Jacksonville Police and Fire Pension Fund

ACTUARIAL VALUATION REPORT AS OF OCTOBER 1, 2018

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2020

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February 11, 2019

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

Re: Jacksonville Police and Fire Pension Fund Actuarial Valuation as of October 1, 2018 and Actuarial Disclosures

Dear Trustees:

The results of the October 1, 2018 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, 2020, 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, 2018 and financial information through September 30, 2018. 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 an initial 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 9/30/20 Based on 10/1/2018 Valuation (if contributed on 12/1/2019)	For FYE 9/30/19 Based on 10/1/2017 Valuation (if contributed on 12/1/2018)
Required Employer Contribution*	$ 140,292,637	$ 135,264,010
As % of Contribution Year Payroll	84.57 %	88.36 %

*This does not reflect the potential use of reserves that have been allocated to the City that may be used to offset the City's required contribution amount. Of the approximate $53.9 million in reserves that are available for use by the City as of October 1, 2018, it is our understanding that the City intends to use $24,736,292 on December 1, 2018.

Payment of Required Contribution

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

The actual employer (City) contributions for the year ending September 30, 2018 were $135,690,989, which includes the use of $20,000,000 from the City's Contribution Reserve Account. The required employer contributions for the year ending September 30, 2018 were $135,648,057.

Revisions in Benefits

There have been no changes in benefits since the previous valuation.

Revisions in Funding Policy

There have been no changes in funding policy since the previous valuation.

Revisions in Actuarial Assumptions and Methods

The asset value method has been changed this year to use a five-year smoothing method. The Actuarial Value of Assets will recognize investment gains and losses at a rate of 20% per year over five-years, beginning with the actual fiscal year 2018 investment experience.

The amortization period for new amortization bases is reduced from 30 years to 29 years this year, and it will continue to be reduced by one year each year until reaching 15 years.

The combined effect of the above method changes caused the required City contribution for FY 2020 to increase by $1,051,094.

Actuarial Experience

There were net actuarial experience gains during the past year which means that actual experience was more favorable than expected.

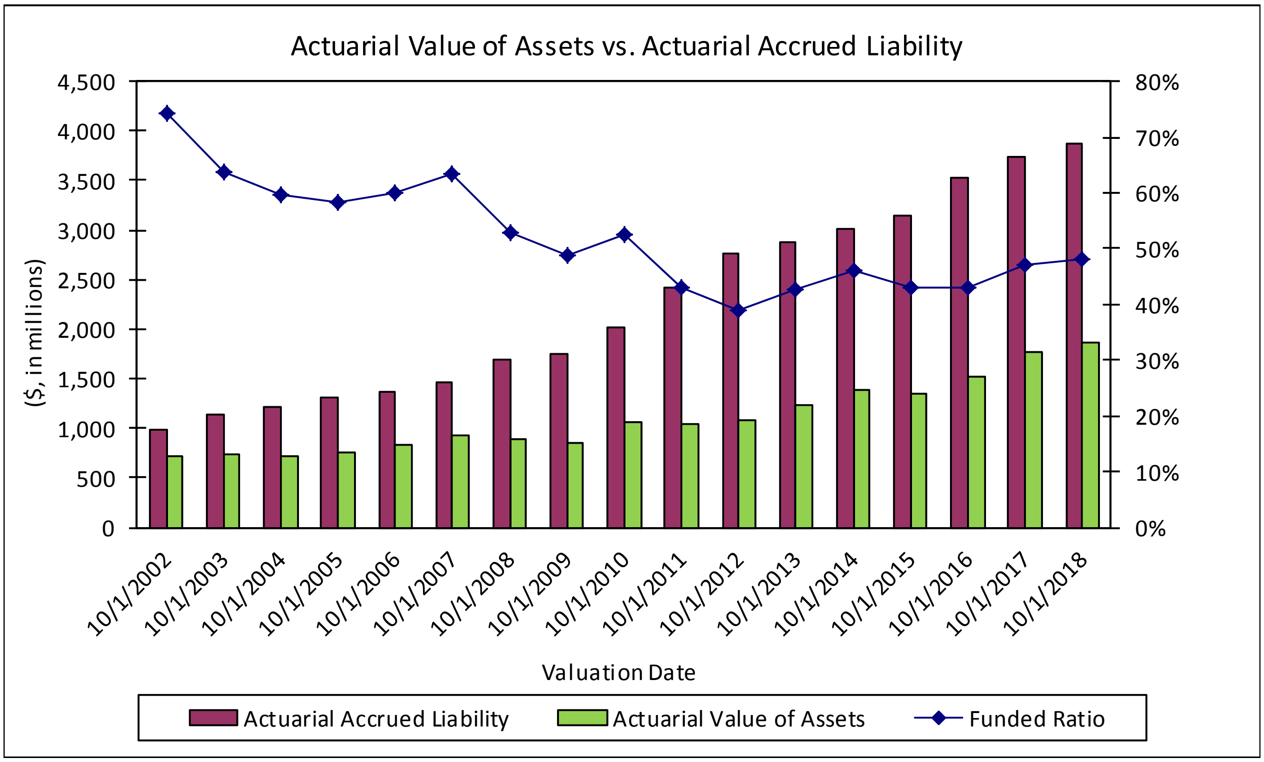
The gains were primarily due to favorable investment experience. The investment return on the Market Value of Assets was 7.99% compared to the assumed annual investment return of 7.0%. (The investment return on the smoothed Actuarial Value of Assets was 7.20% after the method change.) There were modest demographic experience gains. Retirement experience was lower than expected (68 actual versus 79 expected). Turnover experience was higher than expected (39 actual versus 27 expected). There were some offsetting losses due to lower inactive mortality experience than expected (57 actual retiree deaths versus 75 expected), more new members than expected (132 actual versus 28 expected), higher salary increases than expected (10.4% actual versus 10.0% assumed), and data adjustments (from service purchases, rehires and changes in retiree marital status from single to married).

There was also an offsetting experience loss due to changes in the projected Pension Liability Surtax proceeds. The allocation percentage is updated each year by the City based on the relative unfunded actuarial liabilities for all of the City's pension plans. Based on each pension plans' respective October 1, 2017 actuarial valuation, the pro rata share of the Proceeds for the Jacksonville Police and Pension Fund is 60.9% as of October 1, 2018. In the previous valuation, the pro rata share of the Proceeds was 62.5%. This change alone caused the required City contribution to increase by $1,559,369.

Overall, the net actuarial experience gain caused the required City contribution to decrease by $1,296,821.

Funded Ratio

The funded ratio is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability. This year's funded ratio is 48.08% compared to 47.24% last year. Prior to reflecting the method change, the funded ratio would have been 48.48% (based on the market value of assets). 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 City contribution are as follows:

Required Contribution Payable December 1, 2018	**$ 135,264,010**
Experience (Gains) or Losses	
Investment Experience	(1,255,706)
Change in Projected Pension Liability Surtax Experience	409,166
Other Sources Experience	(450,281)
Revision in Methods or Assumptions	1,051,094
Amortization Payment on UAAL	884,474
Change in Net Employer Normal Cost	3,849,448
Administrative/Investment Expenses	557,277
Court Fines	(16,845)
Benefit Changes	0
Required Contribution Payable December 1, 2019	**$ 140,292,637**

Required Contributions in Later Years

It is important to keep in mind that under the asset smoothing method, gains and losses are recognized over five years. As of September 30, 2018, the market value of assets exceeded the actuarial value by $15,507,222. This difference will be gradually recognized in the absence of offsetting losses. In turn, the computed employer contribution rate is expected to gradually decrease by approximately 0.64% of payroll.

Relationship to Market Value

If Market Value had been the basis for the valuation, the required City contribution would have been $139,223,955 and the funded ratio would have been 48.48%. In the absence of other gains and losses, the City contribution rate should decrease to that level over the next several years.

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 2018 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 an initial 30-year amortization period for amortizing the UAAL. It is important to note that the average expected future service of current active members is 10.09 years, which is far less than the required initial 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 an initial period of 30 years (currently 29 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, 2018 the market value of assets, net of reserves, is approximately $1.88 billion, and the actuarial liability for current inactive members is approximately $2.89 billion. Given the low funded ratio and the fact that the pension liability surtax revenues will not be received until more than 12 years from now, it is advisable to consider making contributions to the Fund in excess of the minimum required contribution shown in this report.

In consideration of Actuarial Standard of Practice No. 51 regarding the assessment of risks, which became effective November 1, 2018 and is addressed on the next three pages, we recommend a numerical risk assessment to be conducted at least once every 3 to 5 years.

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.

RISKS ASSOCIATED WITH THE MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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 Plan'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.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rate shown on page 1 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	2018	2017
Ratio of the net market value of assets to payroll	11.61	11.81
Ratio of actuarial accrued liability to payroll	23.95	25.00
Ratio of actives to retirees and beneficiaries	0.79	0.79
Ratio of net cash flow to market value of assets	(2.1%)	1.9%
Duration of the actuarial accrued liability	14.60	14.68

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll. We note that this ratio for the Jacksonville Police and Fire Pension Fund (11.61) is higher than it is for most other plans we work with, which means the required contributions as a percentage of payroll are more volatile than most other plans.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll. We note that this ratio for the Jacksonville Police and Fire Pension Fund (23.95) is significantly higher than it is for most of the plans we work with, which means the changes in liability and required contributions are more volatile than most other plans.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0. This ratio for the Jacksonville Police and Fire Pension Fund (0.79) is less than 1.0, indicating it is super-mature. The fact that the Fund is closed has not had much impact on this ratio yet.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF ACTUARIAL ACCRUED LIABILITY

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. In consideration of the size of the Jacksonville Police and Fire Pension Fund and the long-term manner in which it is being funded (in part by pension liability surtax proceeds through 2060), we recommend a numerical risk assessment be conducted at least once every 3 to 5 years.

