

Jacksonville Police and Fire Pension Fund

ACTUARIAL VALUATION REPORT AS OF
OCTOBER 1, 2019

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR
ENDING SEPTEMBER 30, 2021





February 28, 2020

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

Re: Jacksonville Police and Fire Pension Fund Actuarial Valuation as of October 1, 2019 and Actuarial Disclosures

Dear Trustees:

The results of the October 1, 2019 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, 2021, 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, 2019 and financial information through September 30, 2019. 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 4 and 5 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 4 and 5 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.

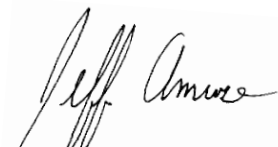
Gabriel, Roeder, Smith & Company will be pleased to review this valuation report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY



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Senior Consultant & Actuary



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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. However, we note that this has not been the case over the past two years due to negotiated across-the-board salary increases. Starting with the fiscal year ending September 30, 2018, it is our understanding that the Plan sponsor has been and will continue to 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 9/30/21 Based on 10/1/2019 Valuation (if contributed on 12/1/2020)	For FYE 9/30/20 Based on 10/1/2018 Valuation (if contributed on 12/1/2019)
Required Employer Contribution* As % of Contribution Year Payroll	\$ 148,475,947 83.27 %	\$ 140,292,637 84.57 %

*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. Approximately \$30.8 million in reserves are available for use by the City as of October 1, 2019.

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, 2019 were \$135,264,010, which includes the use of \$24,736,292 from the City's Contribution Reserve Account. The required employer contributions for the year ending September 30, 2019 were \$135,264,010.

Revisions in Benefits

Benefit adjustments due to the implementation of the settlement terms concerning the DOJ lawsuit against the City pertaining to Firefighter promotions are reflected in this valuation. Benefit amounts for 58



retirees and surviving spouses were changed due to the DOJ-COJ Settlement. The effect of these changes caused the net unfunded actuarial liability (net of the settlement proceeds to be deposited into the trust) to increase by \$2,158,327 and the required City contribution for FY 2021 to increase by \$150,904.

There have been no other 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 amortization period for new amortization bases is reduced from 29 years to 28 years this year, and it will continue to be reduced by one year each year until reaching 15 years.

The effect of amortizing this year's new amortization base over 28 years instead of 29 years caused the required City contribution for FY 2021 to increase by \$33,762.

Actuarial Experience

There were net actuarial experience losses totaling approximately \$33.7 million during the past year, which means that actual experience was less favorable than expected.

The investment return on the smoothed Actuarial Value of Assets was 6.46% compared to the assumed annual investment return of 7.0%. (The net money-weighted investment return on the Market Value of Assets was 2.96%, as reported by the Plan's investment consultant.) Investment experience (on the Actuarial Value of Assets) resulted in an experience loss of about \$7.4 million.

There were also demographic experience losses due to lower inactive mortality experience than expected (57 actual inactive deaths versus 82 expected), higher salary increases than expected (11.6% actual versus 10.5% assumed), and data adjustments (from service purchases, rehires and changes in retiree marital status from single to married). There were some offsetting demographic experience gains due to retirement experience being lower than expected (50 actual retirements versus 87 expected) and turnover experience being slightly higher than expected (29 actual employment terminations versus 27 expected). Overall demographic experience resulted in a net experience loss of about \$5.1 million.

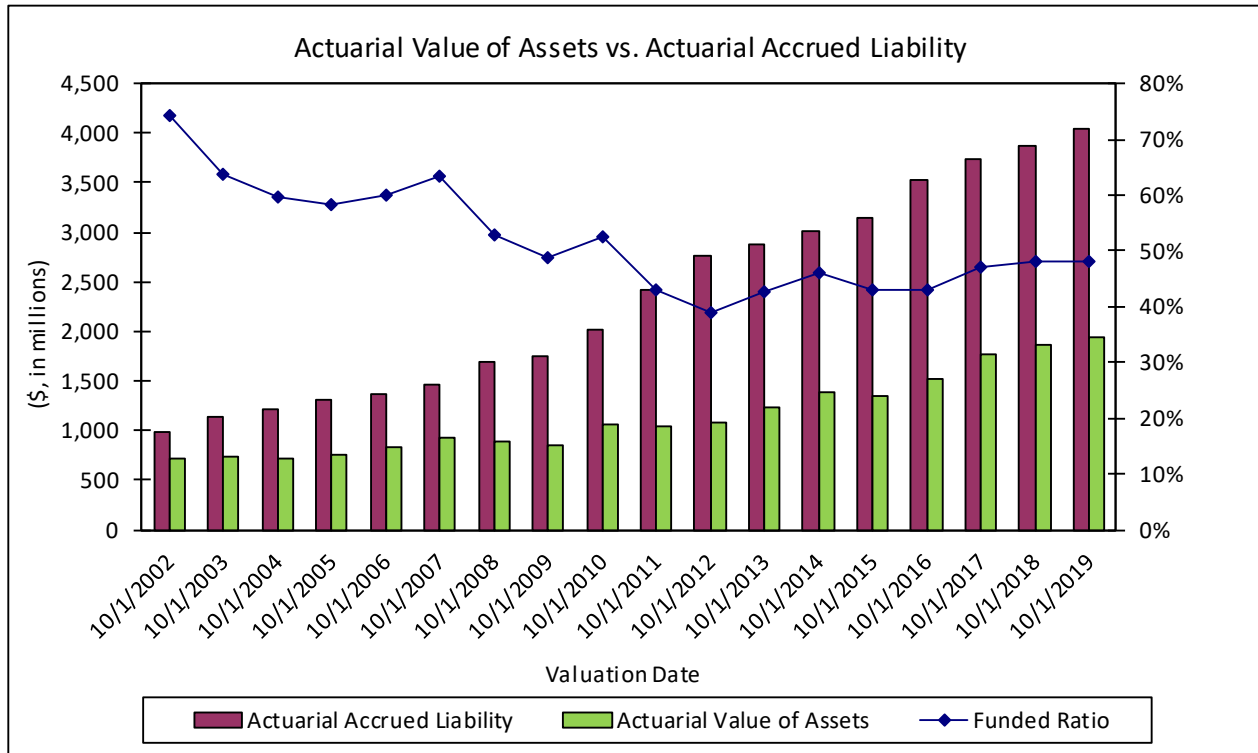
There was also an experience loss due to changes in the projected Pension Liability Surtax proceeds (of approximately \$21.2 million). The allocation percentage is updated each year by the City based on the relative unfunded actuarial liabilities for all of the City's pension plans. Based on each pension plans' respective October 1, 2018 actuarial valuation, the pro rata share of the Proceeds for the Jacksonville Police and Pension Fund is 59.26% as of October 1, 2019. In the previous valuation, the pro rata share of the Proceeds was 60.9%. Changes in the projected Pension Liability Surtax caused the required City contribution to increase by \$1,460,580.

Overall, the net actuarial experience loss caused the required City contribution to increase by \$2,321,768.



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 48.23% compared to 48.08% last year. Prior to reflecting the benefit changes, the funded ratio would have been 48.25%. 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, 2019	\$ 140,292,637
Experience (Gains) or Losses	
Investment Experience	506,798
Change in Projected Pension Liability Surtax Experience	1,460,580
Other Sources Experience	354,390
Revision in Methods or Assumptions	33,762
Amortization Payment on UAAL	1,293,114
Change in Net Employer Normal Cost (due to higher payroll)	3,889,639
Administrative/Investment Expenses	418,257
Court Fines	75,866
Benefit Changes (Including Benefit Adjustments)	150,904
Required Contribution Payable December 1, 2020	\$ 148,475,947



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, 2019, the actuarial value of assets exceeded the market value by \$47,614,170. This difference will be gradually recognized in the absence of offsetting gains. In turn, the computed employer contribution rate is expected to increase by approximately \$3.3 million.

Relationship to Market Value

If Market Value had been the basis for the valuation, the required City contribution would have been \$151,804,998 and the funded ratio would have been 47.05%. In the absence of other gains and losses, the City contribution rate is expected to increase towards this level over the next few 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 2019 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. However, it should be noted that actual surtax revenue growth over the past three years has exceeded this assumption (at 4.95% per year).

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 9.45 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 28 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, 2019 the market value of assets, net of reserves, is approximately \$1.90 billion, and the actuarial liability for current inactive members is approximately \$2.96 billion. Given the low funded ratio and the fact that the pension liability surtax revenues will not be received until more than 11 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 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:

	<u>2019</u>	<u>2018</u>
Ratio of the net market value of assets to payroll	10.91	11.61
Ratio of actuarial accrued liability to payroll	23.18	23.95
Ratio of actives to retirees and beneficiaries	0.76	0.79
Ratio of net cash flow to market value of assets (net of reserves)	(1.9%)	(2.1%)
Duration of the actuarial accrued liability	14.52	14.60

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 (10.91) 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 (23.18) 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 (0.76) 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						
Fiscal Year	Original Projection of Pension Liability Surtax			Current Projection of Pension Liability Surtax		
	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	59.26% of Revenue for Police and Fire Pension Fund
2016	\$ 82,875,723			\$ 82,875,723		
2017	<i>86,397,941</i>			86,148,000		
2018	<i>90,069,854</i>			91,529,277		
2019	<i>93,897,823</i>			95,804,756		
2020	<i>97,888,480</i>			<i>99,876,458</i>		
⋮	⋮			⋮		
2031	<i>154,727,777</i>	\$ 116,045,832	\$ 73,108,874	<i>157,870,081</i>	\$ 118,402,561	\$ 70,165,357
2032	<i>161,303,707</i>	161,303,707	101,621,335	<i>164,579,559</i>	164,579,559	97,529,847
2033	<i>168,159,115</i>	168,159,115	105,940,242	<i>171,574,190</i>	171,574,190	101,674,865
⋮	⋮	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮
2059	<i>496,247,197</i>	496,247,197	312,635,734	<i>506,325,282</i>	506,325,282	300,048,362
2060	<i>517,337,703</i>	517,337,703	325,922,753	<i>527,844,106</i>	527,844,106	312,800,417
2061	<i>539,324,556</i>	134,831,139	84,943,617	<i>550,277,481</i>	137,569,370	81,523,609
Total Proceeds from 1/1/31-12/31/60:		\$ 9,105,159,243	\$ 5,736,250,323		\$ 9,331,217,149	\$ 5,529,679,282
Net Present Value of Proceeds as of 10/1/19:		\$ 1,480,290,381	\$ 932,582,940		\$ 1,519,319,941	\$ 900,348,997
<i>Change in Total Proceeds from Original to Current Projection:</i>					\$ 226,057,906	\$ (206,571,041)
<i>Change in Net Present Value of Proceeds from Original to Current Projection:</i>					\$ 39,029,560	\$ (32,233,943)

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

The actual surtax revenue has increased by an average of 4.95% per year from FY 2016 to FY 2019, which is trending higher than the 4.25% assumption. However, the percentage of the Pension Liability Surtax (PLS) allocated to the Police and Fire Fund (versus the City's other two pension plans) has declined from 63.0% (initially) to 59.26% (currently). 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 (≈ 4.95%/yr); Original 63.0% Allocation	Reflecting Actual Surtax Growth (≈ 4.95%/yr); Actual 59.26% Allocation
Required City Contribution Payable			
December 1, 2020	\$ 146,222,239	\$ 144,503,070	\$ 148,475,947
<i>Impact of Change on Valuation Results</i>	\$ 2,253,708	\$ 3,972,877	N/A
Percentage of AAL covered by Assets and PLS	71.33 %	71.94 %	70.53 %
<i>Impact of Change on Valuation Results</i>	(0.80) %	(1.41) %	N/A



SECTION B

VALUATION RESULTS

PARTICIPANT DATA¹			
	October 1, 2019 <i>After Benefit Changes</i>	October 1, 2019 <i>Before Benefit Changes</i>	October 1, 2018
ACTIVE MEMBERS			
Number	2,301	2,301	2,384
Annual Payroll	\$ 174,694,254	\$ 174,694,254	\$ 162,616,669
Average Annual Payroll	\$ 75,921	\$ 75,921	\$ 68,212
Average Age	40.3	40.3	39.5
Average Past Service	11.7	11.7	10.9
Average Age at Hire	28.6	28.6	28.6
RETIREES, BENEFICIARIES & DROP			
Number	2,997	2,997	2,958
Annual Benefits ²	\$ 172,934,409	\$ 172,775,416	\$ 166,509,566
Average Annual Benefit ²	\$ 57,703	\$ 57,649	\$ 56,291
Average Age	64.7	64.7	64.1
DISABILITY RETIREEES			
Number	48	48	52
Annual Benefits	\$ 2,011,248	\$ 2,011,248	\$ 2,059,719
Average Annual Benefit	\$ 41,901	\$ 41,901	\$ 39,610
Average Age	62.5	62.5	63.8
TERMINATED VESTED MEMBERS			
Number	82	82	82
Annual Benefits	\$ 1,377,864	\$ 1,377,864	\$ 1,516,772
Average Annual Benefit	\$ 16,803	\$ 16,803	\$ 18,497
Average Age	43.1	43.1	44.4

¹Participant data is collected as of July 1.

²Not including distributions or installment payments from DROP accounts.



