BOARD OF PENSION TRUSTEES
FOR THE
CITY OF JACKSONVILLE RETIREMENT SYSTEM
Thursday, April 22, 2021 at 2 PM
City Hall Conference Room 3C, Virtual Meeting Access Information Below
AGENDA

1. **CALL TO ORDER**

2. **PUBLIC COMMENT**

3. **MINUTES**

   a. Copy of March 25, 2021 Board of Trustees Minutes; RECOMMENDED ACTION: APPROVAL

4. **NEW BUSINESS**

   a. GEPP March 2021 and COPP March 2021 Consent; RECOMMENDED ACTION: APPROVAL
   b. 10/1/2020 Actuarial Valuation Reports

5. **INVESTMENT AND FINANCIAL MATTERS**

   a. March 2021 Investment Performance Update
   b. Staff Update

6. **OLD BUSINESS**

7. **ADMINISTRATIVE**

   a. Board Rules and Code Clarifications (BRACC) Committee Update
   b. Pension Office Activity and Limited Retirement Option (LRO) Update

8. **INFORMATION**

   a. Next regular BOT meeting scheduled for Thursday, May 27, 2021, at 2 PM

9. **PRIVILEGE OF THE FLOOR**

10. **ADJOURNMENT**

Join Zoom Meeting
https://us02web.zoom.us/j/88596513306?pwd=OUV2aHFWVENtNzJSa2ZrN3FnRTUvdz09

Meeting ID: 885 9651 3306
Passcode: 658627
+1 301 715 8592 US (Washington DC)

BOARD OF PENSION TRUSTEES
FOR THE
CITY OF JACKSONVILLE RETIREMENT SYSTEM
March 25, 2021

MINUTES

2:00 PM, held in Person in City Hall Conference Room 3C and via Zoom

Members Present
Jeffrey Bernardo, Chair
Julie Bessent
Joey Greive, Vice-Chair
Valerie Gutierrez
Brian Hughes
David Kilcrease, Secretary
Diane Moser
Richard Wallace (via Zoom)

Members Not Present
Kristofer Pike

Staff Present
Randall Barnes, Treasurer (via Zoom)
Paul Barrett, Senior Manager of Debt and Investments (via Zoom)
Brennan Merrell, Manager of Debt and Investments
John Sawyer, OGC (via Zoom)
Tom Stadelmaier, Pension Administrator
Yolanda Tillman, Treasury Office (via Zoom)

Others Present
Jordan Cipriani, RVK (via Zoom)
Rowen D (via Zoom)
Matt McCue (via Zoom)
Angela Myers (via Zoom)
Jason Parks (via Zoom)
Ed Rozell (via Zoom)
Kevin Schmidt, RVK (via Zoom)
Jim Voytko, RVK (via Zoom)
Jeff Williams, Segal (via Zoom)
Scott Wilson (via Zoom)

1. CALL TO ORDER

Chair Bernardo called the meeting to order at about 2:04 PM.

2. PUBLIC COMMENT

NA

3. MINUTES

Mr. Greive made a motion to approve the minutes. Ms. Gutierrez seconded the motion. The Chair asked for discussion and there was none. The Chair took a vote and the minutes passed unanimously.

4. NEW BUSINESS

Consent agendas

Mr. Greive made a motion to approve the consent. Ms. Moser seconded the motion. The Chair summoned for discussion. Mr. Stadelmaier responded that there was nothing unusual in the prepared consent. The Chair took a vote and the consent passed unanimously.

10/1/2020 Actuarial Valuations Preliminary Results

Mr. Williams presented the preliminary results, which does NOT include any impact from the Limited retirement Option "LRO", since the option is taking place after 10/1/2020. The surtax percentage allocated to GEPP is higher but actual collection of taxes is down due to the COVID impact on Local Sales Tax. In general, experience was in line with expectations with the expected contribution higher as expected. One difference with corrections is payroll and benefit payments increased quite a bit relative to normal. More retirees and less active employees (will be a continuing trend for both plans) reduced the funding measures for COPP.

Mr. Williams kicked-off discussion on the discount rate/assumed rate-of-return and said the lower discount rate helps with surtax value but hurts plan liabilities owed to pensioners (and others). Mr. Greive said a AROR decision at this meeting was important to give certainty for the upcoming City budget.

Mr. Greive made a motion to continue to lower the rate, down to 6.8%. Mr. Kilcrease seconded the motion. The Chair called for discussion. Mr. Hughes stated the plan is working well (to continue to gradually lower the rate). The Chair pointed to page 18 of the RVK analysis that shows an expected long-term horizon closer to 5.5% to 6% and recognized the balance between duties to the Plan and budgetary considerations. The Chair added he agreed with the motion directionally but recommends the Board consider going down faster. Mr. Kilcrease said there is a direct correlation to the City budget and there is a need to attract new workers as well. Mr. Greive stated the long-term view of the Board looks longer than 10-year return assumption presented by RVK. He added, we are below average compared to peers regarding the discount rate and are gravitating to more conservative return assumption. Chair Bernardo said moving more than 10 basis points would be prudent. He said expenses are being incurred and it's a question of if they are being provisioned for. Mr. Wallace thought a lower rate was warranted and mentioned 6.25% based on the capital markets overview. The Chair took a vote, and the motion did not pass—vote was 4-4 with No's from Bernardo, Bessent, Gutierrez and Wallace.

Mr. Voytko commented that the Board should keep in mind that capital market assumptions can change and should not be the sole basis of a decision. Mr. Williams said he is not making a recommendation but providing information: this plan is ahead of the curve with the NASRA median at 7.2%. He added that with the assumptions in place the plan is on the right track on funding. Mr. Kilcrease made a motion to reconsider 6.8% and Ms. Gutierrez seconded the motion. Mr. Greive recapped the recent history on the rate and the rapid decline from 8.5% and from there a gradual decline to 6.9%. Mr. Kilcrease added to his earlier comments regarding budgetary considerations and added that his view was strongly influenced by the fact that the plan is now closed to new entrants with a dedicated funding source from the surtax. The Chair took a vote on the motion and the motion to reconsider passed with the Chair dissenting.

A vote was taken again on the motion to move to 6.8% and the motion passed 6-2 with dissents from Chair Bernardo and Ms. Bessent.

5. <u>INVESTMENT AND FINANCIAL MATTERS</u>

(Note: This section was covered prior to the discussion on the valuation report)

Mr. Merrell kicked-off investment matters reporting more gains for month of February with the fund up 2.33% with a rotation to value. Mr. Schmidt reported additional gains in March and CYTD up 3.4% and FYTD up 17.8%.

Ms. Cipriani kicked off the asset allocation study review and Mr. Voytko reviewed the updated capital market assumptions and emphasized they are used to set a plan for the long-term horizon. The group was reminded that 2020 required a revisit on assumptions due to COVID and the initial market drop. At the end of 2021, valuations were raised dramatically and expectations going forward are now lower. In most categories, return expectations are now lower with real estate flat. Chair Bernardo asked for further discussion on the reduction in EM and Ms. Cipriani expounded that volatility (standard deviation) creates drag and reduction on the long-term numbers. Chair Bernardo added that the geometric numbers shown on page 11 are the better measure to consider. Mr. Voytko agreed and said volatility is the enemy of compound return over time and geometric basis is the right measure for an institutional fund like COJ.

Mr. Schmidt covered the efficient frontier on pages 16-17 and Mr. Voytko pointed out that the model does not consider liquidity. Ms. Cipriani highlighted that the movements the plan has made to alternative assets has improved our efficiency but take time to build out.

Mr. Schmidt will work with staff to examine possible changes which included a shift from MLPs to EM and international equity and report back to the Board with a recommendation. Mr. Voytko said the concern with our MLP is concentrated exposure in just 42 stocks which is a big bet on a small group. Mr. Schmidt highlighted the approach that worked best and was recommended by staff to the Board.

Mr. Greive made a motion to adapt the recommendation to divest MLPs and move to EM and international equity. Ms. Gutierrez seconded the motion. The Chair initiated discussion on the motion. RVK addressed advantages of wider exposure to EM and international and the Chair said you do not need MLPs for inflationary protection. The Chair took a vote and motion passed unanimously.

Mr. Merrell gave a staff update which included additional capital calls from Adams Street and Hamilton Lane. He updated the Board on the William Blair transition which was completed using Loop Capital. The RFP responses for custodial services and securities lending are in from BNYM, State Street and Northern Trust and will be reviewed in a timely manner.

Mr. Merrell added there is an upcoming window to sell the New Zealand timber investment, worth about $19M. Mr. Greive made a motion to continue exit of timber. Mr. Hughes seconded the motion. There was limited discussion and agreement from the Board to continue exiting timber. The Chair took a vote and the motion passed without any dissent.

6. OLD BUSINESS

NA

7. ADMINISTRATIVE

Mr. Stadelmaier gave a brief update on the BRACC activity, which mostly focused on rehired retiree benefits. Based on the latest feedback, staff is drafting updated rules to incorporate into the Board Rules and Regulations. The BRACC will review changes before consideration by the PAC and Board.

Mr. Stadelmaier also provided an update to the Board on LRO. He reviewed the communications timeline and the FAQs that were mailed out and reported an increased activity related to LRO, which includes significantly increased traffic from non-LRO employees as well regarding their pension benefits. He recognized the work of the Pension Office staff and highlighted the work of Stephanie Smith who led the effort to review over 500 City employees in preparation for a mailing that will go out to LRO-eligible City employees in the next week that includes estimated benefits under LRO. Segal has also done great work and been instrumental with the calculations and the letters. The window for the City and JHA employees will open May 1. ITD work on the portal is almost ready and scheduled to be live in time for the May 1 opening. Employees can use the portal to view estimated LRO benefits and make the election to take LRO. Following the City opening, the Pension Office will begin work on reviewing JEA employees for LRO eligibility and calculations.

Mr. Greive recognized the efforts of the Pension Office and noted that the communications went above and beyond in terms of providing employees with good information regarding their options under LRO.

8. INFORMATION

The next regular BOT meeting is scheduled for Thursday, April 22, 2021, at 2 PM.

9. PRIVILEGE OF THE FLOOR

None

10. ADJOURNMENT

The Chair adjourned the meeting at about 4:04 PM.

GENERAL EMPLOYEES PENSION ADVISORY COMMITTEE
FOR THE
BOARD OF PENSION TRUSTEES

March 2021

CONSENT AGENDA FOR RECOMMENDED BENEFITS

ALL CALCULATIONS AND DOLLAR AMOUNTS HAVE BEEN AUDITED IN ACCORDANCE WITH ACCEPTED PROCEDURES.

1. TIME SERVICE RETIREMENTS

Phillip Bisquera, (JEA), effective February 13, 2021 in the monthly amount of $4,539.84 at the rate of 76.25% (30 years, 6 months), BACKDROP $291,698.06 (60 months)

Jimmy Bolden, (P&R), effective February 13, 2021 in the amount of $1,455.30 at the rate of 53.75% (21 years, 6 months)

Bruce Chauncey, (R&E), effective February 11, 2021 in the amount of $2,045.62 at the rate of 50% (20 years), PLOP $35,544.40

Cheryl Houston, (P&R), effective February 27, 2021 in the amount of $1,792.62 at the rate of 50.42% (20 years, 2 months)

Rhonda Joslyn, (P&R), effective February 27, 2021 in the amount of $1,732.50 at the rate of 50.67% (25 years, 4 months)

Dale Kirkland, (JHA), effective January 30, 2021 in the monthly amount of $1,023.93 at the rate of 28.13% (11 years, 3 months)

Maryjean Martinez, (P&R), effective February 6, 2021 in the monthly amount of $1,732.50 at the rate of 62.5% (25 years)

2. VESTED RETIREMENTS

New Commencements
None

New Deferrals
None

3. SURVIVOR BENEFITS

Deborah Davis, (Michael Davis, deceased active JEA employee), effective October 8, 2020 in the monthly amount of 1,922.73

Joanne Ford, (William Ford), effective February 5, 2021 in the COLA base amount of $5,621.72

Bernice Glover, (Ricky Glover), effective January 23, 2021 in the COLA base amount of $1,328.67

Cynthia King, (Gerald King), effective January 24, 2021 in the COLA base amount of $3,399.05

Barbara Milazo, (Philip Milazo) effective February 13, 2021 in the COLA base amount of $2,445.78

Leah Parker (Randy Parker, deceased active PW employee), effective January 11, 2021 in the COLA base amount of $692.03

4. RESTORATION OF SURVIVOR BENEFITS

None

5. CHILDREN/ORPHAN/GUARDIANSHIP BENEFITS

None

6. TIME SERVICE CONNECTIONS COMPLETED

Rowena Silva, (Tax Collector), 20.67 months in the amount of $6,753.50

7. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2000- 624-E (Independent Agency)

None

8. TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2003-573-E (Military)

None

9. REFUNDS

Christopher Childs (JEA), 11 years, $60,332.58
Shacare Mitchell (JSO), 4 years, $10,410.87
Elizabeth Turner (JSO), 6 years, $16,533.69

10. DB TO DC TRANSFER

Patrick Cecil (JEA), 14 years, $307,289.62
William Jones (PW), 13 years, $196,336.37
Annie McGeathy (Accounting), 15 years, $163,083.58
Beverly Wilton (JEA), 15 years, $270,693.40

11. OTHER PAYMENTS AND TIME CONNECTIONS

None

12. RE-RETIREE

None

13. DISABILITY
None

PAC Secretary Approval Date

BOT Secretary Approval Date

Notes and Comments regarding Approval:

CORRECTIONAL OFFICERS PENSION ADVISORY COMMITTEE

March 31, 2021

CONSENT AGENDA FOR RECOMMENDED BENEFITS

ALL CALCULATIONS AND DOLLAR AMOUNTS HAVE BEEN AUDITED IN ACCORDANCE WITH ACCEPTED PROCEDURES.

1. **TIME SERVICE RETIREMENTS**
   Joseph Torres, effective February 13, 2021 in the COLA base amount of $2,928.92

2. **TIME SERVICE CONNECTIONS COMPLETED**
   None

3. **REFUNDS**
   Shanon Berry, in the amount of $22,745.00 (6 years, 2 months)

   Jatoia Howard, in the amount of $18,686.15, (4 years, 11 months)

4. **SURVIVOR BENEFITS APPLICATION**
   None

5. **VESTED BENEFIT**
   None

6. **TIME SERVICE CONNECTIONS COMPLETED PURSUANT TO ORDINANCE 2003-573-E (Military)**
   None

7. **OFFICERS ENTERING DROP April 2021**
   Edward Clayman #5527

   Brian Clifton #6506

8. **Phase II Biweekly Distribution DROP Program**
   None

9. **DROP Payments**
   Tim Morris, $373,796.00

COPAC Secretary Approval   Date

BOT Secretary Approval   Date

Notes and Comments regarding Approval:

City of Jacksonville General Employees Retirement Plan

Actuarial Valuation and Review as of October 1, 2020

Segal

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Atlanta, GA 30339-4053
segalco.com
T 678.306.3100

April 20, 2021

Board of Trustees
City of Jacksonville General Employees Retirement Plan
117 West Duval Street, Suite 330
Jacksonville, FL 32202

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2020. The census information on which our calculations were based was prepared by the Plan and the financial information was provided by the the City's Finance Department. That assistance is gratefully acknowledged.

Statement by Enrolled Actuary: This actuarial valuation and cost determination was prepared and completed by me, or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan’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.

The actuarial calculations were directed under the supervision of Jeffrey S. Williams. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,
Segal

Jeffrey S. Williams, FCA, ASA, MAAA, EA
Vice President and Actuary
Enrolled Actuary No. 20-07009

Table of Contents

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and basis

This report was prepared by Segal to present a valuation of the Plan as of October 1, 2020. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to provide information for required disclosures under Governmental Accounting Standards Board (GASB) Statements No. 67 and 68. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. 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; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of September 30, 2020, provided by the Retirement System Administrative Office;
- The assets of the Plan as of September 30, 2020, provided by the City's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- The funding policy adopted by the Board, subject to the requirements of Part VII, Chapter 112, Florida Statutes.

Valuation highlights

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance.
2. The City's minimum required contribution calculated in the October 1, 2020 actuarial valuation is for the plan year beginning October 1, 2021. The "City's minimum required contribution" refers to the cumulative minimum required contribution for all contributing employers.
3. The City's minimum required contribution (the amount which will be contributed) for fiscal 2022 is $83,696,811, an increase of $6,863,834 from the amount being contributed in fiscal 2021.
4. Actual contributions made during the fiscal year ending September 30, 2020 were $72,193,022, 101.32% of the City's minimum required contribution for fiscal 2020. In the prior fiscal year, actual contributions were $70,338,000, 101.57% of the prior year's minimum required contribution.
5. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 60.26%, compared to the prior year funded ratio of 61.11%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 59.16%, compared to 59.95% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
6. Actuarial Standard of Practice No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions, states that an actuary preparing calculations of actuarially determined contributions should assess the material implications of the funding policy. This report includes two distinct contribution amounts, each with different implications.
   a. The **Florida Chapter 112 Determined Employer Contribution** is an amount consistent with a funding policy which seeks to stabilize the unfunded actuarial accrued liability (UAAL) as a percentage of total General Employees Retirement Plan (GERP) payroll, including Defined Contribution participants, where UAAL is measured relative to assets currently available to make benefit payments. Under this policy, assuming that all assumptions are met in aggregate, the UAAL is expected to be reduced to zero over a period of 26 years after reflecting an amortization period reset as of October 1, 2016. Over the short term, this contribution policy would be expected to keep the UAAL roughly level over the next few years, primarily making payments on interest, and begin paying down the UAAL after that point.
   b. The **City's required minimum contribution**, which is the Chapter 112 contribution adjusted to comply with state law, reduced by amortization of discounted allocated surtax revenue, is an amount consistent with a funding policy which seeks to stabilize the contribution requirement as a percentage of total GERP payroll, including General Employee Defined Contribution Plan participants, relative to an anticipated increase in contribution income set to begin

January 1, 2031. Under this policy, assuming that all assumptions are met in aggregate, the UAAL is expected to be reduced to zero by December 31, 2060, after all of the surtax revenue allocated to the plan is collected and contributed. Over the short term, this contribution policy is expected to lead to an increase in the UAAL, prior to the revenue stream commencing and paying it down.

Use of this contribution policy has been authorized by the Florida State Legislature and Jacksonville City Council.

7. The unfunded actuarial accrued liability is $1,346,924,204, which is an increase of $68,784,054 since the prior valuation.
8. The actuarial gain from investment and other experience was $1,577,497, or 0.05% of actuarial accrued liability.
   - The actuarial gain from investment experience was $9,987,510, or 0.30% of actuarial accrued liability.
   - The net experience loss from sources other than investment experience was $8,410,013, or 0.25% of the actuarial accrued liability.
9. The rate of return on the market value of assets was 7.59% for the October 1, 2019 to September 30, 2020 plan year. The return on the actuarial value of assets was 7.41% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 6.90%.
10. This valuation reflects an update to the September 30, 2019 market value of assets. The increase in the market value of assets as of September 30, 2019 was reflected as an appreciation in market value of assets for the year ending September 30, 2020 for the purposes of developing the actuarial value of assets and the actuarially determined contribution. For GASB accounting purposes, this change was previously reflected as a revised September 30, 2019 Fiduciary Net Position.
11. The following change in actuarial assumptions is first reflected with this valuation:
    - The discount rate was lowered from 6.90% to 6.80%

      As a result of this assumption change, the total normal cost increased by $947,715 (2.39%) and the actuarial accrued liability increased by $36,145,490 (1.08%). The present value of surtax revenue allocated to GERP increased by $12,334,670 (2.22%) as a result of the discount rate change. The net impact was an increase in the City's minimum required contribution of $2,048,709.
12. The City changed the surtax allocation percentage from the prior valuation to the current valuation. In the 2019 valuation, GERP's allocation percentage was 34.57%; in the 2020 valuation, the allocation percentage has been increased to 35.68%. This change was directed by the City based on its updated calculation of the General Employees Retirement Plan's share of the City's unfunded liabilities. The change in the surtax allocation percentage caused the City's minimum required contribution to decrease by $1,221,687.
13. The City is solely responsible for the assumption as to what percentage the surtax revenue will grow and Segal relies on the City for this assumption. This rate was set at 4.25% by the City for the projection period January 1, 2020 through December 31,

2060, and will be recalculated by the City every year and adopted by the City Council. Segal will ask the City each year to provide actual surtax revenue for the preceding fiscal year and an assumption as to future growth. The difference in actual and projected surtax revenue each year will be amortized over the period by which each year's gain or loss is being amortized. If surtax revenue grows more slowly or more quickly than expected, contribution requirements will increase or decrease accordingly.