ORIGINAL VERSUS CURRENT PROJECTION OF PENSION LIABILITY SURTAX

PENSION LIABILITY SURTAX ESTIMATES
4.25% GROWTH

	Original Projection of Pension Liability Surtax			Current Projection of Pension Liability Surtax		
Fiscal Year	**Projected Total 1/2-Penny Sales Tax***	**Projected Pension Liability Surtax**	**63% of Revenue for Police and Fire Pension Fund**	**Projected Total 1/2-Penny Sales Tax***	**Projected Pension Liability Surtax**	**60.9% of Revenue for Police and Fire Pension Fund**
2016	**$ 82,875,723**			**$ 82,875,723**		
2017	*86,397,941*			**86,148,000**		
2018	*90,069,854*			**91,529,277**		
2019	*93,897,823*			*95,419,271*		
2020	*97,888,480*			*99,474,590*		
:	:			:		
2031	*154,727,777*	$ 116,045,832	$ 73,108,874	*157,234,868*	$ 117,926,151	$ 71,817,026
2032	*161,303,707*	161,303,707	101,621,335	*163,917,349*	163,917,349	99,825,666
2033	*168,159,115*	168,159,115	105,940,242	*170,883,837*	170,883,837	104,068,257
:	:	:	:	:	:	:
2059	*496,247,197*	496,247,197	312,635,734	*504,288,009*	504,288,009	307,111,397
2060	*517,337,703*	517,337,703	325,922,753	*525,720,249*	525,720,249	320,163,632
2061	*539,324,556*	134,831,139	84,943,617	*548,063,360*	137,015,840	83,442,647
Total Proceeds from 1/1/31-12/31/60:		**$ 9,105,159,243**	**$ 5,736,250,323**		**$ 9,293,671,642**	**$ 5,659,846,030**
Net Present Value of Proceeds as of 10/1/18:		**$ 1,383,448,954**	**$ 871,572,841**		**$ 1,414,211,903**	**$ 861,255,049**
Change in Total Proceeds from Original to Current Projection:					*$ 188,512,399*	*$ (76,404,293)*
Change in Net Present Value of Proceeds from Original to Current Projection:					*$ 30,762,949*	*$ (10,317,792)*

*Numbers in **bold** are actual numbers; numbers in *italics* are projected.

The actual surtax revenue has increased by an average of 5.09% per year from FY 2016 to FY 2018, which is trending higher than the 4.25% assumption. There is a second variable that will affect the amount of the Pension Liability Surtax (PLS) to be received – the percentage allocated to the Police and Fire Fund (versus the City's other two pension plans). This percentage was initially 63.0%, but is now 60.9%. The impact of these two variables on the required City contribution and the percentage of the Actuarial Accrued Liability (AAL) covered by the sum of current assets and the present value of the PLS proceeds are shown below:

	If Original Projection Held (4.25%/yr Growth; 63.0% Allocation)	Reflecting Actual Surtax Growth (≈ 5.09%/yr); Original 63.0% Allocation	Reflecting Actual Surtax Growth (≈ 5.09%/yr); Actual 60.9% Allocation
Required City Contribution Payable December 1, 2019	$ 139,581,585	$ 138,245,965	$ 140,292,637
Impact of Change on Valuation Results	*$ 711,052*	*$ 2,046,672*	*N/A*
Percentage of AAL covered by Assets and PLS	70.54 %	71.04 %	70.28 %
Impact of Change on Valuation Results	*(0.26)* %	*(0.76)* %	*N/A*

SECTION B

VALUATION RESULTS

PARTICIPANT DATA[1]		
	October 1, 2018	**October 1, 2017**
ACTIVE MEMBERS		
Number	2,384	2,362
Annual Payroll	$ 162,616,669	$ 149,664,813
Average Annual Payroll	$ 68,212	$ 63,364
Average Age	39.5	39.3
Average Past Service	10.9	10.6
Average Age at Hire	28.6	28.7
RETIREES, BENEFICIARIES & DROP		
Number	2,958	2,927
Annual Benefits[2]	$ 166,509,566	$ 159,922,640
Average Annual Benefit[2]	$ 56,291	$ 54,637
Average Age	64.1	63.7
DISABILITY RETIREES		
Number	52	55
Annual Benefits	$ 2,059,719	$ 2,117,003
Average Annual Benefit	$ 39,610	$ 38,491
Average Age	63.8	62.8
TERMINATED VESTED MEMBERS		
Number	82	73
Annual Benefits	$ 1,516,772	$ 1,306,115
Average Annual Benefit	$ 18,497	$ 17,892
Average Age	44.4	43.7

[1]Participant data is collected as of July 1.

[2]Not including distributions or installment payments from DROP accounts.

ACTUARIALLY DETERMINED CONTRIBUTION (ADC)			
A. Valuation Date	October 1, 2018 *After Changes*	October 1, 2018 *Before Changes*	October 1, 2017
B. ADC to Be Paid During Fiscal Year Ending	9/30/2020	9/30/2020	9/30/2019
C. Assumed Date of Employer Contributions	12/1/2019	12/1/2019	12/1/2018
D. Expected Covered Payroll for the Year Beginning on the Valuation Date	$ 162,003,561	$ 162,003,561	$ 149,489,571
E. Annual Payment to Amortize Unfunded Actuarial Liability	78,785,998	77,759,521	78,162,211
F. Employer Normal Cost	58,996,678	58,996,678	54,693,160
G. ADC if Paid on the Valuation Date: E + F	137,782,676	136,756,199	132,855,371
H. Contributions from Court Fines	775,741	775,741	759,291
I. City Contribution: G - H	137,006,935	135,980,458	132,096,080
as % of Covered Payroll	84.57 %	83.94 %	88.36 %
J. Actuarially Determined Contribution (ADC) in Contribution Year*	140,292,637	139,241,543	135,264,010

* = 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, 2018 *After Changes*	October 1, 2018 *Before Changes*	October 1, 2017
B. Actuarial Present Value of All Projected Benefits for			
1. Active Members			
a. Service Retirement Benefits	$ 1,474,607,303	1,474,607,303	$ 1,412,877,640
b. Vesting Benefits	32,369,342	32,369,342	31,140,875
c. Disability Benefits	26,627,567	26,627,567	26,066,781
d. Preretirement Death Benefits	16,794,443	16,794,443	16,462,838
e. Return of Member Contributions	866,671	866,671	940,386
f. Total	1,551,265,326	1,551,265,326	1,487,488,520
2. Inactive Members*			
a. Service Retirees	2,179,401,393	2,179,401,393	2,062,585,229
b. DROP Retirees	463,666,735	463,666,735	501,744,295
c. Disability Retirees	28,607,276	28,607,276	29,719,425
d. Beneficiaries	197,715,131	197,715,131	191,132,350
e. Terminated Vested Members	22,686,254	22,686,254	18,659,710
f. Total	2,892,076,789	2,892,076,789	2,803,841,009
3. Total for All Members	4,443,342,115	4,443,342,115	4,291,329,529
C. Actuarial Accrued (Past Service) Liability			
1. Active Members	987,995,717	987,995,717	932,768,615
2. Inactive Members	2,892,076,789	2,892,076,789	2,803,841,009
3. Total for All Members	3,880,072,506	3,880,072,506	3,736,609,624
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	3,624,155,961	3,624,155,961	3,477,828,321
E. Plan Assets			
1. Gross Market Value of Assets	2,007,821,892	2,007,821,892	1,892,797,131
2. Reserve Accounts, including Share Plan	(122,329,885)	(122,329,885)	(123,233,435)
3. Sr. Staff Plan Assets	(4,489,259)	(4,489,259)	(4,404,690)
4. Net Market Value of Assets	1,881,002,748	1,881,002,748	1,765,159,006
5. Actuarial Value of Assets	1,865,495,526	1,881,002,748	1,765,159,006
F. Net Present Value of Total Pension Liability Surtax Proceeds According to Pro Rata Share	861,255,049	861,255,049	810,535,348
G. Net Unfunded Actuarial Accrued Liability: C3 - E5 - F	1,153,321,931	1,137,814,709	1,160,915,270
H. Actuarial Present Value of Projected Covered Payroll	1,410,038,036	1,410,038,036	1,381,819,690
I. Funded Ratio: E5 / C3	48.08%	48.48%	47.24%
J. Percent of Actuarial Accrued Liability Covered by Assets and Total Pension Liability Surtax Proceeds: (F + E5) / C3	70.28%	70.68%	68.93%
K. Liquidity Ratio			
1. DROP Balance as of Valuation Date	342,305,582	342,305,582	328,296,551
2. Net Market Value (Net of DROP): E4 - K1	1,538,697,166	1,538,697,166	1,436,862,455
3. Annual Benefit Payments in Pay Status	168,569,285	168,569,285	162,039,643
4. Ratio: K2 : K3	9.13 : 1	9.13 : 1	8.87 : 1

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

CALCULATION OF EMPLOYER NORMAL COST				
A. Valuation Date	October 1, 2018		October 1, 2017	
B. Expected Covered Payroll for the Year Beginning on the Valuation Date	$	162,003,561	$	149,489,571
C. Normal Cost (Individual Entry Age) for				
1. Service Retirement Benefits		58,711,468		54,225,824
2. Vesting Benefits		3,013,303		2,739,518
3. Disability Benefits		1,854,942		1,724,735
4. Preretirement Death Benefits		1,382,335		1,285,731
5. Return of Member Contributions		185,908		178,350
6. Total for Future Benefits		65,147,956		60,154,158
7. Assumed Amount for Expenses		10,720,007		10,175,781
8. Total Normal Cost		75,867,963		70,329,939
D. Expected Member (including DROP) Contribution		16,871,285		15,636,779
E. Employer Normal Cost: C8 - D		58,996,678		54,693,160
F. Employer Normal Cost as a % of Covered Payroll: E / B		36.42%		36.59%

PENSION LIABILITY SURTAX ESTIMATES 4.25% GROWTH			
Fiscal Year	Projected Total 1/2-Penny Sales Tax	Projected Pension Liability Surtax	60.9% of Revenue for Police and Fire Pension Fund
2018	$ 91,529,277		
2019	95,419,271		
2020	99,474,590		
2021	103,702,260		
2022	108,109,606		
2023	112,704,265		
2024	117,494,196		
2025	122,487,699		
2026	127,693,427		
2027	133,120,397		
2028	138,778,014		
2029	144,676,080		
2030	150,824,813		
2031	157,234,868	$ 117,926,151	$ 71,817,026
2032	163,917,349	163,917,349	99,825,666
2033	170,883,837	170,883,837	104,068,257
2034	178,146,400	178,146,400	108,491,158
2035	185,717,622	185,717,622	113,102,032
2036	193,610,621	193,610,621	117,908,868
2037	201,839,072	201,839,072	122,919,995
2038	210,417,233	210,417,233	128,144,095
2039	219,359,965	219,359,965	133,590,219
2040	228,682,764	228,682,764	139,267,803
2041	238,401,781	238,401,781	145,186,685
2042	248,533,857	248,533,857	151,357,119
2043	259,096,546	259,096,546	157,789,796
2044	270,108,149	270,108,149	164,495,863
2045	281,587,745	281,587,745	171,486,937
2046	293,555,224	293,555,224	178,775,132
2047	306,031,321	306,031,321	186,373,075
2048	319,037,653	319,037,653	194,293,930
2049	332,596,753	332,596,753	202,551,422
2050	346,732,115	346,732,115	211,159,858
2051	361,468,230	361,468,230	220,134,152
2052	376,830,629	376,830,629	229,489,853
2053	392,845,931	392,845,931	239,243,172
2054	409,541,883	409,541,883	249,411,007
2055	426,947,413	426,947,413	260,010,975
2056	445,092,678	445,092,678	271,061,441
2057	464,009,117	464,009,117	282,581,552
2058	483,729,505	483,729,505	294,591,268
2059	504,288,009	504,288,009	307,111,397
2060	525,720,249	525,720,249	320,163,632
2061	548,063,360	137,015,840	83,442,647
Total Proceeds from 2031-2061:		**$ 9,293,671,642**	**$ 5,659,846,030**
Net Present Value of Proceeds as of 10/1/18:		**$ 1,414,211,903**	**$ 861,255,049**

