

Jacksonville Police and Fire Pension Fund

ACTUARIAL VALUATION REPORT AS OF
OCTOBER 1, 2017

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





January 25, 2018

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

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

Dear Trustees:

The results of the October 1, 2017 Annual Actuarial Valuation of the Jacksonville Police and Fire Pension Fund are presented in this report.

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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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	\$ 130,527,718 89.86 %	\$ 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. It is our understanding that the City intends to use \$20 million per year in each of the next 3 years from the total of \$68.46 million in reserves that are available for use by the City as of October 1, 2017.

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 total 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.

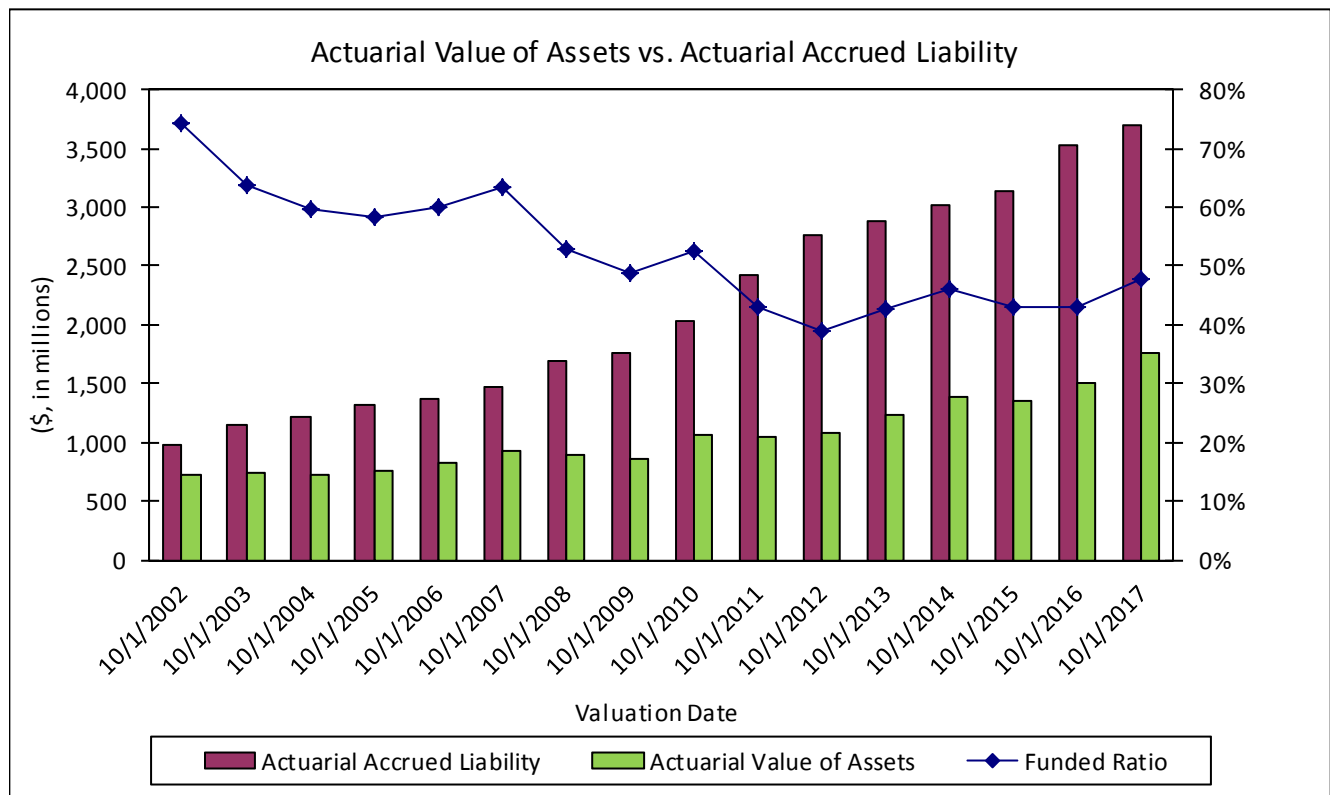
The DROP Assumption used to account for the higher DROP interest crediting rate than the assumed investment return assumption has been changed from the use of a 2.0% "load" on the Fund's DROP-related liabilities and normal costs to an explicit valuation of the liabilities and costs associated with the 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 \$5,371,782.

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%) and salary increases which were less than expected (6.3% actual versus 10% assumed for the year, including the 6.5% across-the-board salary increase given on October 1, 2017). Gains were offset somewhat by a net overall experience loss due to 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 resulted in a decrease of the required Employer Contribution of \$9,900,401.

Funded Ratio

This year's funded ratio is 47.60% compared to 43.02% last year (after reflecting all Actuarial Impact Statements). Before reflecting the assumption changes, the funded ratio would have been 48.48%. 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	(6.82)
Revision in Assumptions	3.70
Amortization Payment on UAAL	(3.77)
Normal Cost Rate	0.07
Administrative/Investment Expenses	(1.03)
Court Fines	0.08
Benefit Changes	0.00
Contribution Rate This Year	89.86 %