14. The present value of the projected surtax revenue was determined and used in determination of the City's required contribution as follows:
    a. Actual 2020 surtax revenue was projected to increase by 4.25% each year thereafter through 2060.
    b. A share of 35.68% of the projected revenue for January 1, 2031 through December 31, 2060 was allocated to GERP.
    c. The revenue allocated to GERP was discounted at the valuation discount rate of 6.80% to October 1, 2020.
    d. The original allocated present value amount of $332,190,859 was amortized over a 30-year initial period (Section 3, Exhibit F), with subsequent changes amortized over new periods. The present value of projected surtax revenue as of October 1, 2020 allocated to GERP is $568,912,740.
    e. After the amortized value amount was adjusted for the timing of contributions and projected to October 1, 2020, this amount was used as an offset to the Florida Chapter 112 Determined Employer Contribution to determine the City's minimum required contribution for fiscal 2020.
15. The present value of projected surtax revenue does not decrease the unfunded actuarial accrued liability. The amortized value of the projected surtax revenue is used as an offset to the Chapter 112 contribution.
16. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of September 30, 2020 are also included in this report.
17. GASB accounting does not permit any recognition of the allocated surtax revenue in determining the Net Pension Liability or Pension Expense. It is Segal's understanding that the City has discussed this issue with their external auditors and does not include any recognition of allocated surtax revenue in its audited financial statements.
18. This actuarial report as of October 1, 2020 is based on financial and demographic data as of that date. Changes subsequent to that date are not reflected and will affect future actuarial costs of the plan.
19. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition, but have included a brief discussion of some risks that may affect the Plan in Section 2. A more detailed assessment would provide the Board with a

better understanding of the inherent risks. This could be important because relatively small changes in investment performance can produce large swings in the unfunded liabilities, retired participants account for most of the Plan's liabilities, leaving limited options for reducing costs in the event of adverse experience, and the Board has not had a detailed risk assessment in several years.

20. It is important to note that this actuarial valuation is based on plan assets as of September 30, 2020. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the public health emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after September 30, 2020. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

21. The financial information received states all results rounded to the nearest thousand. The results in this valuation are shown to the nearest dollar. Therefore, occasionally rounded numbers are combined with unrounded numbers.

Summary of key valuation results

		2021	2020	2019
Contributions for plan year beginning October 1:	• Florida Chapter 112 determined employer contribution	$115,204,974	$108,568,188	$100,620,425
	• Less amortized value of discounted value of projected surtax revenue	-31,508,163	-31,735,211	-29,370,746
	• City's required minimum contribution*	$83,696,811	$76,832,977	$71,249,679
	• Actual employer contributions	--	--	72,193,022
Actuarial accrued liability	• Retired participants and beneficiaries		$2,303,896,206	$2,235,258,792
	• Inactive vested participants		22,618,312	28,631,348
	• Active participants		1,063,189,484	1,022,423,341
	• Total actuarial accrued liability		3,389,704,002	3,286,313,481
	• Total normal cost including administrative expenses		41,692,463	40,918,741
Assets	• Market value of assets (MVA)		$2,005,459,000	$1,970,206,000
	• Actuarial value of assets (AVA)		2,042,779,798	2,008,173,331
	• Actuarial value of assets as a percentage of market value of assets		101.86%	101.93%
Funded status	• Unfunded actuarial accrued liability on market value of assets		$1,384,214,002	$1,316,107,481
	• Funded percentage on MVA basis		59.16%	59.95%
	• Unfunded actuarial accrued liability on actuarial value of assets		$1,346,924,204	$1,278,140,150
	• Funded percentage on AVA basis		60.26%	61.11%
Key assumptions	• Net investment return		6.80%	6.90%
	• Inflation rate		2.50%	2.50%
	• Payroll growth for amortization purposes		1.50%	1.50%
Demographic data	• Number of retired participants and beneficiaries		5,218	5,215
	• Number of inactive vested participants		156	196
	• Number of active participants		3,663	3,937
	• Covered payroll		$246,864,141	$249,982,877
	• Average payroll		67,394	63,496
	• Projected payroll for next fiscal year		250,567,103	253,732,620

*Pursuant to State Law Chapter 2016-146 and City of Jacksonville Ordinance 2017-257-E and 2017-258-E.

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the Retirement Administrative Office. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the City's Finance Department. The Jacksonville Retirement System uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the Board of Trustees. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
Actuarial results in this report are not rounded, but that does not imply precision.
If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

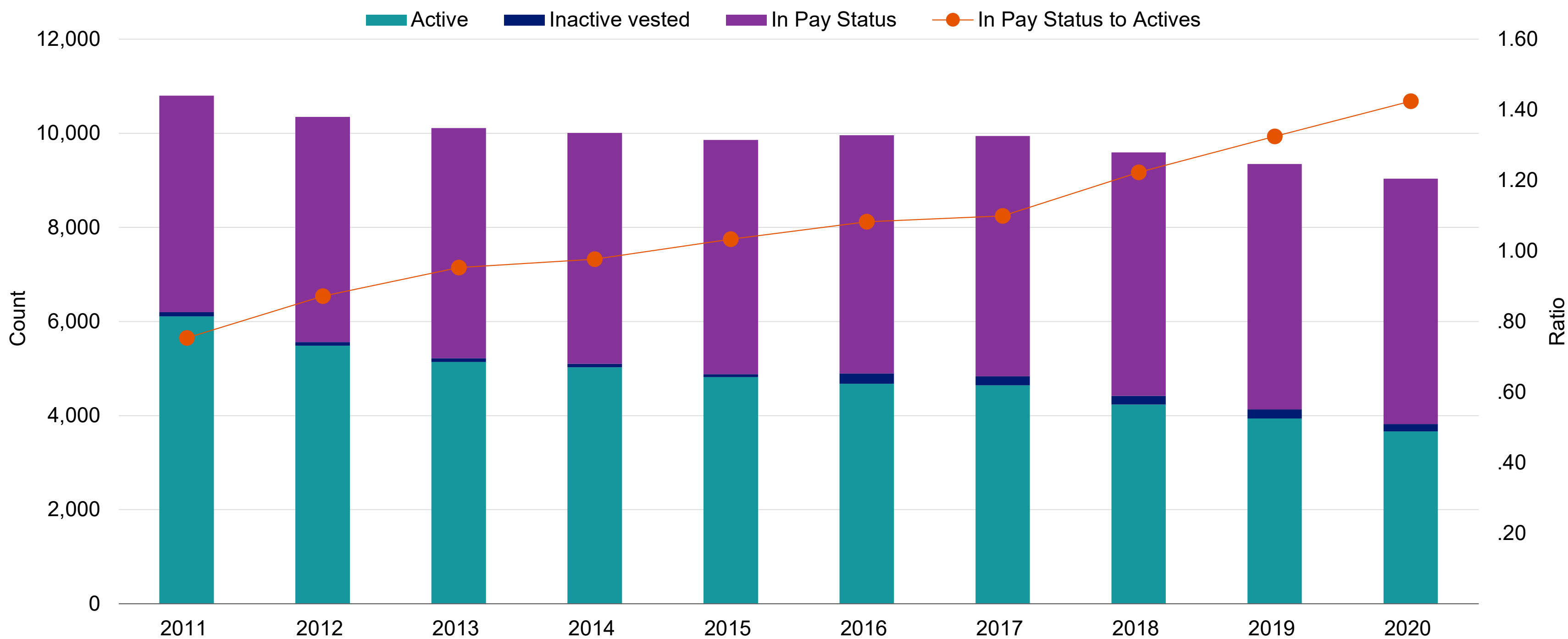
As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

Participant data

This section presents a summary of significant statistical data on these participant groups. Since the Plan is closed to new entrants, the ratio of in-pay to active participants will continue to increase.

Participant Population: 2011 – 2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
In Pay Status	4,603	4,783	4,896	4,907	4,976	5,065	5,105	5,176	5,215	5,218
Inactive Vested[1]	90	81	78	76	65	217	195	185	196	156
Active	6,109	5,485	5,139	5,026	4,817	4,678	4,644	4,234	3,937	3,663
In Pay to Active	0.75	0.87	0.95	0.98	1.03	1.08	1.10	1.22	1.32	1.42

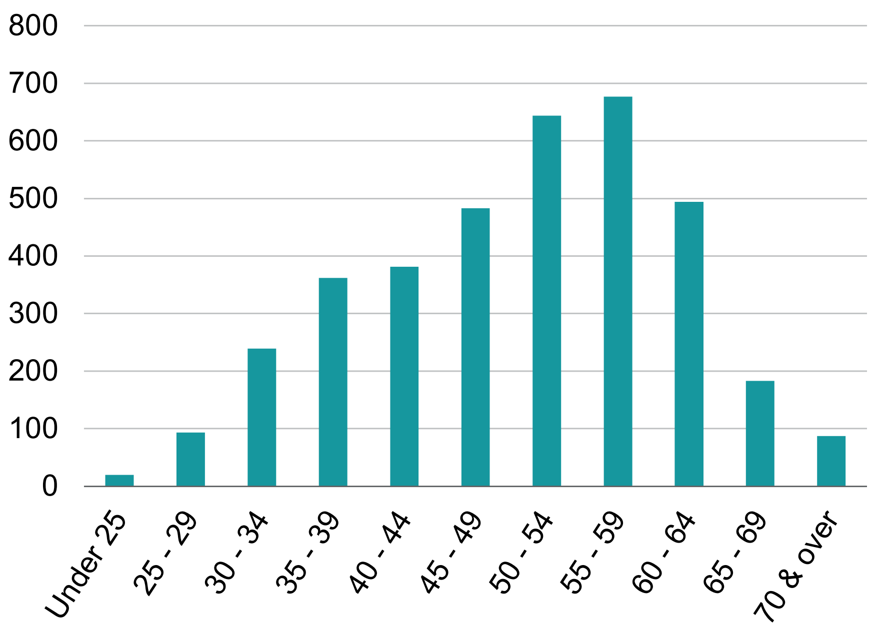
[1] Excludes terminated participants due a refund of employee contributions

Active participants

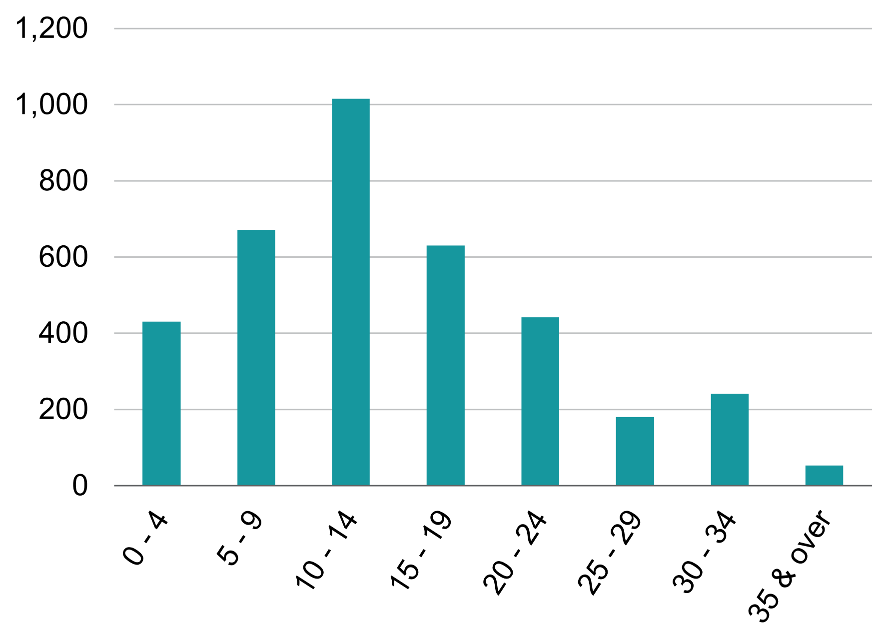
As of September 30,	2020	2019	Change
Active participants	3,663	3,937	-7.0%
Average age	50.7	50.1	0.6
Average years of service	14.8	14.0	0.8
Average compensation	67,394	63,496	6.1%

Distribution of Active Participants as of September 30, 2020

Actives by Age



Actives by Years of Service

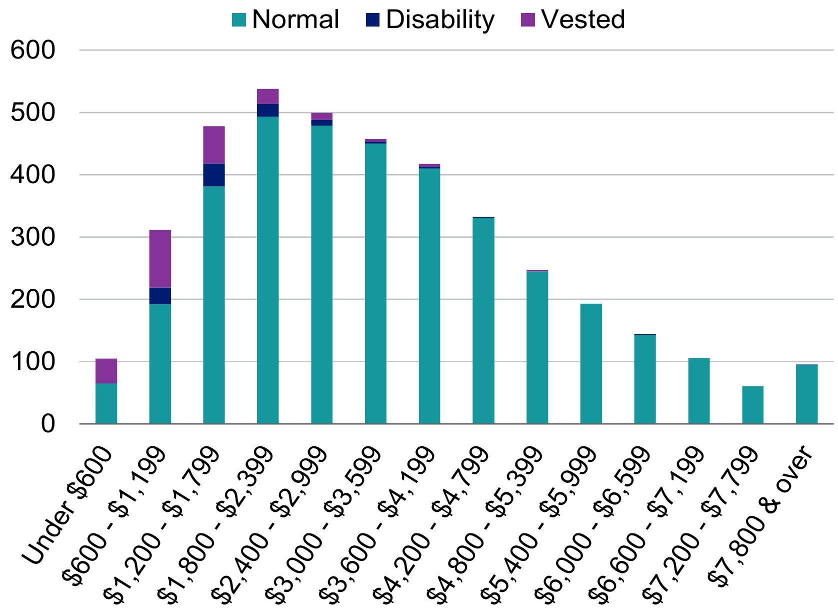


Retired participants and beneficiaries

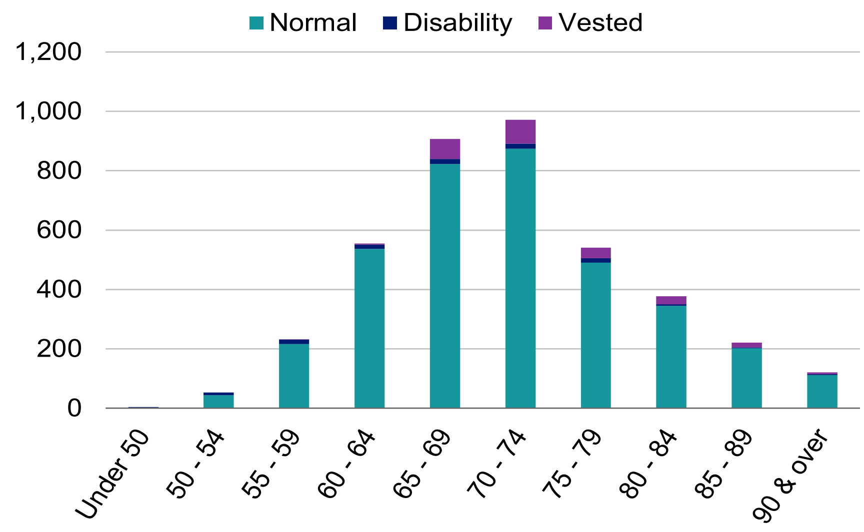
As of September 30,	2020	2019	Change
Retirees	3,983	3,966	0.4%
Beneficiaries	1,235	1,249	-1.1%
Average age	72.6	72.4	0.2
Average regular benefit amount	$2,976	$2,892	2.9%
Average supplement amount	114	116	-1.7%
Total monthly amount	16,125,149	15,686,733	2.8%

Distribution of Retired Participants as of September 30, 2020

Retired Participants by Type and Monthly Amount Including Supplement



Retired Participants by Type and Age

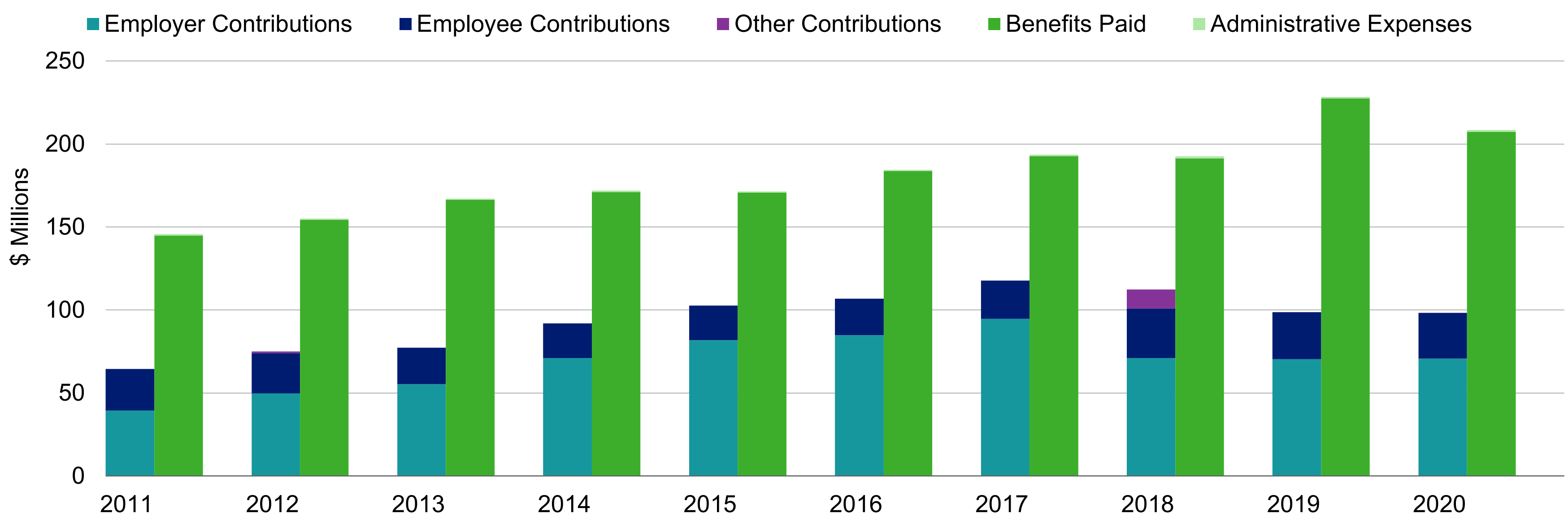


Financial information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees) will be needed to cover benefit payments and administrative expenses. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E* and *F*.