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	28	$ 1,191,611,081	$ 81,362,899
10/1/2017	Experience (Gain)/Loss	30	(102,449,877)	29	(102,198,135)	(6,878,046)
10/1/2017	Assumption Changes	30	67,640,845	29	67,474,637	4,541,117
10/1/2018	Experience (Gain)/Loss	30	(19,072,874)	30	(19,072,874)	(1,266,449)
			1,189,706,002		1,137,814,709	77,759,521

After 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	28	$ 1,191,611,081	$ 81,362,899
10/1/2017	Experience (Gain)/Loss	30	(102,449,877)	29	(102,198,135)	(6,878,046)
10/1/2017	Assumption Changes	30	67,640,845	29	67,474,637	4,541,117
10/1/2018	Experience (Gain)/Loss	29	(19,072,874)	29	(19,072,874)	(1,283,625)
10/1/2018	Method Change	29	15,507,222	29	15,507,222	1,043,653
			1,205,213,224		1,153,321,931	78,785,998

*Reflects an offset equal to the net present value of the total pension liability surtax proceeds based on a pro rata share of 60.9%.

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***
2018	$ 1,153,321,931
2019	1,149,753,450
2020	1,144,881,412
2021	1,138,601,395
2022	1,130,801,505
2023	1,121,361,848
2028	1,044,736,574
2033	903,428,273
2038	669,230,306
2043	302,442,450
2047	-

*Reflects an offset equal to the net present value of the total pension liability surtax proceeds based on a pro rata share of 60.9%.

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 10/1/2017	$ 1,160,915,270
2. 2017-18 Total Normal Cost (BOY)	70,329,939
3. 2017-18 Contributions	153,185,599
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	86,187,165
b. 3 from dates paid	7,359,192
c. a - b	78,827,973
5. 10/1/2018 Expected UAAL Prior to Revision: 1 + 2 - 3 + 4c	1,156,887,583
6. Change in UAAL Due to Plan Amendments and/or Changes in Actuarial Assumptions or Methods	15,507,222
7. This Year's Expected UAAL (after changes):	1,172,394,805
8. This Year's Actual UAAL (after changes):	1,153,321,931
9. Net Actuarial Gain/(Loss):	19,072,874
10. Gain/(Loss) Due to Investments (net of reserves):	18,468,180
11. Gain/(Loss) Due to Changes in Projected Pension Liability Surtax Proceeds:	(6,017,773)
12. Gain/(Loss) Due to Other Sources:	6,622,467

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

Year Ending	Experience Gain / (Loss)
9/30/2013	$ 86,047,514
9/30/2014	34,912,618
9/30/2015	(182,600,912)
9/30/2016	45,616,836
9/30/2017	102,449,877
9/30/2018	19,072,874

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:

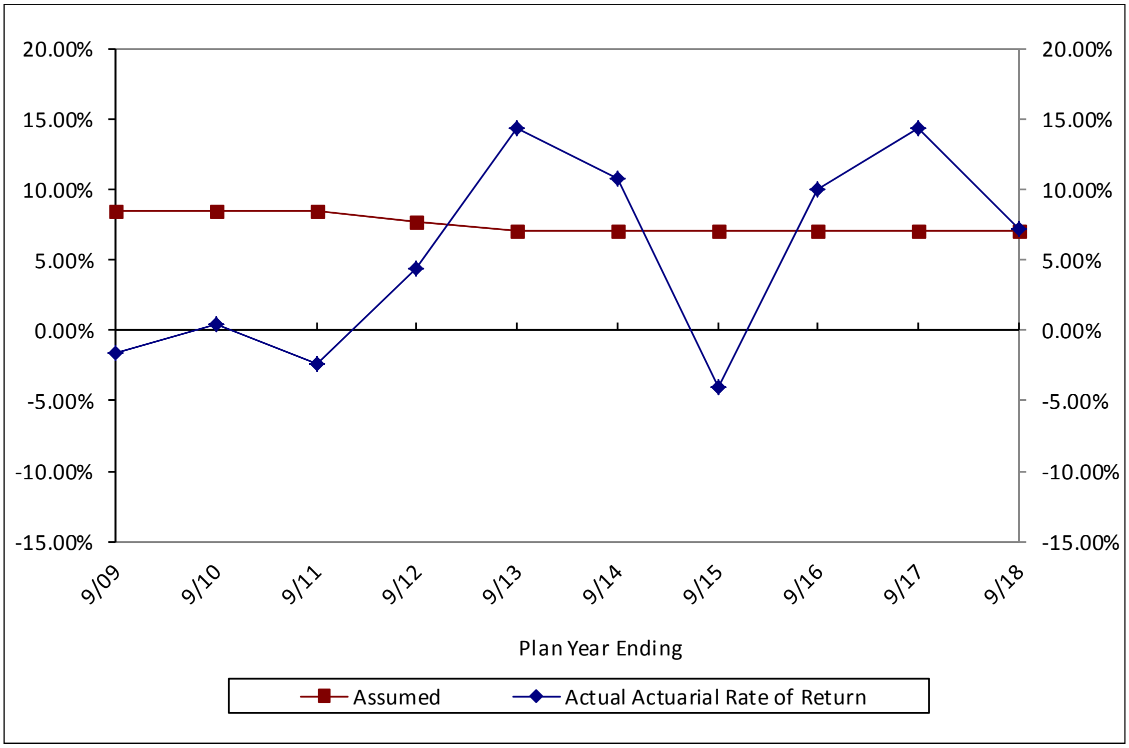
Year Ending	Investment Return	
	Actual	Assumed
9/30/2009	(1.63) %	8.50 %
9/30/2010	0.44	8.50
9/30/2011	(2.41)	8.50
9/30/2012	4.34	7.75
9/30/2013	14.29	7.00
9/30/2014	10.73	7.00
9/30/2015	(4.00)	7.00
9/30/2016	10.00	7.00
9/30/2017	14.27	7.00
9/30/2018	7.20	7.00
Average	5.12 %	7.52 %

Period Ending	Salary Increases	
	Actual*	Assumed*
9/30/2009	7.0 %	5.5 %
9/30/2010	3.0	5.5
9/30/2011	2.5	5.5
9/30/2012	0.4	5.0
9/30/2013	2.9	4.0
9/30/2014	3.0	4.0
9/30/2015	3.8	3.5
9/30/2016	2.2	3.5
9/30/2017	12.1	10.0
9/30/2018	10.4	10.0
Average	4.7 %	5.6 %

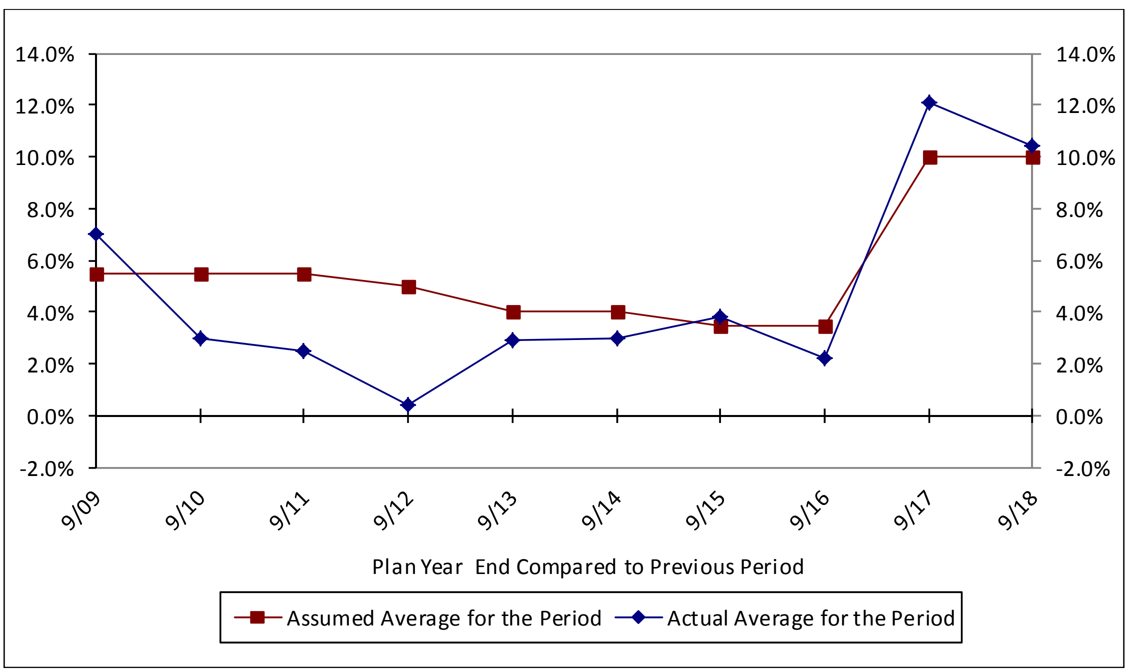
*Actual and assumed rates are based on average compound increases for the period

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 Actuarial 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
9/30/2018	132	28	68	79	0	3	3	3	18	21	39	27	2,384
2-Yr Total	363	191	178	186	2	6	7	6	34	52	86	52	

Note: Participant data is collected as of July 1. The plan was closed to new members as of October 1, 2017.