ACTUARIALLY DETERMINED CONTRIBUTION (ADC)			
A. Valuation Date	October 1, 2019 <i>After Benefit Changes</i>	October 1, 2019 <i>Before Benefit Changes</i>	October 1, 2018
B. ADC to Be Paid During Fiscal Year Ending	9/30/2021	9/30/2021	9/30/2020
C. Assumed Date of Employer Contributions	12/1/2020	12/1/2020	12/1/2019
D. Expected Covered Payroll for the Year Beginning on the Valuation Date	\$ 174,124,935	\$ 174,124,935	\$ 162,003,561
E. Annual Payment to Amortize Unfunded Actuarial Liability	82,496,560	82,349,190	78,785,998
F. Employer Normal Cost	63,203,681	63,203,681	58,996,678
G. ADC if Paid on the Valuation Date: E + F	145,700,241	145,552,871	137,782,676
H. Contributions from Court Fines	701,652	701,652	775,741
I. City Contribution: G - H as % of Covered Payroll	144,998,589 83.27 %	144,851,219 83.19 %	137,006,935 84.57 %
J. Actuarially Determined Contribution (ADC) in Contribution Year*	148,475,947	148,325,043	140,292,637

* = 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, 2019 <i>After Benefit Changes</i>	October 1, 2019 <i>Before Benefit Changes</i>	October 1, 2018
B. Actuarial Present Value of All Projected Benefits for			
1. Active Members			
a. Service Retirement Benefits	\$ 1,541,568,972	1,541,568,972	\$ 1,474,607,303
b. Vesting Benefits	32,124,302	32,124,302	32,369,342
c. Disability Benefits	26,549,450	26,549,450	26,627,567
d. Preretirement Death Benefits	16,586,522	16,586,522	16,794,443
e. Return of Member Contributions	877,311	877,311	866,671
f. Total	<u>1,617,706,557</u>	<u>1,617,706,557</u>	<u>1,551,265,326</u>
2. Inactive Members*			
a. Service Retirees	2,299,596,668	2,297,123,761	2,179,401,393
b. DROP Retirees	409,446,434	409,249,284	463,666,735
c. Disability Retirees	28,434,818	28,434,818	28,607,276
d. Beneficiaries	207,605,486	207,568,986	197,715,131
e. Terminated Vested Members	19,131,781	19,131,781	22,686,254
f. Total	<u>2,964,215,187</u>	<u>2,961,508,630</u>	<u>2,892,076,789</u>
3. Total for All Members	4,581,921,744	4,579,215,187	4,443,342,115
C. Actuarial Accrued (Past Service) Liability			
1. Active Members	1,072,709,930	1,072,709,930	987,995,717
2. Inactive Members	2,964,215,187	2,961,508,630	2,892,076,789
3. Total for All Members	<u>4,036,925,117</u>	<u>4,034,218,560</u>	<u>3,880,072,506</u>
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	3,805,435,833	3,802,729,276	3,624,155,961
E. Plan Assets			
1. Gross Market Value of Assets	1,958,615,310	1,958,067,080	2,007,821,892
2. Reserve Accounts, including Share Plan	(54,902,408)	(54,902,408)	(122,329,885)
3. Sr. Staff Plan Assets	(4,359,959)	(4,359,959)	(4,489,259)
4. Net Market Value of Assets	<u>1,899,352,943</u>	<u>1,898,804,713</u>	<u>1,881,002,748</u>
5. Actuarial Value of Assets	1,946,967,113	1,946,418,883	1,865,495,526
F. Total Unfunded Actuarial Accrued Liability: C3 - E5	2,089,958,004	2,087,799,677	2,014,576,980
G. Net Present Value of Total Pension Liability Surtax Proceeds According to Pro Rata Share	900,348,997	900,348,997	861,255,049
H. Net Unfunded Actuarial Accrued Liability: F - G	1,189,609,007	1,187,450,680	1,153,321,931
I. Actuarial Present Value of Projected Covered Payroll	1,366,185,181	1,366,185,181	1,410,038,036
J. Funded Ratio: E5 / C3	48.23%	48.25%	48.08%
K. Percent of Actuarial Accrued Liability Covered by Assets and Total Pension Liability Surtax Proceeds: (G + E5) / C3	70.53%	70.57%	70.28%
L. Liquidity Ratio			
1. DROP Balance as of Valuation Date	357,699,120	357,699,120	342,305,582
2. Net Market Value (Net of DROP): E4 - L1	1,541,653,823	1,541,105,593	1,538,697,166
3. Annual Benefit Payments in Pay Status	174,945,657	174,786,664	168,569,285
4. Ratio: L2 : L3	8.81 : 1	8.82 : 1	9.13 : 1



CALCULATION OF EMPLOYER NORMAL COST

A. Valuation Date	October 1, 2019 <i>After Benefit Changes</i>	October 1, 2019 <i>Before Benefit Changes</i>	October 1, 2018
B. Expected Covered Payroll for the Year Beginning on the Valuation Date	\$ 174,124,935	\$ 174,124,935	\$ 162,003,561
C. Normal Cost (Individual Entry Age) for			
1. Service Retirement Benefits	63,159,812	63,159,812	58,711,468
2. Vesting Benefits	3,280,083	3,280,083	3,013,303
3. Disability Benefits	1,974,214	1,974,214	1,854,942
4. Preretirement Death Benefits	1,472,823	1,472,823	1,382,335
5. Return of Member Contributions	<u>223,000</u>	<u>223,000</u>	<u>185,908</u>
6. Total for Future Benefits	70,109,932	70,109,932	65,147,956
7. Assumed Amount for Expenses	<u>11,128,468</u>	<u>11,128,468</u>	<u>10,720,007</u>
8. Total Normal Cost	81,238,400	81,238,400	75,867,963
D. Expected Member (including DROP) Contribution	18,034,719	18,034,719	16,871,285
E. Employer Normal Cost: C8 - D	63,203,681	63,203,681	58,996,678
F. Employer Normal Cost as a % of Covered Payroll: E / B	36.30%	36.30%	36.42%

PENSION LIABILITY SURTAX ESTIMATES			
4.25% GROWTH			
Fiscal Year	Projected Total 1/2-Penny Sales Tax	Projected Pension Liability Surtax	59.26% of Revenue for Police and Fire Pension Fund
2019	\$ 95,804,756		
2020	99,876,458		
2021	104,121,207		
2022	108,546,358		
2023	113,159,579		
2024	117,968,861		
2025	122,982,537		
2026	128,209,295		
2027	133,658,190		
2028	139,338,663		
2029	145,260,557		
2030	151,434,130		
2031	157,870,081	\$ 118,402,561	\$ 70,165,357
2032	164,579,559	164,579,559	97,529,847
2033	171,574,190	171,574,190	101,674,865
2034	178,866,094	178,866,094	105,996,047
2035	186,467,903	186,467,903	110,500,879
2036	194,392,788	194,392,788	115,197,166
2037	202,654,482	202,654,482	120,093,046
2038	211,267,297	211,267,297	125,197,000
2039	220,246,158	220,246,158	130,517,873
2040	229,606,619	229,606,619	136,064,883
2041	239,364,901	239,364,901	141,847,640
2042	249,537,909	249,537,909	147,876,165
2043	260,143,270	260,143,270	154,160,902
2044	271,199,359	271,199,359	160,712,740
2045	282,725,332	282,725,332	167,543,032
2046	294,741,158	294,741,158	174,663,610
2047	307,267,657	307,267,657	182,086,814
2048	320,326,533	320,326,533	189,825,503
2049	333,940,411	333,940,411	197,893,087
2050	348,132,878	348,132,878	206,303,544
2051	362,928,525	362,928,525	215,071,444
2052	378,352,988	378,352,988	224,211,980
2053	394,432,990	394,432,990	233,740,990
2054	411,196,392	411,196,392	243,674,982
2055	428,672,238	428,672,238	254,031,168
2056	446,890,808	446,890,808	264,827,493
2057	465,883,668	465,883,668	276,082,662
2058	485,683,724	485,683,724	287,816,175
2059	506,325,282	506,325,282	300,048,362
2060	527,844,106	527,844,106	312,800,417
2061	550,277,481	137,569,370	81,523,609
Total Proceeds from 2031-2061:		\$ 9,331,217,149	\$ 5,529,679,282
Net Present Value of Proceeds as of 10/1/19:		\$ 1,519,319,941	\$ 900,348,997



LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

Before Plan 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	27	\$ 1,192,103,589	\$ 82,666,889
10/1/2017	Experience (Gain)/Loss	30	(102,449,877)	28	(102,342,305)	(6,987,906)
10/1/2017	Assumption Changes	30	67,640,845	28	67,569,823	4,613,650
10/1/2018	Experience (Gain)/Loss	30	(19,072,874)	28	(19,099,780)	(1,304,128)
10/1/2018	Method Change	29	15,507,222	28	15,529,098	1,060,323
10/1/2019	Experience (Gain)/Loss	28	<u>33,690,255</u>	28	<u>33,690,255</u>	<u>2,300,362</u>
			1,238,903,479		1,187,450,680	82,349,190

After Plan 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	27	\$ 1,192,103,589	\$ 82,666,889
10/1/2017	Experience (Gain)/Loss	30	(102,449,877)	28	(102,342,305)	(6,987,906)
10/1/2017	Assumption Changes	30	67,640,845	28	67,569,823	4,613,650
10/1/2018	Experience (Gain)/Loss	30	(19,072,874)	28	(19,099,780)	(1,304,128)
10/1/2018	Method Change	29	15,507,222	28	15,529,098	1,060,323
10/1/2019	Experience (Gain)/Loss	28	33,690,255	28	33,690,255	2,300,362
10/1/2019	Benefit Change	28	<u>2,158,327</u>	28	<u>2,158,327</u>	<u>147,370</u>
			1,241,061,806		1,189,609,007	82,496,560

*Reflects an offset equal to the net present value of the total pension liability surtax proceeds based on a pro rata share of 59.26%.



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*
2019	\$ 1,189,609,007
2020	1,184,610,322
2021	1,178,158,331
2022	1,170,137,521
2023	1,160,424,103
2024	1,148,885,460
2029	1,058,471,316
2034	896,229,778
2039	630,976,114
2044	218,826,614
2047	-

*Reflects an offset equal to the net present value of the total pension liability surtax proceeds based on a pro rata share of 59.26%.

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 10/1/2018	\$ 1,153,321,931
2. 2018-19 Total Normal Cost (BOY)	75,867,963
3. 2018-19 Contributions	154,357,055
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	86,043,293
b. 3 from dates paid	7,115,707
c. a - b	78,927,586
5. 10/1/2019 Expected UAAL Prior to Revision: 1 + 2 - 3 + 4c	1,153,760,425
6. This Year's Expected UAAL (before changes):	1,153,760,425
7. This Year's Actual UAAL (before changes):	1,187,450,680
8. Net Actuarial Gain/(Loss):	(33,690,255)
9. Gain/(Loss) Due to Investments (net of reserves):	(7,353,956)
10. Gain/(Loss) Due to Changes in Projected Pension Liability Surtax Proceeds:	(21,193,905)
11. Gain/(Loss) Due to Other Sources:	(5,142,394)

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
9/30/2019	(33,690,255)

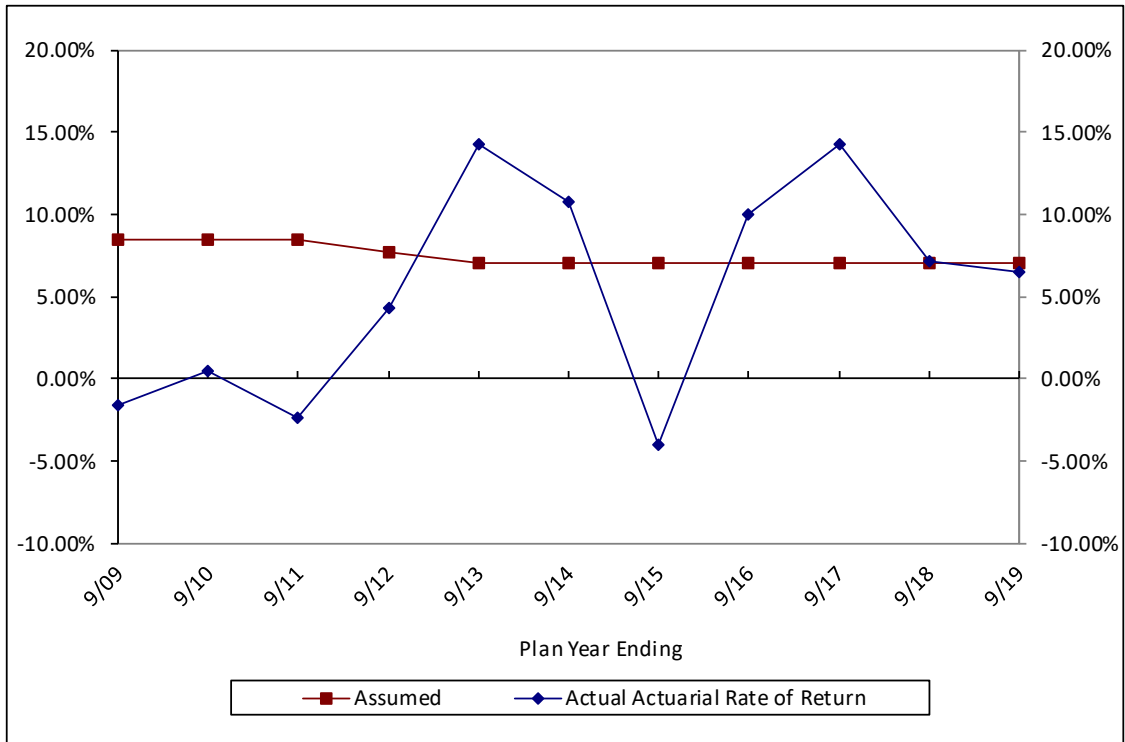
The fund earnings and salary increase assumptions have considerable impact on the cost of the plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:

