,972,036	-	33,926,364	-	33,926,364
39	4,119,121,161	423,003,417	423,003,417	-	31,265,720	-	31,265,720
40	3,969,901,505	416,514,026	416,514,026	-	28,772,024	-	28,772,024
41	3,816,949,152	408,938,931	408,938,931	-	26,400,701	-	26,400,701
42	3,661,125,873	400,327,516	400,327,516	-	24,153,978	-	24,153,978
43	3,503,302,682	390,139,900	390,139,900	-	21,999,348	-	21,999,348
44	3,344,970,019	380,721,654	380,721,654	-	20,063,803	-	20,063,803
45	3,185,296,379	369,551,622	369,551,622	-	18,201,074	-	18,201,074
46	3,025,999,955	358,751,423	358,751,423	-	16,513,219	-	16,513,219
47	2,866,724,594	346,549,320	346,549,320	-	14,908,000	-	14,908,000
48	2,708,921,911	333,107,512	333,107,512	-	13,392,294	-	13,392,294
49	2,553,977,355	320,963,551	320,963,551	-	12,059,866	-	12,059,866
50	2,400,748,491	309,097,735	309,097,735	-	10,854,225	-	10,854,225

Reserve Accounts and Sr. Staff Plan Assets are excluded from the Plan Net Position for the purpose of this projection.



SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS ENDING SEPTEMBER 30 FOR 2068 TO 2117

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/(1+sdr) ^a ((a)-.5)
51	\$ 2,249,067,703	\$ 296,805,146	\$ 296,805,146	\$ -	\$ 9,740,711	\$ -	\$ 9,740,711
52	2,099,484,812	283,693,362	283,693,362	-	8,701,310	-	8,701,310
53	1,952,994,053	269,630,440	269,630,440	-	7,728,952	-	7,728,952
54	1,810,795,741	255,757,922	255,757,922	-	6,851,679	-	6,851,679
55	1,672,993,391	240,903,718	240,903,718	-	6,031,532	-	6,031,532
56	1,540,910,185	227,009,337	227,009,337	-	5,311,829	-	5,311,829
57	1,413,953,614	213,685,860	213,685,860	-	4,672,963	-	4,672,963
58	1,291,891,995	200,600,635	200,600,635	-	4,099,823	-	4,099,823
59	1,174,821,525	187,859,703	187,859,703	-	3,588,250	-	3,588,250
60	1,062,735,444	175,238,578	175,238,578	-	3,128,203	-	3,128,203
61	955,858,730	162,705,631	162,705,631	-	2,714,464	-	2,714,464
62	854,464,827	150,257,295	150,257,295	-	2,342,789	-	2,342,789
63	758,850,010	137,953,018	137,953,018	-	2,010,227	-	2,010,227
64	669,269,800	125,917,340	125,917,340	-	1,714,809	-	1,714,809
65	585,868,776	114,106,092	114,106,092	-	1,452,296	-	1,452,296
66	508,847,331	102,705,916	102,705,916	-	1,221,682	-	1,221,682
67	438,226,819	91,713,820	91,713,820	-	1,019,562	-	1,019,562
68	374,033,183	81,182,155	81,182,155	-	843,443	-	843,443
69	316,240,031	71,188,997	71,188,997	-	691,232	-	691,232
70	264,738,363	61,813,022	61,813,022	-	560,928	-	560,928
71	219,330,161	53,107,144	53,107,144	-	450,398	-	450,398
72	179,748,815	45,123,030	45,123,030	-	357,650	-	357,650
73	145,655,607	37,890,776	37,890,776	-	280,679	-	280,679
74	116,656,976	31,430,456	31,430,456	-	217,592	-	217,592
75	92,311,048	25,748,054	25,748,054	-	166,592	-	166,592
76	72,138,827	20,823,226	20,823,226	-	125,914	-	125,914
77	55,648,833	16,619,360	16,619,360	-	93,919	-	93,919
78	42,353,051	13,080,293	13,080,293	-	69,084	-	69,084
79	31,787,405	10,151,447	10,151,447	-	50,107	-	50,107
80	23,511,785	7,759,740	7,759,740	-	35,796	-	35,796
81	17,130,873	5,839,576	5,839,576	-	25,176	-	25,176
82	12,289,529	4,322,091	4,322,091	-	17,415	-	17,415
83	8,678,990	3,145,610	3,145,610	-	11,845	-	11,845
84	6,032,675	2,250,737	2,250,737	-	7,921	-	7,921
85	4,126,782	1,582,736	1,582,736	-	5,206	-	5,206
86	2,778,462	1,093,761	1,093,761	-	3,362	-	3,362
87	1,841,559	742,792	742,792	-	2,134	-	2,134
88	1,202,119	496,225	496,225	-	1,332	-	1,332
89	772,968	326,195	326,195	-	818	-	818
90	489,657	211,169	211,169	-	495	-	495
91	305,499	134,744	134,744	-	295	-	295
92	187,503	84,637	84,637	-	173	-	173
93	113,079	52,394	52,394	-	100	-	100
94	66,798	31,976	31,976	-	57	-	57
95	38,398	19,072	19,072	-	32	-	32
96	21,358	11,073	11,073	-	17	-	17
97	11,399	6,150	6,150	-	9	-	9
98	5,836	3,306	3,306	-	5	-	5
99	2,824	1,699	1,699	-	2	-	2
100	1,265	1,265	1,265	-	1	-	1
Totals	\$ 4,291,329,529	\$ -	\$ 4,291,329,529		\$ -	\$ -	\$ 4,291,329,529