Comparison of Contributions Made with Benefits and Expenses Paid for Years Ended September 30, 2011 – 2020



Section 2: Actuarial Valuation Results

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended September 30, 2020

1	Market value of assets, September 30, 2020					$2,005,459,000
2	Calculation of unrecognized return		**Original Amount[1]**	**Percent Deferred[2]**	**Unrecognized Amount[3]**	
	(a)	Year ended September 30, 2020	$13,253,788	80%	$10,603,030	
	(b)	Year ended September 30, 2019	-126,629,625	60%	-75,977,775	
	(c)	Year ended September 30, 2018	3,347,148	40%	1,338,860	
	(d)	Year ended September 30, 2017	133,575,436	20%	26,715,087	
	(e)	Year ended September 30, 2016	39,489,525	0%	0	
	(f)	Total unrecognized return				-$37,320,798
3	Preliminary actuarial value: **(1) - (2f)**					2,042,779,798
4	Adjustment to be within 30% corridor					0
5	Final actuarial value of assets as of September 30, 2020: **(3) + (4)**					2,042,779,798
6	Actuarial value as a percentage of market value: **(5) ÷ (1)**					101.9%
7	Amount deferred for future recognition: **(1) - (5)**					-$37,320,798

[1] Total return minus expected return on a market value basis
[2] Percent deferred applies to the current valuation year
[3] Recognition at 20% per year over five years

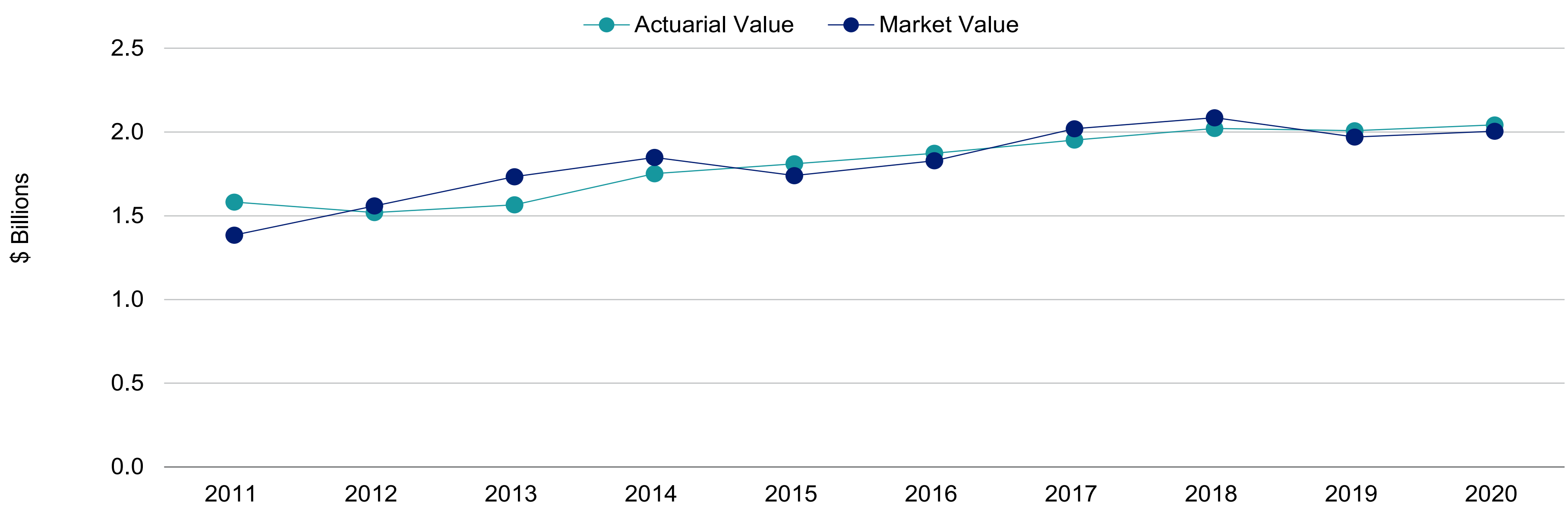
Deferred return as of September 30, 2020 recognized in each of the next four years:

(a) Amount recognized on September 30, 2021	$4,709,350
(b) Amount recognized on September 30, 2022	-22,005,738
(c) Amount recognized on September 30, 2023	-22,675,168
(d) Amount recognized on September 30, 2024	2,650,758

Section 2: Actuarial Valuation Results

Both the actuarial value and market value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Actuarial Value of Assets vs. Market Value of Assets



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actuarial Value[1]	$1.58	$1.52	$1.57	$1.75	$1.81	$1.87	$1.95	$2.02	$2.01	$2.04
Market Value[1]	1.38	1.56	1.73	1.85	1.74	1.83	2.02	2.09	1.97	2.01

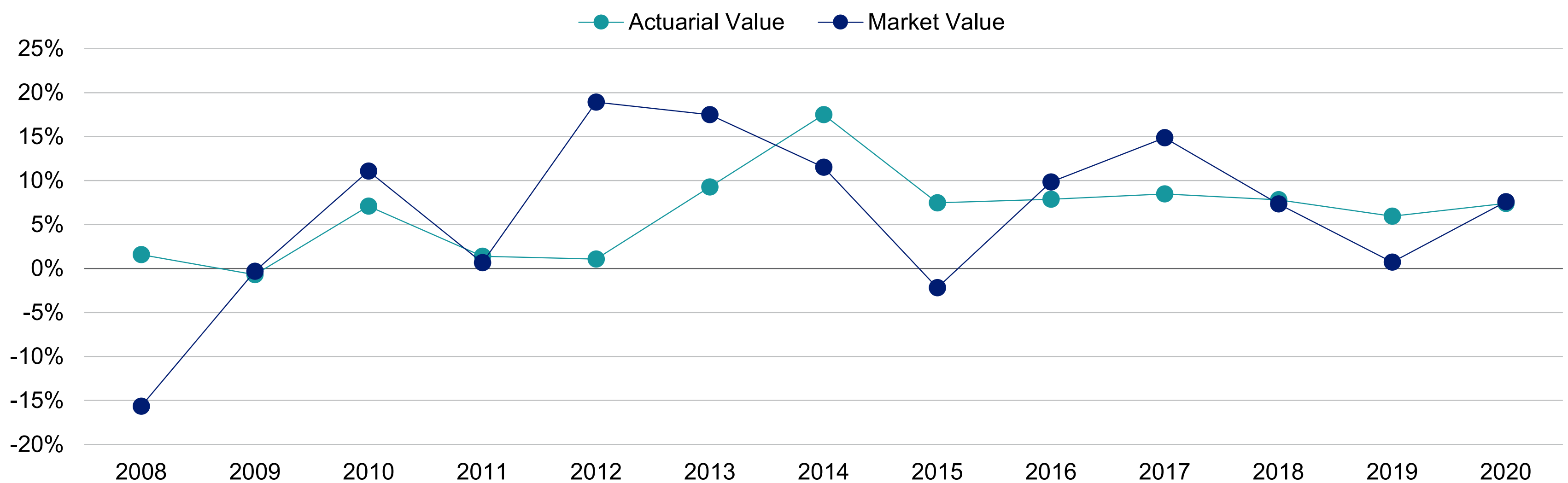
[1] In $ billions

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the actual market value investment return for the last 13 years, including averages over select time periods.

As described earlier in this section, the actuarial asset valuation method gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market and Actuarial Rates of Return for Years Ended September 30, 2008 – 2020



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actuarial Value of Assets	1.59%	-0.70%	7.07%	1.39%	1.07%	9.27%	17.48%	7.46%	7.86%	8.46%	7.81%	5.94%	7.41%
Market Value of Assets	-15.65%	-0.31%	11.07%	0.66%	18.92%	17.48%	11.51%	-2.18%	9.82%	14.86%	7.35%	0.73%	7.59%
Assumed rate	8.40%	8.40%	8.40%	8.25%	8.25%	7.75%	7.75%	7.50%	7.50%	7.40%	7.20%	7.00%	6.90%

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	7.48%	7.85%
Most recent ten-year average return:	7.37%	8.28%

Actuarial experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), any contribution requirement will decrease from the previous year. On the other hand, any contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience. If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

Actuarial Experience for Year Ended September 30, 2020

1	Net gain from investments[1]	$9,987,510
2	Net loss from administrative expenses	-92,698
3	Net loss from other experience	-8,317,315
4	Net experience gain: **1 + 2 + 3**	$1,577,497

[1] Details on next page

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the market value of assets was 7.59% for the year ended September 30, 2020.

For valuation purposes, the assumed rate of return on the actuarial value of assets was 6.90% for the year ending September 30, 2020. The actual rate of return on an actuarial basis for the 2020 plan year was 7.41%. Since the actual return for the year was greater than the assumed return, the Plan experienced an actuarial gain during the year ended September 30, 2020 with regard to its investments.

Investment Experience

		Year Ended September 30, 2020	
		Market Value	**Actuarial Value**
1	Net investment income	$145,398,000	$144,751,467
2	Average value of assets	1,915,133,500	1,953,100,831
3	Rate of return: **1 ÷ 2**	7.59%	7.41%
4	Assumed rate of return	6.90%	6.90%
5	Expected investment income: **2 x 4**	132,144,212	134,763,957
6	Actuarial gain/(loss): **1 - 5**	$13,253,788	$9,987,510

Non-investment experience

Administrative expenses

- Administrative expenses for the year ended September 30, 2020 totaled $1,084,000, as compared to the assumption of $959,000. The resulted in a loss of $92,698, after accounting for timing.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected), and
- salary increases (greater or smaller than projected).

The net loss from this other experience for the year ended September 30, 2020 amounted to $8,317,315, which is 0.25% of the actuarial accrued liability.

Actuarial assumptions

- The discount rate was lowered from 6.90% to 6.80%
- These changes increased the actuarial accrued liability by 2.22% and increased the total normal cost by 2.39%.

Details on actuarial assumptions and methods are in Section 4, Exhibit I.

Plan provisions

There were no changes in plan provisions since the prior valuation.

Development of Unfunded Actuarial Accrued Liability for Year Ended September 30, 2020

1	Unfunded actuarial accrued liability at beginning of year		$1,278,140,150
2	Normal cost at beginning of year		17,751,783
3	Employer contributions		-70,742,000
4	Interest on 1, 2 & 3		87,206,278
5	Expected unfunded actuarial accrued liability		$1,312,356,211
6	Changes due to:		
	• (Gain)/loss	-$1,577,497	
	• Assumptions	36,145,490	
	Total changes		$34,567,993
7	Unfunded actuarial accrued liability at end of year		1,346,924,204

Florida's Chapter 112 Determined Employer Contribution and City's Minimum Required Contribution

The chart below shows the calculations of the Florida Chapter 112 determined employer contribution and the City's minimum required contribution pursuant to State Law Chapter 2016-146 and City of Jacksonville Ordinances 2017-257-E and 2017-258-E.

The contribution requirement as of October 1, 2020 are based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

Florida Chapter 112 Determined Contribution and City's Minimum Required Contribution for Year Beginning October 1

		2020		2019	
		Amount	% of Projected Payroll	Amount	% of Projected Payroll
1.	Total normal cost	$40,608,463	16.21%	$39,959,741	15.75%
2.	Administrative expenses	1,084,000	0.43%	959,000	0.37%
3.	Expected employee contributions	-22,849,972	-9.12%	-23,166,958	-9.12%
4.	Employer normal cost: (1) + (2) + (3)	$18,842,491	7.52%	$17,751,783	7.00%
5.	Actuarial accrued liability	$3,389,704,002		$3,286,313,481	
6.	Actuarial value of assets	2,042,779,798		2,008,173,331	
7.	Unfunded actuarial accrued liability: (5) - (6)	$1,346,924,204		$1,278,140,150	
8.	Payment on unfunded actuarial accrued liability	$90,706,117	36.20%	$85,434,101	33.67%
9.	Florida Chapter 112 determined employer contribution: (4) + (8)[1]	115,204,974	45.98%	108,568,188	42.79%
10.	Discounted and amortized value of projected surtax revenue[1,2]	-31,508,163	-12.57%	-31,735,211	-12.51%
11.	City's minimum required contribution: (9) + (10)[2]	$83,696,811	33.40%	$76,832,977	30.28%
12.	Projected payroll	$250,567,103		$253,732,620	

[1]Adjusted for timing and projected to next fiscal year; contributions are assumed to be paid at the end of every month.

[2]Pursuant to State Law Chapter 2016-146 and City of Jacksonville ordinances 2017-257-E and 2017-258-E

Reconciliation of actuarially determined contribution

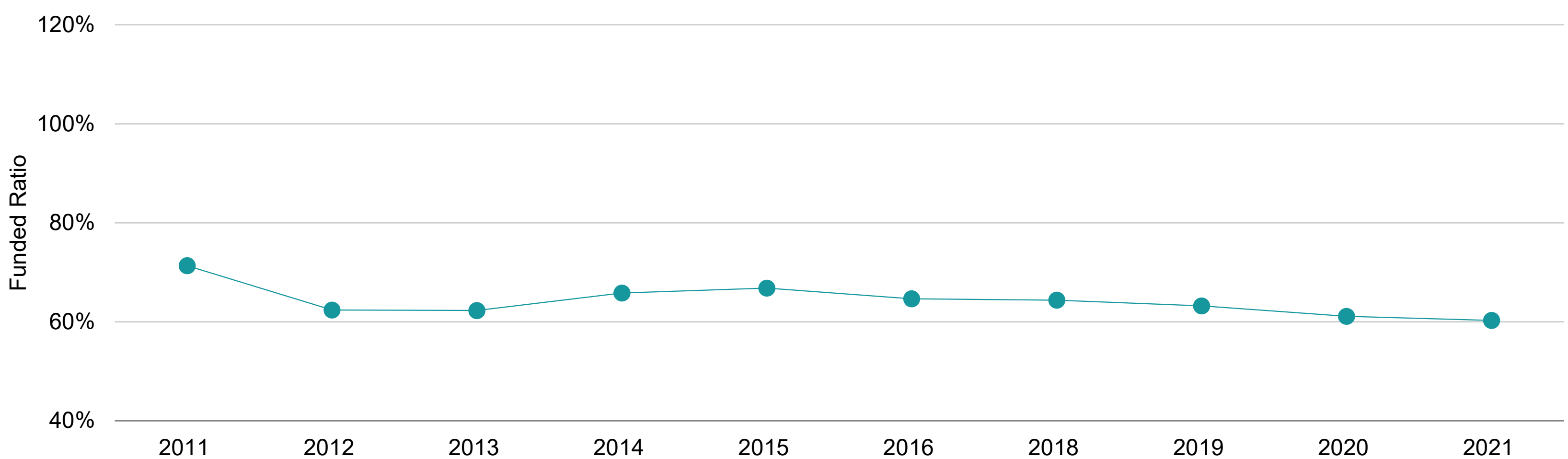
The chart below details the changes in the actuarially determined contribution from the prior valuation to the current year's valuation.

Reconciliation of Actuarially Determined Contribution from October 1, 2020 to October 1, 2021

	Amount
City's Minimum Required Contribution as of October 1, 2020	$76,832,977
• Effect of expected change in amortization payment due to payroll growth	872,329
• Effect of change in administrative expense assumption	131,520
• Effect of contribution deferral to budget year and balancing amortization bases for surtax credit	2,635,520
• Effect of investment gain	-704,681
• Effect of other gains and losses on accrued liability	593,379
• Effect of loss on updated surtax projection	2,489,816
• Effect of updated surtax allocation	-1,221,687
• Effect of change in actuarial assumptions	2,048,709
• Net effect of other changes, including composition and number of participants	18,929
Total change	$6,863,834
City's Minimum Required Contribution as of October 1, 2021	$83,696,811

Schedule of funding progress through September 30, 2020

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll* [(b) - (a)] / (c)
10/01/2011	$1,582,041,673	$2,217,380,856	$635,339,183	71.35%	$314,054,361	202.30%
10/01/2012	1,518,577,926	2,434,274,957	915,697,031	62.38%	283,020,575	323.54%
10/01/2013	1,565,291,310	2,512,635,436	947,344,126	62.30%	265,404,735	356.94%
10/01/2014	1,751,888,510	2,662,187,817	910,299,307	65.81%	262,368,813	346.95%
10/01/2015	1,811,172,111	2,711,408,803	900,236,692	66.80%	254,034,479	354.38%
10/01/2016	1,872,790,100	2,897,287,172	1,024,497,072	64.64%	250,894,295	408.34%
10/01/2017	1,952,332,857	3,033,646,298	1,081,313,441	64.36%	257,850,484	419.36%
10/01/2018	2,021,545,306	3,196,680,516	1,175,135,210	63.24%	253,982,175	462.68%
10/01/2019	2,008,173,331	3,286,313,481	1,278,140,150	61.11%	249,982,877	511.29%
10/01/2020	2,042,779,798	3,389,704,002	1,346,924,204	60.26%	246,864,141	545.61%



History of employer contributions

A history of the most recent years of contributions is shown below.

History of Employer Contributions: 2013 – 2022

Fiscal Year Ended September 30	City's Minimum Required	Actual Employer Contribution	Percent Contributed
2013	$66,659,915	$sz55,386,000	83.09%
2014	81,351,295	71,000,000	87.28%
2015	86,069,361	81,751,000	94.98%
2016	89,058,931	84,898,000	95.33%
2017	94,526,754	94,700,000	100.18%
2018	70,166,221	71,024,000	101.22%
2019	69,247,524	70,338,000	101.57%
2020	71,249,679	72,193,022	101.32%
2021	76,832,977	- -	- -
2022	83,696,811	- -	- -

Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a brief discussion of some risks that may affect the Plan. Upon request, a more detailed assessment of the risk can be provided to enable a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing and stochastic modeling.

- **Investment Risk** (the risk that returns will be different than expected)

  The market value rate of return over the last ten years has ranged from a low of -2.18% to a high of 18.92%.

- **Longevity Risk** (the risk that mortality experience will be different than expected)

  The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution. It is not yet known what long-term impact the COVID-19 pandemic may have on the Plan's mortality experience.

- **Contribution Risk** (the risk that actual contributions will be different from actuarially determined contribution)

  The Plan's funding policy requires payment of the City's minimum required contribution, which is the Florida Chapter 112 determined contribution reduced for anticipated funding from allocated surtax income. This policy produces a risk that this reduction in immediate funding might be either too large or too small, depending on whether the surtax income grows as quickly as expected.

  If the City paid the Florida Chapter 112 determined contribution, the effective amortization period would be 26 years, meaning that the current contribution level, with amortization payments growing 1.5%, would be adequate to be expected to reduce the unfunded liability to zero over 26 years. Under the City's current policy of paying the City's required contribution, over the immediate term, the unfunded liability has an expected growth rate of 2.0% and increases at this level can be expected to continue until the surtax income becomes payable to the Plan's trust. If plan experience is less favorable than anticipated, the unfunded liability will grow faster than 2.0% per year. By comparison, the surtax revenue is assumed to grow 4.25% per year.

  If the surtax revenue for fiscal 2020 had been 1% lower, the City's required contribution would increase by $397,473 or 0.16% of projected payroll. For comparison purposes, the allocated surtax revenue is 28.4% of the market value of assets and 16.8% of the actuarial accrued liability.

- **Demographic Risk** (the risk that participant experience will be different than assumed)

  Examples of this risk include:
  - Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
  - More or less active participant turnover than assumed.
  - Participants' use of plan provisions allowing conversion of benefits from the DB plan to the DC plan.
- **Actual Experience** Over the Last Ten years and Implications for the Future

  Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:
  - The investment gain/loss on a market basis for a year has ranged from a loss of $175,540,475 to a gain of $147,228,359. Over the past ten years, the Plan's market value performance has, on average, exceeded the expected annual return.
  - The non-investment gain/loss for a year has ranged from a loss of $55,702,357 to a gain of $20,285,622.
  - The funded percentage on the actuarial value of assets has ranged from a low of 60.3% to a high of 71.4% since 2011.
- **Maturity Measures**

  As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.

  Currently the Plan has a pay status to active participant ratio of 1.42. For the prior year benefits and expenses paid were $110.1 million more than contributions received. As the Plan matures, more cash will be needed from the investment portfolio to meet benefit payments. Since the Plan is closed to new entrants, the amount of employee contributions is expected to continue to decline each year as the number of active participants decrease.

GFOA funded liability by type

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the plan's actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with employee contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the funding policy aim to achieve a funded ratio of 100 percent.

GFOA Solvency Test as of September 30

	2020	2019
Actuarial accrued liability (AAL)		
• Active member contributions	$201,767,643	$193,534,210
• Retirees and beneficiaries	2,303,896,206	2,235,258,792
• Active and inactive members (employer-financed)	884,040,153	857,520,479
Total	$3,389,704,002	$3,286,313,481
Actuarial value of assets	$2,042,779,798	$2,008,173,331
Cumulative portion of AAL covered		
• Active member contributions	100.00%	100.00%
• Retirees and beneficiaries	79.91%	81.18%
• Active and inactive members (employer-financed)	0.00%	0.00%

Actuarial balance sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the "liability" of the Plan.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

	Year Ended	
	September 30, 2020	**September 30, 2019**
Liabilities		
• Present value of benefits for retired participants and beneficiaries	$2,303,896,206	$2,235,258,792
• Present value of benefits for inactive vested participants	22,618,312	28,631,348
• Present value of benefits for active participants	1,412,653,463	1,370,909,168
Total liabilities	**$3,739,167,981**	**$3,634,799,308**
Assets		
• Total valuation value of assets	$2,042,779,798	$2,008,173,331
• Present value of future contributions by members	193,309,291	198,779,785
• Present value of future employer contributions for:		
• Entry age cost	156,154,688	149,706,042
• Unfunded actuarial accrued liability	1,346,924,204	1,278,140,150
Total of current and future assets	**$3,739,167,981**	**$3,634,799,308**

Section 3: Supplemental Information

Exhibit A: Table of Plan Demographics

Category	Year Ended September 30 2020	2019	Change From Prior Year
Active participants in valuation:			
• Number	3,663	3,937	-7.0%
• Average age	50.7	50.1	0.6
• Average years of service	14.8	14.0	0.8
• Covered payroll	$246,864,141	$249,982,877	-1.2%
• Average payroll	67,394	63,496	6.1%
• Account balances	201,767,643	193,534,210	4.3%
• Total active vested participants	3,233	3,331	-2.9%
Inactive vested participants	156	196	-20.4%
Retired participants:			
• Number in pay status	3,880	3,860	0.5%
• Average age	71.5	71.2	0.3
• Average monthly benefit	$3,437	$3,364	2.2%
Disabled participants:			
• Number in pay status	103	106	-2.8%
• Average age	67.1	66.7	0.4
• Average monthly benefit	$1,719	$1,696	1.4%
Beneficiaries:			
• Number in pay status	1,235	1,249	-1.1%
• Average age	76.4	76.6	-0.2
• Average monthly benefit	$2,117	$2,018	4.9%

Exhibit B: Participants in Active Service as of September 30, 2020 by Age, Years of Service, and Average Payroll