Period Ending	Investment Return		Salary Increases	
	Actual	Assumed	Actual*	Assumed*
9/30/2009	(1.63) %	8.50 %	7.0 %	5.5 %
9/30/2010	0.44	8.50	3.0	5.5
9/30/2011	(2.41)	8.50	2.5	5.5
9/30/2012	4.34	7.75	0.4	5.0
9/30/2013	14.29	7.00	2.9	4.0
9/30/2014	10.73	7.00	3.0	4.0
9/30/2015	(4.00)	7.00	3.8	3.5
9/30/2016	10.00	7.00	2.2	3.5
9/30/2017	14.27	7.00	12.1	10.0
9/30/2018	7.20	7.00	10.4	10.0
9/30/2019	6.46	7.00	11.6	10.5
Average	5.24 %	7.48 %	5.3 %	6.1 %

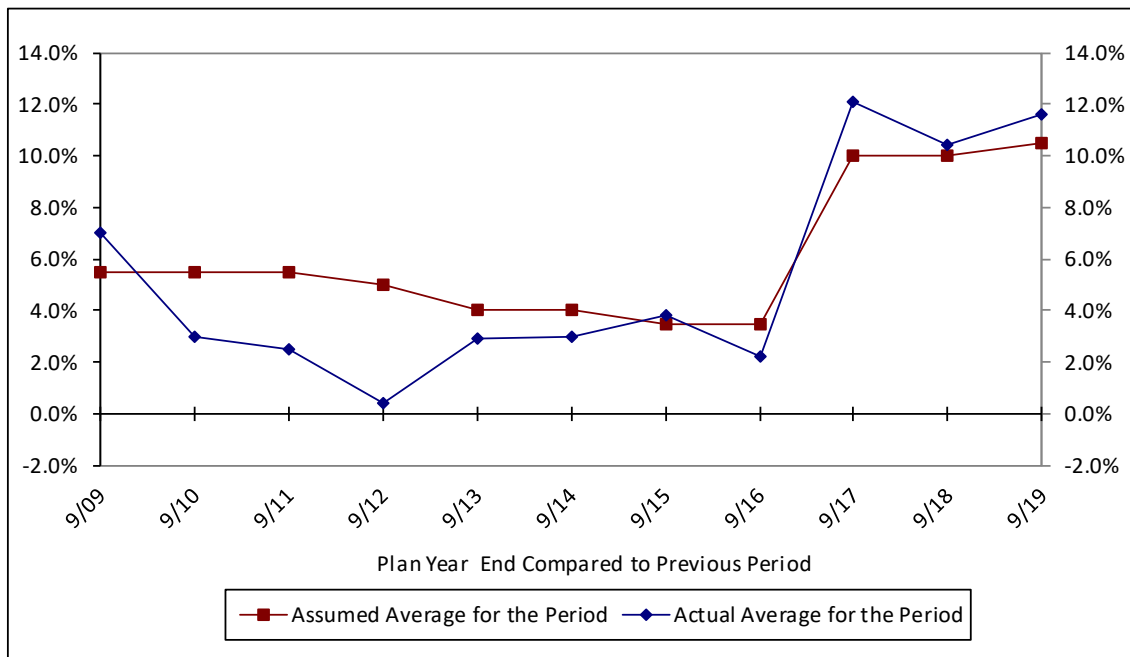
*Actual and assumed rates are based on average compound increases for the period

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
	A	E	A	E	A	E	A	E	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
9/30/2019	0	0	50	87	2	3	2	3	16	13	29	27	2,301
3-Yr Total	363	191	228	273	4	9	9	9	50	65	115	79	

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		Covered Annual Payroll	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets	Funded Ratio	Unfunded AAL (UAAL)	UAAL as a % of Covered Payroll
	Active Members	Inactive Members						
10/1/2000	2,049	1,797	\$ 97,207	\$ 939,802	\$ 814,889	86.7 %	\$ 124,913	128.5 %
10/1/2001	2,037	1,883	96,199	927,625	790,823	85.3	136,802	142.2
10/1/2002	2,068	1,975	101,698	977,779	725,416	74.2	252,363	248.1
10/1/2003	2,182	1,994	109,637	1,146,459	732,526	63.9	413,933	377.6
10/1/2004	2,347	2,019	118,510	1,222,355	727,955	59.6	494,400	417.2
10/1/2005	2,450	2,046	130,392	1,314,424	765,180	58.2	549,244	421.2
10/1/2006	2,509	2,068	134,694	1,376,659	827,338	60.1	549,321	407.8
10/1/2007	2,541	2,117	143,006	1,464,508	930,454	63.5	534,054	373.4
10/1/2008	2,534	2,164	148,277	1,692,975	894,903	52.9	798,072	538.2
10/1/2009	2,583	2,278	155,558	1,753,946	855,997	48.8	897,949	577.2
10/1/2010	2,620	2,353	158,047	2,024,453	1,060,406	52.4	964,047	610.0
10/1/2011	2,451	2,481	148,968	2,427,198	1,039,894	42.8	1,387,304	931.3
10/1/2012	2,213	2,647	133,611	2,762,977	1,078,907	39.0	1,684,070	1,260.4
10/1/2013	2,150	2,725	130,972	2,876,606	1,228,131	42.7	1,648,475	1,258.6
10/1/2014	2,237	2,801	134,521	2,983,906	1,389,748	46.6	1,594,158	1,185.1
10/1/2015	2,202	2,906	132,735	3,142,228	1,354,405	43.1	1,787,823	1,346.9
10/1/2016	2,294	2,963	135,600	3,518,252	1,513,398	43.0	2,004,853	1,478.5
10/1/2017	2,362	3,055	149,490	3,736,610	1,765,159	47.2	1,971,451	1,318.8
10/1/2018	2,384	3,092	162,004	3,880,073	1,865,496	48.1	2,014,577	1,243.5
10/1/2019	2,301	3,127	174,125	4,036,925	1,946,967	48.2	2,089,958	1,200.3

Note: Dollar amounts are in thousands.



RECENT HISTORY OF REQUIRED AND ACTUAL CITY CONTRIBUTIONS					
Valuation Date	End of Year To Which Valuation Applies	Required Contributions		Actual Contributions*	
		Amount	% of Payroll	Amount	% of Payroll
10/1/2003	9/30/2005	\$ 35,929	27.55 %	\$ 27,176	20.84 %
10/1/2003	9/30/2006	38,230	28.38	36,124	26.82
10/1/2003	9/30/2007	39,850	27.87	44,208	30.91
10/1/2006	9/30/2008	48,807	32.92	48,364	32.62
10/1/2006	9/30/2009	50,564	32.51	50,235	32.29
10/1/2008	9/30/2010	77,182	48.83	82,197	52.01
10/1/2008	9/30/2011	77,065	51.73	75,903	50.95
10/1/2008	9/30/2012	73,729	55.18	70,599	52.84
10/1/2011	9/30/2013	99,997	76.35	122,580	93.59
10/1/2012	9/30/2014	142,433	105.88	149,159	110.88
10/1/2013	9/30/2015	153,604	115.72	153,936	115.97
10/1/2014	9/30/2016	149,499	110.70	149,499	110.70
10/1/2015	9/30/2017	167,788	119.60	167,788	119.60
10/1/2016	9/30/2018	135,648	90.74	135,691	90.77
10/1/2017	9/30/2019	135,264	88.36	135,264	83.49
10/1/2018	9/30/2020	140,293	84.57	---	---
10/1/2019	9/30/2021	148,476	83.27	---	---

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 28 years. *The maximum prescribed period was 29 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.

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 in 2018, and is 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 Ages in 2019	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
	50	0.53 %	0.23 %	34.12
55	0.66	0.32	29.49	33.48
60	0.89	0.46	24.92	28.58
65	1.28	0.72	20.51	23.83
70	1.95	1.21	16.36	19.36
75	3.17	2.04	12.61	15.26
80	5.21	3.42	9.37	11.62

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

FRS Healthy Pre-Retirement Mortality for Special Risk Class Members

Sample Attained Ages in 2019	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
	50	0.22 %	0.15 %	35.11
55	0.39	0.24	30.00	33.70
60	0.70	0.39	25.12	28.68
65	1.20	0.69	20.55	23.86
70	1.95	1.21	16.36	19.36
75	3.17	2.04	12.61	15.26
80	5.21	3.42	9.37	11.62

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 2019	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	1.67 %	0.91 %	23.74	27.06
55	2.03	1.26	20.77	23.37
60	2.47	1.67	17.91	19.90
65	3.07	2.24	15.15	16.62
70	3.90	3.18	12.52	13.58
75	5.30	4.60	10.02	10.86
80	7.59	6.66	7.80	8.48

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

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

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

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



Rates of disability among active members are shown below.

% Becoming Disabled Within Next Year

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

Miscellaneous and Technical Assumptions

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

<i>Incidence of Contributions</i>	Member contributions are assumed to be received continuously throughout the year based upon the member contribution rate. Employer contributions are assumed to be received in full on December 1 st and are assumed to be equal to the dollar amount shown.
<i>Marriage Assumption</i>	75% of males and 75% of females are assumed to be married. Males are assumed to be three years older than their spouses for active members.
<i>Normal Form of Benefit</i>	A 75% joint and contingent life annuity is the normal form of benefit.
<i>Pension Liability Surtax</i>	59.26% 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 60.9%. This allocation percentage is updated each year by the City based on the relative unfunded actuarial liabilities for all three of the City’s pension plans.
<i>Pay Increase Timing</i>	Reported pays as of June 2019 were loaded by 7.0% to reflect the across-the-board pay increases effective October 1, 2019. These adjusted pays were assumed to be the pays for the current year beginning on the valuation date. Future pay increases are assumed to occur at the end of the year.
<i>Service Credit Accruals</i>	It is assumed that members accrue one year of service credit per year.

GLOSSARY

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

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

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

SECTION C

PENSION FUND INFORMATION

Statement of Total Plan Assets at Market Value

Item	September 30		
	2019 After Benefit Changes	2019 Before Benefit Changes	2018
A. Cash and Short-Term Investments (Operating Cash)	\$ 30,642,509	\$ 30,642,509	\$ 42,675,563
B. Receivables:			
1. Accounts Receivable	\$ 98,062	\$ 98,062	\$ 91,321
2. Interest and Dividends	1,847,118	1,847,118	2,079,722
3. Employer Contribution*	572,645	91,307	30,180
4. Employee Contribution*	66,892	-	-
5. Prepaid Items and Recoverable Taxes	81,675	81,675	81,675
6. Securities Lending Collateral	83,045,776	83,045,776	104,636,109
7. Deferred Outflows	112,110	112,110	112,110
8. Total Receivables	<u>\$ 85,824,278</u>	<u>\$ 85,276,048</u>	<u>\$ 107,031,117</u>
C. Property, Plant and Equipment			
1. Furniture and Equipment	\$ 311,510	\$ 311,510	\$ 311,510
2. Accumulated Depreciation	(311,510)	(311,510)	(311,510)
3. Net Total	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
D. Investments			
1. Cash and Cash Equivalents	\$ 20,479,854	\$ 20,479,854	\$ 17,193,026
2. Domestic and International Equities	1,360,928,794	1,360,928,794	1,246,391,220
3. Fixed Income Securities	236,075,803	236,075,803	393,508,925
4. Real Estate	315,801,145	315,801,145	313,153,049
5. Total Investments	<u>\$ 1,933,285,596</u>	<u>\$ 1,933,285,596</u>	<u>\$ 1,970,246,220</u>
E. Liabilities			
1. Accounts Payable	\$ (7,969,464)	\$ (7,969,464)	\$ (6,781,156)
2. Other Post Employment Benefits	-	-	-
3. Securities Lending Collateral	(83,045,776)	(83,045,776)	(104,636,109)
4. Other Liabilities and Deferred Inflows	(121,833)	(121,833)	(713,743)
5. Total Liabilities	<u>\$ (91,137,073)</u>	<u>\$ (91,137,073)</u>	<u>\$ (112,131,008)</u>
F. Total Market Value of Assets	\$ 1,958,615,310	\$ 1,958,067,080	\$ 2,007,821,892
G. Allocation of Investments			
1. Cash and Cash Equivalents	1.1%	1.1%	0.9%
2. Domestic and International Equities	70.4%	70.4%	63.2%
3. Fixed Income Securities	12.2%	12.2%	20.0%
4. Real Estate	16.3%	16.3%	15.9%
5. Total Investments	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

*Includes a \$481,338 Employer Contribution Receivable and a \$66,892 Employee Contribution Receivable due to the DOJ-COJ Settlement. The additional receivable contributions are only reflected in the "After Benefit Changes" results.