Reserve Accounts and Sr. Staff Plan Assets are excluded from the Plan Net Position for the purpose of this projection.

SECTION E

MISCELLANEOUS INFORMATION

RECONCILIATION OF TOTAL MEMBERSHIP DATA		
	From 10/1/16 To 10/1/17	From 10/1/15 To 10/1/16
A. Active Members		
1. Number Included in Last Valuation	2,294	2,202
2. New Members Included in Current Valuation	229	225
3. Non-Vested Employment Terminations	(31)	(30)
4. Vested Employment Terminations	(16)	(10)
5. DROP Retirement	(102)	(83)
6. Service Retirements	(8)	(4)
7. Disability Retirements	(2)	(3)
8. Deaths	(4)	(1)
9. Other - Data Corrections	2	(2)
10. Number Included in This Valuation	<u>2,362</u>	<u>2,294</u>
B. Terminated Vested Members		
1. Number Included in Last Valuation	77	71
2. Additions from Active Members	16	10
3. Lump Sum Payments/Refund of Contributions	(5)	0
4. Payments Commenced	(14)	(5)
5. Deaths	0	(1)
6. Rehire	(1)	(1)
7. Other - Data Corrections	0	3
8. Number Included in This Valuation	<u>73</u>	<u>77</u>
C. DROP Retirees, Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	2,886	2,835
2. Additions from Active Members	112	90
3. Additions from Terminated Vested Members	14	5
4. Deaths	(60)	(49)
5. Additions from New Survivor Benefits	34	18
6. End of Certain Period - No Further Payments	(2)	(7)
7. Other - Data Corrections	(2)	(6)
8. Number Included in This Valuation	<u>2,982</u>	<u>2,886</u>

ACTIVE MEMBERS AS OF OCTOBER 1, 2017

Age Group	Years of Service to Valuation Date									Earnings	
	0-1	1-4	5-9	10-14	15-19	20-24	25-29	30+	Total	Total	Average
< 25	28	48	1	-	-	-	-	-	77	\$ 3,154,664	\$ 40,970
25-29	46	207	32	-	-	-	-	-	285	13,525,559	47,458
30-34	40	161	145	76	-	-	-	-	422	23,646,307	56,034
35-39	19	85	94	241	38	1	-	-	478	30,655,558	64,133
40-44	8	35	53	178	143	38	-	-	455	31,474,121	69,174
45-49	3	15	26	108	122	102	14	-	390	29,048,475	74,483
50-54	-	1	20	62	57	48	7	-	195	13,985,488	71,720
55-59	-	1	5	15	14	14	1	-	50	3,460,363	69,207
60-64	-	-	1	2	5	-	2	-	10	714,278	71,428
65-69	-	-	-	-	-	-	-	-	-	-	-
70+	-	-	-	-	-	-	-	-	-	-	-
Total	144	553	377	682	379	203	24	-	2,362	149,664,813	63,364