RECENT HISTORY OF VALUATION RESULTS

Valuation Date	Number of Active Members	Number of Inactive Members	Covered Annual Payroll	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets	Funded Ratio	Unfunded AAL (UAAL)	UAAL as a % of Covered Payroll
10/1/2000	2,049	1,797	$ 97,207	$ 939,802	$ 814,889	86.7 %	$ 124,913	128.5 %
10/1/2001	2,037	1,883	96,199	927,625	790,823	85.3	136,802	142.2
10/1/2002	2,068	1,975	101,698	977,779	725,416	74.2	252,363	248.1
10/1/2003	2,182	1,994	109,637	1,146,459	732,526	63.9	413,933	377.6
10/1/2004	2,347	2,019	118,510	1,222,355	727,955	59.6	494,400	417.2
10/1/2005	2,450	2,046	130,392	1,314,424	765,180	58.2	549,244	421.2
10/1/2006	2,509	2,068	134,694	1,376,659	827,338	60.1	549,321	407.8
10/1/2007	2,541	2,117	143,006	1,464,508	930,454	63.5	534,054	373.4
10/1/2008	2,534	2,164	148,277	1,692,975	894,903	52.9	798,072	538.2
10/1/2009	2,583	2,278	155,558	1,753,946	855,997	48.8	897,949	577.2
10/1/2010	2,620	2,353	158,047	2,024,453	1,060,406	52.4	964,047	610.0
10/1/2011	2,451	2,481	148,968	2,427,198	1,039,894	42.8	1,387,304	931.3
10/1/2012	2,213	2,647	133,611	2,762,977	1,078,907	39.0	1,684,070	1,260.4
10/1/2013	2,150	2,725	130,972	2,876,606	1,228,131	42.7	1,648,475	1,258.6
10/1/2014	2,237	2,801	134,521	2,983,906	1,389,748	46.6	1,594,158	1,185.1
10/1/2015	2,202	2,906	132,735	3,142,228	1,354,405	43.1	1,787,823	1,346.9
10/1/2016	2,294	2,963	135,600	3,518,252	1,513,398	43.0	2,004,853	1,478.5
10/1/2017	2,362	3,055	149,490	3,736,610	1,765,159	47.2	1,971,451	1,318.8
10/1/2018	2,384	3,092	162,004	3,880,073	1,865,496	48.1	2,014,577	1,243.5

Note: Dollar amounts are in thousands.

RECENT HISTORY OF REQUIRED AND ACTUAL CITY CONTRIBUTIONS					
	End of Year To Which	Required Contributions		Actual Contributions*	
Valuation Date	Valuation Applies	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	90.74	135,691	90.77
10/1/2017	9/30/2019	135,264	88.36	---	---
10/1/2018	9/30/2020	140,293	84.57	---	---

Note: Dollar amounts are in thousands.

*Actual contributions include the use of funds from the City Contribution reserve.

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 up to 29 years. *The maximum prescribed period was 30 years in the prior valuation.* This period will be reduced by 1 year in each future year until it reaches 15 years. The assumed payroll growth rate is 1.25%.

Actuarial Value of Assets **-** The Actuarial Value of Assets phase in the difference between the expected actuarial value and actual market value of assets at the rate of 20% per year. The Actuarial Value of Assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the Market Value of plan assets and whose upper limit is 120% of the Market Value of plan assets. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than Market Value. During periods when investment performance is less than assumed rate, Actuarial Value of Assets will tend to be greater than Market Value. *The Actuarial Value of Assets was equal to the Market Value in the prior valuation.*

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*** was 10% in 2017 and is 10% in 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 Chapter 112.63, Florida Statutes.

FRS Healthy Post-Retirement Mortality for Special Risk Class Members

Sample Attained	Probability of Dying Next Year		Future Life Expectancy (years)	
Ages in 2018	Men	Women	Men	Women
50	0.53 %	0.23 %	34.01	38.40
55	0.67	0.32	29.37	33.39
60	0.90	0.47	24.80	28.48
65	1.29	0.73	20.40	23.74
70	1.98	1.22	16.26	19.27
75	3.21	2.07	12.52	15.19
80	5.29	3.47	9.30	11.56

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	Probability of Dying Next Year		Future Life Expectancy (years)	
Ages in 2018	Men	Women	Men	Women
50	0.22 %	0.15 %	35.00	38.75
55	0.39	0.24	29.88	33.61
60	0.71	0.39	25.00	28.59
65	1.21	0.70	20.44	23.76
70	1.98	1.22	16.26	19.27
75	3.21	2.07	12.52	15.19
80	5.29	3.47	9.30	11.56

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 Chapter 112.63, Florida Statutes.

FRS Disabled Mortality for Special Risk Class Members

Sample Attained Ages in 2018	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

Sample Ages	Male/Female
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

Administrative & Investment Expenses	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.
Benefit Service	Exact fractional service is used to determine the amount of benefit payable. Actual credited service as of the July 1st prior to the valuation date is used in the valuation.
Decrement Operation	Disability and mortality decrements operate during retirement eligibility.
Decrement Relativity	Decrement rates are used without adjustment for multiple decrement table effects.
Decrement Timing	Decrements of all types are assumed to occur at the beginning of the year.
DROP Load	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.
DROP Participation	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.
Eligibility Testing	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.
Forfeitures	No vested terminated refunds or disability recoveries are assumed to occur.

Incidence of Contributions	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 1st and are assumed to be equal to the dollar amount shown.
Marriage Assumption	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.
Normal Form of Benefit	A 75% joint and contingent life annuity is the normal form of benefit.
Pension Liability Surtax	60.9% 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. In the previous valuation, the pro rata share of the total proceeds was 62.5%. 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.
Pay Increase Timing	Reported pays as of June 2018 were loaded by 6.5% to reflect the across-the-board pay increases effective October 1, 2018. 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.
Service Credit Accruals	It is assumed that members accrue one year of service credit per year.

GLOSSARY

Actuarial Accrued Liability (AAL)	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
Actuarial Assumptions	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.
Actuarial Cost Method	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.
Actuarial Equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV)	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.
Actuarial Present Value of Future Benefits (APVFB)	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.
Actuarial Valuation	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.
Actuarial Value of Assets	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).

Actuarially Determined Contribution (ADC)	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.
Amortization Method	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.
Amortization Payment	That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period	The period used in calculating the Amortization Payment.
Closed Amortization Period	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.
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Equivalent Single Amortization Period	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.
Experience Gain/Loss	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.

Funded Ratio	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
GASB	Governmental Accounting Standards Board.
Normal Cost	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
Unfunded Actuarial Accrued Liability	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
Valuation Date	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 2018	September 30 2017
A. Cash and Short-Term Investments (Operating Cash)	$ 42,675,563	$ 9,191,583
B. Receivables:		
1. Accounts Receivable	$ 91,321	$ 10,956,119
2. Interest and Dividends	2,079,722	1,901,011
3. Employer Contribution	30,180	7,112,996
4. Prepaid Items and Recoverable Taxes	81,675	81,675
5. Securities Lending Collateral	104,636,109	98,411,738
6. Deferred Outflows	112,110	112,110
7. Total Receivables	$ 107,031,117	$ 118,575,649
C. Property, Plant and Equipment		
1. Furniture and Equipment	$ 311,510	$ 323,991
2. Accumulated Depreciation	(311,510)	(311,510)
3. Net Total	$ 0	$ 12,481
D. Investments		
1. Cash and Cash Equivalents	$ 17,193,026	$ 12,809,251
2. Domestic and International Equities	1,246,391,220	1,175,935,866
3. Fixed Income Securities	393,508,925	369,640,812
4. Real Estate	313,153,049	311,480,475
5. Total Investments	$ 1,970,246,220	$ 1,869,866,404
E. Liabilities		
1. Accounts Payable	$ (6,781,156)	$ (6,261,486)
2. Other Post Employment Benefits	-	(79,857)
3. Securities Lending Collateral	(104,636,109)	(98,411,738)
4. Other Liabilities and Deferred Inflows	(713,743)	(95,905)
5. Total Liabilities	$ (112,131,008)	$ (104,848,986)
F. Total Market Value of Assets	$ 2,007,821,892	$ 1,892,797,131
G. Allocation of Investments		
1. Cash and Cash Equivalents	0.9%	0.7%
2. Domestic and International Equities	63.2%	62.9%
3. Fixed Income Securities	20.0%	19.8%
4. Real Estate	15.9%	16.6%
5. Total Investments	100.0%	100.0%

Reconciliation of Plan Assets

Item	September 30 2018	September 30 2017
A. Market Value of Assets at Beginning of Year	$ 1,892,797,131	$ 1,613,043,823
B. Revenues and Expenditures		
1. Contributions		
a. Member Contributions	$ 15,598,949	$ 12,036,456
b. Plan Member Buybacks and Pension Transfers	1,037,675	1,534,027
c. Employer Contributions	115,690,989	167,788,151
d. Employer Pension Transfers	-	6,738,047
e. State Contributions	11,791,197	10,874,768
f. Court Fines and Penalties	775,741	759,291
g. Supplemental Payment	-	10,000,000
h. Miscellaneous	82,245	51,404
i. Total	$ 144,976,796	$ 209,782,144
2. Investment Income		
a. Parking and Rental Revenue	$ 786,337	$ 771,181
b. Securities Lending Net Revenue	301,251	487,738
c. Investment Income and Realized Gains	87,464,375	90,846,001
d. Unrealized Gains/(Losses)	76,472,883	159,319,174
e. Investment Expenses	(8,582,038)	(8,002,164)
f. Net Investment Income	$ 156,442,808	$ 243,421,930
3. Benefits and Refunds		
a. Regular Monthly Benefits	$ (147,604,925)	$ (139,255,840)
b. Refunds	(782,240)	(811,383)
c. DROP Payments and RLA interest	(35,869,709)	(31,209,926)
d. Total	$ (184,256,874)	$ (171,277,149)
4. Administrative and Miscellaneous Expenses	$ (2,137,969)	$ (2,173,617)
C. Market Value of Assets at End of Year	$ 2,007,821,892	$ 1,892,797,131

RESERVE ACCOUNT BALANCES AS OF SEPTEMBER 30, 2018

	City of Jacksonville Contribution Reserve	Pending Share Plan Contribution	Balance to be Allocated to Police Officers	Balance to be Allocated to Firefighters	TOTALS
Account Value, 10/1/2017	$ 68,464,281	$ 0	$ 20,893,517	$ 20,893,517	$ 110,251,315
FY 2017 Chapter Funds received after 10/1/17		5,437,384			5,437,384
Annual Retiree Bonus paid December 2017		(2,138,935)			(2,138,935)
Remaining FY 2017 Premium Tax Distributions to be Allocated to Share Plan		3,298,449			3,298,449
Annual Earnings (7.99%)	5,470,296	292,030	1,669,392	1,669,392	9,101,110
Allocated Towards Required City Contribution	(20,000,000)				(20,000,000)
FY 2018 Chapter Funds			6,779,868	5,011,329	11,791,197
Account Value, 9/30/18	$ 53,934,577	$ 3,590,479	$ 29,342,777	$ 27,574,238	$ 114,442,071

RECONCILIATION OF SHARE PLAN		
Account Value, 9/30/2017	$	7,544,736
Contributions credited to accounts	+	0
Investment Earnings credited (7.99%)	+	593,031 [1]
Payments from accounts	-	249,953
Account Value, 9/30/2018		7,887,814