Reconciliation of Plan Assets

Item	September 30		2018
	2019 After Benefit Changes	2019 Before Benefit Changes	
A. Market Value of Assets at Beginning of Year	\$ 2,007,821,890 *	\$ 2,007,821,890 *	\$ 1,892,797,131
B. Revenues and Expenditures			
1. Contributions			
a. Member Contributions	\$ 16,843,692 **	\$ 16,776,800	\$ 15,598,949
b. Plan Member Buybacks and Pension Transfers	969,067	969,067	1,037,675
c. Employer Contributions	111,009,056 **	110,527,718	115,690,989
d. Employer Pension Transfers	-	-	-
e. State Contributions	12,756,091	12,756,091	11,791,197
f. Court Fines and Penalties	701,652	701,652	775,741
g. Supplemental Payment	-	-	-
h. Miscellaneous	645,526	645,526	82,245
i. Total	<u>\$ 142,925,084</u>	<u>\$ 142,376,854</u>	<u>\$ 144,976,796</u>
2. Investment Income			
a. Parking and Rental Revenue	\$ 736,736	\$ 736,736	\$ 786,337
b. Securities Lending Net Revenue	240,321	240,321	301,251
c. Investment Income and Realized Gains	102,693,015	102,693,015	87,464,375
d. Unrealized Gains/(Losses)	(40,399,542)	(40,399,542)	76,472,883
e. Investment Expenses	(9,011,875)	(9,011,875)	(8,582,038)
f. Net Investment Income	<u>\$ 54,258,655</u>	<u>\$ 54,258,655</u>	<u>\$ 156,442,808</u>
3. Benefits and Refunds			
a. Regular Monthly Benefits	\$ (154,062,890)	\$ (154,062,890)	\$ (144,958,752)
b. Refunds	(732,596)	(732,596)	(782,240)
c. DROP Payments	(34,329,716)	(34,329,716)	(35,869,709)
d. Reserve Distributions	(55,730,720)	(55,730,720)	(2,646,173)
e. Total	<u>\$ (244,855,922)</u>	<u>\$ (244,855,922)</u>	<u>\$ (184,256,874)</u>
4. Administrative and Miscellaneous Expenses			
a. Total Administrative Expenses	\$ (2,116,593)	\$ (2,116,593)	\$ (2,137,969)
b. Miscellaneous - Other Employee Pension Expense	582,196	582,196	-
c. Total	<u>\$ (1,534,397)</u>	<u>\$ (1,534,397)</u>	<u>\$ (2,137,969)</u>
C. Market Value of Assets at End of Year	\$ 1,958,615,310	\$ 1,958,067,080	\$ 2,007,821,892

*Reflects (\$2) adjustment to match financial statements as of September 30, 2019.

**Includes a \$481,338 Employer Contribution Receivable and a \$66,892 Employee Contribution Receivable due to the DOJ-COJ Settlement.



RESERVE ACCOUNT BALANCES AS OF SEPTEMBER 30, 2019

	City of Jacksonville Contribution <u>Reserve</u>	Pending Share Plan Contribution	Balance to be Allocated to <u>Police Officers</u>	Balance to be Allocated to <u>Firefighters</u>	<u>TOTALS</u>
Account Value, 10/1/2018	\$ 53,934,577	\$ 3,590,479	\$ 29,342,777	\$ 27,574,238	\$ 114,442,071
Annual Retiree Bonus paid December 14, 2018			(1,288,128)	(978,493)	(\$2,266,621)
Disbursement of FY 2018 Chapter Funds to Unions paid February 28, 2019			(27,074,327)	(25,671,659)	(52,745,986)
Annual Earnings*	1,596,463	106,278	(980,322)	(924,086)	(201,667)
Allocated Towards Required City Contribution	(24,736,292)				(24,736,292)
FY 2019 Chapter Funds			7,412,158	5,343,933	12,756,091
Account Value, 9/30/2019	\$ 30,794,748	\$ 3,696,757	\$ 7,412,158	\$ 5,343,933	\$ 47,247,596

*2.96% for the full year (applicable to the City of Jacksonville Contribution Reserve and the pending Share Plan contribution), and -3.40% for the period October 1, 2018 through February 20, 2019 (applicable to the balances allocated to Firefighters and Police Officers, which were distributed in February 2019).



RECONCILIATION OF SHARE PLAN	
Account Value, 9/30/2018	\$ 7,887,814
Contributions credited to accounts	+ 0
Investment Earnings credited (2.96%)	+ 226,725 ¹
Payments from accounts	- <u>459,727</u>
Account Value, 9/30/2019	7,654,812

RECONCILIATION OF SENIOR STAFF RETIREMENT PLAN	
Account Value, 9/30/2018	\$ 4,489,259
Contributions credited to accounts	+ 0
Investment Earnings credited (2.96%)	+ 129,086 ¹
Payments from accounts	- <u>258,386</u>
Account Value, 9/30/2019	4,359,959

¹ 2.96% applied to beginning-of-year account value; and mid-year timing assumed on payments from accounts during the year

Actuarial Value of Assets (After Benefit Changes)

Valuation Date - September 30	2018	2019	2020	2021	2022	2023
A. Actuarial Value of Assets Beginning of Year	\$1,892,797,131	\$1,992,314,668	\$ -	\$ -	\$ -	\$ -
B. Market Value End of Year	2,007,821,892	1,958,615,310	-	-	-	-
C. Market Value Beginning of Year	1,892,797,131	2,007,821,890	-	-	-	-
D. Non-Investment/Administrative Net Cash Flow	(41,418,047)	(103,465,235)	-	-	-	-
E. Investment Income						
E1. Actual Market Total: B-C-D	156,442,808	54,258,655	-	-	-	-
E2. Assumed Rate of Return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
E3. Assumed Amount of Return ¹	137,058,780	128,314,387	-	-	-	-
E4. Amount Subject to Phase-In: E1-E3	19,384,028	(74,055,732)	-	-	-	-
F. Phase-In Recognition of Investment Income						
F1. Current Year: 0.2 x E4	3,876,806	(14,811,146)	-	-	-	-
F2. First Prior Year	-	3,876,806	(14,811,146)	-	-	-
F3. Second Prior Year	-	-	3,876,806	(14,811,146)	-	-
F4. Third Prior Year	-	-	-	3,876,806	(14,811,146)	-
F5. Fourth Prior Year	-	-	-	-	3,876,804	(14,811,148)
F6. Total Phase-Ins	3,876,806	(10,934,340)	(10,934,340)	(10,934,340)	(10,934,342)	(14,811,148)
G. Actuarial Value of Assets End of Year						
G1. Preliminary Actuarial Value of Assets End of Year	\$1,992,314,670	\$2,006,229,480	\$ -	\$ -	\$ -	\$ -
G2. Upper Corridor Limit: 120%*B	2,409,386,270	2,350,338,372	-	-	-	-
G3. Lower Corridor Limit: 80%*B	1,606,257,514	1,566,892,248	-	-	-	-
G4. Funding Value End of Year	1,992,314,670	2,006,229,480	-	-	-	-
G5. Less: Reserve Accounts, including Share Plan	(122,329,885)	(54,902,408)	-	-	-	-
G6. Less: Sr. Staff Plan Assets	(4,489,259)	(4,359,959)	-	-	-	-
G7. Final Funding Value End of Year	1,865,495,526	1,946,967,113	-	-	-	-
G8. Final Market Value End of Year	1,881,002,748	1,899,352,943	-	-	-	-
H. Difference between Market & Actuarial Value of Assets	15,507,222	(47,614,170)	-	-	-	-
I. Actuarial Rate of Return (net money-weighted) ¹	7.20%	6.46%	0.00%	0.00%	0.00%	0.00%
J. Market Value Rate of Return (net money-weighted)	7.99%	2.96%	0.00%	0.00%	0.00%	0.00%
K. Ratio of Actuarial Value of Assets to Market Value	99.23%	102.43%	0.00%	0.00%	0.00%	0.00%

¹Derived based on the net money-weighted rate of return on the market value of assets provided by the Plan's investment consultant, which was 2.96% as of September 30, 2019.



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 **
9/30/2019	3.0	6.5 **
Average Returns:		
Last 3 Years	8.3 %	9.3 %
Last 5 Years	6.1 %	6.6 %
All Years Shown Above	5.3 %	5.2 %

*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, 2019	October 1, 2018
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 2,945,083,406	\$ 2,869,390,535
b. Terminated Vested Members	19,131,781	22,686,254
c. Other Members	814,186,486	705,648,311
d. Total	<u>3,778,401,673</u>	<u>3,597,725,100</u>
2. Non-Vested Benefits	27,034,160	26,430,861
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	3,805,435,833	3,624,155,961
4. Accumulated Contributions of Active Members	114,154,202	97,525,922
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	3,624,155,961	3,477,828,321
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendments	2,706,557	0
b. Change in Actuarial Assumptions	0	0
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	367,698,517	327,938,341
d. Benefits Paid (Net of Reserves)	<u>(189,125,202)</u>	<u>(181,610,701)</u>
e. Net Increase	181,279,872	146,327,640
3. Total Value at End of Period	3,805,435,833	3,624,155,961
D. Net Market Value of Assets	1,899,352,943	1,881,002,748
E. Funded Ratio Using Net Market Value: D / C3	49.9%	51.9%
F. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods		



SUMMARY OF DISCLOSURES

GASB Statement No. 67

Actuarial Valuation Date September 30, 2019
Pension Plan's Fiscal Year Ending Date (Asset Measurement Date & Reporting Date) September 30, 2019

Membership

Number of	
- Retirees and Beneficiaries	3,045
- Inactive, Nonretired Members	82
- Active Members	2,301
- Total	5,428
Covered Payroll	\$ 174,124,935

Net Pension Liability

Total Pension Liability	\$ 4,034,218,560
Total Plan Fiduciary Net Position	1,898,804,713
City's Net Pension Liability	\$ 2,135,413,847
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	47.07%
Net Pension Liability as a Percentage of Covered Payroll	1,226.37%

Development of the Single Discount Rate

Single Discount Rate	7.00%
Long-Term Expected Rate of Return	7.00%
Long-Term Municipal Bond Rate*	2.75%
Last year ending September 30 in the 2020 to 2119 projection period for which projected benefit payments are fully funded	2119

* Source: Fidelity General Obligation AA rate as of September 30, 2019. 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,	2019	2018	2017	2016	2015	2014	2013	2012
Total pension liability								
Service Cost	\$ 65,147,956	\$ 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	269,658,004	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	8,465,296	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	(188,392,606)	(183,474,634)	(170,465,766)	(159,726,007)	(148,628,476)	(138,179,183)	(128,655,957)	(116,955,126)
Refunds	(732,596)	(782,240)	(811,383)	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Net Change in Total Pension Liability	154,146,054	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	3,880,072,506	3,736,609,624	3,345,515,259	3,142,228,212	3,012,590,568	2,876,606,192	2,762,976,506	2,427,197,626
Total Pension Liability - Ending (a)	\$ 4,034,218,560	\$ 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)	\$ 110,527,718	\$ 115,690,989	\$ 184,526,198	\$ 157,494,371	\$ 154,664,523	\$ 150,520,270	\$ 121,822,333	\$ 72,642,853
Contributions - Employer (State)	12,756,091	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)	17,745,867	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	54,258,655	156,442,808	243,421,930	154,313,142	(62,884,634)	147,332,798	169,202,439	181,653,432
Benefit Payments	(188,392,606)	(183,474,634)	(170,465,766)	(159,726,007)	(148,628,476)	(138,179,183)	(128,655,957)	(116,955,126)
Distributions from Reserve Accounts	(55,730,720)	-	-	-	-	-	-	-
Refunds	(732,596)	(782,240)	(811,383)	-	-	-	-	-
Administrative Expense	(2,116,593)	(2,137,969)	(2,173,617)	(3,519,224)	(2,228,452)	(2,224,248)	(2,505,985)	(2,351,598)
Court Fines	701,652	775,741	759,291	832,536	920,774	881,291	757,984	770,125
Other	1,227,722	82,245	51,404	122,886	327,418	141,855	1,187,289	55,383
Net Change in Plan Fiduciary Net Position	(49,754,810)	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)	2,007,821,890	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	\$ 1,958,067,080	\$ 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	(59,262,367)	(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)	\$ 1,898,804,713	\$ 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)	\$ 2,135,413,847	\$ 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	47.07 %	48.48 %	47.24 %	45.24 %	43.10 %	46.13 %	42.69 %	39.05 %
Covered Employee Payroll	\$ 174,124,935	\$ 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	1,226.37 %	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%
2019	4,034,218,560	1,898,804,713	2,135,413,847	47.07%	174,124,935	1,226.37%



NOTES TO NET PENSION LIABILITY

GASB Statement No. 67

Valuation Date: September 30, 2019
Measurement Date: September 30, 2019

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.5%
Salary Increases	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, 2019 Actuarial Valuation Report.

Benefit changes resulting from the DOJ-COJ Settlement were not adopted until after September 30, 2019 and will be recognized in the fiscal year ending September 30, 2020.

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
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%
2019	135,264,010	110,527,718	24,736,292 ***	174,124,935	63.48%

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

*Plus \$5,000,000 Supplemental Payment

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

***Contributions of \$20,000,000 and \$24,736,292 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 and 2019, respectively.