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 \$1.76 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	\$ 142,021,368	\$ 135,965,222
Average Annual Payroll	\$ 60,128	\$ 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	\$ 141,855,711	\$ 141,855,711	\$ 135,684,787
E. Annual Payment to Amortize Unfunded Actuarial Liability	75,747,475	71,313,863	82,574,878
F. Employer Normal Cost	52,482,530	51,670,169	50,728,791
G. ADC if Paid on the Valuation Date: E + F	128,230,005	122,984,032	133,303,669
H. Contributions from Court Fines	759,291	759,291	832,536
I. City Contribution: G - H as % of Covered Payroll	127,470,714 89.86 %	122,224,741 86.16 %	132,471,133 97.63 %
J. Actuarially Determined Contribution (ADC) in Contribution Year*	130,527,718	125,155,936	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	1,343,103,347	1,321,799,861	1,337,400,712
b. Vesting Benefits	29,419,051	29,419,051	28,692,561
c. Disability Benefits	24,777,799	24,777,799	24,637,615
d. Preretirement Death Benefits	15,623,487	15,623,487	15,484,059
e. Return of Member Contributions	916,204	916,204	842,757
f. Total	<u>1,413,839,888</u>	<u>1,392,536,402</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
c. Beneficiaries	191,132,350	190,618,084	169,993,554
d. 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	4,217,680,897	4,143,411,119	4,027,947,379
C. Actuarial Accrued (Past Service) Liability			
1. Active Members	888,853,722	875,049,262	897,362,173
2. Inactive Members	2,803,841,009	2,750,874,717	2,620,889,675
3. Total for All Members	<u>3,692,694,731</u>	<u>3,625,923,979</u>	<u>3,518,251,848</u>
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	3,447,301,947	3,385,901,156	3,282,220,030
E. Market Value of Assets			
1. Gross Market Value	1,885,351,002	1,885,351,002	1,613,043,823
2. Reserve Accounts, including Share Plan	(123,233,435)	(123,233,435)	(95,543,156)
3. Sr. Staff Plan Assets	(4,404,690)	(4,404,690)	(4,102,201)
4. Net Market Value	<u>1,757,712,877</u>	<u>1,757,712,877</u>	<u>1,513,398,466</u>
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	1,124,446,506	1,057,675,754	1,243,587,908
H. Funded Ratio: E4 / C3	47.60%	48.48%	43.02%
I. Percent of Actuarial Accrued Liability Covered by Assets and Total Pension Liability Surtax Proceeds: (F + E4) / C3	69.55%	70.83%	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	1,429,416,326	1,429,416,326	1,203,114,629
3. Annual Benefit Payments in Pay Status	162,039,643	162,039,643	153,366,193
4. Ratio: J2 : J3	8.82 : 1	8.82 : 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	\$ 141,855,711	\$ 141,855,711	\$ 135,684,787
C. Normal Cost (Individual Entry Age) for			
1. Service Retirement Benefits	51,465,801	50,653,440	48,461,976
2. Vesting Benefits	2,600,224	2,600,224	2,462,526
3. Disability Benefits	1,640,818	1,640,818	1,559,472
4. Preretirement Death Benefits	1,222,227	1,222,227	1,167,857
5. Return of Member Contributions	<u>177,098</u>	<u>177,098</u>	<u>160,455</u>
6. Total for Future Benefits	57,106,168	56,293,807	53,812,286
7. Assumed Amount for Expenses	<u>10,228,540</u>	<u>10,228,540</u>	<u>11,180,135</u>
8. Total Normal Cost	67,334,708	66,522,347	64,992,421
D. Expected Member (including DROP) Contribution	14,852,178	14,852,178	14,263,630
E. Employer Normal Cost: C8 - D	52,482,530	51,670,169	50,728,791
F. Employer Normal Cost as a % of Covered Payroll: E / B	37.00%	36.42%	37.39%

Reflects all Actuarial Impact Statements through April 2017.

**PENSION LIABILITY SURTAX ESTIMATES
4.25% GROWTH**

<u>Fiscal Year</u>	<u>Projected Total 1/2-Penny Sales Tax</u>	<u>Projected Pension Liability Surtax</u>	<u>62.5% of Revenue for Police and Fire Pension Fund</u>
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	\$ 1,203,285,015	\$ 80,982,393
10/1/2017	Experience (Gain)/Loss	30	<u>(145,609,261)</u>	30	<u>(145,609,261)</u>	<u>(9,668,530)</u>
			1,097,978,647		1,057,675,754	71,313,863

(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	\$ 1,203,285,015	\$ 80,982,393
10/1/2017	Experience (Gain)/Loss	30	(145,609,261)	30	(145,609,261)	(9,668,530)
10/1/2017	Assumption Changes	30	<u>66,770,752</u>	30	<u>66,770,752</u>	<u>4,433,612</u>
			1,164,749,399		1,124,446,506	75,747,475

*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	\$ 1,124,446,506
2018	1,122,107,954
2019	1,118,592,590
2020	1,113,805,365
2021	1,107,644,425
2022	1,100,000,626
2027	1,035,140,831
2032	911,639,223
2037	703,804,689
2042	375,470,528
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	187,039,723
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	91,600,623
b. 3 from dates paid	9,856,214
c. a - b	81,744,409
5. 10/1/2017 Expected UAAL Prior to Revision: 1 + 2 - 3 + 4c	1,203,285,015
6. Change in UAAL Due to Plan Amendments and/or Changes in Actuarial Assumptions	66,770,752
7. This Year's Expected UAAL (after changes):	1,270,055,767
8. This Year's Actual UAAL (after changes):	1,124,446,506
9. Net Actuarial Gain/(Loss):	145,609,261
10. Gain/(Loss) Due to Investments:	126,049,568
11. Gain/(Loss) Due to Changes in Projected Pension Liability Surtax Proceeds:	(4,018,709)
12. Gain/(Loss) Due to Other Sources:	23,578,402

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	145,609,261

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:

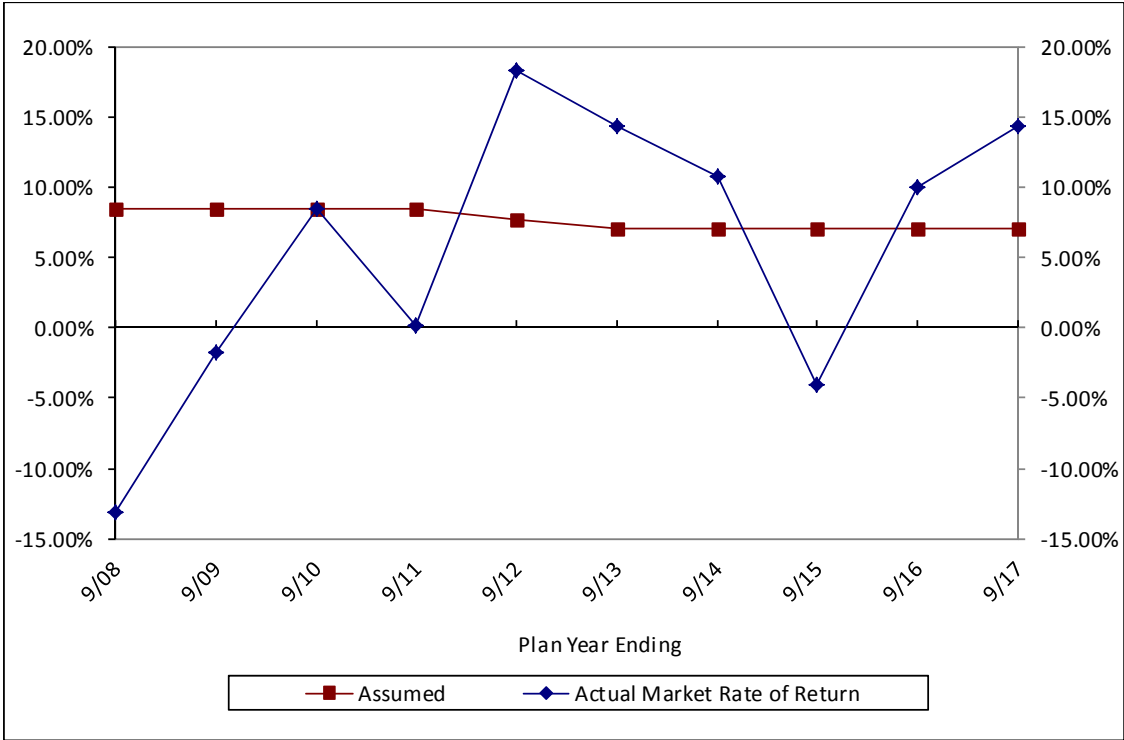
Year Ending	Investment Return	
	Actual Market Rate of Return	Assumed
9/30/2008	(13.07) %	8.50 %
9/30/2009	(1.70)	8.50
9/30/2010	8.45	8.50
9/30/2011	0.13	8.50
9/30/2012	18.25	7.75
9/30/2013	14.29	7.00
9/30/2014	10.73	7.00
9/30/2015	(4.01)	7.00
9/30/2016	10.00	7.00
9/30/2017	14.27	7.00
Average	5.30 %	7.67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

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	6.3	10.0
Average	3.4 %	5.2 %

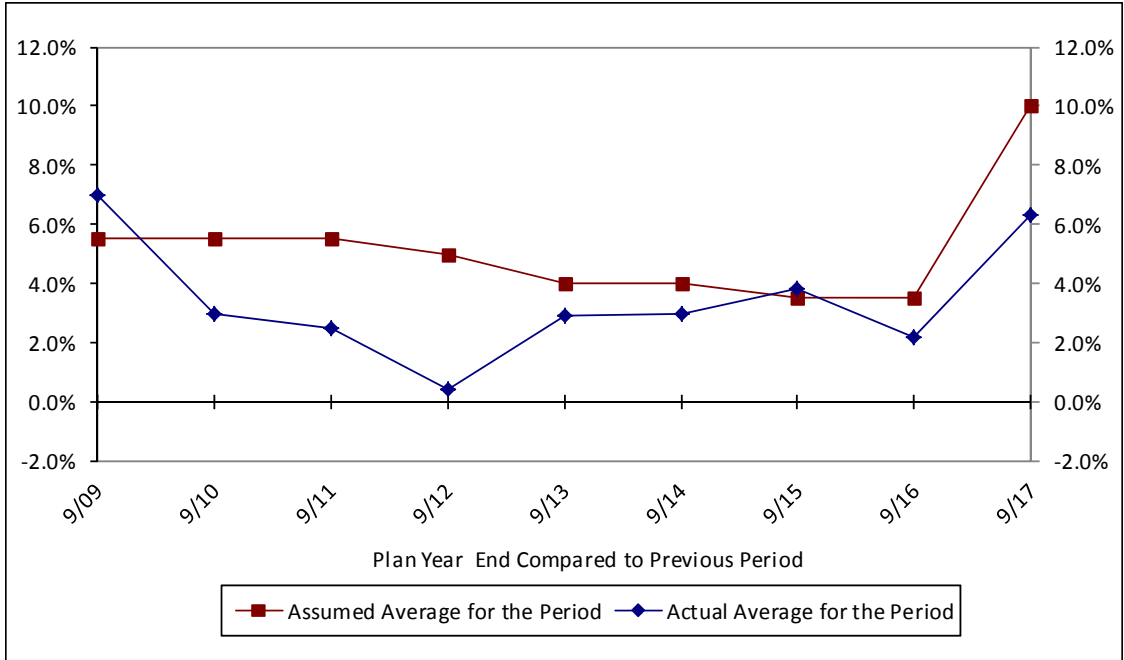
*Actual and assumed rates are based on average compound increases for the period

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	141,856	3,692,695	1,757,713	47.6	1,934,982	1,364.0

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	130,528	89.86	---	---

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)	\$ 1,886,546	\$ 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	\$ -	\$ 28,252,353
2. Domestic and International Equities	1,178,616,177	1,053,394,238
3. Fixed Income Securities	373,987,502	326,147,367
4. Real Estate	317,253,725	195,943,522
5. Total Investments	\$ 1,869,857,404	\$ 1,603,737,480
E. Liabilities		
1. Accounts Payable	\$ (6,402,819)	\$ (12,161,583)
2. Other Post Employment Benefits	(60,348)	(60,348)
3. Securities Lending Collateral	(98,411,738)	(92,760,152)
4. Other Liabilities and Deferred Inflows	(106,173)	(223,958)
5. Total Liabilities	\$ (104,981,078)	\$ (105,206,041)
F. Total Market Value of Assets	\$ 1,885,351,002	\$ 1,613,043,823
G. Allocation of Investments		
1. Cash and Cash Equivalents	0.0%	1.8%
2. Domestic and International Equities	63.0%	65.7%
3. Fixed Income Securities	20.0%	20.3%
4. Real Estate	17.0%	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	967,037	1,197,137
c. Employer Contributions	167,788,151	152,494,371
d. State Contributions	10,874,768	10,680,624
e. Court Fines and Penalties	759,291	832,536
f. Supplemental Payment	10,000,000	5,000,000
g. Miscellaneous	51,404	122,888
h. Total	<u>\$ 202,477,107</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	90,704,668	55,618,519
d. Unrealized Gains/(Losses)	159,372,174	105,143,061
e. Investment Expenses	<u>(8,064,164)</u>	<u>(7,586,467)</u>
f. Net Investment Income	<u>\$ 243,271,597</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	\$ (2,164,376)	\$ (3,519,224)
C. Cumulative Effect of Change in Accounting Principle	\$ -	\$ 2,238,000
D. Market Value of Assets at End of Year	\$ 1,885,351,002	\$1,613,043,823