RECONCILIATION OF SENIOR STAFF RETIREMENT PLAN		
Account Value, 9/30/2017	$	4,404,690
Contributions credited to accounts	+	0
Investment Earnings credited (7.99%)	+	341,854 [1]
Payments from accounts	-	257,285
Account Value, 9/30/2018		4,489,259

[1] 7.99% applied to beginning-of-year account value; and mid-year timing assumed on payments from accounts during the year

Actuarial Value of Assets

	Valuation Date - September 30	2018	2019	2020	2021	2022
A.	Actuarial Value of Assets Beginning of Year	$ 1,892,797,131	$ -	$ -	$ -	$ -
B.	Market Value End of Year	2,007,821,892	-	-	-	-
C.	Market Value Beginning of Year	1,892,797,131	-	-	-	-
D.	Non-Investment/Administrative Net Cash Flow	(41,418,047)	-	-	-	-
E.	Investment Income					
	E1. Actual Market Total: B-C-D	156,442,808	-	-	-	-
	E2. Assumed Rate of Return	7.00%	7.00%	7.00%	7.00%	7.00%
	E3. Assumed Amount of Return	137,058,780	-	-	-	-
	E4. Amount Subject to Phase-In: E1–E3	19,384,028	-	-	-	-
F.	Phase-In Recognition of Investment Income					
	F1. Current Year: 0.2 x E4	3,876,806	-	-	-	-
	F2. First Prior Year	-	3,876,806	-	-	-
	F3. Second Prior Year	-	-	3,876,806	-	-
	F4. Third Prior Year	-	-	-	3,876,806	-
	F5. Fourth Prior Year	-	-	-	-	3,876,804
	F6. Total Phase-Ins	3,876,806	3,876,806	3,876,806	3,876,806	3,876,804
G.	**Actuarial Value of Assets End of Year**					
	G1. Preliminary Actuarial Value of Assets End of Year	$ 1,992,314,670	$ -	$ -	$ -	$ -
	G2. Upper Corridor Limit: 120%*B	2,409,386,270	-	-	-	-
	G3. Lower Corridor Limit: 80%*B	1,606,257,514	-	-	-	-
	G4. Funding Value End of Year	1,992,314,670	-	-	-	-
	G5. Less: Reserve Accounts, including Share Plan	(122,329,885)	-	-	-	-
	G6. Less: Sr. Staff Plan Assets	(4,489,259)	-	-	-	-
	G7. Final Funding Value End of Year	1,865,495,526	-	-	-	-
	G8. Final Market Value End of Year	1,881,002,748	-	-	-	-
H.	Difference between Market & Actuarial Value of Assets	15,507,222	-	-	-	-
I.	**Actuarial Rate of Return**	7.20%	0.00%	0.00%	0.00%	0.00%
J.	**Market Value Rate of Return**	7.99%	0.00%	0.00%	0.00%	0.00%
K.	**Ratio of Actuarial Value of Assets to Market Value**	99.23%	0.00%	0.00%	0.00%	0.00%

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 *
9/30/2018	8.0	7.2 **
Average Returns:		
Last 5 Years	7.6 %	7.5 %
All Years Shown Above	5.5 %	5.1 %

*For YE 9/30/2013 to YE 9/30/2017 the Actuarial Value is equal to the Market Value.
**Beginning 9/30/2018 the Actuarial Value of Assets uses a five-year smoothing method.

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, 2018	October 1, 2017
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	$ 2,869,390,535	$ 2,785,181,299
b. Terminated Vested Members	22,686,254	18,659,710
c. Other Members	705,648,311	650,690,553
d. Total	3,597,725,100	3,454,531,562
2. Non-Vested Benefits	26,430,861	23,296,759
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	3,624,155,961	3,477,828,321
4. Accumulated Contributions of Active Members	97,525,922	94,995,968
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	3,477,828,321	3,282,220,030
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendments	0	0
b. Change in Actuarial Assumptions	0	61,973,453
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	327,938,341	304,911,987
d. Benefits Paid (Net of Reserves)	(181,610,701)	(171,277,149)
e. Net Increase	146,327,640	195,608,291
3. Total Value at End of Period	3,624,155,961	3,477,828,321
D. Net Market Value of Assets	1,881,002,748	1,765,159,006
E. Funded Ratio Using Net Market Value: D / C3	51.9%	50.8%
F. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods		

SUMMARY OF DISCLOSURES

GASB Statement No. 67

Actuarial Valuation Date		September 30, 2018
Pension Plan's Fiscal Year Ending Date (Asset Measurement Date & Reporting Date)		September 30, 2018
Membership		
Number of		
- Retirees and Beneficiaries		3,010
- Inactive, Nonretired Members		82
- Active Members		2,384
- Total		5,476
Covered Payroll	$	162,003,561
Net Pension Liability		
Total Pension Liability	$	3,880,072,506
Total Plan Fiduciary Net Position		1,881,002,748
City's Net Pension Liability	$	1,999,069,758
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		48.48%
Net Pension Liability as a Percentage of Covered Payroll		1,233.97%
Development of the Single Discount Rate		
Single Discount Rate		7.00%
Long-Term Expected Rate of Return		7.00%
Long-Term Municipal Bond Rate*		3.83%
Last year ending September 30 in the 2019 to 2118 projection period for which projected benefit payments are fully funded		2118

* *Source: Fidelity General Obligation AA rate as of September 28, 2018. 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,	2018	2017	2016	2015	2014	2013	2012
Total pension liability							
Service Cost	$ 60,154,158	$ 45,257,077	$ 44,087,089	$ 46,662,780	$ 47,915,012	$ 46,109,290	$ 47,569,761
Interest on the Total Pension Liability	259,433,546	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	8,132,052	24,030,616	3,566,449	24,831,339	22,671,112	(4,675,994)	(12,512,641)
Assumption Changes	-	232,927,458	97,813,304	24,514,349	-	5,332,605	227,333,255
Benefit Payments	(183,474,634)	(170,465,766)	(159,726,007)	(148,628,476)	(138,179,183)	(128,655,957)	(116,955,126)
Refunds	(782,240)	(811,383)	-	-	-	-	
Other	-	-	-	-	-	-	
Net Change in Total Pension Liability	143,462,882	391,094,365	203,287,047	129,637,644	135,984,376	113,629,686	335,778,880
Total Pension Liability - Beginning	3,736,609,624	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)	$ 3,880,072,506	$ 3,736,609,624	$ 3,345,515,259	$ 3,142,228,212	$ 3,012,590,568	$ 2,876,606,192	$ 2,762,976,506
Plan Fiduciary Net Position							
Contributions - Employer (City) (Including Buyback)	$ 115,690,989	$ 184,526,198	$ 157,494,371	$ 154,664,523	$ 150,520,270	$ 121,822,333	$ 72,642,853
Contributions - Employer (State)	11,791,197	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)	16,636,624	13,570,483	12,830,861	12,061,321	11,583,565	10,753,501	11,610,870
Net Investment Income, including Securities Lending	156,442,808	243,421,930	154,313,142	(62,884,634)	147,332,798	169,202,439	181,653,432
Benefit Payments	(183,474,634)	(170,465,766)	(159,726,007)	(148,628,476)	(138,179,183)	(128,655,957)	(116,955,126)
Refunds	(782,240)	(811,383)	-	-	-	-	-
Administrative Expense	(2,137,969)	(2,173,617)	(3,519,224)	(2,228,452)	(2,224,248)	(2,505,985)	(2,351,598)
Court Fines	775,741	759,291	832,536	920,774	881,291	757,984	770,125
Other	82,245	51,404	122,886	327,418	141,855	1,187,289	55,383
Net Change in Plan Fiduciary Net Position	115,024,761	279,753,308	173,029,189	(35,189,673)	180,166,841	182,228,789	156,701,767
Cummulative Effect of Change in Accounting Principle	-	-	2,238,000	-	-	-	-
Plan Fiduciary Net Position - Beginning (adjusted)	1,892,797,131	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	$ 2,007,821,892	$ 1,892,797,131	$ 1,613,043,823	$ 1,437,907,379	$ 1,473,097,052	$ 1,292,965,997	$ 1,110,737,308
less Reserve Accounts and Sr. Staff Assets	(126,819,144)	(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)	$ 1,881,002,748	$ 1,765,159,006	$ 1,513,398,466	$ 1,354,405,365	$ 1,389,747,615	$ 1,228,131,184	$ 1,078,906,687
City's Net Pension Liability - Ending (a) - (b)	$ 1,999,069,758	$ 1,971,450,618	$ 1,832,116,793	$ 1,787,822,847	$ 1,622,842,953	$ 1,648,475,008	$ 1,684,069,819
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	48.48 %	47.24 %	45.24 %	43.10 %	46.13 %	42.69 %	39.05 %
Covered Employee Payroll	$ 162,003,561	$ 149,489,571	$ 135,599,741	$ 132,735,243	$ 134,521,216	$ 130,972,174	$ 133,611,459
Net Pension Liability as a Percentage of Covered Payroll	1,233.97 %	1,318.79 %	1,351.12 %	1,346.91 %	1,206.38 %	1,258.65 %	1,260.42 %

SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY
GASB Statement No. 67

FY Ending September 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2012	$ 2,762,976,506	$ 1,078,906,687	$ 1,684,069,819	39.05%	$ 133,611,459	1,260.42%
2013	2,876,606,192	1,228,131,184	1,648,475,008	42.69%	130,972,174	1,258.65%
2014	3,012,590,568	1,389,747,615	1,622,842,953	46.13%	134,521,216	1,206.38%
2015	3,142,228,212	1,354,405,365	1,787,822,847	43.10%	132,735,243	1,346.91%
2016	3,345,515,259	1,513,398,466	1,832,116,793	45.24%	135,599,741	1,351.12%
2017	3,736,609,624	1,765,159,006	1,971,450,618	47.24%	149,489,571	1,318.79%
2018	3,880,072,506	1,881,002,748	1,999,069,758	48.48%	162,003,561	1,233.97%

NOTES TO NET PENSION LIABILITY
GASB Statement No. 67

Valuation Date:	September 30, 2018
Measurement Date:	September 30, 2018

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.5%
Salary Increases	10% in 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 Chapter 112.63, Florida Statutes.

Other Information:

Notes	See Discussion of Valuation Results in the October 1, 2018 Actuarial Valuation Report.