NOTES TO SCHEDULE OF CONTRIBUTIONS

GASB Statement No. 67

Valuation Date: October 1, 2017
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, 2017 Actuarial Valuation Report, dated May 22, 2018.



SINGLE DISCOUNT RATE

GASB Statement No. 67

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

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

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

1% Decrease	Current Single Discount Rate Assumption	1% Increase
6.00%	7.00%	8.00%
\$2,721,297,505	\$2,135,413,847	\$1,662,391,785

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 2.75%; 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 2020 TO 2069

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense		UAL	Pension Liability		Additional Contributions	Total Contributions
			Contributions	Contributions	Contributions	Surtax Contributions			
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(b)+(c)+(d)+(e)+(f)		
1	174,124,935	\$ 18,011,623	\$ 56,700,075	\$ 88,598,097	\$ -	\$ -	\$ 163,309,795		
2	169,044,117	17,486,059	55,273,785	89,250,527	-	-	162,010,372		
3	162,701,427	16,829,966	53,370,773	90,366,158	-	-	160,566,898		
4	157,219,359	16,262,897	51,648,428	91,495,735	-	-	159,407,061		
5	150,125,483	15,529,101	49,360,348	92,639,432	-	-	157,528,881		
6	140,685,474	14,552,619	46,299,100	93,797,425	-	-	154,649,144		
7	130,035,674	13,450,995	42,835,130	94,969,893	-	-	151,256,018		
8	122,158,931	12,636,218	40,296,413	96,157,017	-	-	149,089,648		
9	113,062,817	11,695,309	37,365,877	97,358,979	-	-	146,420,164		
10	104,895,736	10,850,499	34,762,353	98,575,966	-	-	144,188,819		
11	95,352,220	9,863,310	31,760,695	99,808,166	-	-	141,432,172		
12	84,970,430	8,789,410	28,492,274	101,055,768	70,165,357	-	208,502,809		
13	79,505,898	8,224,154	26,780,070	102,318,965	97,529,847	-	234,853,036		
14	75,354,520	7,794,732	25,490,912	103,597,952	101,674,865	-	238,558,462		
15	70,637,742	7,306,825	24,052,561	104,892,927	105,996,047	-	242,248,360		
16	63,342,021	6,552,150	21,862,353	106,204,088	110,500,879	-	245,119,469		
17	53,548,012	5,539,049	18,982,536	107,531,639	115,197,166	-	247,250,391		
18	44,232,679	4,575,464	16,266,840	108,875,785	120,093,046	-	249,811,135		
19	32,052,448	3,315,531	12,771,956	110,236,732	125,197,000	-	251,521,220		
20	21,416,552	2,215,345	9,756,946	111,614,691	130,517,873	-	254,104,856		
21	14,554,849	1,505,565	7,838,118	113,009,875	136,064,883	-	258,418,441		
22	10,149,527	1,049,875	6,643,962	114,422,498	141,847,640	-	263,963,975		
23	6,984,266	722,458	5,812,553	115,852,780	147,876,165	-	270,263,956		
24	4,723,398	488,592	5,244,080	117,300,939	154,160,902	-	277,194,513		
25	2,990,196	309,308	4,832,560	118,767,201	160,712,740	-	284,621,810		
26	1,691,324	174,952	4,551,090	120,251,791	167,543,032	-	292,520,864		
27	949,070	98,173	4,435,593	121,754,939	174,663,610	-	300,952,315		
28	292,176	30,223	4,348,472	123,276,875	182,086,814	-	309,742,384		
29	-	-	4,371,168	-	189,825,503	105,628,832	299,825,503		
30	-	-	4,480,447	-	197,893,087	105,519,553	307,893,087		
31	-	-	4,592,458	-	206,303,544	105,407,542	316,303,544		
32	-	-	4,707,269	-	215,071,444	105,292,731	325,071,444		
33	-	-	4,824,951	-	224,211,980	105,175,049	334,211,980		
34	-	-	4,945,574	-	233,740,990	105,054,426	343,740,990		
35	-	-	5,069,214	-	243,674,982	104,930,786	353,674,982		
36	-	-	5,195,944	-	254,031,168	104,804,056	364,031,168		
37	-	-	5,325,843	-	-	-	5,325,843		
38	-	-	5,458,989	-	-	-	5,458,989		
39	-	-	5,595,464	-	-	-	5,595,464		
40	-	-	5,735,350	-	-	-	5,735,350		
41	-	-	5,878,733	-	-	-	5,878,733		
42	-	-	6,025,702	-	-	-	6,025,702		
43	-	-	6,176,345	-	-	-	6,176,345		
44	-	-	6,330,753	-	-	-	6,330,753		
45	-	-	6,489,022	-	-	-	6,489,022		
46	-	-	6,651,247	-	-	-	6,651,247		
47	-	-	6,817,528	-	-	-	6,817,528		
48	-	-	6,987,966	-	-	-	6,987,966		
49	-	-	7,162,665	-	-	-	7,162,665		
50	-	-	7,341,732	-	-	-	7,341,732		



SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS ENDING SEPTEMBER 30 FOR 2070 TO 2119

Year	Payroll for Current	Contributions from	Service Cost and	UAL	Pension Liability	Additional	Total Contributions
	Employees	Current Employees	Expense Contributions	Contributions	Surtax Contributions	Contributions	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(b)+(c)+(d)+(e)+(f)
51	-	-	7,525,275	-	-	-	7,525,275
52	-	-	7,713,407	-	-	-	7,713,407
53	-	-	7,906,242	-	-	-	7,906,242
54	-	-	8,103,898	-	-	-	8,103,898
55	-	-	8,306,495	-	-	-	8,306,495
56	-	-	8,514,158	-	-	-	8,514,158
57	-	-	8,727,012	-	-	-	8,727,012
58	-	-	8,945,187	-	-	-	8,945,187
59	-	-	9,168,817	-	-	-	9,168,817
60	-	-	9,398,038	-	-	-	9,398,038
61	-	-	9,632,989	-	-	-	9,632,989
62	-	-	9,873,814	-	-	-	9,873,814
63	-	-	10,120,659	-	-	-	10,120,659
64	-	-	10,373,675	-	-	-	10,373,675
65	-	-	10,633,016	-	-	-	10,633,016
66	-	-	10,898,842	-	-	-	10,898,842
67	-	-	11,171,313	-	-	-	11,171,313
68	-	-	11,450,596	-	-	-	11,450,596
69	-	-	11,736,861	-	-	-	11,736,861
70	-	-	12,030,282	-	-	-	12,030,282
71	-	-	12,331,040	-	-	-	12,331,040
72	-	-	12,639,316	-	-	-	12,639,316
73	-	-	12,955,299	-	-	-	12,955,299
74	-	-	13,279,181	-	-	-	13,279,181
75	-	-	13,611,161	-	-	-	13,611,161
76	-	-	13,951,440	-	-	-	13,951,440
77	-	-	14,300,226	-	-	-	14,300,226
78	-	-	14,657,732	-	-	-	14,657,732
79	-	-	15,024,175	-	-	-	15,024,175
80	-	-	15,399,779	-	-	-	15,399,779
81	-	-	15,784,773	-	-	-	15,784,773
82	-	-	16,179,392	-	-	-	16,179,392
83	-	-	16,583,877	-	-	-	16,583,877
84	-	-	16,998,474	-	-	-	16,998,474
85	-	-	17,423,436	-	-	-	17,423,436
86	-	-	17,859,022	-	-	-	17,859,022
87	-	-	18,305,497	-	-	-	18,305,497
88	-	-	18,763,135	-	-	-	18,763,135
89	-	-	19,232,213	-	-	-	19,232,213
90	-	-	19,713,018	-	-	-	19,713,018
91	-	-	20,205,843	-	-	-	20,205,843
92	-	-	20,710,989	-	-	-	20,710,989
93	-	-	21,228,764	-	-	-	21,228,764
94	-	-	21,759,484	-	-	-	21,759,484
95	-	-	22,303,471	-	-	-	22,303,471
96	-	-	22,861,057	-	-	-	22,861,057
97	-	-	23,432,583	-	-	-	23,432,583
98	-	-	24,018,397	-	-	-	24,018,397
99	-	-	24,618,858	-	-	-	24,618,858
100	-	-	25,234,329	-	-	-	25,234,329



SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING SEPTEMBER 30 FOR 2020 TO 2069

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	\$ 1,898,804,713	\$ 163,309,795	\$ 199,456,415	\$ 2,189,421	\$ 131,597,262	\$ 1,992,065,934
2	1,992,065,934	162,010,372	206,481,623	2,244,157	137,837,230	2,083,187,756
3	2,083,187,756	160,566,898	215,742,579	2,300,261	143,845,508	2,169,557,322
4	2,169,557,322	159,407,061	227,289,908	2,357,768	149,452,170	2,248,768,877
5	2,248,768,877	157,528,881	230,228,249	2,416,712	154,829,224	2,328,482,021
6	2,328,482,021	154,649,144	243,847,939	2,477,130	159,839,352	2,396,645,448
7	2,396,645,448	151,256,018	256,180,643	2,539,058	164,067,566	2,453,249,331
8	2,453,249,331	149,089,648	267,978,088	2,602,534	167,547,186	2,499,305,542
9	2,499,305,542	146,420,164	281,061,901	2,667,598	170,226,842	2,532,223,050
10	2,532,223,050	144,188,819	294,378,539	2,734,288	171,993,798	2,551,292,840
11	2,551,292,840	141,432,172	312,273,406	2,802,645	172,615,753	2,550,264,714
12	2,550,264,714	208,502,809	322,312,343	2,872,710	174,503,722	2,608,086,192
13	2,608,086,192	234,853,036	337,649,134	2,944,528	178,927,705	2,681,273,271
14	2,681,273,271	238,558,462	348,480,184	3,018,142	183,803,089	2,752,136,496
15	2,752,136,496	242,248,360	362,530,858	3,093,596	188,404,425	2,817,164,827
16	2,817,164,827	245,119,469	378,211,329	3,170,935	192,513,002	2,873,415,034
17	2,873,415,034	247,250,391	385,189,571	3,250,208	196,281,002	2,928,506,647
18	2,928,506,647	249,811,135	392,312,066	3,331,463	199,977,658	2,982,651,911
19	2,982,651,911	251,521,220	399,695,528	3,414,750	203,569,751	3,034,632,604
20	3,034,632,604	254,104,856	410,330,153	3,500,118	206,928,443	3,081,835,632
21	3,081,835,632	258,418,441	423,374,597	3,587,621	209,929,233	3,123,221,088
22	3,123,221,088	263,963,975	432,864,003	3,677,311	212,687,428	3,163,331,176
23	3,163,331,176	270,263,956	446,903,617	3,769,244	215,225,665	3,198,147,935
24	3,198,147,935	277,194,513	458,102,582	3,863,476	217,512,728	3,230,889,119
25	3,230,889,119	284,621,810	462,928,260	3,960,063	219,890,804	3,268,513,410
26	3,268,513,410	292,520,864	467,139,382	4,059,064	222,647,993	3,312,483,821
27	3,312,483,821	300,952,315	468,970,775	4,160,540	225,949,525	3,366,254,346
28	3,366,254,346	309,742,384	470,365,261	4,264,554	229,964,350	3,431,331,265
29	3,431,331,265	299,825,503	470,750,835	4,371,168	234,161,579	3,490,196,343
30	3,490,196,343	307,893,087	470,798,937	4,480,447	238,554,309	3,561,364,355
31	3,561,364,355	316,303,544	468,944,077	4,592,458	243,885,425	3,648,016,788
32	3,648,016,788	325,071,444	466,030,984	4,707,269	250,349,065	3,752,699,044
33	3,752,699,044	334,211,980	462,322,495	4,824,951	258,114,884	3,877,878,462
34	3,877,878,462	343,740,990	457,410,333	4,945,574	267,370,185	4,026,633,730
35	4,026,633,730	353,674,982	454,029,875	5,069,214	278,236,924	4,199,446,547
36	4,199,446,547	364,031,168	448,740,121	5,195,944	290,867,807	4,400,409,457
37	4,400,409,457	5,325,843	442,594,949	5,325,843	292,799,836	4,250,614,344
38	4,250,614,344	5,458,989	436,076,903	5,458,989	282,538,451	4,097,075,892
39	4,097,075,892	5,595,464	428,561,786	5,595,464	272,049,340	3,940,563,446
40	3,940,563,446	5,735,350	420,294,029	5,735,350	261,377,946	3,781,647,363
41	3,781,647,363	5,878,733	410,427,177	5,878,733	250,593,319	3,621,813,505
42	3,621,813,505	6,025,702	401,060,787	6,025,702	239,727,228	3,460,479,946
43	3,460,479,946	6,176,345	390,497,562	6,176,345	228,797,339	3,298,779,723
44	3,298,779,723	6,330,753	380,001,023	6,330,753	217,839,489	3,136,618,189
45	3,136,618,189	6,489,022	368,307,599	6,489,022	206,890,529	2,975,201,119
46	2,975,201,119	6,651,247	355,434,302	6,651,247	196,034,280	2,815,801,097
47	2,815,801,097	6,817,528	343,474,111	6,817,528	185,287,805	2,657,614,791
48	2,657,614,791	6,987,966	331,844,019	6,987,966	174,614,932	2,500,385,704
49	2,500,385,704	7,162,665	319,981,108	7,162,665	164,017,075	2,344,421,671
50	2,344,421,671	7,341,732	306,939,753	7,341,732	153,548,321	2,191,030,239