		Years of Service								
Age	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	20	20	- -	- -	- -	- -	- -	- -	- -	- -
	$36,999	$36,999	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	93	60	33	- -	- -	- -	- -	- -	- -	- -
	53,580	48,943	62,011	- -	- -	- -	- -	- -	- -	- -
30 - 34	239	64	110	65	- -	- -	- -	- -	- -	- -
	63,964	58,087	62,998	71,387	- -	- -	- -	- -	- -	- -
35 - 39	362	77	99	128	56	2	- -	- -	- -	- -
	65,089	56,618	64,900	69,079	67,167	87,051	- -	- -	- -	- -
40 - 44	381	41	83	147	71	37	2	- -	- -	- -
	71,056	60,173	69,833	73,833	70,401	74,998	91,110	- -	- -	- -
45 - 49	483	42	92	154	98	79	16	2	- -	- -
	68,723	59,626	67,069	68,650	71,185	71,181	74,616	76,626	- -	- -
50 - 54	644	56	94	156	116	114	61	45	2	- -
	70,888	59,434	69,420	64,700	76,321	72,582	82,249	75,027	91,989	- -
55 - 59	677	41	82	143	134	99	49	107	22	- -
	69,338	72,711	67,323	59,266	68,888	71,112	75,223	76,238	84,794	- -
60 - 64	494	19	57	137	103	70	33	59	13	3
	67,326	62,988	69,473	57,808	72,389	74,011	65,995	67,739	87,469	78,099
65 - 69	183	8	15	57	35	27	11	21	5	4
	61,115	58,763	67,844	53,690	66,078	67,488	52,722	64,454	49,226	80,340
70 & over	87	2	7	28	17	14	8	7	2	2
	57,352	62,711	45,300	41,566	68,708	64,805	65,571	69,951	79,169	67,715
Total	3,663	430	672	1,015	630	442	180	241	44	9
	$67,394	57,702	$66,530	$64,650	$71,043	$71,939	$74,231	$72,725	$81,614	$76,787

Exhibit C: Reconciliation of Participant Data

	Active Participants	Inactive Vested Participants	Disableds	Retired Participants	Beneficiaries	Total
Number as of October 1, 2019	**3,937**	**196**	**106**	**3,860**	**1,249**	**9,348**
• New participants	0	N/A	N/A	N/A	N/A	0
• Terminations – with vested rights	-1	1	0	0	0	0
• Terminations – without vested rights	-86	N/A	N/A	N/A	N/A	-86
• Retirements	-153	-38	N/A	191	N/A	0
• New disabilities	-5	0	5	N/A	N/A	0
• Deceased	-15	-1	-10	-183	-102	-311
• New beneficiaries	0	0	0	0	92	92
• Lump sum cash-outs	-15	0	0	0	0	-15
• Rehire	2	-2	N/A	0	N/A	0
• Certain period expired	N/A	N/A	0	0	-2	-2
• Data adjustments	3	0	2	12	-2	15
• Net transfers (to)/from DC Plan or Corrections	-4	0	0	0	0	-4
Number as of October 1, 2020	**3,663**	**156**	**103**	**3,880**	**1,235**	**9,037**

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended September 30, 2020		Year Ended September 30, 2019	
Net assets at market value at the beginning of the year		$1,970,206,00		$2,085,056,000
Contribution income:				
• Employer contributions	$70,742,000[1]		$70,338,000	
• Employee contributions	27,460,000		28,334,000	
• Transfers	6,000		0	
• Less administrative expenses	-1,084,000		-959,000	
Net contribution income		*$97,124,000*		*$97,713,000*
Investment income:				
• Interest, dividends, and other income	$16,442,000		$20,071,000	
• Realized and unrealized appreciation	137,471,000[2]		4,197,000	
• Less investment fees	-8,515,000		-9,481,000	
Net investment income		*$145,398,000*		*$14,787,000*
Total income available for benefits		**$242,522,000**		**$112,500,000**
Less benefit payments:				
• Benefit payments	-$192,749,000		-$185,078,000	
• Refunds	-14,520,000		-42,272,000	
Net benefit payments		*-$207,269,000*		*-$227,350,000*
Change in market value of assets		**$35,253,000**		**-$114,850,000**
Net assets at market value at the end of the year		**$2,005,459,000**		**$1,970,206,000**

[1] Amount originally provided in asset reconciliation; actual employer contributions for plan year were $72,193,022

[2] Includes the effect of a restatement of the September 30, 2019 market value of assets which increased the beginning of year market value by $19,385,000. The remaining appreciation consists of $121,644,000 in unrealized gains and losses and -$3,558,000 in realized gains and losses.

Exhibit E: Summary Statement of Plan Assets

	September 30, 2020		September 30, 2019	
Cash equivalents		$34,977,000		$27,205,000
Total accounts receivable		$2,425,000		$3,372,000
Investments:				
• Equities	$1,248,007,000		$1,202,966,000	
• Fixed income	478,687,000		474,513,000	
• Real estate	385,148,000		381,542,000	
• Other assets	102,777,000		137,964,000	
• Equity in pooled investments	-239,671,000		-229,699,000	
Total investments at market value		$1,974,948,000		$1,967,286,000
Total assets		$2,012,350,000		$1,997,863,000
Total accounts payable		-6,891,000		-8,217,000
Net assets at market value		**$2,005,459,000**		**$1,970,206,000**
Net assets at actuarial value		**$2,042,779,798**		**$2,008,173,331**

Exhibit F: Development of the Fund through September 30, 2020

Year Ended September 30	Employer Contributions	Employee Contributions	Other Contributions	Net Investment Return[1]	Admin. Expenses	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2011	$39,378,000	$25,051,000	-$6,000	$9,313,000	$701,000	$144,899,000	$1,384,227,000	$1,582,041,673	114.3%
2012	49,899,000	24,098,000	1,040,000	254,394,000	705,000	154,308,000	1,558,645,000	1,518,577,926	97.4%
2013	55,386,000	21,878,000	0	264,541,000	671,000	166,460,000	1,733,319,000	1,565,291,310	90.3%
2014	71,000,000	20,961,000	0	194,864,000	828,000	171,127,000	1,848,189,000	1,751,888,510	94.8%
2015	81,751,000	20,893,000	0	-39,506,000	762,000	170,674,000	1,739,891,000	1,811,172,111	104.1%
2016	84,898,000	21,840,000	0	167,067,000	762,000	183,692,000	1,829,242,000	1,872,790,100	102.4%
2017	94,700,000	23,037,000	0	266,138,000	787,000	192,662,000	2,019,668,000	1,952,332,857	96.7%
2018	71,024,000	29,919,000	11,397,000	145,470,000	1,193,000	191,229,000	2,085,056,000	2,021,545,306	97.0%
2019	70,338,000	28,334,000	0	14,787,000	959,000	227,350,000	1,970,206,000	2,008,173,331	101.9%
2020	70,742,000[2]	27,460,000	6,000	145,398,000	1,084,000	207,269,000	2,005,459,000	2,042,779,798	101.9%

[1] On a market basis, net of investment fees and administrative expenses
[2] Amount originally provided in asset reconciliation; actual employer contributions for plan year were $72,193,022

Exhibit G: Table of Amortization Bases

Florida Chapter 112 Recommended Contribution Amortization Bases

Type	Date Established	Initial Period	Initial Amount	Annual Payment[1]	Years Remaining	Outstanding Balance
Fresh start	10/01/2016	30	$1,024,497,072	$69,154,871	26	$1,022,528,395
Experience gain	10/01/2017	30	-5,594,096	-371,477	27	-5,591,589
Plan change	10/01/2017	30	-3,528,667	-234,322	27	-3,527,086
Assumptions change	10/01/2017	30	64,164,450	4,260,857	27	64,135,702
Experience gain	10/01/2018	29	-922,806	-61,202	27	-921,226
Assumptions change	10/01/2018	29	88,449,536	5,866,081	27	88,298,012
Plan change	10/01/2018	29	5,920,390	392,648	27	5,910,248
Experience loss	10/01/2019	28	99,415,197	6,594,621	27	99,264,206
Assumptions change	10/01/2019	28	4,913,569	325,937	27	4,906,106
Experience loss	10/01/2020	27	35,775,946	2,376,776	27	35,775,946
Assumptions change	10/01/2020	27	36,145,490	2,401,327	27	36,145,490
Total				**$90,706,117**		**$1,346,924,204**

[1] Level percentage of payroll; per Part VII, Chapter 112.64 (5)(b) of Florida Statues, outstanding balances were amortized using a 1.50% payroll growth rate for October 1, 2020 valuation.

City's Minimum Recommended Contribution Surtax Amortization Bases

Type	Date Established	Initial Period	Initial Amount	Annual Payment[1]	Years Remaining	Outstanding Balance
Discounted surtax revenue applied	10/01/2016	30	-$322,190,859	-$22,423,311	26	-$331,552,520
Surtax offset gain	10/01/2017	30	-7,927,401	-526,421	27	-7,923,850
Allocation change	10/01/2017	30	-10,588,075	-703,104	27	-10,583,332
Discount rate change	10/01/2017	30	-18,720,570	-1,243,144	27	-18,712,183
Surtax offset gain	10/01/2018	29	-8,089,137	-536,485	27	-8,075,330
Allocation change	10/01/2018	29	-20,241,389	-1,342,434	27	-20,206,714
Discount rate change	10/01/2018	29	-21,761,957	-1,443,280	27	-21,724,677
Surtax offset gain	10/01/2019	28	-2,042,344	-135,477	27	-2,039,243
Allocation change	10/01/2019	28	-17,780,689	-1,179,467	27	-17,753,684
Discount rate change	10/01/2019	28	-12,100,053	-802,647	27	-12,081,676
Surtax offset loss	10/01/2020	27	35,288,381	2,344,385	27	35,288,381
Allocation change	10/01/2020	27	-17,315,069	-1,150,327	27	-17,315,069
Discount rate change	10/01/2020	27	-12,334,670	-819,454	27	-12,334,670
Total				**-$29,961,166**		**-$445,014,567**

[1] Level percentage of payroll; per Part VII, Chapter 112.64 (5)(b) of Florida Statues, outstanding balances were amortized using a 1.50% payroll growth rate for October 1, 2020 valuation.

Exhibit H: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Retirees and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than 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, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.
Actuarial Present Value of Future Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The

	Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
Actuarial Value of Assets (AVA):	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use 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.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. 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 Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Plan is calculated, including: Investment return - the rate of investment yield that the Plan will earn over the long-term future; Mortality rates - the rate or probability of death at a given age for employees and retirees; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the rate or probability of disability retirement at a given age; Withdrawal rates - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;

	Salary increase rates - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded Ratio:	The ratio of the Actuarial Value of Assets AVA to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
GASB 67 and GASB 68:	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	The portion of the Actuarial Present Value of Future Benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers

	to the total of member contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Plan Fiduciary Net Position:	Market value of assets.
Total Pension Liability (TPL):	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Exhibit I: Section 415

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $230,000 for 2020. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Exhibit J: Supplementary State of Florida Information
Summary of Salary Changes

Year Ended September 30	Total Salary	Percent Change in Total Salary	Percent Change in Salary of Employees Remaining Active	Expected Percent Change in Salary of Employees Remaining Active
2010[1]	$275,173,962	-0.39%	0.61%	5.36%
2010	322,530,502	17.21%	N/A	N/A
2011	314,054,361	-2.63%	0.94%	5.62%
2012	283,020,575	-9.88%	2.31%	5.83%
2013	265,404,735	-6.22%	1.60%	2.84%
2014	262,368,813	-1.14%	0.04%	2.84%
2015	254,034,479	-3.18%	3.85%	2.48%
2016	250,894,295	-1.24%	2.76%	4.27%
2017	257,850,484	2.77%	4.64%	5.30%
2018	253,982,175	-1.50%	7.33%	5.13%
2019	249,982,877	-1.57%	5.78%	5.03%
2020	246,864,141	-1.25%	5.60%	4.01%

Note: The Plan was closed to new entrants as of October 1, 2017.

The average total payroll growth for the most recent ten years was -1.08% per year. Additional analysis of pay of DC Plan participants was used support a payroll increases assumption of 1.50%.

[1]Prior to the inclusion of new participants with greater than one year of employment.

Exhibit K: Supplementary State of Florida Information
Recent History of Recommended and Actual Contributions

Fiscal Year Ended September 30	Valuation Date October 1	Contribution Rate as Percent of Valuation Payroll	Valuation Payroll	Florida Chapter 112 Recommended Contribution	City's Minimum Required Contribution	Actual Contribution
2012	2010	17.22%	$333,819,070	$57,497,706	- -	$49,899,000
2013	2011	20.51%	325,046,264	66,659,915	- -	55,386,000
2014	2012	27.91%	291,511,192	81,351,295	- -	71,000,000
2015	2013	31.60%	272,358,339	86,069,361	- -	81,751,000
2016	2014	33.20%	268,245,874	89,058,931	- -	84,898,000
2017	2015	36.79%	256,930,472	94,526,764	- -	94,700,000
2018	2016	36.81%	254,657,709	93,743,647	$70,166,211	71,024,000
2019	2017	36.41%	261,718,241	95,290,428	69,247,529	70,338,000
2020	2018	39.03%	257,791,908	100,620,425	71,249,679	70,742,000
2021	2019	42.79%	253,732,620	108,568,188	76,832,977	- -
2022	2020	45.98%	250,567,103	115,204,974	83,696,811	- -

The Plan was closed to new entrants as of October 1, 2017; as a result, valuation payroll is expected to continue declining.

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Exhibit L: Supplementary State of Florida Information
Comparative Summary of Principal Valuation Results

	Year Ended September 30, 2020		
	New Assumptions	**Old Assumptions**	**Year Ended September 30, 2019**
Participant data			
• Active members	3,663	3,663	3,937
• Total annual payroll	$246,864,141	$246,864,141	$249,982,877
• Retired members and beneficiaries	5,218	5,218	5,215
• Total annualized benefit	$186,347,820	$186,347,820	$180,962,796
• Terminated vested members	156	156	196
• Total annualized benefit	$2,889,276	$2,889,276	$3,478,032
Actuarial value of assets	$2,042,779,798	$2,042,779,798	$2,008,173,331
Present value of all future expected benefit payments:			
• Active members:			
• Retirement benefits	1,142,885,833	1,117,836,620	$1,108,155,598
• Vesting benefits	23,509,863	23,378,002	25,046,540
• Disability benefits	18,419,474	18,078,783	18,270,892
• Death benefits	26,070,650	25,573,581	25,901,928
• Return of contributions	201,767,643	201,767,643	193,534,210
• Total	$1,412,653,463	$1,386,634,629	$1,370,909,168
• Terminated vested members	22,618,312	22,252,072	28,631,348
• Retired members and beneficiaries	2,303,896,206	2,283,697,024	2,235,258,792
Total	$3,739,167,981	$3,692,583,725	$3,634,799,308

Exhibit L: Supplementary State of Florida Information
Comparative Summary of Principal Valuation Results (Cont'd)

	Year Ended September 30, 2020		
	New Assumptions	**Old Assumptions**	**Year Ended September 30, 2019**
Unfunded actuarial accrued liability	$1,346,924,204	$1,310,778,714	$1,278,140,150
Actuarial present value of accrued benefits			
Vested accrued benefits			
Active members	$747,525,776	$736,009,409	$711,142,885
Inactive members	22,618,312	22,252,072	28,631,348
Retirees and beneficiaries	2,303,896,206	2,283,697,024	2,235,258,792
Nonvested active members	33,707,869	33,227,041	35,524,495
Total	$3,107,748,163	$3,075,185,546	$3,010,557,520
Pension cost			
Normal cost, including administrative expenses	$41,692,463	$40,619,748	$40,918,741
Expected employee contributions	-22,849,972	-22,849,972	-23,166,958
Level % of payroll payment to amortize unfunded actuarial accrued liability	90,706,117	89,114,690	85,434,101
Discounted and amortized value of allocated surtax revenue	-29,961,166	-28,247,974	-30,161,927
Total minimum annual cost payable at valuation date	$79,587,442	$78,636,492	$73,023,957
Total employer cost projected to budget year	**83,696,811**	**82,738,271**	**76,832,977**
Projected payroll	250,567,103	250,567,103	253,732,620
As % of payroll	33.40%	33.02%	30.28%
Present value of active members' future salaries at attained age	$1,933,092,907	$1,921,764,741	$1,987,797,845
Present value of expected future employee contributions	193,309,291	192,176,474	$198,779,785

Exhibit M: Supplementary State of Florida Information
Actuarial Present Value of Accumulated Plan Benefits

Factors	Change in Actuarial Present Value of Accumulated Plan Benefits	
Actuarial present value of accumulated benefits as of October 1, 2019		$3,010,557,520
Benefits accumulated, net experience gain or loss, changes in data	$71,319,338	
Benefits paid	-207,269,000	
Interest	200,577,688	
Changes in assumptions	32,562,617	
Plan changes	0	
Net increase	$97,190,643	
As % of projected payroll	38.79%	
Actuarial present value of accumulated benefits as of October 1, 2020		$3,107,748,163

Exhibit N: Actuarial Projections through Fiscal 2062

Plan Year Beginning	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	Surtax Contribution	% of Total Contribution	Required City Contribution	% of Total Contribution	Total Contribution
					2020	$0	0.0%	$76,832,977	100.0%	$76,832,977
2020	$3,389,704,002	$2,042,779,798	$1,346,924,204	60.26%	2021	0	0.0%	83,696,811	100.0%	83,696,811
2021	3,441,945,522	2,064,143,028	1,377,802,494	59.97%	2022	0	0.0%	83,794,928	100.0%	83,794,928
2022	3,489,212,580	2,061,389,875	1,427,822,705	59.08%	2023	0	0.0%	85,817,933	100.0%	85,817,933
2023	3,530,688,503	2,051,175,246	1,479,513,257	58.10%	2024	0	0.0%	87,908,207	100.0%	87,908,207
2024	3,568,033,937	2,062,903,736	1,505,130,201	57.82%	2025	0	0.0%	88,035,730	100.0%	88,035,730
2025	3,600,136,501	2,067,699,703	1,532,436,798	57.43%	2026	0	0.0%	88,386,401	100.0%	88,386,401
2026	3,626,880,927	2,066,127,342	1,560,753,585	56.97%	2027	0	0.0%	88,760,128	100.0%	88,760,128
2027	3,648,866,511	2,058,926,781	1,589,939,730	56.43%	2028	0	0.0%	89,207,989	100.0%	89,207,989
2028	3,666,209,598	2,046,054,028	1,620,155,570	55.81%	2029	0	0.0%	89,640,958	100.0%	89,640,958
2029	3,678,285,404	2,027,040,827	1,651,244,577	55.11%	2030	39,651,324	30.5%	90,151,234	69.5%	129,802,558
2030	3,685,497,896	2,043,033,413	1,642,464,483	55.43%	2031	55,115,340	37.8%	90,581,247	62.2%	145,696,587
2031	3,686,019,562	2,070,292,073	1,615,727,489	56.17%	2032	57,457,742	38.7%	91,050,172	61.3%	148,507,914
2032	3,679,325,992	2,095,682,992	1,583,643,000	56.96%	2033	59,899,696	39.6%	91,549,309	60.4%	151,449,005
2033	3,665,354,619	2,119,649,716	1,545,704,903	57.83%	2034	62,445,433	40.4%	92,034,150	59.6%	154,479,583
2034	3,643,368,863	2,142,083,617	1,501,285,246	58.79%	2035	65,099,364	41.3%	92,561,669	58.7%	157,661,033
2035	3,613,967,473	2,164,021,381	1,449,946,092	59.88%	2036	67,866,087	42.2%	93,110,914	57.8%	160,977,001
2036	3,577,055,755	2,186,024,423	1,391,031,332	61.11%	2037	70,750,396	43.0%	93,695,146	57.0%	164,445,542
2037	3,533,406,587	2,209,491,246	1,323,915,341	62.53%	2038	73,757,288	43.9%	94,330,026	56.1%	168,087,314
2038	3,483,119,656	2,235,190,147	1,247,929,509	64.17%	2039	76,891,972	44.7%	95,005,742	55.3%	171,897,714
2039	3,426,060,335	2,263,766,050	1,162,294,285	66.07%	2040	80,159,881	45.6%	95,753,863	54.4%	175,913,744
2040	3,362,720,847	2,296,453,138	1,066,267,709	68.29%	2041	83,566,676	46.4%	96,540,378	53.6%	180,107,054
2041	3,293,279,303	2,334,381,722	958,897,581	70.88%	2042	87,118,260	47.2%	97,356,390	52.8%	184,474,650
2042	3,216,758,517	2,377,538,198	839,220,319	73.91%	2043	90,820,786	48.0%	98,245,350	52.0%	189,066,136
2043	3,134,611,533	2,428,289,441	706,322,092	77.47%	2044	94,680,669	48.8%	99,206,059	51.2%	193,886,728
2044	3,048,083,399	2,488,968,941	559,114,458	81.66%	2045	98,704,598	49.6%	100,209,330	50.4%	198,913,928
2045	2,956,200,587	2,559,837,794	396,362,793	86.59%	2046	102,899,543	50.4%	101,261,944	49.6%	204,161,487
2046	2,860,978,514	2,644,152,770	216,825,744	92.42%	2047	107,272,774	78.1%	30,024,013	21.9%	137,296,787
2047	2,763,943,413	2,744,706,956	19,236,457	99.30%	2048	0	0.0%	3,476,510	100.0%	3,476,510
2048	2,664,778,412	2,672,220,348	(7,441,936)	100.28%	2049	0	0.0%	3,237,971	100.0%	3,237,971
2049	2,564,530,461	2,573,191,680	(8,661,219)	100.34%	2050	0	0.0%	3,064,562	100.0%	3,064,562
2050	2,464,561,615	2,474,364,034	(9,802,419)	100.40%	2051	0	0.0%	2,918,036	100.0%	2,918,036
2051	2,364,335,574	2,375,287,376	(10,951,802)	100.46%	2052	0	0.0%	2,783,273	100.0%	2,783,273
2052	2,263,728,205	2,275,874,386	(12,146,181)	100.54%	2053	0	0.0%	2,714,788	100.0%	2,714,788
2053	2,165,826,043	2,179,088,553	(13,262,510)	100.61%	2054	0	0.0%	2,677,975	100.0%	2,677,975
2054	2,070,189,770	2,084,568,431	(14,378,661)	100.69%	2055	0	0.0%	2,681,725	100.0%	2,681,725
2055	1,977,844,303	1,993,319,618	(15,475,315)	100.78%	2056	0	0.0%	2,723,477	100.0%	2,723,477
2056	1,889,244,600	1,905,803,410	(16,558,810)	100.88%	2057	0	0.0%	2,778,949	100.0%	2,778,949
2057	1,803,577,967	1,821,264,224	(17,686,257)	100.98%	2058	0	0.0%	2,842,425	100.0%	2,842,425
2058	1,720,763,458	1,739,637,967	(18,874,509)	101.10%	2059	0	0.0%	2,913,407	100.0%	2,913,407
2059	1,640,936,575	1,661,065,775	(20,129,200)	101.23%	2060	0	0.0%	2,986,242	100.0%	2,986,242
2060	1,563,938,878	1,585,407,185	(21,468,307)	101.37%	2061	0	0.0%	3,060,899	100.0%	3,060,899
Total:						$1,374,157,829	35.0%	$2,548,746,658	65.0%	$3,922,904,487
Total Present Value at 6.80%:						$384,819,773	26.6%	$1,061,335,566	73.4%	1,446,155,339

Assumptions

Investment Return Assumption	6.80% per year
Actuarial Value of Assets	5-year smoothed market value
Payroll Growth Assumption	1.50% per year
Pension Liability Surtax Proceeds	35.68%, projected to increase 4.25% annually
Administrative Expenses	Projected to increase 2.5% annually

Projections are not a guarantee of future results. They are intended to serve as estimates of future financial outcomes that are based on assumptions about future experience and the information available at the time the modeling is undertaken and completed. Projected results will change if demographic or economic assumptions, or plan provisions, change in the future, or if the contributing employers make contributions other than expected.