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	621,810,736	642,154,519
d. Total	<u>3,425,651,745</u>	<u>3,263,044,194</u>
2. Non-Vested Benefits	21,650,202	19,175,836
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	3,447,301,947	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	61,400,791	180,711,097
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	274,958,275	280,585,175
d. Benefits Paid	<u>(171,277,149)</u>	<u>(159,726,009)</u>
e. Net Increase	165,081,917	307,418,086
3. Total Value at End of Period	3,447,301,947	3,282,220,030
D. Market Value of Assets	1,757,712,877	1,513,398,466
E. Funded Ratio Using Market Value: D / C3	51.0%	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	\$ 141,855,711

Net Pension Liability

Total Pension Liability	\$ 3,692,694,731
Total Plan Fiduciary Net Position	1,757,712,877
City's Net Pension Liability	\$ 1,934,981,854
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	47.60%
Net Pension Liability as a Percentage of Covered Payroll	1,364.05%

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	(19,014,184)	3,566,449	24,831,339	22,671,112	(4,675,994)	(12,512,641)
Assumption Changes	232,057,365	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	347,179,472	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)	\$ 3,692,694,731	\$ 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)	\$ 177,788,151	\$ 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)	13,003,493	12,830,861	12,061,321	11,583,565	10,753,501	11,610,870
Net Investment Income, including Securities Lending	243,271,597	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	(2,164,376)	(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	272,307,179	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	\$ 1,885,351,002	\$ 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)	\$ 1,757,712,877	\$ 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)	\$ 1,934,981,854	\$ 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	47.60 %	45.24 %	43.10 %	46.13 %	42.69 %	39.05 %
Covered Employee Payroll	\$ 141,855,711	\$ 135,599,741	\$ 132,735,243	\$ 134,521,216	\$ 130,972,174	\$ 133,611,459
Net Pension Liability as a Percentage of Covered Payroll	1,364.05 %	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	3,692,694,731	1,757,712,877	1,934,981,854	47.60%	141,855,711	1,364%

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 **	-	141,855,711	118.28%

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%
\$2,473,520,400	\$1,934,981,854	\$1,500,368,150

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 Contributions	Pension Liability		Additional Contributions	Total Contributions
			Contributions			Surtax Contributions			
	(a)	(b)	(c)		(d)	(e)	(f)	(g)=(b)+(c)+(d)+(e)+(f)	
1	141,855,711	\$ 14,673,669	\$ 46,636,260	\$	78,353,797	\$ -	\$ -	\$ 139,663,726	
2	141,949,399	14,683,360	47,174,002		68,041,541	-	-	129,898,903	
3	143,461,556	14,839,779	48,100,506		68,892,060	-	-	131,832,345	
4	138,908,243	14,368,780	46,805,704		69,753,211	-	-	130,927,695	
5	133,243,311	13,782,795	45,104,189		70,625,126	-	-	129,512,110	
6	127,709,185	13,210,341	43,394,656		71,507,940	-	-	128,112,937	
7	120,494,284	12,464,026	41,102,070		72,401,789	-	-	125,967,885	
8	111,160,938	11,498,577	38,090,854		73,306,812	-	-	122,896,242	
9	101,218,203	10,470,092	34,864,770		74,223,147	-	912,083	120,470,092	
10	93,598,852	9,681,941	32,428,023		75,150,936	-	2,421,041	119,681,941	
11	84,839,129	8,775,828	29,626,824		76,090,323	-	4,282,853	118,775,828	
12	77,068,264	7,972,003	27,173,440		77,041,452	-	5,785,108	117,972,003	
13	67,727,699	7,005,808	24,241,480		78,004,470	-	7,754,050	117,005,808	
14	58,053,368	6,005,087	21,173,161		78,979,526	72,318,827	9,847,313	188,323,914	
15	52,783,157	5,459,932	19,521,039		79,966,770	100,523,169	10,512,191	215,983,101	
16	48,840,486	5,052,099	18,302,045		80,966,355	104,795,404	10,731,601	219,847,503	
17	44,538,197	4,607,067	16,999,024		81,978,434	109,249,208	11,022,542	223,856,275	
18	38,731,634	4,006,431	15,260,862		83,003,165	113,892,300	11,735,973	227,898,731	
19	31,453,707	3,253,597	13,121,223		84,040,704	118,732,722	12,838,073	231,986,319	
20	24,671,459	2,552,036	11,139,904		85,091,213	123,778,863	13,768,883	236,330,899	
21	16,578,520	1,714,895	8,793,582		86,154,853	129,039,465	15,051,564	240,754,360	
22	11,193,292	1,157,843	7,253,977		87,231,789	134,523,642	15,514,235	245,681,485	
23	7,403,314	765,805	6,183,983		88,322,186	140,240,897	15,493,831	251,006,702	
24	5,099,313	527,477	5,576,113		89,426,214	146,201,135	14,997,674	256,728,612	
25	3,475,654	359,524	5,171,658		90,544,041	152,414,683	14,284,301	262,774,208	
26	2,292,350	237,123	4,898,286		91,675,842	158,892,307	13,425,872	269,129,430	
27	1,395,504	144,352	4,713,025		92,821,790	165,645,230	12,465,185	275,789,582	
28	720,125	74,490	4,598,425		93,982,062	172,685,153	11,419,513	282,759,643	
29	367,908	38,057	4,591,728		95,156,838	180,024,272	10,251,434	290,062,328	
30	48,592	5,026	4,597,233		-	187,675,303	105,402,767	297,680,330	
31	-	-	4,696,135		-	195,651,504	105,303,865	305,651,504	
32	-	-	4,813,538		-	203,966,692	105,186,462	313,966,692	
33	-	-	4,933,877		-	212,635,277	105,066,123	322,635,277	
34	-	-	5,057,224		-	221,672,276	104,942,776	331,672,276	
35	-	-	5,183,655		-	231,093,348	104,816,345	341,093,348	
36	-	-	5,313,246		-	240,914,815	104,686,754	350,914,815	
37	-	-	5,446,078		-	251,153,695	104,553,922	361,153,695	
38	-	-	5,582,230		-	261,827,727	104,417,770	371,827,727	
39	-	-	5,721,786		-	272,955,405	104,278,214	382,955,405	
40	-	-	5,864,830		-	284,556,010	104,135,170	394,556,010	
41	-	-	6,011,451		-	296,649,640	103,988,549	406,649,640	
42	-	-	6,161,737		-	309,257,250	103,838,263	419,257,250	
43	-	-	6,315,780		-	322,400,683	103,684,220	432,400,683	
44	-	-	6,473,674		-	-	-	6,473,674	
45	-	-	6,635,516		-	-	-	6,635,516	
46	-	-	6,801,404		-	-	-	6,801,404	
47	-	-	6,971,439		-	-	-	6,971,439	
48	-	-	7,145,725		-	-	-	7,145,725	
49	-	-	7,324,368		-	-	-	7,324,368	
50	-	-	7,507,477		-	-	-	7,507,477	