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
2008	$ 48,806,879	$ 48,364,103	$ 442,776	$148,276,743	32.62%
2009	50,564,207	50,234,759	329,448	155,557,729	32.29%
2010	77,182,058	82,196,878	(5,014,820)	158,046,680	52.01%
2011	77,065,314	75,902,934	1,162,380	148,967,906	50.95%
2012	73,729,000	70,598,682	3,130,318	133,611,459	52.84%
2013	99,996,835	122,580,317	(22,583,482)	130,972,174	93.59%
2014	142,432,577	149,158,659	(6,726,082)	134,521,216	110.88%
2015	153,603,996	153,935,565	(331,569)	132,735,243	115.97%
2016	149,499,492	149,499,492 *	-	135,599,741	110.25%
2017	167,788,151	167,788,151 **	-	149,489,571	112.24%
2018	135,648,057	115,690,989	19,957,068 ***	162,003,561	71.41%

[1]Contribution 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

***Contributions of $20,000,000 were allocated from the City Contribution Reserve (resulting from previous years' excess contributions) to fully meet the Actuarially Determined Contribution for fiscal year ending September 30, 2018.

NOTES TO SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

Valuation Date:	October 1, 2016
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
Asset Valuation Method	Market Value
Inflation	2.50%
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.

Other Information:

Notes	See Discussion of Valuation Results in the October 1, 2016 Actuarial Valuation Report and the Actuarial Impact Statement for Ordinances Nos. 2017-257 and 2017-259, dated April 19, 2017.

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 6.00%	Current Single Discount Rate Assumption 7.00%	1% Increase 8.00%
$2,565,406,598	$1,999,069,758	$1,542,072,403

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 3.83%; 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 2019 TO 2068

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense Contributions	UAL Contributions	Pension Liability Surtax Contributions	Additional Contributions	Total Contributions
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(b)+(c)+(d)+(e)+(f)
1	162,003,561	$ 16,757,779	$ 52,843,323	$ 80,401,609	$ -	$ -	$ 150,002,711
2	168,803,276	17,461,147	55,170,296	81,257,854	-	-	153,889,296
3	164,917,978	17,059,248	54,105,939	82,273,577	-	-	153,438,764
4	159,647,642	16,514,080	52,533,861	83,301,996	-	-	152,349,938
5	154,624,918	15,994,526	50,951,098	84,343,271	-	-	151,288,895
6	147,850,755	15,293,801	48,761,169	85,397,562	-	-	149,452,532
7	138,576,302	14,334,444	45,749,989	86,465,032	-	-	146,549,465
8	128,130,544	13,253,927	42,350,256	87,545,845	-	-	143,150,027
9	120,374,795	12,451,666	39,852,255	88,640,168	-	-	140,944,089
10	111,155,371	11,498,001	36,886,719	89,748,170	-	-	138,132,889
11	103,157,907	10,670,737	34,339,450	90,870,022	-	-	135,880,209
12	93,277,167	9,648,665	31,240,464	92,005,897	-	-	132,895,026
13	82,380,329	8,521,487	27,819,923	93,155,971	71,817,026	-	201,314,408
14	76,798,997	7,944,150	26,076,194	94,320,421	99,825,666	-	228,166,430
15	72,673,326	7,517,387	24,800,417	95,499,426	104,068,257	-	231,885,487
16	68,152,822	7,049,783	23,426,888	96,693,169	108,491,158	-	235,660,997
17	60,794,067	6,288,587	21,221,901	97,901,833	113,102,032	-	238,514,353
18	51,221,300	5,298,372	18,411,076	99,125,606	117,908,868	-	240,743,923
19	42,195,421	4,364,728	15,785,081	100,364,676	122,919,995	-	243,434,481
20	30,593,085	3,164,573	12,464,628	101,619,235	128,144,095	-	245,392,531
21	20,385,741	2,108,717	9,578,059	102,889,475	133,590,219	-	248,166,470
22	13,790,282	1,426,478	7,740,424	104,175,594	139,267,803	-	252,610,299
23	9,631,224	996,262	6,621,351	105,477,788	145,186,685	-	258,282,086
24	6,640,777	686,927	5,844,722	106,796,261	151,357,119	-	264,685,029
25	4,497,902	465,267	5,314,441	108,131,214	157,789,796	-	271,700,718
26	2,826,584	292,384	4,924,261	109,482,854	164,495,863	-	279,195,362
27	1,587,609	164,224	4,663,974	110,851,390	171,486,937	-	287,166,525
28	886,139	91,663	4,564,305	112,237,032	178,775,132	-	295,668,132
29	272,665	28,205	4,493,671	113,639,995	186,373,075	-	304,534,945
30	-	-	4,525,696	-	194,293,930	105,474,304	304,293,930
31	-	-	4,638,838	-	202,551,422	105,361,162	312,551,422
32	-	-	4,754,809	-	211,159,858	105,245,191	321,159,858
33	-	-	4,873,679	-	220,134,152	105,126,321	330,134,152
34	-	-	4,995,521	-	229,489,853	105,004,479	339,489,853
35	-	-	5,120,409	-	239,243,172	104,879,591	349,243,172
36	-	-	5,248,419	-	249,411,007	104,751,581	359,411,007
37	-	-	5,379,629	-	260,010,975	104,620,371	370,010,975
38	-	-	5,514,120	-	-	-	5,514,120
39	-	-	5,651,973	-	-	-	5,651,973
40	-	-	5,793,273	-	-	-	5,793,273
41	-	-	5,938,104	-	-	-	5,938,104
42	-	-	6,086,557	-	-	-	6,086,557
43	-	-	6,238,721	-	-	-	6,238,721
44	-	-	6,394,689	-	-	-	6,394,689
45	-	-	6,554,556	-	-	-	6,554,556
46	-	-	6,718,419	-	-	-	6,718,419
47	-	-	6,886,380	-	-	-	6,886,380
48	-	-	7,058,540	-	-	-	7,058,540
49	-	-	7,235,004	-	-	-	7,235,004
50	-	-	7,415,879	-	-	-	7,415,879

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION
OF CONTRIBUTIONS ENDING SEPTEMBER 30 FOR 2069 TO 2118

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense Contributions	UAL Contributions	Pension Liability Surtax Contributions	Additional Contributions	Total Contributions
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(b)+(c)+(d)+(e)+(f)
51	-	-	7,601,276	-	-	-	7,601,276
52	-	-	7,791,308	-	-	-	7,791,308
53	-	-	7,986,091	-	-	-	7,986,091
54	-	-	8,185,744	-	-	-	8,185,744
55	-	-	8,390,387	-	-	-	8,390,387
56	-	-	8,600,146	-	-	-	8,600,146
57	-	-	8,815,150	-	-	-	8,815,150
58	-	-	9,035,528	-	-	-	9,035,528
59	-	-	9,261,416	-	-	-	9,261,416
60	-	-	9,492,952	-	-	-	9,492,952
61	-	-	9,730,276	-	-	-	9,730,276
62	-	-	9,973,533	-	-	-	9,973,533
63	-	-	10,222,871	-	-	-	10,222,871
64	-	-	10,478,443	-	-	-	10,478,443
65	-	-	10,740,404	-	-	-	10,740,404
66	-	-	11,008,914	-	-	-	11,008,914
67	-	-	11,284,137	-	-	-	11,284,137
68	-	-	11,566,241	-	-	-	11,566,241
69	-	-	11,855,397	-	-	-	11,855,397
70	-	-	12,151,782	-	-	-	12,151,782
71	-	-	12,455,576	-	-	-	12,455,576
72	-	-	12,766,966	-	-	-	12,766,966
73	-	-	13,086,140	-	-	-	13,086,140
74	-	-	13,413,293	-	-	-	13,413,293
75	-	-	13,748,626	-	-	-	13,748,626
76	-	-	14,092,341	-	-	-	14,092,341
77	-	-	14,444,650	-	-	-	14,444,650
78	-	-	14,805,766	-	-	-	14,805,766
79	-	-	15,175,910	-	-	-	15,175,910
80	-	-	15,555,308	-	-	-	15,555,308
81	-	-	15,944,191	-	-	-	15,944,191
82	-	-	16,342,796	-	-	-	16,342,796
83	-	-	16,751,365	-	-	-	16,751,365
84	-	-	17,170,149	-	-	-	17,170,149
85	-	-	17,599,403	-	-	-	17,599,403
86	-	-	18,039,388	-	-	-	18,039,388
87	-	-	18,490,373	-	-	-	18,490,373
88	-	-	18,952,632	-	-	-	18,952,632
89	-	-	19,426,448	-	-	-	19,426,448
90	-	-	19,912,109	-	-	-	19,912,109
91	-	-	20,409,911	-	-	-	20,409,911
92	-	-	20,920,159	-	-	-	20,920,159
93	-	-	21,443,163	-	-	-	21,443,163
94	-	-	21,979,242	-	-	-	21,979,242
95	-	-	22,528,722	-	-	-	22,528,722
96	-	-	23,091,940	-	-	-	23,091,940
97	-	-	23,669,239	-	-	-	23,669,239
98	-	-	24,260,970	-	-	-	24,260,970
99	-	-	24,867,494	-	-	-	24,867,494
100	-	-	25,489,182	-	-	-	25,489,182

SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION
OF PLAN FIDUCIARY NET POSITION ENDING SEPTEMBER 30 FOR 2019 TO 2068