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions, Actuarial Cost Method and Models

Rationale for Assumptions

The information and analysis used in selecting each demographic assumption that has a significant effect on this actuarial valuation is shown in the Experience Study Report for the five-year period ended September 30, 2017.

Net Investment Return:

6.80%

The net investment return assumption was chosen by the Retirement System's Board of Trustees with input from the actuary. The assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as provided by Segal Marco Advisors, as well as the Plan's target asset allocation.

Salary Increases (including inflation):

COJ/JHA/NFTPO				JEA	
Service	**Rate (%)**	**Service**	**Rate (%)**	**Service**	**Rate (%)**
0	6.5	11	3.9	0-4	7.5
1	6.1	12	3.8	5	5.1
2	5.7	13	3.7	6	4.9
3	5.3	14	3.6	7	4.7
4	4.9	15	3.5	8	4.5
5	4.5	16	3.4	9	4.3
6	4.4	17	3.3	10	4.1
7	4.3	18	3.2	11	3.9
8	4.2	19	3.1	12	3.7
9	4.1	20	3.0	13-24	3.5
10	4.0			25+	3.0

Inflation Rate:

2.50%

Payroll Growth:

1.50% used for amortization of unfunded liability amounts, based on the requirement in the Florida Statutes that the assumption for this purpose may not exceed the average annual growth for the preceding ten years. Negotiated pay level increases and pay of DC Plan participants were taken into consideration in setting a payroll growth that is expected to be achieved and maintained on a ten-year average basis. The Fund's long-term payroll growth assumption is equal to the inflation assumption of 2.50%.

Mortality Rates:

Healthy pre-retirement: FRS pre-retirement mortality tables for personnel other than special risk and K-12 instructional personnel, set forward 2 years, projected generationally from 2010 with Scale MP2018

Healthy post-retirement: FRS healthy post-retirement mortality tables for personnel other than special risk and K-12 instructional personnel, set forward 2 years, projected generationally from 2010 with Scale MP2018

Disabled: FRS disabled mortality tables for personnel other than special risk, with no set forward, projected generationally from 2010 with Scale MP2018

The FRS tables for personnel other than special risk and K-12 instructional personnel, set forward 2 years, reasonably reflect the healthy annuitant mortality experience of the General Employees Retirement Plan as of the measurement date. The FRS disabled mortality tables for personnel other than special risk reasonably reflect the disabled annuitant mortality experience as of the measurement date.

Annuitant Mortality Rates:

	Rate (%)			
	Healthy		Disabled	
Age	Male	Female	Male	Female
55	1.04	0.55	2.53	1.91
60	1.16	0.61	3.08	2.27
65	1.45	0.88	3.93	2.83
70	2.34	1.51	5.08	3.79
75	3.90	2.62	6.98	5.46
80	6.63	4.65	10.12	8.31
85	11.21	8.64	14.68	12.60
90	18.13	15.47	21.29	17.72

Mortality rates shown for base table.

Termination Rates Before Retirement:

	Rate (%)			
	Mortality[1]			
Age	Male	Female	Disability	Withdrawal[2]
20	0.04	0.01	0.01	0.01
25	0.05	0.02	0.01	0.01
30	0.06	0.03	0.02	0.02
35	0.08	0.04	0.03	0.03
40	0.11	0.06	0.04	0.04
45	0.16	0.09	0.06	0.06
50	0.25	0.13	0.10	0.10
55	0.36	0.20	0.16	0.16
60	0.52	0.29	0.25	0.25
65	0.75	0.47	0.00	0.00

[1] Mortality rates shown for base table.

[2] 100% of disabilities are assumed to be non-service incurred.

Termination Retirement before Retirement (continued)

Withdrawal[1]

Service	COJ	JEA
0	16.00	6.00
1	15.00	5.50
2	13.00	4.50
3	10.00	3.50
4	9.50	3.25
5	9.00	3.00
6	8.50	2.75
7	8.00	2.50
8	7.50	2.25
9	7.00	2.00
10	6.50	2.00
11	5.60	2.00
12	4.70	2.00
13	3.80	2.00
14	2.90	2.00
15	2.00	2.00
16	1.80	1.80
17	1.60	1.60
18	1.40	1.40
19	1.20	1.20
20	1.00	1.00
21	0.80	0.80
22	0.60	0.60
23	0.40	0.40
24+	0.20	0.20

[1] All withdrawal rates are set to 0% after eligibility for retirement.

Section 4: Actuarial Valuation Basis

Retirement Rates:

Fewer Than 31 Years of Service	
Age	Rate (%)[1]
45-54	5
55	15
56-60	7
61-63	10
64-65	30
66-69	20
70 & Over	100

31 or More Years of Service	
Service	Rate (%)[1]
31-33	15
34-35	30
36	35
37	60
38-39	50
40	100

[1] *100% retirement is assumed at the earlier of age 70 or 40 years of service.*

Interest on BACKDROP Account:	4.00%
Refund of Contributions:	95% of participants that are vested and terminate are assumed to take a refund of their employee contributions in lieu of their accrued benefit deferred to age 65
Retirement Age for Inactive Vested Participants:	65, or date of retirement as provided in data
Unknown Data for Participants:	Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.
Value of Applicable Tax Revenue:	Actual revenue of $93,742,144 for fiscal 2020 is used as the basis of the City's revenue projection. This amount is prior to application of the allocation percentage.
Tax Revenue Growth Rate:	4.25%. This assumption is determined by the City. Segal has not reviewed the information used to set this assumption, but Segal previously reviewed the sensitivity of this assumption when it was initially set.
Projected Tax Revenue Allocation:	35.68%. This percentage is determined by the City; last year's percentage was 34.57%.
Administrative Expenses:	Previous year's actual expenses; $1,084,000 for October 1, 2020.
Family Composition:	75% of males and 55% of females are assumed to be married. None are assumed to have dependent children. Females are assumed to be three years younger than their spouses.
Actuarial Value of Assets:	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected market return, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis based on each member's benefit accrual rate and are allocated by compensation.

	Normal Cost is not included for participants who are assumed to retire with 100% certainty in the upcoming plan year based on the retirement assumptions.
Models:	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.
Justification for Change in Actuarial Assumptions and Methods:	Following ongoing board review of discount rate options: ➤ The discount rate was lowered from 6.90% to 6.80%.

Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	October 1 through September 30	
Plan Status:	Closed as of October 1, 2017	
Normal Retirement:	*Age Requirement*	Age 65 with five years of Credited Service, age 55 with 20 years of Credited Service or any age with 30 years of Credited Service.
	Regular Benefit Amount	2.5% of Final Monthly Compensation times years of Credited Service, not more than 80% of Final Monthly Compensation.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Early Retirement:	*Age Requirement*	Age 50 with 20 years of Credited Service
	Regular Benefit Amount	Accrued Service Retirement Regular Benefit Amount reduced by 0.5 percent for each month the benefit commencement precedes age 55.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
	Age Requirement	Any age with 25 years of Credited Service
	Regular Benefit Amount	2.0% of Final Monthly Compensation times years of Credited Service
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Off-the-job Disability:	*Service Requirement*	5 years of Credited Service
	Regular Benefit Amount	Final Monthly Compensation times 25% plus 2.5% per year of Credited Service in excess of 5, not to exceed 50% of Final Monthly Compensation
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.

On-the-job Disability:	*Service Requirement*	Immediate eligibility
	Regular Benefit Amount	Final Monthly Compensation times 25% plus 2.5% per year of Credited Service in excess of 5, not to exceed 50% of Final Monthly Compensation
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Vesting:	*Age Requirement*	None
	Service Requirement	5 years of Credited Service
	Regular Benefit Amount	Accrued Service Retirement Regular Benefit payable at age 65.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month. Payable at Age 65.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Spouse's Pre-Retirement Death Benefit:	*Age Requirement*	None
	Service Requirement	None
	Regular Benefit Amount	If the Member is eligible for retirement, the surviving spouse is entitled to 75% of the member's accrued regular benefit. If the Member is not eligible for retirement, the surviving spouse is entitled to 75% of the pension the Member would have received if the Member had worked to eligibility for a Service Retirement at current salary with the benefit based on a 2% accrual rate.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Member's Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	75% of $69.31 per whole year of Member's Credited Service, not to exceed 30.
Member:	All full-time JEA, JHA, NFTPO, and City General Employees hired prior to October 1, 2017.	
Member Contributions:	10.0% of Earnable Compensation	
Credited Service:	The number of full years and months worked from date of participation to date of termination or retirement, plus any prior service purchased.	
Final Monthly Compensation:	Average monthly rate of Earnable Compensation during the highest 36 consecutive months (78 pay periods) out of the last ten years of employment.	
Earnable Compensation:	Base pay for regular hours worked as an employee, plus service raises and excluding bonuses, adjusted compensation, overtime or any extra compensation over and above regularly budgeted salaries.	

Section 4: Actuarial Valuation Basis

Cost of Living Adjustment:	On the April 1st nearest the fifth anniversary of the initial benefit commencement date, and on each April 1st thereafter, the regular benefit is increased by 3%.
BackDROP:	Members with 30 or more years of service may elect to have their retirement benefits calculated as if the member had retired up to 5 years earlier on or after October 1, 2005. Benefits that would have been payable are accumulated with interest to date of termination and paid or rolled over in a single sum, and payments are made directly to the Member thereafter. The 5-year wait to receive COLA increases starts at termination of employment rather than at the start of BackDROP.
Partial Lump-sum Option (PLOP):	Members who are eligible for retirement may elect to receive a lump-sum benefit of up to 15% of the benefit value and a reduced life annuity actuarially equivalent to the benefit that would otherwise be payable.
Changes in Plan Provisions:	There have been no changes in plan provisions since the prior valuation.

City of Jacksonville Corrections Officers Retirement Plan

Actuarial Valuation and Review as of October 1, 2020

Segal

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Atlanta, GA 30339-4053
segalco.com
T 678.306.3100

April 20, 2021

Board of Trustees
City of Jacksonville Corrections Officers Retirement Plan
117 West Duval Street, Suite 330
Jacksonville, FL 32202

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of October 1, 2020. The census information on which our calculations were based was prepared by the Plan and the financial information was provided by the City's Finance Department. That assistance is gratefully acknowledged.

Statement by Enrolled Actuary: This actuarial valuation and/or cost determination was prepared and completed by me, or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan'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.

The actuarial calculations were directed under the supervision of Jeffrey S. Williams. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,
Segal

Jeffrey S. Williams, FCA, ASA, MAAA, EA
Vice President and Actuary
Enrolled Actuary No. 20-07009

Section 1: Actuarial Valuation Summary

Purpose and basis

This report was prepared by Segal to present a valuation of the Plan as of October 1, 2020. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to provide information for required disclosures under Governmental Accounting Standards Board (GASB) Statements No. 67 and 68. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. 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; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of September 30, 2020, provided by the Retirement System Administrative Office;
- The assets of the Plan as of September 30, 2020, provided by the City's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- The funding policy adopted by the Board, subject to the requirements of Part VII, Chapter 112, Florida Statutes.

Valuation highlights

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance.
2. The City's minimum required contribution calculated in the October 1, 2020 actuarial valuation is for the plan year beginning October 1, 2021.
3. The City's minimum required contribution (the amount which will be contributed) for fiscal 2022 is $17,592,399, an increase of $2,547,869 from the City's minimum required contribution for fiscal 2021.
4. Actual contributions made during the fiscal year ending September 30, 2020 were $15,058,000, 100.10% of the City's minimum required contribution for fiscal 2020. In the prior fiscal year, actual contributions were $14,498,000, 100.00% of the prior year's minimum required contribution.
5. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 50.02%, compared to the prior year funded ratio of 50.75%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 48.67%, compared to 50.61% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
6. Actuarial Standard of Practice No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions, states that an actuary preparing calculations of actuarially determined contributions should assess the material implications of the funding policy. This report includes two distinct contribution amounts, each with different implications.
    a. The **Florida Chapter 112 Determined Employer Contribution** is an amount consistent with a funding policy which seeks to stabilize the unfunded actuarial accrued liability (UAAL) as a percentage of total Corrections Officers Retirement Plan (CORP) payroll, including Defined Contribution participants, where UAAL is measured relative to assets currently available to make benefit payments. Under this policy, assuming that all assumptions are met in aggregate, the UAAL is expected to be reduced to zero over a period of 26 years after reflecting an amortization period reset as of October 1, 2016. Over the short term, this contribution policy would be expected to keep the UAAL roughly level over the next few years, primarily making payments on interest, and begin paying down the UAAL after that point.
    b. The **City's required minimum contribution**, which is the Chapter 112 contribution adjusted to comply with state law, reduced by amortization of discounted allocated surtax revenue, is an amount consistent with a funding policy which seeks to stabilize the contribution requirement as a percentage of total CORP payroll, including Corrections Officers Defined Contribution Plan participants, relative to an anticipated increase in contribution income set to begin January 1, 2031. Under this policy, assuming that all assumptions are met in aggregate, the UAAL is expected to be

reduced to zero by December 31, 2060, after all of the surtax revenue allocated to the plan is collected and contributed. Over the short term, this contribution policy is expected to lead to an increase in the UAAL, prior to the revenue stream commencing and paying it down.

Use of this contribution policy has been authorized by the Florida State Legislature and Jacksonville City Council.

7. The unfunded actuarial accrued liability (UAAL) is $234,316,802, which is an increase of $20,474,732 since the prior valuation.
8. The actuarial loss from investment and other experience is $9,608,685, or 2.08% of actuarial accrued liability.
   - The actuarial gain from investment experience was $447,401, or 0.10% of actuarial accrued liability.
   - The net experience loss from sources other than investment experience was $10,056,086, or 2.18% of the actuarial accrued liability. The primary cause of this loss was salary increases greater than expected.
9. The rate of return on the market value of assets was 4.49% for the October 1, 2019 to September 30, 2020 plan year. The return on the actuarial value of assets was 7.10% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 6.90%.
10. The following change in actuarial assumptions is first reflected with this valuation:
    - The discount rate was lowered from 6.90% to 6.80%.

    As a result of this assumption change, the total normal cost increased by $198,027 and the actuarial accrued liability increased by $6,108,635. The present value of surtax revenue allocated to CORP increased by $2,063,845 as a result of the discount rate change. The net impact was an increase in the City's minimum required contribution of $384,584.
11. The City changed the surtax allocation percentage from the prior valuation to the current valuation. In the 2019 valuation, CORP's allocation percentage was 6.17%; in the 2020 valuation, the allocation percentage has been decreased to 5.97%. This change was directed by the City based on its updated calculation of the Corrections Officers Retirement Plan's share of the City's unfunded liabilities. The change in the surtax allocation percentage caused the City's minimum required contribution to increase by $225,001.
12. The City is solely responsible for the assumption as to what percentage the surtax revenue will grow and Segal relies on the City for this assumption. This rate was set at 4.25% by the City for the projection period January 1, 2020 through December 31, 2060, and will be recalculated by the City every year and adopted by the City Council. Segal will ask the City each year to provide actual surtax revenue for the preceding fiscal year and an assumption as to future growth. The difference in actual and projected surtax revenue each year will be amortized over the period by which each year's gain or loss is being amortized. If surtax revenue grows more slowly or more quickly than expected, contribution requirements will increase or decrease accordingly.

13. The present value of the projected surtax revenue was determined and used in determination of the City's required contribution as follows:
    a. Actual 2020 surtax revenue was projected to increase by 4.25% each year thereafter through 2060.
    b. A share of 5.97% of the projected revenue for January 1, 2031 through December 31, 2060 was allocated to CORP.
    c. The revenue allocated to CORP was discounted at the valuation discount rate of 6.80% to October 1, 2020.
    d. The original allocated present value amount of $64,295,005 was amortized over a 30-year initial period (Section 3, Exhibit F), with subsequent charges amortized over new periods. The present value of projected surtax revenue as of October 1, 2020 allocated to CORP is $95,190,837.
    e. After the amortized value amount was adjusted for the timing of contributions and projected to October 1, 2021, this amount was used as an offset to the Florida Chapter 112 Determined Employer Contribution to determine the City's minimum required contribution for fiscal 2021.
14. The present value of projected surtax revenue does not decrease the UAAL. The amortized value of the projected surtax revenue is used as an offset to the Chapter 112 contribution.
15. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of September 30, 2020, is included with this report.
16. GASB accounting does not permit any recognition of the allocated surtax revenue in determining the Net Pension Liability or Pension Expense. It is Segal's understanding that the City has discussed this issue with their external auditors and does not include any recognition of allocated surtax revenue in its audited financial statements.
17. This actuarial report as of October 1, 2020 is based on financial and demographic data as of that date. Changes subsequent to that date are not reflected and will affect future actuarial costs of the plan.
18. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition, but have included a brief discussion of some risks that may affect the Plan in Section 2. A more detailed assessment would provide the Board with a better understanding of the inherent risks. This could be important because relatively small changes in investment performance can produce large swings in the unfunded liabilities, retired participants account for most of the Plan's liabilities, leaving limited options for reducing costs in the event of adverse experience, and the Board has not had a detailed risk assessment in several years.