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 2070 TO 2119

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	2,191,030,239	7,525,275	292,960,163	7,525,275	143,291,931	2,041,362,008
52	2,041,362,008	7,713,407	279,205,679	7,713,407	133,288,419	1,895,444,748
53	1,895,444,748	7,906,242	264,338,967	7,906,242	123,585,746	1,754,691,527
54	1,754,691,527	8,103,898	249,522,903	8,103,898	114,242,812	1,619,411,436
55	1,619,411,436	8,306,495	235,840,442	8,306,495	105,243,992	1,488,814,986
56	1,488,814,986	8,514,158	222,467,967	8,514,158	96,562,362	1,362,909,380
57	1,362,909,380	8,727,012	209,460,802	8,727,012	88,196,520	1,241,645,098
58	1,241,645,098	8,945,187	196,558,231	8,945,187	80,151,973	1,125,238,840
59	1,125,238,840	9,168,817	183,722,771	9,168,817	72,445,178	1,013,961,247
60	1,013,961,247	9,398,038	170,908,997	9,398,038	65,096,643	908,148,893
61	908,148,893	9,632,989	158,161,145	9,632,989	58,128,407	808,116,155
62	808,116,155	9,873,814	145,592,223	9,873,814	51,558,587	714,082,519
63	714,082,519	10,120,659	133,146,073	10,120,659	45,404,480	626,340,926
64	626,340,926	10,373,675	120,989,610	10,373,675	39,680,849	545,032,165
65	545,032,165	10,633,016	109,190,833	10,633,016	34,395,209	470,236,541
66	470,236,541	10,898,842	97,740,128	10,898,842	29,553,511	402,049,924
67	402,049,924	11,171,313	86,725,410	11,171,313	25,159,443	340,483,958
68	340,483,958	11,450,596	76,239,596	11,450,596	21,210,622	285,454,984
69	285,454,984	11,736,861	66,348,416	11,736,861	17,698,930	236,805,498
70	236,805,498	12,030,282	57,127,304	12,030,282	14,610,746	194,288,940
71	194,288,940	12,331,040	48,628,983	12,331,040	11,926,998	157,586,955
72	157,586,955	12,639,316	40,900,176	12,639,316	9,623,792	126,310,571
73	126,310,571	12,955,299	33,980,693	12,955,299	7,672,531	100,002,409
74	100,002,409	13,279,181	27,873,119	13,279,181	6,041,109	78,170,399
75	78,170,399	13,611,161	22,564,237	13,611,161	4,695,537	60,301,700
76	60,301,700	13,951,440	18,017,789	13,951,440	3,601,162	45,885,073
77	45,885,073	14,300,226	14,190,226	14,300,226	2,723,697	34,418,544
78	34,418,544	14,657,732	11,011,533	14,657,732	2,030,413	25,437,424
79	25,437,424	15,024,175	8,415,790	15,024,175	1,491,049	18,512,683
80	18,512,683	15,399,779	6,328,838	15,399,779	1,078,125	13,261,971
81	13,261,971	15,784,773	4,680,391	15,784,773	767,295	9,348,875
82	9,348,875	16,179,392	3,402,937	16,179,392	537,333	6,483,271
83	6,483,271	16,583,877	2,430,639	16,583,877	370,195	4,422,827
84	4,422,827	16,998,474	1,704,808	16,998,474	250,939	2,968,958
85	2,968,958	17,423,436	1,174,558	17,423,436	167,413	1,961,812
86	1,961,812	17,859,022	795,322	17,859,022	109,961	1,276,451
87	1,276,451	18,305,497	529,461	18,305,497	71,134	818,124
88	818,124	18,763,135	346,895	18,763,135	45,333	516,561
89	516,561	19,232,213	223,907	19,232,213	28,455	321,110
90	321,110	19,713,018	142,273	19,713,018	17,582	196,419
91	196,419	20,205,843	89,127	20,205,843	10,683	117,975
92	117,975	20,710,989	55,087	20,710,989	6,363	69,250
93	69,250	21,228,764	33,403	21,228,764	3,698	39,546
94	39,546	21,759,484	19,852	21,759,484	2,085	21,779
95	21,779	22,303,471	11,391	22,303,471	1,133	11,521
96	11,521	22,861,057	6,339	22,861,057	588	5,771
97	5,771	23,432,583	3,408	23,432,583	287	2,650
98	2,650	24,018,397	1,689	24,018,397	127	1,088
99	1,088	24,618,858	741	24,618,858	51	398
100	398	25,234,329	398	25,234,329	14	14

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 2020 TO 2069

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	\$ 1,898,804,713	\$ 199,456,415	\$ 199,456,415	\$ -	\$ 192,821,794	\$ -	\$ 192,821,794
2	1,992,065,934	206,481,623	206,481,623	-	186,554,504	-	186,554,504
3	2,083,187,756	215,742,579	215,742,579	-	182,169,817	-	182,169,817
4	2,169,557,322	227,289,908	227,289,908	-	179,364,682	-	179,364,682
5	2,248,768,877	230,228,249	230,228,249	-	169,797,625	-	169,797,625
6	2,328,482,021	243,847,939	243,847,939	-	168,077,010	-	168,077,010
7	2,396,645,448	256,180,643	256,180,643	-	165,025,766	-	165,025,766
8	2,453,249,331	267,978,088	267,978,088	-	161,332,161	-	161,332,161
9	2,499,305,542	281,061,901	281,061,901	-	158,139,321	-	158,139,321
10	2,532,223,050	294,378,539	294,378,539	-	154,796,186	-	154,796,186
11	2,551,292,840	312,273,406	312,273,406	-	153,463,583	-	153,463,583
12	2,550,264,714	322,312,343	322,312,343	-	148,034,689	-	148,034,689
13	2,608,086,192	337,649,134	337,649,134	-	144,933,380	-	144,933,380
14	2,681,273,271	348,480,184	348,480,184	-	139,796,754	-	139,796,754
15	2,752,136,496	362,530,858	362,530,858	-	135,919,010	-	135,919,010
16	2,817,164,827	378,211,329	378,211,329	-	132,521,389	-	132,521,389
17	2,873,415,034	385,189,571	385,189,571	-	126,136,910	-	126,136,910
18	2,928,506,647	392,312,066	392,312,066	-	120,064,760	-	120,064,760
19	2,982,651,911	399,695,528	399,695,528	-	114,321,892	-	114,321,892
20	3,034,632,604	410,330,153	410,330,153	-	109,685,638	-	109,685,638
21	3,081,835,632	423,374,597	423,374,597	-	105,768,746	-	105,768,746
22	3,123,221,088	432,864,003	432,864,003	-	101,064,877	-	101,064,877
23	3,163,331,176	446,903,617	446,903,617	-	97,516,672	-	97,516,672
24	3,198,147,935	458,102,582	458,102,582	-	93,420,882	-	93,420,882
25	3,230,889,119	462,928,260	462,928,260	-	88,228,956	-	88,228,956
26	3,268,513,410	467,139,382	467,139,382	-	83,207,055	-	83,207,055
27	3,312,483,821	468,970,775	468,970,775	-	78,068,471	-	78,068,471
28	3,366,254,346	470,365,261	470,365,261	-	73,178,138	-	73,178,138
29	3,431,331,265	470,750,835	470,750,835	-	68,446,845	-	68,446,845
30	3,490,196,343	470,798,937	470,798,937	-	63,975,551	-	63,975,551
31	3,561,364,355	468,944,077	468,944,077	-	59,554,672	-	59,554,672
32	3,648,016,788	466,030,984	466,030,984	-	55,312,819	-	55,312,819
33	3,752,699,044	462,322,495	462,322,495	-	51,282,862	-	51,282,862
34	3,877,878,462	457,410,333	457,410,333	-	47,418,675	-	47,418,675
35	4,026,633,730	454,029,875	454,029,875	-	43,989,001	-	43,989,001
36	4,199,446,547	448,740,121	448,740,121	-	40,632,243	-	40,632,243
37	4,400,409,457	442,594,949	442,594,949	-	37,454,031	-	37,454,031
38	4,250,614,344	436,076,903	436,076,903	-	34,488,271	-	34,488,271
39	4,097,075,892	428,561,786	428,561,786	-	31,676,559	-	31,676,559
40	3,940,563,446	420,294,029	420,294,029	-	29,033,140	-	29,033,140
41	3,781,647,363	410,427,177	410,427,177	-	26,496,781	-	26,496,781
42	3,621,813,505	401,060,787	401,060,787	-	24,198,220	-	24,198,220
43	3,460,479,946	390,497,562	390,497,562	-	22,019,516	-	22,019,516
44	3,298,779,723	380,001,023	380,001,023	-	20,025,826	-	20,025,826
45	3,136,618,189	368,307,599	368,307,599	-	18,139,803	-	18,139,803
46	2,975,201,119	355,434,302	355,434,302	-	16,360,533	-	16,360,533
47	2,815,801,097	343,474,111	343,474,111	-	14,775,710	-	14,775,710
48	2,657,614,791	331,844,019	331,844,019	-	13,341,497	-	13,341,497
49	2,500,385,704	319,981,108	319,981,108	-	12,022,952	-	12,022,952
50	2,344,421,671	306,939,753	306,939,753	-	10,778,446	-	10,778,446

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 2070 TO 2119

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=((c)/(1+sdr)) ^a (a-.5)
51	\$ 2,191,030,239	\$ 292,960,163	\$ 292,960,163	\$ -	\$ 9,614,524	\$ -	\$ 9,614,524
52	2,041,362,008	279,205,679	279,205,679	-	8,563,666	-	8,563,666
53	1,895,444,748	264,338,967	264,338,967	-	7,577,272	-	7,577,272
54	1,754,691,527	249,522,903	249,522,903	-	6,684,644	-	6,684,644
55	1,619,411,436	235,840,442	235,840,442	-	5,904,762	-	5,904,762
56	1,488,814,986	222,467,967	222,467,967	-	5,205,564	-	5,205,564
57	1,362,909,380	209,460,802	209,460,802	-	4,580,568	-	4,580,568
58	1,241,645,098	196,558,231	196,558,231	-	4,017,205	-	4,017,205
59	1,125,238,840	183,722,771	183,722,771	-	3,509,231	-	3,509,231
60	1,013,961,247	170,908,997	170,908,997	-	3,050,915	-	3,050,915
61	908,148,893	158,161,145	158,161,145	-	2,638,647	-	2,638,647
62	808,116,155	145,592,223	145,592,223	-	2,270,052	-	2,270,052
63	714,082,519	133,146,073	133,146,073	-	1,940,181	-	1,940,181
64	626,340,926	120,989,610	120,989,610	-	1,647,700	-	1,647,700
65	545,032,165	109,190,833	109,190,833	-	1,389,737	-	1,389,737
66	470,236,541	97,740,128	97,740,128	-	1,162,614	-	1,162,614
67	402,049,924	86,725,410	86,725,410	-	964,107	-	964,107
68	340,483,958	76,239,596	76,239,596	-	792,092	-	792,092
69	285,454,984	66,348,416	66,348,416	-	644,231	-	644,231
70	236,805,498	57,127,304	57,127,304	-	518,407	-	518,407
71	194,288,940	48,628,983	48,628,983	-	412,419	-	412,419
72	157,586,955	40,900,176	40,900,176	-	324,179	-	324,179
73	126,310,571	33,980,693	33,980,693	-	251,715	-	251,715
74	100,002,409	27,873,119	27,873,119	-	192,965	-	192,965
75	78,170,399	22,564,237	22,564,237	-	145,992	-	145,992
76	60,301,700	18,017,789	18,017,789	-	108,950	-	108,950
77	45,885,073	14,190,226	14,190,226	-	80,192	-	80,192
78	34,418,544	11,011,533	11,011,533	-	58,157	-	58,157
79	25,437,424	8,415,790	8,415,790	-	41,540	-	41,540
80	18,512,683	6,328,838	6,328,838	-	29,195	-	29,195
81	13,261,971	4,680,391	4,680,391	-	20,178	-	20,178
82	9,348,875	3,402,937	3,402,937	-	13,711	-	13,711
83	6,483,271	2,430,639	2,430,639	-	9,153	-	9,153
84	4,422,827	1,704,808	1,704,808	-	6,000	-	6,000
85	2,968,958	1,174,558	1,174,558	-	3,863	-	3,863
86	1,961,812	795,322	795,322	-	2,445	-	2,445
87	1,276,451	529,461	529,461	-	1,521	-	1,521
88	818,124	346,895	346,895	-	931	-	931
89	516,561	223,907	223,907	-	562	-	562
90	321,110	142,273	142,273	-	334	-	334
91	196,419	89,127	89,127	-	195	-	195
92	117,975	55,087	55,087	-	113	-	113
93	69,250	33,403	33,403	-	64	-	64
94	39,546	19,852	19,852	-	36	-	36
95	21,779	11,391	11,391	-	19	-	19
96	11,521	6,339	6,339	-	10	-	10
97	5,771	3,408	3,408	-	5	-	5
98	2,650	1,689	1,689	-	2	-	2
99	1,088	741	741	-	1	-	1
100	398	398	398	-	0	-	0
Totals					\$ 4,579,215,187	\$ -	\$ 4,579,215,187