Average Age: 39.3 Average Service: 10.6

INACTIVE MEMBERS AS OF OCTOBER 1, 2017

Age	<u>Terminated Vested</u>		<u>Disabled</u>		<u>Retired</u>		<u>DROP</u>		<u>Beneficiaries</u>		<u>Grand Total</u>	
	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits
Under 25	0	0	0	0	0	0	0	0	22	69,659	22	69,659
25 - 29	0	0	0	0	0	0	0	0	1	16,641	1	16,641
30 - 34	6	70,501	0	0	0	0	0	0	1	35,338	7	105,839
35 - 39	20	311,913	0	0	0	0	0	0	3	52,572	23	364,485
40 - 44	16	308,891	1	33,153	6	195,777	27	1,187,959	5	164,118	55	1,889,898
45 - 49	18	359,622	4	177,064	135	6,248,941	182	9,065,232	7	233,880	346	16,084,740
50 - 54	9	191,101	12	492,527	279	15,009,658	149	7,720,426	14	560,554	463	23,974,266
55 - 59	4	64,087	7	296,763	298	17,571,870	60	3,055,117	21	792,036	390	21,779,874
60 - 64	0	0	10	416,410	322	20,599,110	15	685,453	38	1,690,242	385	23,391,215
65 - 69	0	0	9	356,379	362	23,323,974	3	128,117	56	2,303,001	430	26,111,472
70 - 74	0	0	2	63,201	307	20,085,219	0	0	76	3,211,319	385	23,359,740
75 - 79	0	0	6	151,098	161	10,299,144	0	0	67	2,419,890	234	12,870,132
80 - 84	0	0	2	47,602	98	5,986,780	0	0	59	1,941,840	159	7,976,222
85 - 89	0	0	1	30,667	49	2,419,091	0	0	52	1,479,843	102	3,929,601
90 - 94	0	0	1	52,140	13	474,664	0	0	31	783,358	45	1,310,161
95 - 99	0	0	0	0	0	0	0	0	6	77,720	6	77,720
100 & Over	0	0	0	0	1	14,870	0	0	1	19,224	2	34,094
Total	73	1,306,115	55	2,117,003	2,031	122,229,100	436	21,842,304	460	15,851,236	3,055	163,345,758
Average Age:		43.7		62.8		64.7		51.0		71.2		63.2
Avg. Annual Benefit:		17,892		38,491		60,182		50,097		34,459		53,468

SECTION F

SUMMARY OF PLAN PROVISIONS

SUMMARY OF PLAN PROVISIONS

POLICE AND FIREFIGHTERS PENSION FUND

A. Ordinances

The Plan was established under the Code of Ordinances for the City of Jacksonville, Florida, Title V, Chapter 121. The Plan is also governed by certain provisions of Chapter 175, Florida Statutes, Chapter 185, Florida Statutes, Part VII, Chapter 112, Florida Statutes and the Internal Revenue Code.

B. Effective Date

Not Available.

C. Plan Year

October 1 through September 30

D. Type of Plan

Qualified, governmental defined benefit retirement plan; for GASB purposes it is a single employer plan.

E. Eligibility Requirements

Any police officer or firefighter employed by the City on a regular full-time basis in an approved budgeted position. The plan is closed to new entrants effective October 1, 2017.

F. Credited Service

Credited Service is measured as the total number of months and fractional parts thereof of full-time employment with the City during which time prescribed employee contributions are made. Members may purchase up to 5 years of service as a Florida State Certified Police Officer or Firefighter with another public employer and up to 2 years of wartime military service. No service is credited for any periods of employment for which the member received a refund of their contributions.

G. Compensation

Amounts actually paid to participants, including base salary, longevity, City college incentive, enhanced certification pay, emergency operation and hazardous duty pay; shift differential, and "upgrade" pay; and excluding all overtime, state incentive pay, reimbursed expenses and allowances such as cleaning/clothes allowances, and payments for unused accrued time.

H. Average Final Compensation (AFC)

The average of Compensation shall be the final two years of Credited Service immediately preceding the time of retirement.

I. Time Service Retirement

Eligibility: A member may retire on the first day of the month coincident with attainment of 20 years of Credited Service.

Benefit: Average final compensation multiplied by:
(1) 3.0% for each year of Credited Service for the first 20 years of service, plus
(2) 2.0% for each year of Credited Service for years in excess of 20 years of service.

The maximum benefit is 80% of AFC.

Normal Form of Benefit: 75% Joint and Survivor option.

Health Care Supplement: Monthly benefit of \$5.00 multiplied by years of Credited Service (not in excess of 30).

COLA: Each retiree will receive a 3.0% increase in benefits beginning with the first bi-weekly pay period in the first January after commencement of benefit and in each subsequent first bi-weekly pay period in January.

J. Delayed Retirement

Same as Time Service Retirement taking into account compensation earned and service credited until the date of actual retirement.