19. It is important to note that this actuarial valuation is based on plan assets as of September 30, 2020. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the public health emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after September 30, 2020. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.
20. The financial information received states all results rounded to the nearest thousand. The results in this valuation are shown to the nearest dollar. Therefore, occasionally rounded numbers are combined with unrounded ones

Summary of key valuation results

		2021	2020	2019
Contributions for fiscal year beginning October 1:	• Florida Chapter 112 determined employer contribution	$22,851,586	$20,812,130	$20,111,161
	• Less amortized value of discounted value of projected surtax revenue	-5,259,187	-5,767,600	-5,068,538
	• City's required minimum contribution*	$17,592,399	$15,044,530	$15,042,623
	• Actual employer contributions	- -	- -	15,058,000
Actuarial accrued liability:	• Retired participants and beneficiaries		$313,289,430	$289,920,395
	• Inactive vested participants		12,195,841	4,426,283
	• Active participants		143,345,746	139,830,166
	• Total actuarial accrued liability		468,831,017	434,176,844
	• Normal cost including administrative expenses		8,259,028	7,833,038
Assets:	• Market value of assets (MVA)		$228,172,000	$219,754,000
	• Actuarial value of assets (AVA)		234,514,215	220,334,774
	• Actuarial value of assets as a percentage of market value of assets		102.78%	100.26%
Funded status:	• Unfunded actuarial accrued liability on market value of assets		$240,659,017	$214,422,844
	• Funded percentage on MVA basis		48.67%	50.61%
	• Unfunded actuarial accrued liability on actuarial value of assets		$234,316,802	$213,842,070
	• Funded percentage on AVA basis		50.02%	50.75%
Key assumptions:	• Net investment return		6.80%	6.90%
	• Inflation rate		2.50%	2.50%
	• Payroll growth for amortization purposes		1.25%	1.25%
Demographic data:	• Number of retired participants and beneficiaries		407	385
	• Number of inactive vested participants		17	9
	• Number of active participants		471	532
	• Covered payroll		$28,268,208	$28,726,006
	• Average payroll		60,017	53,996
	• Projected payroll for next fiscal year		$28,621,561	$29,085,081

*Pursuant to State Law Chapter 2016-146 and City of Jacksonville Ordinances 2017-257-E and 2017-258-E

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the Retirement Administrative Office. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the City's Finance Department. The Jacksonville Retirement System uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the Board of Trustees. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
Actuarial results in this report are not rounded, but that does not imply precision.
If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

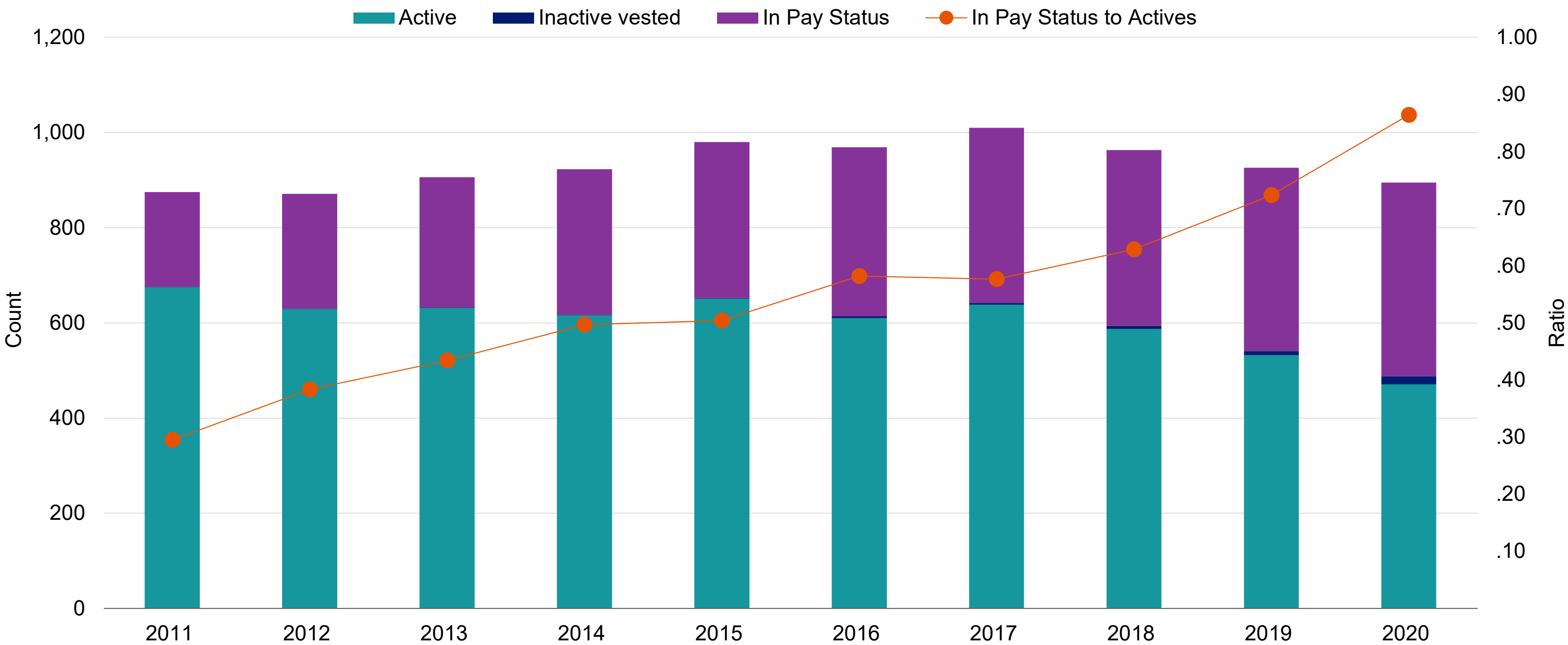
As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

Participant data

This section presents a summary of significant statistical data on these participant groups. Since the Plan is closed to new entrants, the ratio of in-pay to active participants will continue to increase.

Participant Population: 2011 – 2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
In Pay Status[1]	199	241	274	306	328	355	368	369	385	407
Inactive Vested[2]	1	1	1	1	1	4	4	7	9	17
Active	675	629	631	616	651	610	638	587	532	471
In Pay to Active	0.29	0.38	0.43	0.50	0.50	0.58	0.58	0.63	0.72	0.86

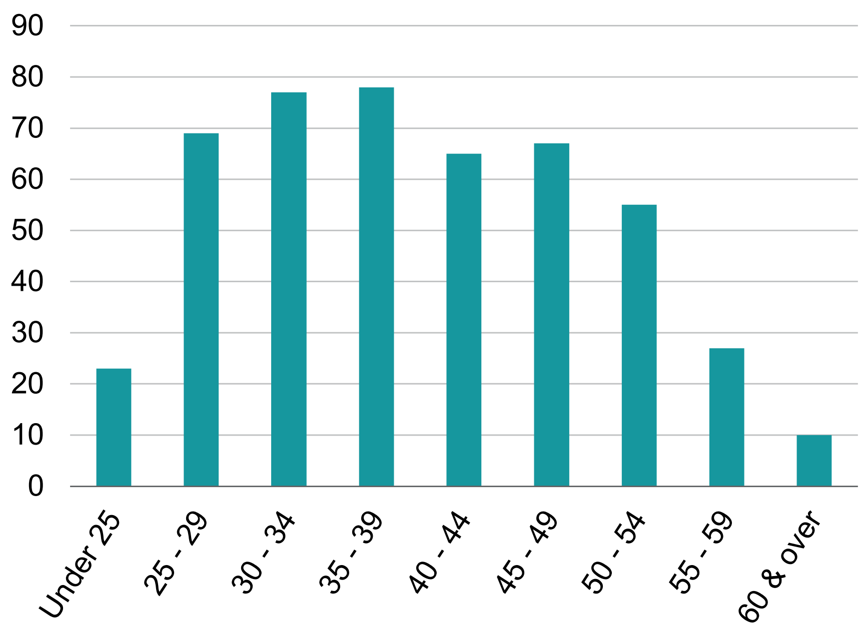
[1] Includes DROP participants
[2] Excludes terminated participants due a refund of employee contributions

Active participants

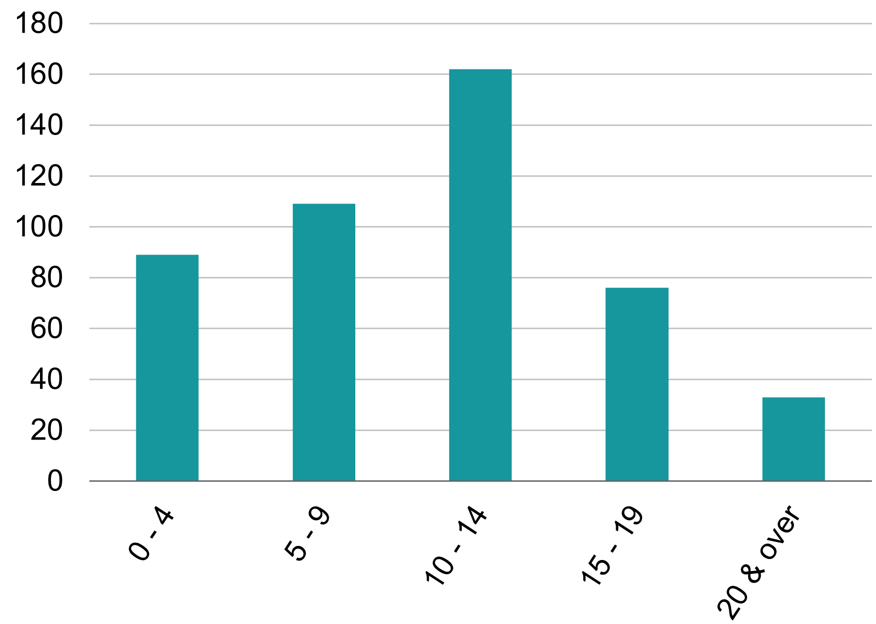
As of September 30,	2020	2019	Change
Active participants	471	532	-11.5%
Average age	40.0	39.2	0.8
Average years of service	10.9	10.2	0.7
Average compensation	60,017	53,996	11.2%

Distribution of Active Participants as of September 30, 2020

Actives by Age



Actives by Years of Service

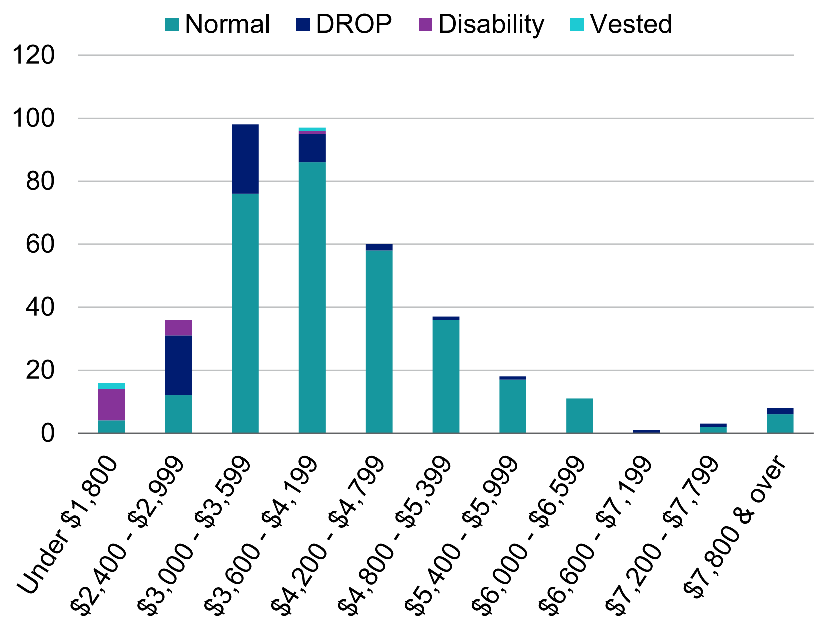


Retired participants and beneficiaries

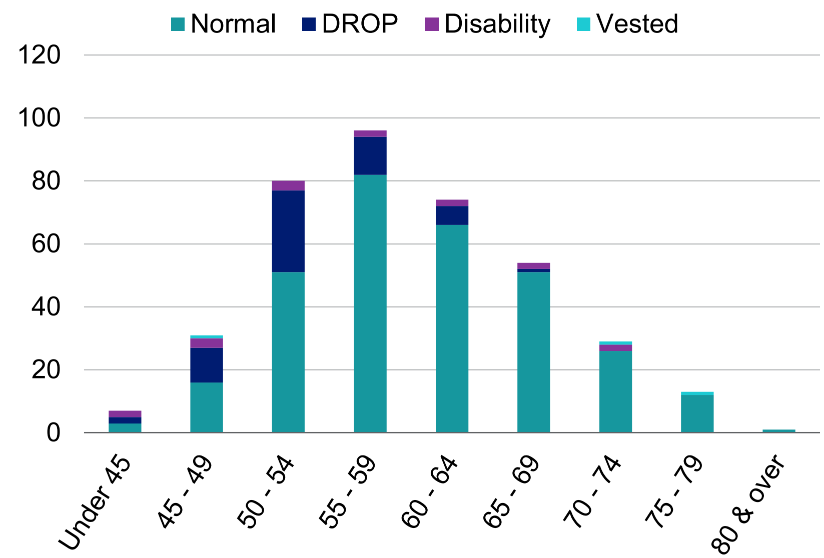
As of September 30,	2020	2019	Change
Retirees	385	366	5.2%
Beneficiaries	22	19	15.8%
Average age	59.3	58.2	1.1
Average regular benefit amount	$3,881	$3,804	2.0%
Average supplement amount	110	109	0.9%
Total monthly amount	$1,624,248	$1,506,547	7.8%

Distribution of Retired Participants as of September 30, 2020

Retired Participants by Type and Monthly Amount Including Supplement



Retired Participants by Type and Age

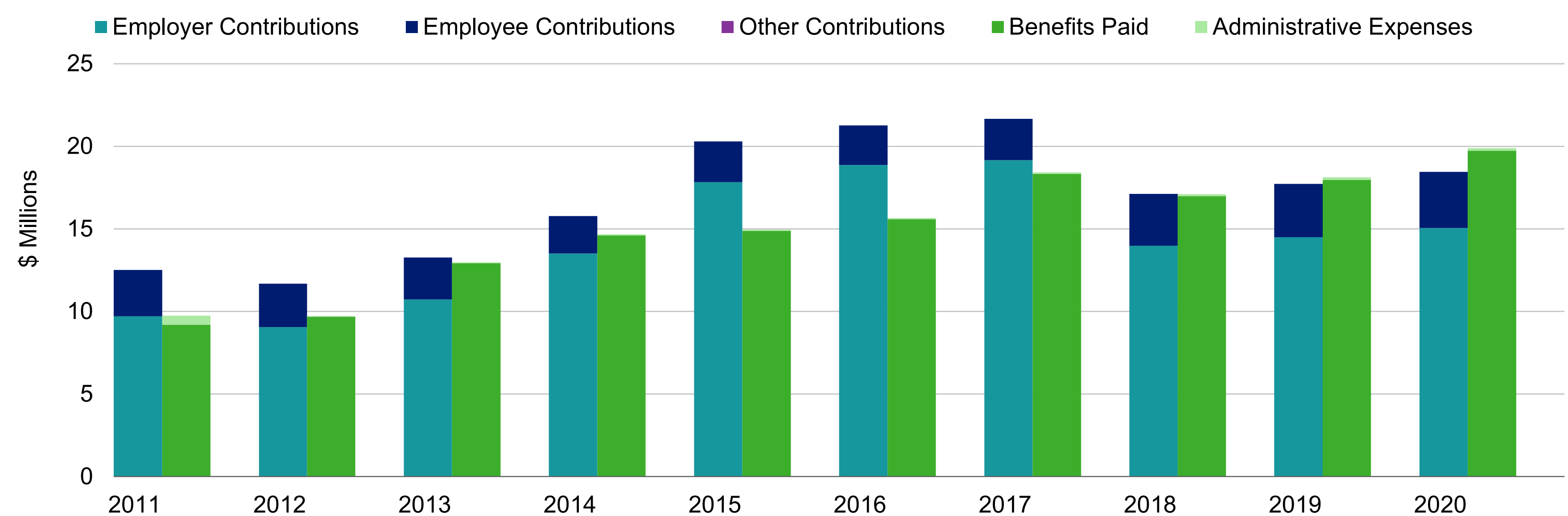


Financial information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E* and *F*.

Comparison of Contributions Made with Benefits and Expenses Paid for Years Ended September 30, 2011 – 2020



Section 2: Actuarial Valuation Results

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended September 30, 2020

1	Market value of assets, September 30, 2020					$228,172,000
2	Calculation of unrecognized return		**Original Amount**[1]	**Percent Deferred**[2]	**Unrecognized Amount**[3]	
	(a)	Year ended September 30, 2020	-$5,273,967	80%	-$4,219,174	
	(b)	Year ended September 30, 2019	-11,656,375	60%	-6,993,825	
	(c)	Year ended September 30, 2018	5,056,884	40%	2,022,754	
	(d)	Year ended September 30, 2017	14,240,149	20%	2,848,030	
	(e)	Year ended September 30, 2016	70,675	0%	0	
	(f)	Total unrecognized return				-$6,342,215
3	Preliminary actuarial value: **(1) - (2f)**					234,514,215
4	Adjustment to be within 30% corridor					0
5	Final actuarial value of assets as of September 30, 2020: **(3) + (4)**					234,514,215
6	Actuarial value as a percentage of market value: **(5) ÷ (1)**					102.8%
7	Amount deferred for future recognition: **(1) - (5)**					-$6,342,215

[1] Total return minus expected return on a market value basis
[2] Percent deferred applies to the current valuation year
[3] Recognition at 20% per year over five years

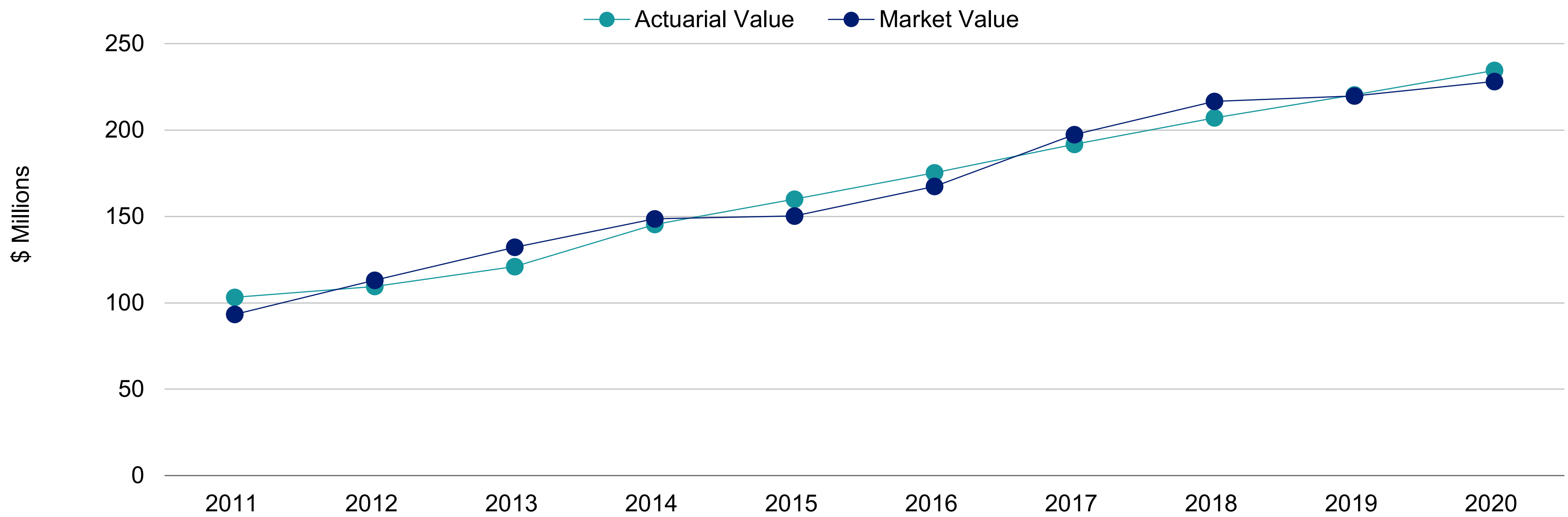
Deferred return as of September 30, 2020 recognized in each of the next four years:

(a) Amount recognized on September 30, 2021	$473,339
(b) Amount recognized on September 30, 2022	-2,374,692
(c) Amount recognized on September 30, 2023	-3,386,069
(d) Amount recognized on September 30, 2024	-1,054,794

Section 2: Actuarial Valuation Results

Both the actuarial value and market value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Actuarial Value of Assets vs. Market Value of Assets



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actuarial Value[1]	$103.15	$109.47	$120.95	$145.28	$159.91	$175.33	$191.74	$207.09	$220.33	$234.51
Market Value[1]	93.41	113.00	132.15	148.72	150.22	167.39	197.38	216.67	219.75	228.17

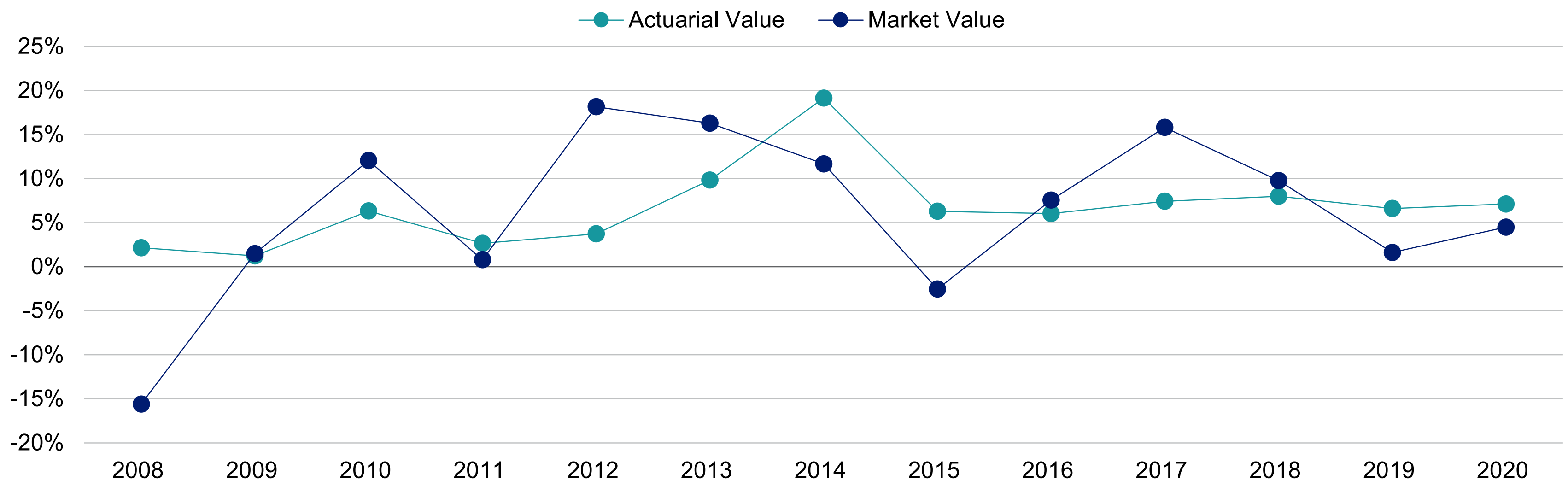
[1] In $ millions

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the actual market value investment return for the last 13 years, including averages over select time periods.