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	$ 1,881,002,748	$ 150,002,711	$ 186,588,787	$ 2,211,532	$ 130,335,243	$ 1,972,540,382
2	1,972,540,382	153,889,296	197,691,913	2,266,820	136,492,668	2,062,963,613
3	2,062,963,613	153,438,764	205,888,225	2,323,490	142,522,823	2,150,713,484
4	2,150,713,484	152,349,938	219,649,765	2,381,578	148,152,343	2,229,184,424
5	2,229,184,424	151,288,895	224,037,354	2,441,117	153,455,783	2,307,450,631
6	2,307,450,631	149,452,532	236,093,103	2,502,145	158,454,318	2,376,762,233
7	2,376,762,233	146,549,465	244,467,561	2,564,699	162,915,940	2,439,195,379
8	2,439,195,379	143,150,027	255,882,009	2,628,817	166,774,337	2,490,608,917
9	2,490,608,917	140,944,089	267,241,823	2,694,537	169,904,253	2,531,520,898
10	2,531,520,898	138,132,889	279,861,107	2,761,901	172,234,841	2,559,265,621
11	2,559,265,621	135,880,209	293,189,631	2,830,948	173,638,477	2,572,763,727
12	2,572,763,727	132,895,026	310,926,724	2,901,722	173,867,896	2,565,698,203
13	2,565,698,203	201,314,408	320,751,979	2,974,266	175,386,922	2,618,673,289
14	2,618,673,289	228,166,430	336,075,476	3,048,622	179,489,294	2,687,204,915
15	2,687,204,915	231,885,487	346,642,691	3,124,837	184,048,254	2,753,371,128
16	2,753,371,128	235,660,997	360,931,731	3,202,958	188,315,451	2,813,212,887
17	2,813,212,887	238,514,353	377,184,520	3,283,031	192,040,570	2,863,300,259
18	2,863,300,259	240,743,923	384,511,761	3,365,107	195,368,461	2,911,535,774
19	2,911,535,774	243,434,481	391,020,172	3,449,235	198,610,688	2,959,111,536
20	2,959,111,536	245,392,531	398,416,864	3,535,466	201,750,891	3,004,302,627
21	3,004,302,627	248,166,470	409,201,016	3,623,853	204,635,611	3,044,279,839
22	3,044,279,839	252,610,299	422,073,784	3,714,450	207,140,875	3,078,242,779
23	3,078,242,779	258,282,086	431,222,717	3,807,311	209,395,444	3,110,890,281
24	3,110,890,281	264,685,029	444,874,065	3,902,494	211,428,090	3,138,226,842
25	3,138,226,842	271,700,718	455,451,963	4,000,056	213,215,724	3,163,691,265
26	3,163,691,265	279,195,362	460,173,112	4,100,057	215,090,223	3,193,703,681
27	3,193,703,681	287,166,525	464,321,484	4,202,559	217,319,100	3,229,665,263
28	3,229,665,263	295,668,132	466,087,655	4,307,623	220,064,549	3,275,002,666
29	3,275,002,666	304,534,945	467,317,175	4,415,313	223,497,246	3,331,302,370
30	3,331,302,370	304,293,930	467,633,295	4,525,696	227,415,258	3,390,852,568
31	3,390,852,568	312,551,422	466,936,646	4,638,838	231,887,973	3,463,716,478
32	3,463,716,478	321,159,858	463,985,754	4,754,809	237,382,190	3,553,517,964
33	3,553,517,964	330,134,152	460,777,858	4,873,679	244,083,369	3,662,083,949
34	3,662,083,949	339,489,853	456,033,106	4,995,521	252,163,965	3,792,709,141
35	3,792,709,141	349,243,172	452,844,231	5,120,409	261,748,747	3,945,736,420
36	3,945,736,420	359,411,007	447,943,046	5,248,419	272,974,747	4,124,930,710
37	4,124,930,710	370,010,975	443,140,032	5,379,629	286,043,819	4,332,465,843
38	4,332,465,843	5,514,120	437,308,249	5,514,120	288,225,688	4,183,383,282
39	4,183,383,282	5,651,973	430,963,746	5,651,973	278,008,210	4,030,427,746
40	4,030,427,746	5,793,273	423,647,989	5,793,273	267,553,044	3,874,332,801
41	3,874,332,801	5,938,104	415,342,542	5,938,104	256,912,172	3,715,902,431
42	3,715,902,431	6,086,557	405,491,413	6,086,557	246,161,004	3,556,572,022
43	3,556,572,022	6,238,721	396,259,158	6,238,721	235,325,539	3,395,638,403
44	3,395,638,403	6,394,689	385,561,232	6,394,689	224,428,281	3,234,505,452
45	3,234,505,452	6,554,556	375,016,244	6,554,556	213,511,806	3,073,001,014
46	3,073,001,014	6,718,419	363,211,766	6,718,419	202,612,665	2,912,401,913
47	2,912,401,913	6,886,380	350,164,965	6,886,380	191,819,643	2,754,056,591
48	2,754,056,591	7,058,540	338,064,859	7,058,540	181,151,811	2,597,143,543
49	2,597,143,543	7,235,004	326,490,128	7,235,004	170,566,162	2,441,219,576
50	2,441,219,576	7,415,879	314,508,767	7,415,879	160,063,739	2,286,774,548

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 2069 TO 2118

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	2,286,774,548	7,601,276	301,448,875	7,601,276	149,701,952	2,135,027,625
52	2,135,027,625	7,791,308	287,502,653	7,791,308	139,559,530	1,987,084,502
53	1,987,084,502	7,986,091	273,736,843	7,986,091	129,677,166	1,843,024,826
54	1,843,024,826	8,185,744	258,888,110	8,185,744	120,103,904	1,704,240,620
55	1,704,240,620	8,390,387	244,146,262	8,390,387	110,896,248	1,570,990,606
56	1,570,990,606	8,600,146	230,485,404	8,600,146	102,038,791	1,442,543,993
57	1,442,543,993	8,815,150	217,144,906	8,815,150	93,506,548	1,318,905,635
58	1,318,905,635	9,035,528	204,197,403	9,035,528	85,297,361	1,200,005,593
59	1,200,005,593	9,261,416	191,370,034	9,261,416	77,415,723	1,086,051,282
60	1,086,051,282	9,492,952	178,626,987	9,492,952	69,877,385	977,301,679
61	977,301,679	9,730,276	165,922,199	9,730,276	62,702,059	874,081,540
62	874,081,540	9,973,533	153,313,637	9,973,533	55,910,486	776,678,388
63	776,678,388	10,222,871	140,907,735	10,222,871	49,519,128	685,289,781
64	685,289,781	10,478,443	128,652,642	10,478,443	43,543,599	600,180,738
65	600,180,738	10,740,404	116,706,447	10,740,404	37,997,011	521,471,302
66	521,471,302	11,008,914	105,137,059	11,008,914	32,885,431	449,219,674
67	449,219,674	11,284,137	93,939,762	11,284,137	28,213,094	383,493,006
68	383,493,006	11,566,241	83,199,057	11,566,241	23,981,794	324,275,742
69	324,275,742	11,855,397	73,003,269	11,855,397	20,187,402	271,459,875
70	271,459,875	12,151,782	63,414,504	12,151,782	16,820,222	224,865,594
71	224,865,594	12,455,576	54,502,175	12,455,576	13,865,278	184,228,697
72	184,228,697	12,766,966	46,312,699	12,766,966	11,302,479	149,218,477
73	149,218,477	13,086,140	38,885,941	13,086,140	9,107,304	119,439,841
74	119,439,841	13,413,293	32,254,066	13,413,293	7,250,990	94,436,764
75	94,436,764	13,748,626	26,414,215	13,748,626	5,701,712	73,724,262
76	73,724,262	14,092,341	21,349,786	14,092,341	4,426,094	56,800,570
77	56,800,570	14,444,650	17,022,029	14,444,650	3,390,345	43,168,887
78	43,168,887	14,805,766	13,385,794	14,805,766	2,561,243	32,344,336
79	32,344,336	15,175,910	10,372,418	15,175,910	1,907,209	23,879,127
80	23,879,127	15,555,308	7,916,680	15,555,308	1,399,141	17,361,588
81	17,361,588	15,944,191	5,946,131	15,944,191	1,010,716	12,426,174
82	12,426,174	16,342,796	4,392,471	16,342,796	718,696	8,752,399
83	8,752,399	16,751,365	3,190,378	16,751,365	502,893	6,064,915
84	6,064,915	17,170,149	2,276,674	17,170,149	346,208	4,134,448
85	4,134,448	17,599,403	1,595,481	17,599,403	234,514	2,773,481
86	2,773,481	18,039,388	1,098,440	18,039,388	156,349	1,831,390
87	1,831,390	18,490,373	743,204	18,490,373	102,625	1,190,811
88	1,190,811	18,952,632	494,426	18,952,632	66,345	762,730
89	762,730	19,426,448	323,731	19,426,448	42,252	481,251
90	481,251	19,912,109	208,820	19,912,109	26,502	298,934
91	298,934	20,409,911	132,595	20,409,911	16,363	182,702
92	182,702	20,920,159	82,992	20,920,159	9,934	109,643
93	109,643	21,443,163	51,242	21,443,163	5,912	64,313
94	64,313	21,979,242	31,040	21,979,242	3,434	36,706
95	36,706	22,528,722	18,430	22,528,722	1,935	20,212
96	20,212	23,091,940	10,567	23,091,940	1,051	10,696
97	10,696	23,669,239	5,881	23,669,239	546	5,361
98	5,361	24,260,970	3,158	24,260,970	267	2,469
99	2,469	24,867,494	1,561	24,867,494	119	1,027
100	1,027	25,489,182	1,027	25,489,182	37	37

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 2019 TO 2068

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	$ 1,881,002,748	$ 186,588,787	$ 186,588,787	$ -	$ 180,382,189	$ -	$ 180,382,189
2	1,972,540,382	197,691,913	197,691,913	-	178,613,070	-	178,613,070
3	2,062,963,613	205,888,225	205,888,225	-	173,848,947	-	173,848,947
4	2,150,713,484	219,649,765	219,649,765	-	173,335,501	-	173,335,501
5	2,229,184,424	224,037,354	224,037,354	-	165,231,724	-	165,231,724
6	2,307,450,631	236,093,103	236,093,103	-	162,731,835	-	162,731,835
7	2,376,762,233	244,467,561	244,467,561	-	157,480,463	-	157,480,463
8	2,439,195,379	255,882,009	255,882,009	-	154,049,899	-	154,049,899
9	2,490,608,917	267,241,823	267,241,823	-	150,363,462	-	150,363,462
10	2,531,520,898	279,861,107	279,861,107	-	147,162,331	-	147,162,331
11	2,559,265,621	293,189,631	293,189,631	-	144,085,057	-	144,085,057
12	2,572,763,727	310,926,724	310,926,724	-	142,805,392	-	142,805,392
13	2,565,698,203	320,751,979	320,751,979	-	137,680,402	-	137,680,402
14	2,618,673,289	336,075,476	336,075,476	-	134,820,466	-	134,820,466
15	2,687,204,915	346,642,691	346,642,691	-	129,962,265	-	129,962,265
16	2,753,371,128	360,931,731	360,931,731	-	126,466,794	-	126,466,794
17	2,813,212,887	377,184,520	377,184,520	-	123,515,519	-	123,515,519
18	2,863,300,259	384,511,761	384,511,761	-	117,677,523	-	117,677,523
19	2,911,535,774	391,020,172	391,020,172	-	111,840,545	-	111,840,545
20	2,959,111,536	398,416,864	398,416,864	-	106,501,089	-	106,501,089
21	3,004,302,627	409,201,016	409,201,016	-	102,227,858	-	102,227,858
22	3,044,279,839	422,073,784	422,073,784	-	98,545,582	-	98,545,582
23	3,078,242,779	431,222,717	431,222,717	-	94,095,019	-	94,095,019
24	3,110,890,281	444,874,065	444,874,065	-	90,723,190	-	90,723,190
25	3,138,226,842	455,451,963	455,451,963	-	86,804,057	-	86,804,057
26	3,163,691,265	460,173,112	460,173,112	-	81,966,220	-	81,966,220
27	3,193,703,681	464,321,484	464,321,484	-	77,294,514	-	77,294,514
28	3,229,665,263	466,087,655	466,087,655	-	72,512,639	-	72,512,639
29	3,275,002,666	467,317,175	467,317,175	-	67,947,593	-	67,947,593
30	3,331,302,370	467,633,295	467,633,295	-	63,545,380	-	63,545,380
31	3,390,852,568	466,936,646	466,936,646	-	59,299,733	-	59,299,733
32	3,463,716,478	463,985,754	463,985,754	-	55,070,073	-	55,070,073
33	3,553,517,964	460,777,858	460,777,858	-	51,111,524	-	51,111,524
34	3,662,083,949	456,033,106	456,033,106	-	47,275,901	-	47,275,901
35	3,792,709,141	452,844,231	452,844,231	-	43,874,129	-	43,874,129
36	3,945,736,420	447,943,046	447,943,046	-	40,560,070	-	40,560,070
37	4,124,930,710	443,140,032	443,140,032	-	37,500,158	-	37,500,158
38	4,332,465,843	437,308,249	437,308,249	-	34,585,655	-	34,585,655
39	4,183,383,282	430,963,746	430,963,746	-	31,854,097	-	31,854,097
40	4,030,427,746	423,647,989	423,647,989	-	29,264,825	-	29,264,825
41	3,874,332,801	415,342,542	415,342,542	-	26,814,112	-	26,814,112
42	3,715,902,431	405,491,413	405,491,413	-	24,465,545	-	24,465,545
43	3,556,572,022	396,259,158	396,259,158	-	22,344,403	-	22,344,403
44	3,395,638,403	385,561,232	385,561,232	-	20,318,846	-	20,318,846
45	3,234,505,452	375,016,244	375,016,244	-	18,470,216	-	18,470,216
46	3,073,001,014	363,211,766	363,211,766	-	16,718,527	-	16,718,527
47	2,912,401,913	350,164,965	350,164,965	-	15,063,539	-	15,063,539
48	2,754,056,591	338,064,859	338,064,859	-	13,591,600	-	13,591,600
49	2,597,143,543	326,490,128	326,490,128	-	12,267,522	-	12,267,522
50	2,441,219,576	314,508,767	314,508,767	-	11,044,238	-	11,044,238