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



SECTION E

PROJECTION OF ASSETS, LIABILITIES AND CONTRIBUTION REQUIREMENTS

Jacksonville Police and Fire Pension Fund
41-Year Projection - Current Plan, Methods and Assumptions

Valuation Date	Actuarial Accrued Liability	Net Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Net Present Value of		Funded Ratio on Valuation Date	Total Contribution					
				Future Liability	Net Unfunded Actuarial Accrued Liability		Fiscal Year Ending	Pension Liability Surtax Contribution	% of Total Cont'n	Required City Contribution ¹²	% of Total Cont'n	Total Contribution
10/1/19	4,036,925,117	1,946,967,113	2,089,958,004	900,348,997	1,189,609,007	48.23%	2020	0	0.0%	140,292,637	100.0%	140,292,637
10/1/20	4,188,047,466	2,024,688,812	2,163,358,654	963,373,427	1,199,985,227	48.34%	2021	0	0.0%	148,475,947	100.0%	148,475,947
10/1/21	4,340,402,138	2,108,601,733	2,231,800,405	1,030,809,567	1,200,990,838	48.58%	2022	0	0.0%	148,776,575	100.0%	148,776,575
10/1/22	4,491,128,090	2,188,048,978	2,303,079,112	1,102,966,236	1,200,112,876	48.72%	2023	0	0.0%	148,836,418	100.0%	148,836,418
10/1/23	4,638,022,752	2,256,295,156	2,381,727,596	1,180,173,873	1,201,553,723	48.65%	2024	0	0.0%	149,097,745	100.0%	149,097,745
10/1/24	4,788,970,542	2,340,152,870	2,448,817,672	1,262,786,044	1,186,031,628	48.87%	2025	0	0.0%	149,178,588	100.0%	149,178,588
10/1/25	4,932,153,232	2,414,461,257	2,517,691,975	1,351,181,067	1,166,510,908	48.95%	2026	0	0.0%	147,337,198	100.0%	147,337,198
10/1/26	5,067,810,958	2,477,907,403	2,589,903,555	1,445,763,742	1,144,139,813	48.90%	2027	0	0.0%	144,736,988	100.0%	144,736,988
10/1/27	5,197,222,883	2,529,660,647	2,667,562,236	1,546,967,204	1,120,595,032	48.67%	2028	0	0.0%	143,090,668	100.0%	143,090,668
10/1/28	5,318,083,803	2,568,509,995	2,749,573,808	1,655,254,908	1,094,318,900	48.30%	2029	0	0.0%	141,091,689	100.0%	141,091,689
10/1/29	5,429,990,366	2,592,945,183	2,837,045,183	1,771,122,751	1,065,922,432	47.75%	2030	0	0.0%	139,465,562	100.0%	139,465,562
10/1/30	5,527,019,261	2,597,467,468	2,929,551,793	1,895,101,344	1,034,450,449	47.00%	2031	70,165,357	33.8%	137,480,448	66.2%	207,645,805
10/1/31	5,615,887,989	2,660,268,647	2,955,619,342	1,955,790,069	999,829,273	47.37%	2032	97,529,847	41.9%	135,223,132	58.1%	232,752,979
10/1/32	5,692,679,426	2,737,101,774	2,955,577,652	1,991,809,716	963,767,936	48.08%	2033	101,674,865	43.1%	134,497,551	56.9%	236,172,416
10/1/33	5,761,785,348	2,810,671,402	2,866,117,254	2,026,063,098	925,050,848	48.78%	2034	105,996,047	44.1%	134,424,737	55.9%	240,420,784
10/1/34	5,819,120,826	2,878,266,679	2,940,854,147	2,058,244,351	882,609,796	49.46%	2035	110,500,879	45.2%	134,239,447	54.8%	244,740,326
10/1/35	5,861,120,653	2,937,586,435	2,923,534,218	2,088,018,458	835,515,760	50.12%	2036	115,197,166	46.4%	133,275,988	53.6%	248,473,154
10/1/36	5,894,730,593	2,996,195,858	2,898,534,735	2,115,018,874	783,515,861	50.83%	2037	120,093,046	47.7%	131,472,531	52.3%	251,565,577
10/1/37	5,919,433,365	3,053,316,111	2,866,117,254	2,138,844,983	727,272,271	51.58%	2038	125,197,000	49.1%	129,631,697	50.9%	254,828,697
10/1/38	5,933,221,203	3,108,529,474	2,824,691,729	2,159,059,347	665,632,382	52.39%	2039	130,517,873	50.7%	126,885,894	49.3%	257,403,767
10/1/39	5,932,626,881	3,157,710,929	2,774,915,952	2,175,184,764	599,731,188	53.23%	2040	136,064,883	52.2%	124,459,407	47.8%	260,524,290
10/1/40	5,915,686,858	3,198,757,215	2,716,929,643	2,186,701,089	530,228,554	54.07%	2041	141,847,640	53.5%	123,243,525	46.5%	265,091,165
10/1/41	5,885,944,939	3,236,501,329	2,649,443,610	2,193,041,825	456,401,785	54.99%	2042	147,876,165	54.6%	122,945,376	45.4%	270,821,541
10/1/42	5,838,304,337	3,267,343,281	2,570,961,056	2,193,590,459	377,370,597	55.96%	2043	154,160,902	55.6%	123,121,038	44.4%	277,281,940
10/1/43	5,774,817,469	3,294,516,297	2,480,301,172	2,187,676,514	292,624,658	57.05%	2044	160,712,740	56.5%	123,621,159	43.5%	284,333,899
10/1/44	5,701,184,664	3,325,017,921	2,376,166,743	2,174,571,319	201,595,424	58.32%	2045	167,543,032	57.4%	124,182,825	42.6%	291,725,857
10/1/45	5,617,510,565	3,360,183,877	2,257,326,688	2,153,483,452	103,843,236	59.82%	2046	174,663,610	58.4%	124,426,709	41.6%	299,090,319
10/1/46	5,525,783,290	3,402,869,840	2,122,913,450	2,123,553,850	(640,400)	61.58%	2047	182,086,814	59.6%	123,258,558	40.4%	305,345,372
10/1/47	5,425,927,692	3,452,862,467	1,973,065,225	2,083,850,555	(110,785,330)	63.64%	2048	189,825,503	63.3%	110,000,000	36.7%	299,825,503
10/1/48	5,318,569,160	3,499,172,113	1,819,397,047	2,033,363,066	(213,966,019)	65.79%	2049	197,893,087	64.3%	110,000,000	35.7%	307,893,087
10/1/49	5,203,650,475	3,556,466,696	1,647,183,779	1,970,996,280	(323,812,501)	68.35%	2050	206,303,544	65.2%	110,000,000	34.8%	316,303,544
10/1/50	5,082,611,792	3,627,825,274	1,454,786,518	1,895,563,974	(440,777,456)	71.38%	2051	215,071,444	66.2%	110,000,000	33.8%	325,071,444
10/1/51	4,956,120,104	3,715,683,194	1,240,436,910	1,805,781,821	(565,344,911)	74.97%	2052	224,211,980	67.1%	110,000,000	32.9%	334,211,980
10/1/52	4,824,617,985	3,822,390,526	1,002,227,459	1,700,259,872	(698,032,413)	79.23%	2053	233,740,990	68.0%	110,000,000	32.0%	343,740,990
10/1/53	4,689,001,118	3,950,899,989	738,101,129	1,577,494,504	(839,393,375)	84.26%	2054	243,674,982	68.9%	110,000,000	31.1%	353,674,982
10/1/54	4,547,396,537	4,101,556,350	445,840,187	1,435,859,758	(990,019,571)	90.20%	2055	254,031,168	69.8%	110,000,000	30.2%	364,031,168
10/1/55	4,401,360,745	4,278,306,504	123,054,241	1,273,598,057	(1,150,543,816)	97.20%	2056	264,827,493	70.7%	110,000,000	29.3%	374,827,493
10/1/56	4,251,469,000	4,484,301,598	(232,832,598)	0	(232,832,598)	105.48%	2057	0	0.0%	25,971,871	100.0%	25,971,871
10/1/57	4,097,837,559	4,346,940,812	(249,103,253)	0	(249,103,253)	106.08%	2058	0	0.0%	26,621,168	100.0%	26,621,168
10/1/58	3,941,236,422	4,207,748,585	(266,512,163)	0	(266,512,163)	106.76%	2059	0	0.0%	27,286,697	100.0%	27,286,697
10/1/59	3,782,236,559	4,067,375,547	(285,138,988)	0	(285,138,988)	107.54%	2060	0	0.0%	27,968,865	100.0%	27,968,865
10/1/60	3,622,324,389	3,927,393,355	(305,068,966)	0	(305,068,966)	108.42%	2061	0	0.0%	28,668,086	100.0%	28,668,086
10/1/60							2062	0	0.0%	29,384,788	100.0%	29,384,788
Total:								4,271,408,057	46.4%	4,942,671,512	53.6%	9,214,079,569
Total Present Value at 7%:								811,274,696	29.7%	1,921,191,476	70.3%	2,732,466,172

¹Future City contributions are assumed to be equal to the dollar amount of the calculated contribution, payable in December of the fiscal year beginning one year after the valuation date.

²Future City contributions 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. As of October 1, 2019, approximately \$30.8 million in reserves are available for use the by the City.

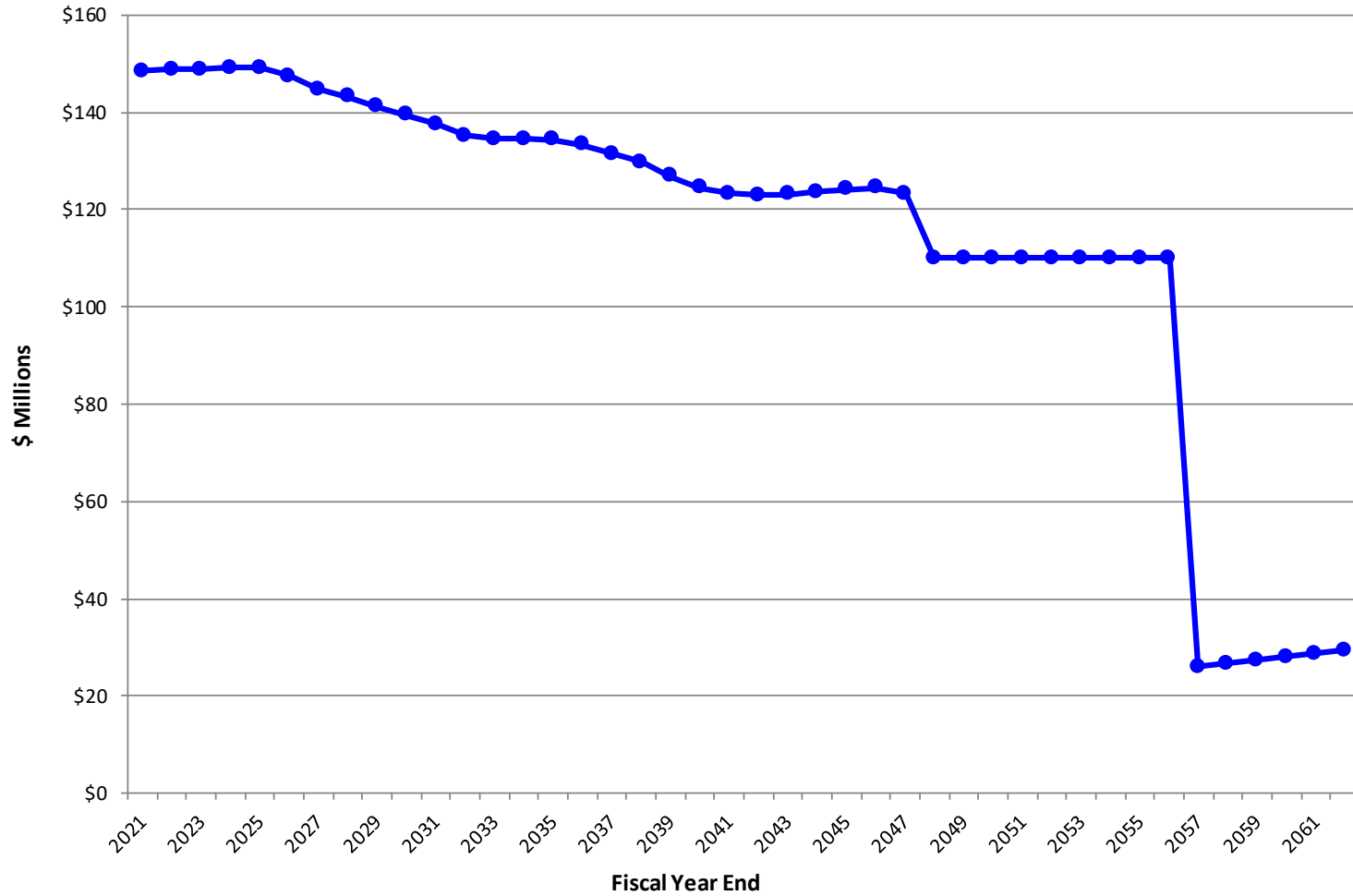
Assumptions

- Investment Return Assumption: 7.0% per year
- Actuarial Value of Assets: 5-Year Smoothed Market
- Payroll Growth Rate Assumption: 1.25% per year
- Pension Liability Surtax Proceeds: 59.26% of Total Revenue Allocated to Police and Fire Pension Fund; Projected to increase 4.25% annually
- Annual Expenses and Contributions from Court Fines: Projected to increase 2.5% annually