As described earlier in this section, the actuarial asset valuation method gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market and Actuarial Rates of Return for Years Ended September 30, 2008 – 2020



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actuarial Value of Assets	2.14%	1.23%	6.33%	2.65%	3.73%	9.82%	19.12%	6.28%	6.02%	7.44%	8.00%	6.60%	7.10%
Market Value of Assets	-15.61%	1.49%	12.03%	0.79%	18.14%	16.29%	11.66%	-2.54%	7.55%	15.83%	9.76%	1.62%	4.49%
Assumed rate	8.40%	8.40%	8.40%	8.25%	8.25%	7.75%	7.75%	7.50%	7.50%	7.50%	7.20%	7.20%	6.90%

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	7.05%	7.42%
Most recent ten-year average return:	7.62%	7.73%

Actuarial experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), any contribution requirement will decrease from the previous year. On the other hand, any contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience. If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

Actuarial Experience for Year Ended September 30, 2020

1	Net gain from investments[1]	$447,401
2	Net gain from administrative expenses	11,122
3	Net loss from other experience	-10,067,207
4	Net experience loss: **1 + 2 + 3**	-$9,608,685

[1] Details on next page

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the market value of assets was 4.49% for the year ended September 30, 2020.

For valuation purposes, the assumed rate of return on the actuarial value of assets was 6.90% for the year ending September 30, 2020. The actual rate of return on an actuarial basis for the 2020 plan year was 7.10%. Since the actual return for the year was greater than the assumed return, the Plan experienced an actuarial gain during the year ended September 30, 2020 with regard to its investments.

Investment Experience

		Year Ended September 30, 2020	
		Market Value	**Actuarial Value**
1	Net investment income	$9,840,000	$15,601,441
2	Average value of assets	219,043,000	219,623,774
3	Rate of return: **1 ÷ 2**	4.49%	7.10%
4	Assumed rate of return	6.90%	6.90%
5	Expected investment income: **2 x 4**	15,113,967	15,154,040
6	Actuarial gain/(loss): **1 - 5**	-$5,273,967	$447,401

Non-investment experience

Administrative expenses

- Administrative expenses for the year ended September 30, 2020 totaled $153,000, as compared to the assumption of $158,000. This resulted in a gain of $11,122 for the year, after accounting for timing.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected), and
- salary increases (greater or smaller than projected).

The net loss from this other experience for the year ended September 30, 2020 amounted to $10,067,207, which is 2.2% of the actuarial accrued liability. The primary cause of this loss was salary increases greater than expected.

Actuarial assumptions

The assumption changes reflected in this report are:

- The discount rate was lowered from 6.90% to 6.80%.
- This change increased the actuarial accrued liability by 1.32% and increased the total normal cost by 2.50%.

Details on actuarial assumptions and methods are in Section 4, Exhibit I.

Plan provisions

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in Section 4, Exhibit II.

Development of Unfunded Actuarial Accrued Liability for Year Ended September 30, 2020

1	Unfunded actuarial accrued liability at beginning of year		$213,842,070
2	Employer normal cost at beginning of year		5,173,791
3	Employer contributions		-15,058,000
4	Interest on 1, 2 & 3		14,641,621
5	Expected unfunded actuarial accrued liability		$218,599,482
6	Changes due to:		
	• (Gain)/loss	$9,608,685	
	• Assumptions	6,108,635	
	Total changes		$15,717,320
7	Unfunded actuarial accrued liability at end of year		$234,316,802

Florida Chapter 112 Determined Employer Contribution and City's Minimum Required Contribution

The chart below shows the calculations of the Florida Chapter 112 determined employer contribution and the City's minimum required contribution pursuant to State Law Chapter 2016-146 and City of Jacksonville Ordinances 2017-257-E and 2017-258-E.

The contribution requirements as of October 1, 2020 are based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

Florida Chapter 112 Determined Contribution and City's Minimum Required Contribution for Year Beginning October 1

		2020		2019	
		Amount	% of Projected Payroll	Amount	% of Projected Payroll
1.	Total normal cost	$8,106,028	28.32%	$7,675,038	26.39%
2.	Administrative expenses	153,000	0.53%	158,000	0.54%
3.	Expected employee contributions	-2,637,520	-9.22%	-2,659,247	-9.14%
4.	Employer normal cost: (1) + (2) + (3)	$5,621,508	19.64%	$5,173,791	17.79%
5.	Actuarial accrued liability	$468,831,017		$434,176,844	
6.	Actuarial value of assets	234,514,215		220,334,774	
7.	Unfunded actuarial accrued liability: (5) - (6)	$234,316,802		$213,842,070	
8.	Payment on unfunded actuarial accrued liability	$16,161,758	56.47%	$14,655,411	50.39%
9.	Florida Chapter 112 determined employer contribution: (4) + (8)[1]	22,851,586	79.84%	20,812,130	71.56%
10.	Amortized value of discounted value of projected surtax revenue[1, 2]	5,259,187	18.37%	5,767,600	19.83%
11.	City's minimum required contribution: (9) - (10)[2]	$17,592,399	61.47%	$15,044,530	51.73%
12.	Projected payroll	$28,621,561		$29,085,081	

[1]Adjusted for timing and projected to next fiscal year; contributions are assumed to be paid at the end of every month.

[2]Pursuant to State Law Chapter 2016-146 and City of Jacksonville Ordinances 2017-257-E and 2017-258-E

Reconciliation of actuarially determined contribution

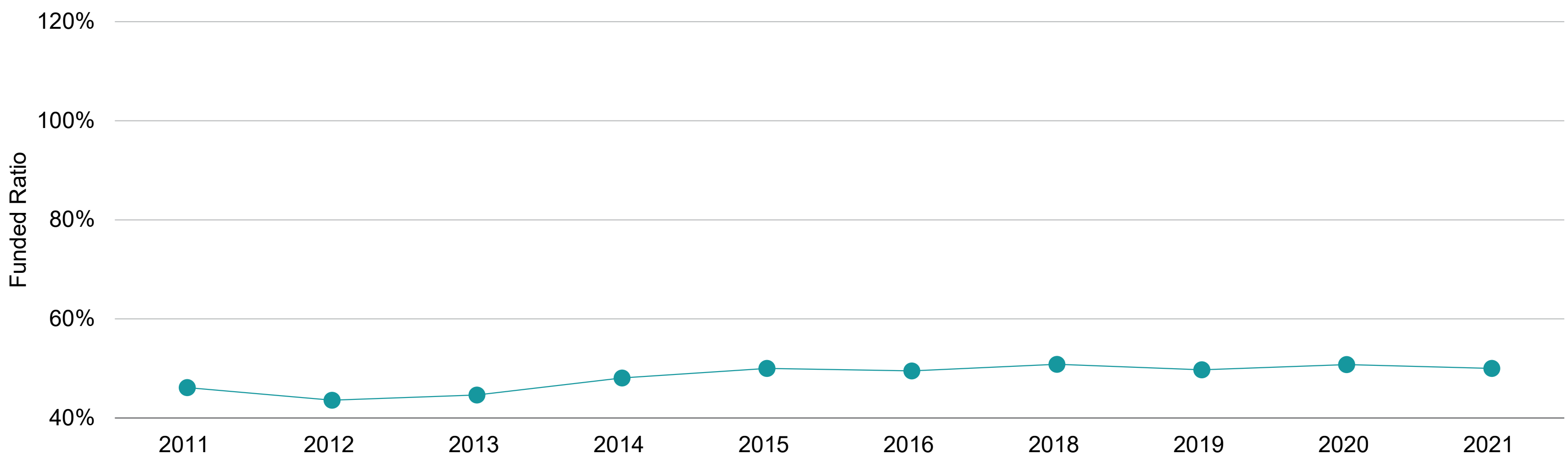
The chart below details the changes in the actuarially determined contribution from the prior valuation to the current year's valuation.

Reconciliation of City's Minimum Required Contribution from October 1, 2020 to October 1, 2021

	Amount
City's Minimum Required Contribution as of October 1, 2020	$15,044,530
• Effect of expected change in amortization payment due to payroll growth	120,178
• Effect of change in administrative expense assumption	-5,248
• Effect of contribution deferral to budget year and balancing amortization bases for surtax credit	408,841
• Effect of investment gain	-32,266
• Effect of other gains and losses on accrued liability	725,239
• Effect of loss on updated surtax projection	454,224
• Effect of updated surtax allocation	225,001
• Effect of change in actuarial assumptions	384,584
• Net effect of other changes, including composition and number of participants	267,316
Total change	$2,547,869
City's Minimum Required Contribution as of October 1, 2021	$17,592,399

Schedule of funding progress through September 30, 2020

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
10/01/2011	$103,154,256	$223,575,233	$120,420,977	46.14%	$31,832,037	378.30%
10/01/2012	109,473,919	251,035,516	141,561,597	43.61%	28,944,158	489.09%
10/01/2013	120,947,042	271,073,724	150,126,682	44.62%	27,871,010	538.65%
10/01/2014	145,276,644	302,122,370	156,845,726	48.09%	27,373,702	572.98%
10/01/2015	159,914,247	319,655,728	159,741,481	50.03%	28,091,083	568.66%
10/01/2016	175,333,405	354,234,673	178,901,268	49.50%	26,585,054	672.94%
10/01/2017	191,740,583	377,380,082	185,639,499	50.81%	27,548,015	673.88%
10/01/2018	207,089,881	416,673,228	209,583,347	49.70%	28,164,021	744.15%
10/01/2019	220,334,774	434,176,844	213,842,070	50.75%	28,726,006	744.42%
10/01/2020	234,514,215	468,831,017	234,316,802	50.02%	28,268,208	828.91%



History of employer contributions

A history of the most recent years of contributions is shown below.

History of Employer Contributions: 2013 – 2022

Fiscal Year Ended September 30	City's Minimum Required	Actual Employer Contribution	Percent Contributed
2013	$12,884,770	$10,742,000	83.37%
2014	14,884,963	13,522,000	90.84%
2015	17,618,896	17,832,000	101.21%
2016	18,863,935	18,864,000	100.00%
2017	19,155,820	19,162,000	100.03%
2018	13,973,105	13,973,000	100.00%
2019	14,497,788	14,498,000	100.00%
2020	15,042,623	15,058,000	100.10%
2021	15,044,530	- -	- -
2022	17,592,399	- -	- -

Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a brief discussion of some risks that may affect the Plan. Upon request, a more detailed assessment of the risks can be provided to enable a better understanding of the risks specific to your Plan. This assessment may include scenario testing, sensitivity testing, stress testing and stochastic modeling.

- **Investment Risk** (the risk that returns will be different than expected)

  The market value rate of return over the last ten years has ranged from a low of 2.54% to a high of 18.14%.

- **Longevity Risk** (the risk that mortality experience will be different than expected)

  The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution. It is not yet known what long-term impact the COVID-19 pandemic may have on the Plan's mortality experience.

- **Contribution Risk** (the risk that actual contributions will be different from actuarially determined contribution)

  The Plan's funding policy requires payment of the City's minimum required contribution, which is the Florida Chapter 112 determined contribution reduced for anticipated funding from allocated surtax income. This policy produces a risk that this reduction in immediate funding might be either too large of too small, depending on whether the surtax income gross as quickly as expected.

  If the City paid the Florida Chapter 112 determined contribution, the effective amortization period would be 26 years, meaning that the current contribution level, with amortization payments growing 1.25%, would be adequate to be expected to reduce the unfunded liability to zero over 26 years. Under the City's current policy of paying the City's required contribution, over the immediate term, the unfunded liability has an expected growth rate of 1.7% and increases at this level can be expected to continue until the surtax income becomes payable to the Plan's trust. If plan experience is less favorable than anticipated, the unfunded liability will grow faster than 1.7% per year. By comparison, the surtax revenue is assumed to grow 4.25% per year.

  If the surtax revenue for fiscal 2020 had been 1% lower, the City's required contribution would increase by $67,987 or 0.24% of projected payroll. For comparison purposes, the allocated surtax revenue is 41.7% of the market value of assets and 20.3% of the actuarial accrued liability.

- **Demographic Risk** (the risk that participant experience will be different than assumed)

  Examples of this risk include:
  - Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
  - More or less active participant turnover than assumed.
- **Actual Experience** Over the Last Ten years and Implications for the Future
  - Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years: The non-investment gain/loss for a year has ranged from a loss of $15,203,738 to a gain of $14,240,149. Over the past ten years, the Plan's market value performance has, on average, exceeded the expected annual return.
  - The funded percentage on the actuarial value of assets has ranged from a low of 43.6% to a high of 50.8% since 2009.
- **Maturity Measures**

  As pension plans mature, the cash need to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.

  Currently the Plan has a pay status to active participant ratio of 0.86. For the prior year benefits and expenses paid were $1,422,000 more than contributions received. As the Plan matures, more cash will be needed from the investment portfolio to meet benefit payments. Since the Plan is closed to new entrants, the amount of employee contributions is expected to continue to decline each year as the number of active participants decrease.

GFOA funded liability by type

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the plan's actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with employee contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the funding policy aim to achieve a funded ratio of 100 percent.

GFOA Solvency Test as of September 30

	2020	2019
Actuarial accrued liability (AAL)		
• Active member contributions	$19,159,438	$19,136,185
• Retirees and beneficiaries	313,289,430	289,920,395
• Active and inactive members (employer-financed)	136,382,149	125,120,264
Total	$468,831,017	$434,176,844
Actuarial value of assets	$234,514,215	$220,334,774
Cumulative portion of AAL covered		
• Active member contributions	100.00%	100.00%
• Retirees and beneficiaries	68.74%	69.40%
• Active and inactive members (employer-financed)	0.00%	0.00%

Actuarial balance sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the "liability" of the Plan.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

	Year Ended	
	September 30, 2020	**September 30, 2019**
Liabilities		
• Present value of benefits for retired participants and beneficiaries	$313,289,430	$289,920,395
• Present value of benefits for inactive vested participants	12,195,841	4,426,283
• Present value of benefits for active participants	204,012,968	197,893,834
Total liabilities	**$529,498,239**	**$492,240,512**
Assets		
• Total valuation value of assets	$234,514,215	$220,334,774
• Present value of future contributions by members	19,795,330	20,130,094
• Present value of future employer contributions for:		
• Entry age cost	40,871,892	37,933,574
• Unfunded actuarial accrued liability	234,316,802	213,842,070
Total of current and future assets	**$529,498,239**	**$492,240,512**

Section 3: Supplemental Information

Exhibit A: Table of Plan Demographics

Category	Year Ended September 30 2020	2019	Change From Prior Year
Active participants in valuation:			
• Number	471	532	-11.5%
• Average age	40.0	39.2	0.8
• Average years of service	10.9	10.2	0.7
• Covered payroll	$28,268,208	$28,726,006	-1.6%
• Average payroll	60,017	53,996	11.2%
• Employee contribution balances	19,159,438	19,136,185	0.1%
• Total active vested participants	382	376	1.6%
Inactive vested participants	17	9	88.9%
Retired participants:			
• Number in pay status	311	253	22.9%
• Average age	60.4	60.8	-0.4
• Average monthly benefit	$4,089	$4,252	-3.8%
Disabled participants:			
• Number in pay status	16	15	6.7%
• Average age	55.3	55.5	-0.2
• Average monthly benefit	$2,275	$2,331	-2.4%
Beneficiaries:			
• Number in pay status	22	19	15.8%
• Average age	63.6	64.1	-0.5
• Average monthly benefit	$2,816	$2,503	12.5%
DROP participants not yet in pay status			
• Number	58	98	-40.8%
• Average age	53.0	53.3	-0.3
• Average monthly benefit	$3,614	$3,555	1.7%

Exhibit B: Participants in Active Service as of September 30, 2020 by Age, Years of Service, and Average Payroll

		Years of Service					
Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29
Under 25	23	23	- -	- -	- -	- -	- -
	$46,563	$46,563	$0	$0	$0	$0	$0
25 - 29	69	38	31	- -	- -	- -	- -
	49,075	47,405	51,123	- -	- -	- -	- -
30 - 34	77	12	39	26	- -	- -	- -
	54,115	47,409	52,708	59,321	- -	- -	- -
35 - 39	78	6	13	41	18	- -	- -
	62,765	48,544	53,901	64,128	70,805	- -	- -
40 - 44	65	5	9	27	17	7	- -
	64,957	51,002	51,428	60,537	72,582	90,854	- -
45 - 49	67	1	6	25	19	12	4
	69,445	46,464	52,004	63,948	69,886	78,157	107,481
50 - 54	55	2	6	24	13	8	2
	64,947	47,598	51,082	62,424	71,963	74,264	71,298
55 - 59	27	1	3	14	7	2	- -
	62,672	46,464	52,416	62,592	68,811	65,238	- -
60 - 64	8	- -	1	5	2	- -	- -
	63,620	- -	54,108	61,373	73,992	- -	- -
65 - 69	2	1	1	- -	- -	- -	- -
	50,112	48,732	51,492	- -	- -	- -	- -
Total	471	89	109	162	76	29	6
	$60,017	$47,465	$52,159	$62,260	$71,071	$79,257	$95,420

Exhibit C: Reconciliation of Participant Data

	Active Participants	Inactive Vested Participants	DROP Participants	Disableds	Retired Participants	Beneficiaries	Total
Number as of October 1, 2019	**532**	**9**	**98**	**15**	**253**	**19**	**926**
• New participants	0	N/A	0	N/A	N/A	N/A	0
• Terminations – with vested rights	-13	13	0	0	0	0	0
• Terminations – without vested rights	-19	N/A	0	N/A	N/A	N/A	-19
• Retirements	-7	0	-20	N/A	27	N/A	0
• New DROP Participants	-11	-5	16	0	0	0	0
• New disabilities	-1	0	0	1	N/A	N/A	0
• Return to work	0	0	0	0	0	N/A	0
• Deceased	0	0	0	0	-5	0	-5
• New beneficiaries	0	0	0	0	0	4	4
• Lump sum cash-outs	0	0	0	0	0	0	0
• Rehire	0	0	0	N/A	0	N/A	0
• Certain period expired	N/A	N/A	0	0	0	-1	-1
• Data adjustments	0	0	-36	0	36	0	0
• Net transfers (to)/from General and DC	-10	0	0	0	0	0	-10
Number as of October 1, 2020	**471**	**17**	**58**	**16**	**311**	**22**	**895**

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended September 30, 2020		Year Ended September 30, 2019	
Net assets at market value at the beginning of the year		$219,754,000		$216,667,000
Contribution income:				
• Employer contributions	$15,058,000		$14,498,000	
• Employee contributions	3,401,000		3,225,000	
• Less administrative expenses	-153,000		-158,000	
Net contribution income		*$18,306,000*		*$17,565,000*
Other income		$0		$0
Investment income:				
• Interest, dividends, and other income	$3,833,000		$5,667,000	
• Realized and unrealized appreciation	6,556,000[1]		-1,075,000	
• Less investment fees	-549,000		-1,096,000	
Net investment income		*$9,840,000*		*$3,496,000*
Total income available for benefits		**$28,146,000**		**$21,061,000**
Less benefit payments:				
• Benefit payments	-$16,350,000		-$14,931,000	
• DROP credits	-2,590,000		-2,643,000	
• Refunds	-3,974,000		-3,575,000	
• DROP withdrawals	3,461,000		3,374,000	
• DROP interest/adjustment	-275,000		-199,000	
Net benefit payments		*-$19,728,000*		*-$17,974,000*
Change in market value of assets		**$8,418,000**		**$3,087,000**
Net assets at market value at the end of the year		**$228,172,000**		**$219,754,000**

[1] The appreciation consists of $6,487,000 in unrealized gains and losses and $69,000 in realized gains and losses.