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 2069 TO 2118

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	$ 2,286,774,548	$ 301,448,875	$ 301,448,875	$ -	$ 9,893,111	$ -	$ 9,893,111
52	2,135,027,625	287,502,653	287,502,653	-	8,818,146	-	8,818,146
53	1,987,084,502	273,736,843	273,736,843	-	7,846,662	-	7,846,662
54	1,843,024,826	258,888,110	258,888,110	-	6,935,536	-	6,935,536
55	1,704,240,620	244,146,262	244,146,262	-	6,112,716	-	6,112,716
56	1,570,990,606	230,485,404	230,485,404	-	5,393,166	-	5,393,166
57	1,442,543,993	217,144,906	217,144,906	-	4,748,607	-	4,748,607
58	1,318,905,635	204,197,403	204,197,403	-	4,173,333	-	4,173,333
59	1,200,005,593	191,370,034	191,370,034	-	3,655,299	-	3,655,299
60	1,086,051,282	178,626,987	178,626,987	-	3,188,690	-	3,188,690
61	977,301,679	165,922,199	165,922,199	-	2,768,127	-	2,768,127
62	874,081,540	153,313,637	153,313,637	-	2,390,443	-	2,390,443
63	776,678,388	140,907,735	140,907,735	-	2,053,283	-	2,053,283
64	685,289,781	128,652,642	128,652,642	-	1,752,059	-	1,752,059
65	600,180,738	116,706,447	116,706,447	-	1,485,392	-	1,485,392
66	521,471,302	105,137,059	105,137,059	-	1,250,600	-	1,250,600
67	449,219,674	93,939,762	93,939,762	-	1,044,307	-	1,044,307
68	383,493,006	83,199,057	83,199,057	-	864,397	-	864,397
69	324,275,742	73,003,269	73,003,269	-	708,849	-	708,849
70	271,459,875	63,414,504	63,414,504	-	575,461	-	575,461
71	224,865,594	54,502,175	54,502,175	-	462,229	-	462,229
72	184,228,697	46,312,699	46,312,699	-	367,079	-	367,079
73	149,218,477	38,885,941	38,885,941	-	288,051	-	288,051
74	119,439,841	32,254,066	32,254,066	-	223,294	-	223,294
75	94,436,764	26,414,215	26,414,215	-	170,902	-	170,902
76	73,724,262	21,349,786	21,349,786	-	129,098	-	129,098
77	56,800,570	17,022,029	17,022,029	-	96,195	-	96,195
78	43,168,887	13,385,794	13,385,794	-	70,697	-	70,697
79	32,344,336	10,372,418	10,372,418	-	51,198	-	51,198
80	23,879,127	7,916,680	7,916,680	-	36,520	-	36,520
81	17,361,588	5,946,131	5,946,131	-	25,635	-	25,635
82	12,426,174	4,392,471	4,392,471	-	17,698	-	17,698
83	8,752,399	3,190,378	3,190,378	-	12,014	-	12,014
84	6,064,915	2,276,674	2,276,674	-	8,012	-	8,012
85	4,134,448	1,595,481	1,595,481	-	5,248	-	5,248
86	2,773,481	1,098,440	1,098,440	-	3,376	-	3,376
87	1,831,390	743,204	743,204	-	2,135	-	2,135
88	1,190,811	494,426	494,426	-	1,327	-	1,327
89	762,730	323,731	323,731	-	812	-	812
90	481,251	208,820	208,820	-	490	-	490
91	298,934	132,595	132,595	-	291	-	291
92	182,702	82,992	82,992	-	170	-	170
93	109,643	51,242	51,242	-	98	-	98
94	64,313	31,040	31,040	-	56	-	56
95	36,706	18,430	18,430	-	31	-	31
96	20,212	10,567	10,567	-	17	-	17
97	10,696	5,881	5,881	-	9	-	9
98	5,361	3,158	3,158	-	4	-	4
99	2,469	1,561	1,561	-	2	-	2
100	1,027	1,027	1,027	-	2	-	2
				Totals	$ 4,443,342,115	$ -	$ 4,443,342,115

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 10/1/17 To 10/1/18	**From 10/1/16 To 10/1/17**
A. Active Members		
1. Number Included in Last Valuation	2,362	2,294
2. New Members Included in Current Valuation	126	229
3. Non-Vested Employment Terminations	(21)	(31)
4. Vested Employment Terminations	(18)	(16)
5. DROP Retirement	(65)	(102)
6. Service Retirements	(3)	(8)
7. Disability Retirements	0	(2)
8. Deaths	(3)	(4)
9. Other - Data Corrections	6	2
10. Number Included in This Valuation	2,384	2,362
B. Terminated Vested Members		
1. Number Included in Last Valuation	73	77
2. Additions from Active Members	18	16
3. Lump Sum Payments/Refund of Contributions	(8)	(5)
4. Payments Commenced	0	(14)
5. Deaths	0	0
6. Rehire	(2)	(1)
7. Other - Data Corrections	1	0
8. Number Included in This Valuation	82	73
C. DROP Retirees, Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	2,982	2,886
2. Additions from Active Members	68	112
3. Additions from Terminated Vested Members	0	14
4. Deaths	(57)	(60)
5. Additions from New Survivor Benefits	24	34
6. End of Certain Period - No Further Payments	(3)	(2)
7. Other - Data Corrections	(4)	(2)
8. Number Included in This Valuation	3,010	2,982

Note: Participant Data is collected as of July 1.

ACTIVE MEMBERS AS OF OCTOBER 1, 2018

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	-	65	1	-	-	-	-	-	66	$ 3,044,897	$ 46,135
25-29	-	251	47	1	-	-	-	-	299	15,494,365	51,821
30-34	-	221	119	76	-	-	-	-	416	24,781,579	59,571
35-39	-	109	93	223	53	-	-	-	478	32,953,276	68,940
40-44	-	45	41	166	167	37	-	-	456	33,803,404	74,130
45-49	-	19	28	99	129	108	14	-	397	31,470,076	79,270
50-54	-	2	12	55	60	56	7	1	193	15,210,588	78,811
55-59	-	1	7	22	22	15	1	-	68	5,020,728	73,834
60-64	-	-	1	2	3	4	1	-	11	837,756	76,160
65-69	-	-	-	-	-	-	-	-	-	-	-
70+	-	-	-	-	-	-	-	-	-	-	-
Total	-	713	349	644	434	220	23	1	2,384	162,616,669	68,212

Average Age: 39.5 Average Service: 10.9

INACTIVE MEMBERS AS OF OCTOBER 1, 2018

	Terminated Vested		Disabled		Retired		DROP		Beneficiaries		Grand Total	
		Total		Total		Total		Total		Total		Total
Age	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits
Under 25	0	0	0	0	0	0	0	0	21	65,999	21	65,999
25 - 29	1	11,561	0	0	0	0	0	0	0	0	1	11,561
30 - 34	7	85,436	0	0	0	0	0	0	2	53,018	9	138,454
35 - 39	19	296,402	0	0	0	0	0	0	0	0	19	296,402
40 - 44	15	285,719	1	34,137	4	166,591	19	842,498	7	189,141	46	1,518,086
45 - 49	21	465,319	3	136,345	115	5,425,984	142	7,110,080	6	205,260	287	13,342,988
50 - 54	15	327,275	8	350,457	304	16,630,091	157	8,240,304	16	646,919	500	26,195,046
55 - 59	3	41,985	9	393,706	331	19,467,478	62	3,119,284	20	746,704	425	23,769,157
60 - 64	1	3,075	7	280,260	315	20,377,978	14	666,844	33	1,486,539	370	22,814,696
65 - 69	0	0	13	554,574	342	22,844,263	4	172,238	54	2,423,467	413	25,994,542
70 - 74	0	0	2	65,041	350	23,370,444	0	0	77	3,262,390	429	26,697,875
75 - 79	0	0	4	87,031	165	11,114,819	0	0	76	2,980,560	245	14,182,410
80 - 84	0	0	2	68,427	107	6,798,453	0	0	56	2,140,963	165	9,007,843
85 - 89	0	0	2	36,091	51	2,847,632	0	0	52	1,556,397	105	4,440,120
90 - 94	0	0	1	53,650	16	590,412	0	0	30	820,297	47	1,464,359
95 - 99	0	0	0	0	1	14,054	0	0	9	132,465	10	146,519
100 & Over	0	0	0	0	0	0	0	0	0	0	0	0
Total	82	1,516,772	52	2,059,719	2,101	129,648,199	398	20,151,248	459	16,710,119	3,092	170,086,057
Average Age:		44.4		63.8		64.9		51.5		71.7		63.6
Avg. Annual Benefit:		18,497		39,610		61,708		50,631		36,405		55,008

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, or
(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, or
(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.

O. Member Contributions

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

P. Employer Contributions

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

Q. 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.

R. 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.

S. 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.

T. Changes from Previous Valuation

None.