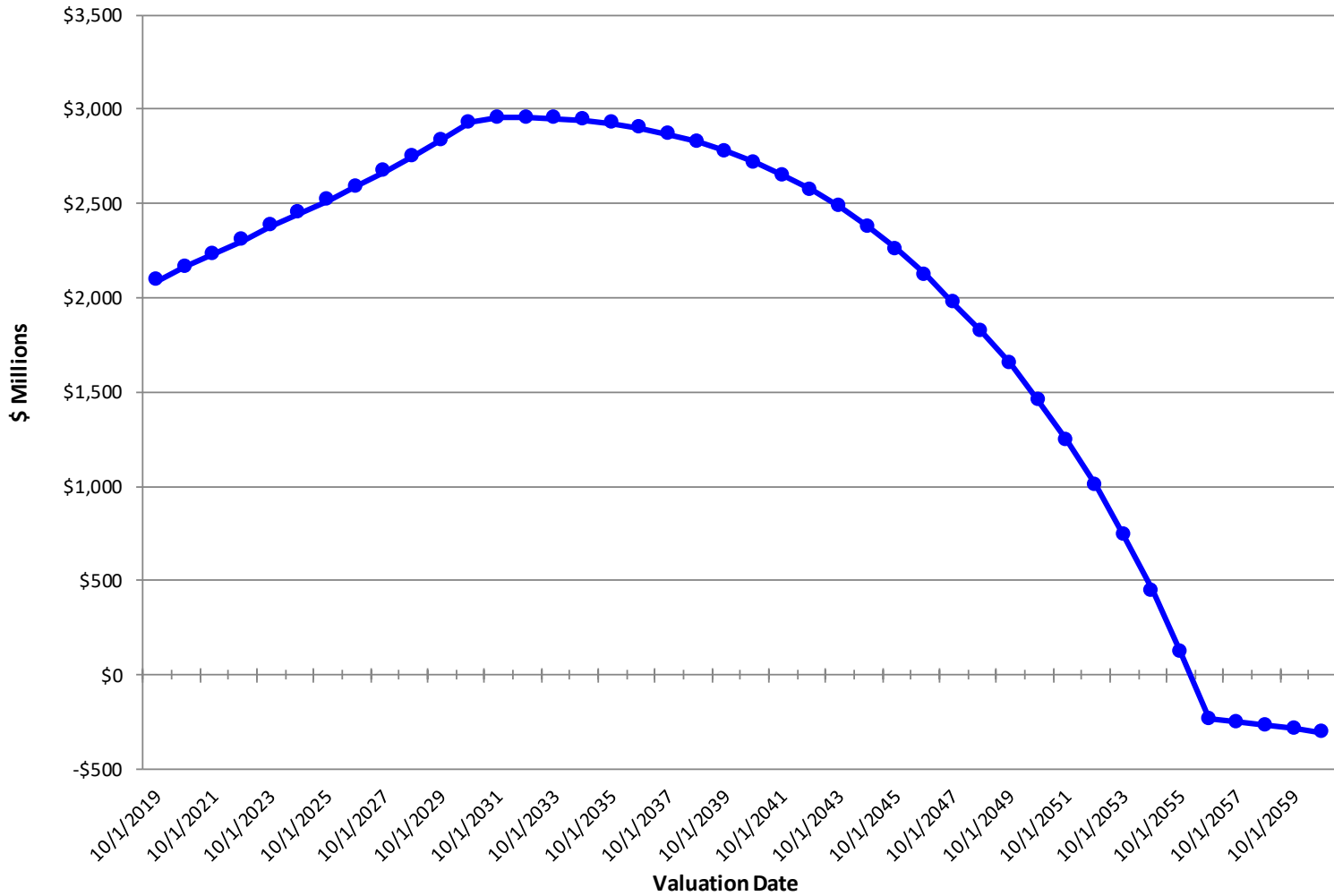
Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.



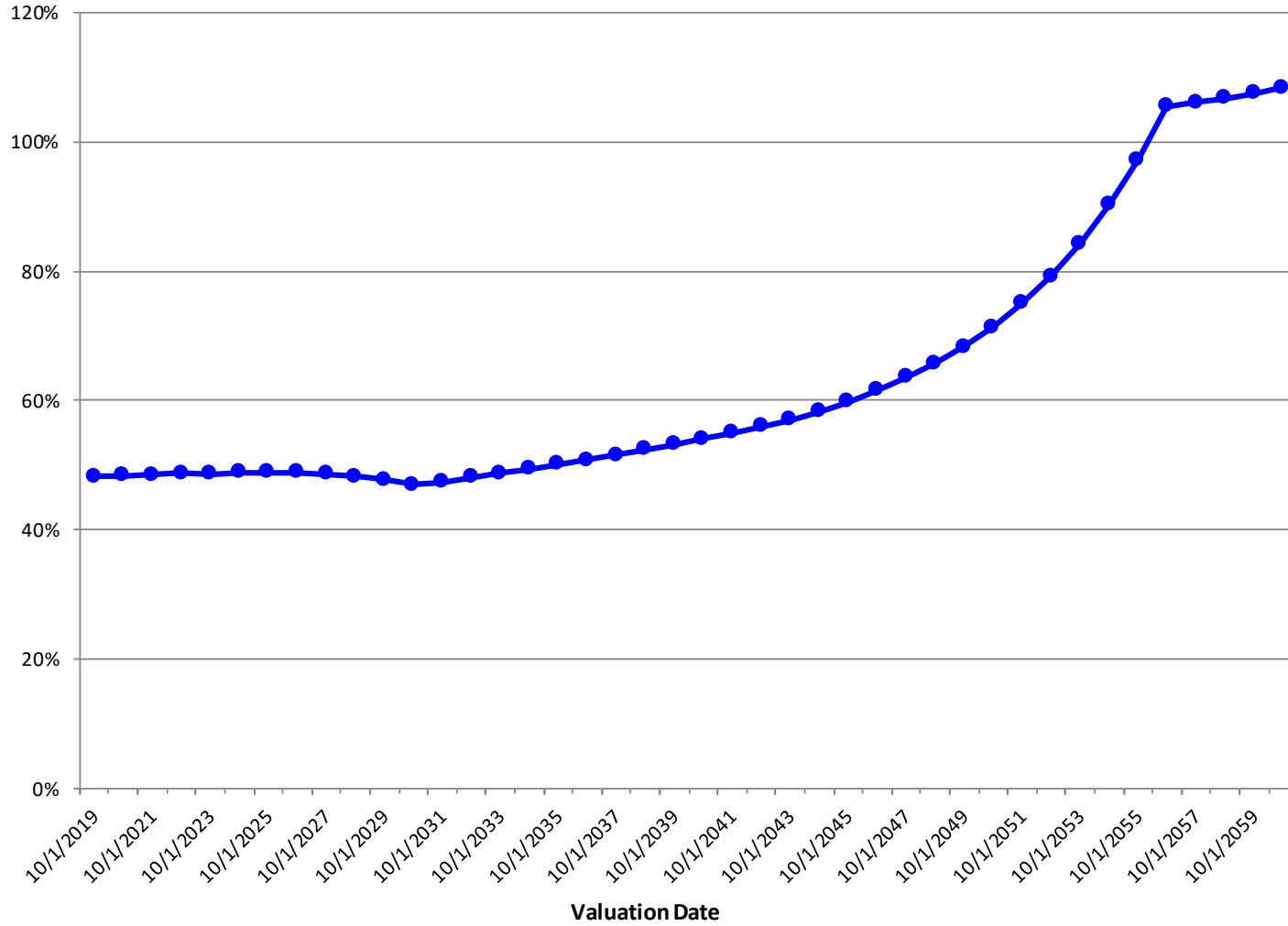
Jacksonville Police and Fire Pension Fund
41-Year Projection of Required City Contribution
Current Plan, Methods and Assumptions



Jacksonville Police and Fire Pension Fund
41-Year Projection of Unfunded Actuarial Accrued Liability
Current Plan, Methods and Assumptions



Jacksonville Police and Fire Pension Fund
41-Year Projection of Funded Ratio
Current Plan, Methods and Assumptions



SECTION F

MISCELLANEOUS INFORMATION

RECONCILIATION OF TOTAL MEMBERSHIP DATA		
	From 10/1/18 To 10/1/19	From 10/1/17 To 10/1/18
A. Active Members		
1. Number Included in Last Valuation	2,384	2,362
2. New Members Included in Current Valuation	0	126
3. Non-Vested Employment Terminations	(13)	(21)
4. Vested Employment Terminations	(16)	(18)
5. DROP Retirement	(46)	(65)
6. Service Retirements	(4)	(3)
7. Disability Retirements	(2)	0
8. Deaths	(2)	(3)
9. Other - Data Corrections	0	6
10. Number Included in This Valuation	<u>2,301</u>	<u>2,384</u>
B. Terminated Vested Members		
1. Number Included in Last Valuation	82	73
2. Additions from Active Members	16	18
3. Lump Sum Payments/Refund of Contributions	0	(8)
4. Payments Commenced	(15)	0
5. Deaths	(1)	0
6. Rehire	0	(2)
7. Other - Data Corrections	0	1
8. Number Included in This Valuation	<u>82</u>	<u>82</u>
C. DROP Retirees, Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	3,010	2,982
2. Additions from Active Members	52	68
3. Additions from Terminated Vested Members	15	0
4. Deaths	(56)	(57)
5. Additions from New Survivor Benefits	27	24
6. End of Certain Period - No Further Payments	(3)	(3)
7. Other - Data Corrections	0	(4)
8. Number Included in This Valuation	<u>3,045</u>	<u>3,010</u>

Note: Participant Data is collected as of July 1.



ACTIVE MEMBERS AS OF OCTOBER 1, 2019

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	-	33	1	-	-	-	-	-	34	\$ 1,780,527	\$ 52,368
25-29	-	194	57	1	-	-	-	-	252	14,568,900	57,813
30-34	-	154	151	76	-	-	-	-	381	25,051,927	65,753
35-39	-	80	83	225	82	-	-	-	470	35,628,027	75,804
40-44	-	40	34	143	209	27	-	-	453	36,952,007	81,572
45-49	-	17	23	73	188	95	13	-	409	34,908,205	85,350
50-54	-	3	7	42	74	64	16	1	207	18,157,321	87,717
55-59	-	1	2	22	39	14	1	-	79	6,250,410	79,119
60-64	-	-	-	-	7	6	2	-	15	1,322,753	88,184
65-69	-	-	-	-	1	-	-	-	1	74,177	74,177
70+	-	-	-	-	-	-	-	-	-	-	-
Total	-	522	358	582	600	206	32	1	2,301	174,694,254	75,921

Average Age: 40.3 Average Service: 11.7

INACTIVE MEMBERS AS OF OCTOBER 1, 2019

Age	<u>Terminated Vested</u>		<u>Disabled</u>		<u>Retired</u>		<u>DROP</u>		<u>Beneficiaries</u>		<u>Grand Total</u>	
	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits	Number	Benefits
Under 25	0	0	0	0	0	0	0	0	19	58,859	19	58,859
25 - 29	3	19,975	0	0	0	0	0	0	0	0	3	19,975
30 - 34	7	102,150	0	0	0	0	0	0	1	16,641	8	118,791
35 - 39	15	222,168	0	0	0	0	0	0	1	37,446	16	259,614
40 - 44	28	491,204	1	35,150	2	77,608	6	297,395	4	90,549	41	991,906
45 - 49	16	318,569	2	95,045	108	5,161,644	119	6,009,131	9	336,505	254	11,920,894
50 - 54	9	160,547	7	284,433	334	18,175,389	142	7,624,545	14	584,542	506	26,829,456
55 - 59	3	51,997	11	514,233	356	20,909,592	57	2,880,389	19	762,605	446	25,118,816
60 - 64	1	11,254	8	337,088	315	20,827,810	14	667,456	30	1,337,414	368	23,181,022
65 - 69	0	0	11	502,639	345	23,336,242	5	237,866	59	2,710,812	420	26,787,559
70 - 74	0	0	4	134,507	365	25,349,056	0	0	69	2,964,596	438	28,448,159
75 - 79	0	0	2	51,689	172	12,022,956	0	0	87	3,487,790	261	15,562,435
80 - 84	0	0	1	51,917	119	7,870,000	0	0	57	2,597,425	177	10,519,342
85 - 89	0	0	1	4,547	52	2,840,612	0	0	56	1,763,497	109	4,608,656
90 - 94	0	0	0	0	17	781,568	0	0	29	742,351	46	1,523,919
95 - 99	0	0	0	0	2	56,544	0	0	12	305,310	14	361,854
100 & Over	0	0	0	0	0	0	0	0	1	12,264	1	12,264
Total	82	1,377,864	48	2,011,248	2,187	137,409,021	343	17,716,782	467	17,808,606	3,127	176,323,521
Average Age:		43.1		62.5		65.0		52.1		72.6		64.1
Avg. Annual Benefit:		16,803		41,901		62,830		51,652		38,134		56,387



SECTION G

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.