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	-	-	7,695,164	-	-	-	7,695,164
52	-	-	7,887,543	-	-	-	7,887,543
53	-	-	8,084,732	-	-	-	8,084,732
54	-	-	8,286,850	-	-	-	8,286,850
55	-	-	8,494,021	-	-	-	8,494,021
56	-	-	8,706,371	-	-	-	8,706,371
57	-	-	8,924,031	-	-	-	8,924,031
58	-	-	9,147,132	-	-	-	9,147,132
59	-	-	9,375,810	-	-	-	9,375,810
60	-	-	9,610,205	-	-	-	9,610,205
61	-	-	9,850,460	-	-	-	9,850,460
62	-	-	10,096,721	-	-	-	10,096,721
63	-	-	10,349,140	-	-	-	10,349,140
64	-	-	10,607,868	-	-	-	10,607,868
65	-	-	10,873,064	-	-	-	10,873,064
66	-	-	11,144,891	-	-	-	11,144,891
67	-	-	11,423,513	-	-	-	11,423,513
68	-	-	11,709,101	-	-	-	11,709,101
69	-	-	12,001,828	-	-	-	12,001,828
70	-	-	12,301,874	-	-	-	12,301,874
71	-	-	12,609,421	-	-	-	12,609,421
72	-	-	12,924,656	-	-	-	12,924,656
73	-	-	13,247,772	-	-	-	13,247,772
74	-	-	13,578,967	-	-	-	13,578,967
75	-	-	13,918,441	-	-	-	13,918,441
76	-	-	14,266,403	-	-	-	14,266,403
77	-	-	14,623,062	-	-	-	14,623,062
78	-	-	14,988,639	-	-	-	14,988,639
79	-	-	15,363,355	-	-	-	15,363,355
80	-	-	15,747,439	-	-	-	15,747,439
81	-	-	16,141,126	-	-	-	16,141,126
82	-	-	16,544,653	-	-	-	16,544,653
83	-	-	16,958,270	-	-	-	16,958,270
84	-	-	17,382,226	-	-	-	17,382,226
85	-	-	17,816,782	-	-	-	17,816,782
86	-	-	18,262,201	-	-	-	18,262,201
87	-	-	18,718,756	-	-	-	18,718,756
88	-	-	19,186,725	-	-	-	19,186,725
89	-	-	19,666,393	-	-	-	19,666,393
90	-	-	20,158,054	-	-	-	20,158,054
91	-	-	20,662,005	-	-	-	20,662,005
92	-	-	21,178,555	-	-	-	21,178,555
93	-	-	21,708,019	-	-	-	21,708,019
94	-	-	22,250,719	-	-	-	22,250,719
95	-	-	22,806,987	-	-	-	22,806,987
96	-	-	23,377,163	-	-	-	23,377,163
97	-	-	23,961,592	-	-	-	23,961,592
98	-	-	24,560,632	-	-	-	24,560,632
99	-	-	25,174,647	-	-	-	25,174,647
100	-	-	25,804,013	-	-	-	25,804,013