K. Disability Retirement

Eligibility: Any member who becomes totally and permanently disabled as a result of an act occurring in the performance of service for the City is immediately eligible for a disability benefit.

Benefit: The greater of:
(1) the member's accrued benefit to date of disability
(2) 60% of AFC in effect on the date of disability

Normal Form of Benefit: 75% Joint and Survivor option.

Health Care

Supplement: Monthly benefit of \$5.00 multiplied by years of actual years of Credited Service (not in excess of 30).

COLA: Each disabled retiree will receive a 3.0% increase in benefits beginning with the first bi-weekly pay period in the first January after commencement of benefit and in each subsequent first bi-weekly pay period in January.

L. Pre-Retirement Death

Eligibility: Any member who is killed or dies from effects of an injury or of any illness or disease is eligible for survivor benefits regardless of Credited Service.

Benefit: If the member has a legal spouse, the pension benefit is the greater of:
(1) 75% of the member's accrued benefit to date of death
(2) 45% of AFC (i.e. 75% of the member's minimum projected time service retirement benefit) in effect on the date of death

If the member had children, an additional \$200/month per child (total 75% of normal benefit if orphan) until (i) child reaches age 18 years, whether or not the child is a qualified student, or (ii) child reaches age 22, provided the child is a qualified student, or (iii) each child becomes married, provided that the total of the surviving spouse and children's benefits do not exceed the total of the deceased member's projected benefit.

If the member does not have a surviving spouse or children, a refund of the member's contributions to the Plan without interest shall be payable to the estate of the Member.

Normal Form

of Benefit: Payable for the life of the beneficiary.

Health Care

Supplement: Monthly benefit of \$5.00 multiplied by years of actual years of Credited Service (not in excess of 30).

COLA: Each beneficiary will receive a 3.0% increase in benefits beginning with the first bi-weekly pay period in the first January after commencement of benefit and in each subsequent first bi-weekly pay period in January.

M. Vested Termination

Eligibility: A member has earned a non-forfeitable right to Plan benefits after the completion of 5 years of Credited Service. Optionally, vested members may elect a refund in lieu of the vested benefits otherwise due.

Benefit: The benefit is the member’s accrued Time Service Retirement Benefit. The benefit begins on the date that would have been the member’s Time Service Retirement date based on years of Credited Service at the termination date.

Normal Form
of Benefit: 75% Joint and Survivor option.

Health Care
Supplement: Same as Time Service Retirement.

COLA: Same as Time Service Retirement.

N. Refunds

Members terminating employment with less than 5 years of Credited Service will receive a refund of the member’s contributions without interest.

S. Member Contributions

10% of Compensation; 2% of Compensation for members in the DROP.

T. Employer Contributions

Any additional amount determined by the actuary needed to fund the plan properly according to State laws.

U. Cost of Living Increases

Each retiree and beneficiary will receive a 3.0% increase in benefits on each first bi-weekly pay period in January.

V. Deferred Retirement Option Plan

Eligibility: Same as Time Service Retirement.

Benefit: The member’s Credited Service and AFC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and AFC.

Maximum

DROP Period: The following time limits will apply for eligibility to elect to participate in the DROP:

Years of Credited Service at Time of Election:	Maximum Pay Periods of Participation:	Maximum Months of Participation:
20 but less than 30 years	130 biweekly	60
30 but less than 31 years	78 biweekly	36
31 but less than 32 years	52 biweekly	24

Interest

Credited: An annual rate of return of 8.40%.

Normal Form

of Benefit: Lump Sum, Direct Rollover, Partial Lump Sum with a Direct Rollover, or Monthly Distribution of the remaining balance.

COLA: Same as Normal Retirement.

W. Other Ancillary Benefits

There are no ancillary retirement type benefits not required by statutes but which might be deemed a City of Jacksonville Police and Fire Pension Fund liability if continued beyond the availability of funding by the current funding source.

X. Changes from Previous Valuation

The following plan changes occurred as a result of Ordinance Nos. 2017-259 and 2017-257:

- 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 (from 8% of pay for Group I members and 10% of pay for Group II members) effective October 1, 2017.
- 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.

Group I benefits that were changed as a result of Ordinance 2015-304-E included the below:

- 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.
- 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.
- 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%.

Benefits that were specifically applicable to Group II are eliminated, and language differentiating separate groups was removed. In particular, Group II benefits included the below:

- 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%.

The first year impact of the above plan changes were reflected in the Actuarial Impact Statement for Ordinances Nos. 2017-259 and 2017-257, dated April 19, 2017.