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	\$ 1,757,712,877	\$ 139,663,726	\$ 217,745,114	\$ 2,238,848	\$ 120,276,239	\$ 1,797,668,881
2	1,797,668,881	129,898,903	224,425,969	2,294,819	122,505,370	1,823,352,366
3	1,823,352,366	131,832,345	208,923,523	2,352,189	124,901,175	1,868,810,174
4	1,868,810,174	130,927,695	219,389,708	2,410,994	127,689,950	1,905,627,117
5	1,905,627,117	129,512,110	226,593,385	2,471,269	129,968,490	1,936,043,063
6	1,936,043,063	128,112,937	236,306,541	2,533,051	131,713,127	1,957,029,535
7	1,957,029,535	125,967,885	244,251,207	2,596,378	132,832,833	1,968,982,668
8	1,968,982,668	122,896,242	251,161,331	2,661,287	133,323,866	1,971,380,159
9	1,971,380,159	120,470,092	260,364,772	2,727,819	133,089,250	1,961,846,910
10	1,961,846,910	119,681,941	269,603,476	2,796,014	132,074,572	1,941,203,931
11	1,941,203,931	118,775,828	280,074,472	2,865,914	130,235,694	1,907,275,067
12	1,907,275,067	117,972,003	291,176,604	2,937,563	127,448,548	1,858,581,452
13	1,858,581,452	117,005,808	305,966,796	3,011,001	123,495,321	1,790,104,782
14	1,790,104,782	188,323,914	313,922,811	3,086,276	120,879,530	1,782,299,138
15	1,782,299,138	215,983,101	326,846,482	3,163,433	120,837,500	1,789,109,825
16	1,789,109,825	219,847,503	335,021,685	3,242,519	121,163,201	1,791,856,325
17	1,791,856,325	223,856,275	346,574,810	3,323,582	121,093,080	1,786,907,289
18	1,786,907,289	227,898,731	359,284,866	3,406,672	120,445,553	1,772,560,036
19	1,772,560,036	231,986,319	364,171,024	3,491,839	119,410,838	1,756,294,331
20	1,756,294,331	236,330,899	368,301,478	3,579,135	118,276,603	1,739,021,220
21	1,739,021,220	240,754,360	373,608,742	3,668,613	117,033,996	1,719,532,222
22	1,719,532,222	245,681,485	381,012,340	3,760,329	115,581,400	1,696,022,439
23	1,696,022,439	251,006,702	389,662,795	3,854,337	113,818,066	1,667,330,074
24	1,667,330,074	256,728,612	395,681,025	3,950,695	111,796,089	1,636,223,055
25	1,636,223,055	262,774,208	404,583,851	4,049,462	109,516,887	1,599,880,836
26	1,599,880,836	269,129,430	408,329,011	4,150,699	107,059,256	1,563,589,812
27	1,563,589,812	275,789,582	410,346,599	4,254,466	104,675,055	1,529,453,384
28	1,529,453,384	282,759,643	411,745,127	4,360,828	102,473,551	1,498,580,623
29	1,498,580,623	290,062,328	411,353,635	4,469,849	100,573,448	1,473,392,916
30	1,473,392,916	297,680,330	410,628,573	4,581,595	99,093,532	1,454,956,610
31	1,454,956,610	305,651,504	408,110,111	4,696,135	98,159,978	1,445,961,846
32	1,445,961,846	313,966,692	405,218,117	4,813,538	97,911,922	1,447,808,806
33	1,447,808,806	322,635,277	400,844,610	4,933,877	98,485,821	1,463,151,417
34	1,463,151,417	331,672,276	395,782,155	5,057,224	100,040,694	1,494,025,008
35	1,494,025,008	341,093,348	391,428,951	5,183,655	102,671,442	1,541,177,192
36	1,541,177,192	350,914,815	386,214,389	5,313,246	106,484,996	1,607,049,368
37	1,607,049,368	361,153,695	381,073,730	5,446,078	111,620,657	1,693,303,913
38	1,693,303,913	371,827,727	375,507,365	5,582,230	118,212,591	1,802,254,636
39	1,802,254,636	382,955,405	369,121,343	5,721,786	126,436,952	1,936,803,865
40	1,936,803,865	394,556,010	362,322,973	5,864,830	136,483,549	2,099,655,621
41	2,099,655,621	406,649,640	354,571,021	6,011,451	148,560,975	2,294,283,764
42	2,294,283,764	419,257,250	345,950,203	6,161,737	162,910,202	2,524,339,276
43	2,524,339,276	432,400,683	335,985,785	6,315,780	179,803,884	2,794,242,279
44	2,794,242,279	6,473,674	326,710,735	6,473,674	184,355,482	2,651,887,026
45	2,651,887,026	6,635,516	315,906,688	6,635,516	174,762,361	2,510,742,699
46	2,510,742,699	6,801,404	305,489,249	6,801,404	165,240,702	2,370,494,152
47	2,370,494,152	6,971,439	293,915,509	6,971,439	155,821,533	2,232,400,176
48	2,232,400,176	7,145,725	281,342,787	7,145,725	146,587,558	2,097,644,946
49	2,097,644,946	7,324,368	269,898,482	7,324,368	137,548,468	1,965,294,931
50	1,965,294,931	7,507,477	258,749,747	7,507,477	128,667,573	1,835,212,757

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	1,835,212,757	7,695,164	247,310,269	7,695,164	119,955,431	1,707,857,918
52	1,707,857,918	7,887,543	235,429,210	7,887,543	111,449,396	1,583,878,104
53	1,583,878,104	8,084,732	222,918,114	8,084,732	103,201,291	1,464,161,281
54	1,464,161,281	8,286,850	210,616,501	8,286,850	95,244,388	1,348,789,169
55	1,348,789,169	8,494,021	197,684,376	8,494,021	87,613,309	1,238,718,102
56	1,238,718,102	8,706,371	185,590,008	8,706,371	80,324,478	1,133,452,572
57	1,133,452,572	8,924,031	174,039,524	8,924,031	73,353,321	1,032,766,368
58	1,032,766,368	9,147,132	162,777,889	9,147,132	66,692,777	936,681,256
59	936,681,256	9,375,810	151,875,084	9,375,810	60,341,963	845,148,135
60	845,148,135	9,610,205	141,159,859	9,610,205	54,303,335	758,291,611
61	758,291,611	9,850,460	130,607,187	9,850,460	48,586,475	676,270,899
62	676,270,899	10,096,721	120,214,953	10,096,721	43,202,602	599,258,548
63	599,258,548	10,349,140	110,020,499	10,349,140	38,162,508	527,400,557
64	527,400,557	10,607,868	100,112,400	10,607,868	33,473,367	460,761,524
65	460,761,524	10,873,064	90,461,415	10,873,064	29,140,706	399,440,815
66	399,440,815	11,144,891	81,197,138	11,144,891	25,167,022	343,410,699
67	343,410,699	11,423,513	72,319,249	11,423,513	21,550,385	292,641,836
68	292,641,836	11,709,101	63,862,433	11,709,101	18,287,547	247,066,950
69	247,066,950	12,001,828	55,880,022	12,001,828	15,371,964	206,558,892
70	206,558,892	12,301,874	48,425,358	12,301,874	12,792,901	170,926,435
71	170,926,435	12,609,421	41,531,681	12,609,421	10,535,827	139,930,580
72	139,930,580	12,924,656	35,232,370	12,924,656	8,582,864	113,281,073
73	113,281,073	13,247,772	29,543,969	13,247,772	6,913,125	90,650,230
74	90,650,230	13,578,967	24,476,043	13,578,967	5,503,343	71,677,530
75	71,677,530	13,918,441	20,028,667	13,918,441	4,328,280	55,977,142
76	55,977,142	14,266,403	16,181,915	14,266,403	3,361,612	43,156,840
77	43,156,840	14,623,062	12,903,992	14,623,062	2,576,978	32,829,825
78	32,829,825	14,988,639	10,148,674	14,988,639	1,948,892	24,630,043
79	24,630,043	15,363,355	7,871,422	15,363,355	1,453,263	18,211,883
80	18,211,883	15,747,439	6,013,854	15,747,439	1,067,907	13,265,936
81	13,265,936	16,141,126	4,523,941	16,141,126	772,956	9,514,951
82	9,514,951	16,544,653	3,347,327	16,544,653	550,872	6,718,495
83	6,718,495	16,958,270	2,435,604	16,958,270	386,490	4,669,382
84	4,669,382	17,382,226	1,742,423	17,382,226	266,903	3,193,863
85	3,193,863	17,816,782	1,225,125	17,816,782	181,416	2,150,154
86	2,150,154	18,262,201	846,529	18,262,201	121,383	1,425,008
87	1,425,008	18,718,756	574,855	18,718,756	79,971	930,123
88	930,123	19,186,725	384,004	19,186,725	51,896	598,015
89	598,015	19,666,393	252,396	19,666,393	33,177	378,797
90	378,797	20,158,054	163,372	20,158,054	20,894	236,319
91	236,319	20,662,005	104,233	20,662,005	12,956	145,042
92	145,042	21,178,555	65,465	21,178,555	7,900	87,477
93	87,477	21,708,019	40,525	21,708,019	4,729	51,682
94	51,682	22,250,719	24,732	22,250,719	2,767	29,716
95	29,716	22,806,987	14,753	22,806,987	1,573	16,536
96	16,536	23,377,163	8,569	23,377,163	863	8,830
97	8,830	23,961,592	4,762	23,961,592	454	4,521
98	4,521	24,560,632	2,559	24,560,632	228	2,190
99	2,190	25,174,647	1,318	25,174,647	108	981
100	981	25,804,013	981	25,804,013	35	35

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)-.5)}	(g)=(e)*vf ^{^((a)-.5)}	(h)=((c)/(1+sdr) ^{^((a)-.5)}
1	\$ 1,757,712,877	\$ 217,745,114	\$ 217,745,114	\$ -	\$ 210,502,147	\$ -	\$ 210,502,147
2	1,797,668,881	224,425,969	224,425,969	-	202,767,078	-	202,767,078
3	1,823,352,366	208,923,523	208,923,523	-	176,411,908	-	176,411,908
4	1,868,810,174	219,389,708	219,389,708	-	173,130,278	-	173,130,278
5	1,905,627,117	226,593,385	226,593,385	-	167,116,845	-	167,116,845
6	1,936,043,063	236,306,541	236,306,541	-	162,878,952	-	162,878,952
7	1,957,029,535	244,251,207	244,251,207	-	157,341,094	-	157,341,094
8	1,968,982,668	251,161,331	251,161,331	-	151,207,887	-	151,207,887
9	1,971,380,159	260,364,772	260,364,772	-	146,494,093	-	146,494,093
10	1,961,846,910	269,603,476	269,603,476	-	141,768,453	-	141,768,453
11	1,941,203,931	280,074,472	280,074,472	-	137,639,745	-	137,639,745
12	1,907,275,067	291,176,604	291,176,604	-	133,734,369	-	133,734,369
13	1,858,581,452	305,966,796	305,966,796	-	131,333,972	-	131,333,972
14	1,790,104,782	313,922,811	313,922,811	-	125,933,675	-	125,933,675
15	1,782,299,138	326,846,482	326,846,482	-	122,540,328	-	122,540,328
16	1,789,109,825	335,021,685	335,021,685	-	117,388,179	-	117,388,179
17	1,791,856,325	346,574,810	346,574,810	-	113,491,846	-	113,491,846
18	1,786,907,289	359,284,866	359,284,866	-	109,956,983	-	109,956,983
19	1,772,560,036	364,171,024	364,171,024	-	104,161,086	-	104,161,086
20	1,756,294,331	368,301,478	368,301,478	-	98,450,924	-	98,450,924
21	1,739,021,220	373,608,742	373,608,742	-	93,336,086	-	93,336,086
22	1,719,532,222	381,012,340	381,012,340	-	88,958,576	-	88,958,576
23	1,696,022,439	389,662,795	389,662,795	-	85,026,430	-	85,026,430
24	1,667,330,074	395,681,025	395,681,025	-	80,691,251	-	80,691,251
25	1,636,223,055	404,583,851	404,583,851	-	77,109,163	-	77,109,163
26	1,599,880,836	408,329,011	408,329,011	-	72,731,728	-	72,731,728
27	1,563,589,812	410,346,599	410,346,599	-	68,309,441	-	68,309,441
28	1,529,453,384	411,745,127	411,745,127	-	64,058,178	-	64,058,178
29	1,498,580,623	411,353,635	411,353,635	-	59,810,533	-	59,810,533
30	1,473,392,916	410,628,573	410,628,573	-	55,799,168	-	55,799,168
31	1,454,956,610	408,110,111	408,110,111	-	51,828,917	-	51,828,917
32	1,445,961,846	405,218,117	405,218,117	-	48,094,992	-	48,094,992
33	1,447,808,806	400,844,610	400,844,610	-	44,463,462	-	44,463,462
34	1,463,151,417	395,782,155	395,782,155	-	41,029,824	-	41,029,824
35	1,494,025,008	391,428,951	391,428,951	-	37,923,867	-	37,923,867
36	1,541,177,192	386,214,389	386,214,389	-	34,970,701	-	34,970,701
37	1,607,049,368	381,073,730	381,073,730	-	32,247,877	-	32,247,877
38	1,693,303,913	375,507,365	375,507,365	-	29,697,972	-	29,697,972
39	1,802,254,636	369,121,343	369,121,343	-	27,283,100	-	27,283,100
40	1,936,803,865	362,322,973	362,322,973	-	25,028,605	-	25,028,605
41	2,099,655,621	354,571,021	354,571,021	-	22,890,762	-	22,890,762
42	2,294,283,764	345,950,203	345,950,203	-	20,873,093	-	20,873,093
43	2,524,339,276	335,985,785	335,985,785	-	18,945,687	-	18,945,687
44	2,794,242,279	326,710,735	326,710,735	-	17,217,460	-	17,217,460
45	2,651,887,026	315,906,688	315,906,688	-	15,558,965	-	15,558,965
46	2,510,742,699	305,489,249	305,489,249	-	14,061,578	-	14,061,578
47	2,370,494,152	293,915,509	293,915,509	-	12,643,777	-	12,643,777
48	2,232,400,176	281,342,787	281,342,787	-	11,311,139	-	11,311,139
49	2,097,644,946	269,898,482	269,898,482	-	10,141,150	-	10,141,150
50	1,965,294,931	258,749,747	258,749,747	-	9,086,214	-	9,086,214

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)-.5}	(g)=(e)*vf ^{-(a)-.5}	(h)=((c)/(1+sdr)) ^{-(a)-.5}
51	\$ 1,835,212,757	\$ 247,310,269	\$ 247,310,269	\$ -	\$ 8,116,361	\$ -	\$ 8,116,361
52	1,707,857,918	235,429,210	235,429,210	-	7,220,974	-	7,220,974
53	1,583,878,104	222,918,114	222,918,114	-	6,389,944	-	6,389,944
54	1,464,161,281	210,616,501	210,616,501	-	5,642,353	-	5,642,353
55	1,348,789,169	197,684,376	197,684,376	-	4,949,445	-	4,949,445
56	1,238,718,102	185,590,008	185,590,008	-	4,342,651	-	4,342,651
57	1,133,452,572	174,039,524	174,039,524	-	3,805,962	-	3,805,962
58	1,032,766,368	162,777,889	162,777,889	-	3,326,812	-	3,326,812
59	936,681,256	151,875,084	151,875,084	-	2,900,919	-	2,900,919
60	845,148,135	141,159,859	141,159,859	-	2,519,860	-	2,519,860
61	758,291,611	130,607,187	130,607,187	-	2,178,956	-	2,178,956
62	676,270,899	120,214,953	120,214,953	-	1,874,374	-	1,874,374
63	599,258,548	110,020,499	110,020,499	-	1,603,199	-	1,603,199
64	527,400,557	100,112,400	100,112,400	-	1,363,383	-	1,363,383
65	460,761,524	90,461,415	90,461,415	-	1,151,356	-	1,151,356
66	399,440,815	81,197,138	81,197,138	-	965,836	-	965,836
67	343,410,699	72,319,249	72,319,249	-	803,957	-	803,957
68	292,641,836	63,862,433	63,862,433	-	663,499	-	663,499
69	247,066,950	55,880,022	55,880,022	-	542,585	-	542,585
70	206,558,892	48,425,358	48,425,358	-	439,441	-	439,441
71	170,926,435	41,531,681	41,531,681	-	352,227	-	352,227
72	139,930,580	35,232,370	35,232,370	-	279,256	-	279,256
73	113,281,073	29,543,969	29,543,969	-	218,849	-	218,849
74	90,650,230	24,476,043	24,476,043	-	169,447	-	169,447
75	71,677,530	20,028,667	20,028,667	-	129,587	-	129,587
76	55,977,142	16,181,915	16,181,915	-	97,849	-	97,849
77	43,156,840	12,903,992	12,903,992	-	72,923	-	72,923
78	32,829,825	10,148,674	10,148,674	-	53,600	-	53,600
79	24,630,043	7,871,422	7,871,422	-	38,853	-	38,853
80	18,211,883	6,013,854	6,013,854	-	27,742	-	27,742
81	13,265,936	4,523,941	4,523,941	-	19,504	-	19,504
82	9,514,951	3,347,327	3,347,327	-	13,487	-	13,487
83	6,718,495	2,435,604	2,435,604	-	9,172	-	9,172
84	4,669,382	1,742,423	1,742,423	-	6,132	-	6,132
85	3,193,863	1,225,125	1,225,125	-	4,030	-	4,030
86	2,150,154	846,529	846,529	-	2,602	-	2,602
87	1,425,008	574,855	574,855	-	1,651	-	1,651
88	930,123	384,004	384,004	-	1,031	-	1,031
89	598,015	252,396	252,396	-	633	-	633
90	378,797	163,372	163,372	-	383	-	383
91	236,319	104,233	104,233	-	228	-	228
92	145,042	65,465	65,465	-	134	-	134
93	87,477	40,525	40,525	-	78	-	78
94	51,682	24,732	24,732	-	44	-	44
95	29,716	14,753	14,753	-	25	-	25
96	16,536	8,569	8,569	-	13	-	13
97	8,830	4,762	4,762	-	7	-	7
98	4,521	2,559	2,559	-	3	-	3
99	2,190	1,318	1,318	-	2	-	2
100	981	981	981	-	1	-	1
Totals					\$ 4,217,680,898	\$ -	\$ 4,217,680,898

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	\$ 3,064,175	\$ 39,794
25-29	46	207	32	-	-	-	-	-	285	12,708,132	44,590
30-34	40	161	145	76	-	-	-	-	422	22,181,740	52,563
35-39	19	85	94	241	38	1	-	-	478	28,887,661	60,434
40-44	8	35	53	178	143	38	-	-	455	29,941,627	65,806
45-49	3	15	26	108	122	102	14	-	390	27,774,543	71,217
50-54	-	1	20	62	57	48	7	-	195	13,450,044	68,975
55-59	-	1	5	15	14	14	1	-	50	3,318,291	66,366
60-64	-	-	1	2	5	-	2	-	10	695,155	69,516
65-69	-	-	-	-	-	-	-	-	-	-	-
70+	-	-	-	-	-	-	-	-	-	-	-
Total	144	553	377	682	379	203	24	-	2,362	142,021,368	60,128

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.