Exhibit E: Development of the Fund through September 30, 2020

Year Ended September 30	Employer Contributions	Employee Contributions	Other Contributions	Net Investment Return[1]	Admin. Expenses	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2011	$9,711,000	$2,807,000	$309,000	$717,000	$560,000	$9,197,000	$93,409,000	$103,154,256	110.4%
2012	9,066,000	2,621,000	472,000	17,166,000	55,000	9,675,000	113,004,000	109,473,919	96.9%
2013	10,742,000	2,525,000	392,000	18,466,000	50,000	12,925,000	132,154,000	120,947,042	91.5%
2014	13,522,000	2,253,000	0	15,468,000	65,000	14,611,000	148,721,000	145,276,644	97.7%
2015	17,832,000	2,466,000	0	-3,849,000	73,000	14,874,000	150,223,000	159,914,247	106.5%
2016	18,864,000	2,410,000	0	11,548,000	75,000	15,583,000	167,387,000	175,333,405	104.7%
2017	19,162,000	2,500,000	0	26,747,000	75,000	18,338,000	197,383,000	191,740,583	97.1%
2018	13,973,000	3,151,000	0	19,269,000	128,000	16,981,000	216,667,000	207,089,881	95.6%
2019	14,498,000	3,225,000	0	3,496,000	158,000	17,974,000	219,754,000	220,334,774	100.3%
2020	15,058,000	3,401,000	0	9,840,000	153,000	19,728,000	228,172,000	234,514,215	102.8%

[1] On a market basis, net of investment fees

Exhibit F: Table of Amortization Bases

Florida Chapter 112 Recommended Contribution Amortization Bases

Type	Date Established	Initial Period	Initial Amount	Annual Payment[1]	Years Remaining	Outstanding Balance
Fresh start	10/01/2016	30	$178,901,268	$12,277,235	26	$177,261,284
Experience gain	10/01/2017	30	-2,816,018	-190,593	27	-2,799,410
Assumptions change	10/01/2017	30	-283,924	-19,216	27	-282,249
Plan change	10/01/2017	30	9,863,395	667,571	27	9,805,220
Experience loss	10/01/2018	29	5,111,441	346,154	27	5,084,283
Assumptions change	10/01/2018	29	19,111,594	1,294,265	27	19,010,048
Experience loss	10/01/2019	28	12,171,775	825,952	27	12,131,514
Assumptions change	10/01/2019	28	-7,304,312	-495,656	27	-7,280,151
Experience loss	10/01/2020	27	15,277,628	1,040,150	27	15,277,628
Assumptions change	10/01/2020	27	6,108,635	415,896	27	6,108,635
Total				**$16,161,758**		**$234,316,802**

[1] Level percentage of payroll; per Part VII, Chapter 112.64(5)(b) of Florida Statutes, outstanding balances were amortized using a 1.25% payroll growth rate for October 1, 2020 valuation.

City's Minimum Recommended Contribution Surtax Amortization Bases

Type	Date Established	Initial Period	Initial Amount	Annual Payment[1]	Years Remaining	Outstanding Balance
Discounted surtax revenue applied	10/01/2016	30	-$64,295,005	-$4,412,294	26	-$63,705,614
Surtax offset gain	10/01/2017	30	-1,534,336	-103,846	27	-1,525,284
Allocation assumption change	10/01/2017	30	4,705,811	318,497	27	4,678,056
Discount rate change	10/01/2017	30	-3,286,369	-222,427	27	-3,266,985
Surtax offset gain	10/01/2018	29	-1,420,046	-96,168	27	-1,412,501
Allocation change	10/01/2018	29	-1,349,426	-91,385	27	-1,342,257
Discount rate change	10/01/2018	29	-3,713,867	-251,509	27	-3,694,134
Surtax offset gain	10/01/2019	28	-348,544	-23,651	27	-347,391
Allocation change	10/01/2019	28	-7,142,670	-484,687	27	-7,119,044
Discount rate change	10/01/2019	28	-2,159,598	-146,546	27	-2,152,455
Surtax offset loss	10/01/2020	27	6,298,215	428,803	27	6,298,215
Allocation change	10/01/2020	27	3,119,832	212,408	27	3,119,832
Discount rate change	10/01/2020	27	-2,063,845	-140,513	27	-2,063,845
Total				**-$5,013,318**		**-$72,533,406**

[1] Level percentage of payroll; per Part VII, Chapter 112.64(5)(b) of Florida Statutes, outstanding balances were amortized using a 1.25% payroll growth rate for October 1, 2020 valuation.

Exhibit G: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Retirees and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than 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, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.
Actuarial Present Value of Future Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The

	Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuariallv Determined Contributions.
Actuarial Value of Assets (AVA):	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuariallv Determined Contribution.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. 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 Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Plan is calculated, including: Investment return - the rate of investment yield that the Plan will earn over the long-term future; Mortality rates - the rate or probability of death at a given age for employees and retirees; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the rate or probability of disability retirement at a given age;

	Withdrawal rates - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded Ratio:	The ratio of the actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
GASB 67 and GASB 68:	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.

Section 3: Supplemental Information

Normal Cost:	The portion of the Actuarial Present Value of Future Benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Plan Fiduciary Net Position:	Market value of assets.
Total Pension Liability (TPL):	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Exhibit H: Section 415

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $230,000 for 2020. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as form of benefits chosen and after tax contributions.

Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Exhibit I: Supplementary State of Florida Information
Summary of Salary Changes

Year Ended September 30	Total Salary	Percent Change in Total Salary	Percent Change in Salary of Employees Remaining Active	Expected Percent Change in Salary of Employees Remaining Active
2010*	$27,869,052	0.75%	N/A	N/A
2010	32,329,400	16.88%	2.45%	5.28%
2011	31,832,037	-1.54%	3.09%	5.80%
2012	28,944,158	-9.07%	0.78%	6.15%
2013	27,871,010	-3.71%	3.03%	1.72%
2014	27,373,702	-1.78%	3.89%	1.70%
2015	28,091,083	2.62%	3.08%	1.66%
2016	26,585,054	-5.36%	2.63%	4.26%
2017	27,548,015	3.62%	4.03%	8.21%
2018	28,164,021	2.24%	10.21%	8.31%
2019	28,726,006	2.00%	12.46%	8.34%
2020	28,268,208	-1.59%	12.06%	3.98%

Note: The Plan was closed to new entrants as of October 1, 2017.

The average total payroll growth for the most recent ten years was 0.14% per year. Additional analysis of bargained pay increase applicable for the next year and pay of DC plan participants was used to support a payroll increase assumption of 1.25%.

Salary history prior to October 1, 2010 was taken from the City's Comprehensive Annual Financial reports.

*Prior to the inclusion of new participants with greater than one year of employment.

Exhibit J: Supplementary State of Florida Information
Recent History of Recommended and Actual Contributions

Fiscal Year Ended September 30	Valuation Date October 1	Contribution Rate as Percent of Valuation Payroll	Valuation Payroll	Florida Chapter 112 Recommended Contribution	City's Minimum Required Contribution	Actual Contribution
2012	2010	35.45%	$33,460,929	$11,860,912	- -	9,066,000
2013	2011	39.11%	32,946,158	12,884,770	- -	10,742,000
2014	2012	49.93%	29,812,483	14,884,963	- -	13,522,000
2015	2013	62.81%	28,049,384	17,618,896	- -	17,832,000
2016	2014	68.64%	27,480,459	18,863,935	- -	18,864,000
2017	2015	67.73%	28,282,102	19,155,820	- -	19,162,000
2018	2016	69.26%	26,917,306	18,643,233	$13,973,105	13,973,000
2019	2017	68.63%	27,892,365	19,141,501	14,497,788	14,498,000
2020	2018	70.53%	28,516,071	20,111,161	15,042,623	15,058,000
2021	2019	71.56%	29,085,081	20,812,130	15,044,530	- -
2022	2020	79.84%	28,621,561	22,851,586	17,592,399	- -

The Plan was closed to new entrants as of October 1, 2017; as a result, valuation payroll is expected to continue declining

Exhibit K: Supplementary State of Florida Information
Comparative Summary of Principal Valuation Results

	Year Ended September 30, 2020		
	New Assumptions	Old Assumptions	Year Ended September 30, 2019
Participant data			
• Active members	471	471	532
• Total annual payroll	$28,268,208	$28,268,208	$28,726,006
• Retired members and beneficiaries	349	349	287
• Total annualized benefit	$16,896,738	$16,896,738	$13,898,136
• Terminated vested members	17	17	9
• Total annualized benefit	$695,328	$695,328	$286,056
• DROP participants	58	58	98
• Total annualized benefit	$2,594,481	$2,594,481	$4,180,428
Actuarial value of assets	$234,514,215	$234,514,215	$220,334,774
Present value of all future expected benefit payments:			
• Active members:			
• Retirement benefits	$177,041,071	$172,929,280	$170,928,866
• Vesting benefits	2,531,158	2,517,799	2,739,041
• Disability benefits	3,976,479	3,902,151	3,816,850
• Death benefits	1,304,822	1,279,635	1,272,892
• Return of contributions	19,159,438	19,159,438	19,136,185
• Total	$204,012,968	$199,788,302	$197,893,834
• Terminated vested members	12,195,841	12,034,618	4,426,283
• Retired members and beneficiaries	264,851,184	261,985,064	214,269,144
• DROP participants	48,438,246	47,815,783	75,651,250
Total	$529,498,239	$521,623,767	$492,240,511

Exhibit K: Supplementary State of Florida Information
Comparative Summary of Principal Valuation Results (Cont'd)

	Year Ended September 30, 2020		
	New Assumptions	Old Assumptions	Year Ended September 30, 2019
Unfunded actuarial accrued liability	$234,316,802	$228,208,167	$213,842,070
Actuarial present value of accrued benefits			
Vested accrued benefits			
Active members	$101,274,690	$99,468,779	$100,403,017
Inactive members	12,195,841	12,034,618	4,426,283
Pensioners and beneficiaries	264,851,184	261,985,064	214,269,144
DROP participants	48,438,246	47,815,783	75,651,250
Nonvested active members	828,822	780,529	1,157,779
Total	$427,588,783	$422,084,773	$395,907,473
Pension cost			
Normal cost, including administrative expenses	$8,259,028	$8,061,001	$7,833,038
Expected employee contributions	-2,637,520	-2,637,520	-2,659,247
Level % of payroll payment to amortize unfunded actuarial accrued liability	16,161,758	15,888,380	14,655,411
Discounted and amortized value of allocated surtax revenue	-5,013,318	-5,131,121	-5,495,204
Total minimum annual cost payable monthly at valuation date	$17,375,208	$16,773,150	$14,858,795
Total employer cost projected to budget year	**17,592,399**	**16,982,815**	**15,044,530**
Projected Payroll	28,621,561	28,621,561	29,085,081
As % of payroll	61.47%	59.34%	51.73%
Present value of active members' future salaries at attained age	$197,953,298	$197,032,562	$201,300,936
Present value of expected future employee contributions	19,795,330	19,703,256	20,130,094

Exhibit L: Supplementary State of Florida Information
Actuarial Present Value of Accumulated Plan Benefits

Factors	Change in Actuarial Present Value of Accumulated Plan Benefits	
		$395,907,473
Benefits accumulated, net experience gain or loss, changes in data	$19,268,300	
Benefits paid	-19,728,000	
Interest	26,637,000	
Changes in assumptions	5,504,010	
Plan changes	0	
Net increase	$31,681,310	
As % of projected payroll	110.69%	
Actuarial present value of accumulated benefits as of October 1, 2020		$427,588,783

Exhibit M: Supplementary State of Florida Information
Reconciliation of DROP Accounts

Nearest Age	Total Actives*	Eligible for Normal**	Number Retiring	Number Entering DROP
Under 40	284	0	0	0
40	15	2	0	0
41	14	1	0	0
42	10	1	0	0
43	13	3	1	0
44	10	3	1	0
45	10	3	0	0
46	19	6	1	0
47	15	5	0	1
48	17	3	0	0
49	22	5	0	4
50	21	8	0	1
51	14	5	1	1
52	10	3	1	0
53	9	4	0	1
54	11	1	0	0
55	6	1	0	0
56	6	3	0	1
57	6	0	0	1
58	6	1	0	0
59	2	0	0	0
60	2	0	0	0
61	3	1	0	1
62	0	0	0	0
63	3	0	0	0
64	1	0	1	0
65 & over	3	0	1	0
Total	532	59	7	11

*Number of active participants from prior valuation
**Number of active participants either eligible for retire as of October 1, 2019 or who became eligible during the plan year ended September 30,, 2020.

Exhibit N: Actuarial Projections through Fiscal 2062

Plan Year Beginning	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	Surtax Contribution	% of Total Contribution	Required City Contribution	% of Total Contribution	Total Contribution
					2020	$0	0.0%	$15,044,530	100.0%	$15,044,530
2020	$468,831,017	$234,514,215	$234,316,802	50.02%	2021	0	0.0%	17,592,399	100.0%	17,592,399
2021	486,934,376	246,188,190	240,746,186	50.56%	2022	0	0.0%	17,461,633	100.0%	17,461,633
2022	504,577,721	257,268,279	247,309,442	50.99%	2023	0	0.0%	17,611,180	100.0%	17,611,180
2023	521,830,844	266,704,758	255,126,086	51.11%	2024	0	0.0%	17,714,340	100.0%	17,714,340
2024	538,130,159	277,762,614	260,367,545	51.62%	2025	0	0.0%	17,757,971	100.0%	17,757,971
2025	553,920,612	289,328,401	264,592,211	52.23%	2026	0	0.0%	17,778,756	100.0%	17,778,756
2026	569,376,625	300,428,758	268,947,867	52.76%	2027	0	0.0%	17,714,534	100.0%	17,714,534
2027	584,110,375	310,805,056	273,305,319	53.21%	2028	0	0.0%	17,667,857	100.0%	17,667,857
2028	598,111,093	320,291,701	277,819,392	53.55%	2029	0	0.0%	17,682,226	100.0%	17,682,226
2029	611,539,394	328,975,523	282,563,871	53.79%	2030	6,634,484	27.3%	17,630,067	72.7%	24,264,551
2030	624,092,186	343,593,905	280,498,281	55.05%	2031	9,221,933	35.0%	17,092,752	65.0%	26,314,685
2031	633,675,610	358,963,767	274,711,843	56.65%	2032	9,613,865	36.3%	16,850,006	63.7%	26,463,871
2032	641,276,568	372,868,903	268,407,665	58.14%	2033	10,022,455	37.5%	16,734,534	62.5%	26,756,989
2033	647,350,785	386,079,089	261,271,696	59.64%	2034	10,448,409	38.6%	16,639,624	61.4%	27,088,033
2034	651,906,737	398,843,596	253,063,141	61.18%	2035	10,892,466	39.7%	16,543,267	60.3%	27,435,733
2035	654,872,314	411,217,921	243,654,393	62.79%	2036	11,355,396	41.0%	16,367,064	59.0%	27,722,460
2036	655,843,449	423,019,693	232,823,756	64.50%	2037	11,838,001	42.1%	16,260,240	57.9%	28,098,241
2037	655,003,869	434,324,904	220,678,965	66.31%	2038	12,341,116	43.6%	15,984,192	56.4%	28,325,308
2038	651,567,528	444,822,134	206,745,394	68.27%	2039	12,865,613	44.7%	15,935,973	55.3%	28,801,586
2039	646,341,626	454,861,519	191,480,107	70.37%	2040	13,412,402	45.6%	15,982,494	54.4%	29,394,896
2040	639,674,680	465,113,805	174,560,875	72.71%	2041	13,982,429	46.5%	16,089,897	53.5%	30,072,326
2041	631,801,675	476,006,242	155,795,433	75.34%	2042	14,576,682	47.3%	16,232,897	52.7%	30,809,579
2042	622,869,986	487,878,856	134,991,130	78.33%	2043	15,196,191	48.1%	16,403,101	51.9%	31,599,292
2043	613,006,132	501,038,919	111,967,213	81.73%	2044	15,842,029	48.8%	16,594,351	51.2%	32,436,380
2044	602,312,850	515,779,794	86,533,056	85.63%	2045	16,515,315	49.6%	16,795,733	50.4%	33,311,048
2045	590,869,322	532,392,459	58,476,863	90.10%	2046	17,217,216	50.3%	17,006,118	49.7%	34,223,334
2046	578,748,664	551,162,449	27,586,215	95.23%	2047	17,948,948	75.5%	5,826,225	24.5%	23,775,173
2047	566,017,021	572,387,000	(6,369,979)	101.13%	2048	0	0.0%	312,631	100.0%	312,631
2048	552,729,060	565,237,245	(12,508,185)	102.26%	2049	0	0.0%	320,446	100.0%	320,446
2049	538,943,827	552,298,578	(13,354,751)	102.48%	2050	0	0.0%	328,458	100.0%	328,458
2050	524,723,333	538,982,116	(14,258,783)	102.72%	2051	0	0.0%	336,669	100.0%	336,669
2051	510,133,593	525,357,780	(15,224,187)	102.98%	2052	0	0.0%	345,086	100.0%	345,086
2052	495,241,669	511,496,802	(16,255,133)	103.28%	2053	0	0.0%	353,713	100.0%	353,713
2053	480,115,723	497,471,800	(17,356,077)	103.61%	2054	0	0.0%	362,556	100.0%	362,556
2054	464,821,197	483,352,973	(18,531,776)	103.99%	2055	0	0.0%	371,619	100.0%	371,619
2055	449,427,341	469,214,650	(19,787,309)	104.40%	2056	0	0.0%	380,910	100.0%	380,910
2056	433,999,263	455,127,366	(21,128,103)	104.87%	2057	0	0.0%	390,433	100.0%	390,433
2057	418,600,660	441,160,611	(22,559,951)	105.39%	2058	0	0.0%	400,194	100.0%	400,194
2058	403,292,887	427,381,930	(24,089,043)	105.97%	2059	0	0.0%	410,199	100.0%	410,199
2059	388,135,637	413,857,626	(25,721,989)	106.63%	2060	0	0.0%	420,454	100.0%	420,454
2060	373,183,608	400,649,456	(27,465,848)	107.36%	2061	0	0.0%	430,966	100.0%	430,966
Total:						$229,924,950	33.0%	$466,600,034	67.0%	$696,524,984
Total Present Value at 6.80%:						$64,388,286	24.1%	$202,559,905	75.9%	266,948,191

Assumptions

Investment Return Assumption	6.80% per year
Actuarial Value of Assets	5-year smoothed market value
Payroll Growth Assumption	1.25% per year
Pension Liability Surtax Proceeds	5.97%, projected to increase 4.25% annually
Administrative Expenses	Projected to increase 2.5% annually

Projections are not a guarantee of future results. They are intended to serve as estimates of future financial outcomes that are based on assumptions about future experience and the information available at the time the modeling is undertaken and completed. Projected results will change if demographic or economic assumptions, or plan provisions, change in the future, or if the contributing employers make contributions other than expected.

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions, Actuarial Cost Method and Models

<table>
<tr><td>Rationale for Assumptions</td><td>The information and analysis used in selecting each demographic assumption that has a significant effect on this actuarial valuation is shown in the Experience Study Report for the five-year period ended September 30, 2017.</td></tr>
<tr><td>Net Investment Return:</td><td>6.80%.

The net investment return assumption was chosen by the Retirement System’s Board of Trustees with input from the actuary. The assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio’s asset classes as provided by Segal Marco Advisors, as well as the Plan’s target asset allocation.</td></tr>
<tr><td>Salary Increases (including inflation):</td><td>
<table>
<tr><th>Service</th><th>Rate (%)</th></tr>
<tr><td>0</td><td>7.50</td></tr>
<tr><td>1</td><td>6.50</td></tr>
<tr><td>2</td><td>6.00</td></tr>
<tr><td>3</td><td>5.50</td></tr>
<tr><td>4</td><td>5.25</td></tr>
<tr><td>5</td><td>5.00</td></tr>
<tr><td>6</td><td>4.50</td></tr>
<tr><td>7 - 10</td><td>4.00</td></tr>
<tr><td>11 - 14</td><td>3.75</td></tr>
<tr><td>15+</td><td>2.80</td></tr>
</table>
</td></tr>
<tr><td>Inflation Rate:</td><td>2.50%</td></tr>
<tr><td>Payroll Growth:</td><td>1.25% used for amortization of unfunded liability amounts, based on the requirement in the Florida Statutes that the assumption for this purpose may not exceed the average annual growth for the preceding ten years. Negotiated pay level increases and pay of DC Plan participants were taken into consideration in setting a payroll growth that is expected to be achieved and maintained on a ten-year average basis. The Fund’s long-term payroll growth assumption is equal to the inflation assumption of 2.50%.</td></tr>
</table>

Mortality Rates:

Healthy pre-retirement: FRS pre-retirement mortality tables for special risk personnel, set forward 2 years, projected generationally from 2010 with Scale MP2018

Healthy post-retirement: FRS healthy post-retirement mortality tables for special risk personnel, set forward 2 years, projected generationally from 2010 with Scale MP2018

Disabled: FRS disabled mortality tables for personnel other than special risk, with no set forward, projected generationally from 2010 with Scale MP2018

The FRS tables for special risk personnel, set forward 2 years, reasonably reflect the healthy annuitant mortality experience of the General Employees Retirement Plan as of the measurement date. The FRS disabled mortality tables for special risk personnel reasonably reflect the disabled annuitant mortality experience as of the measurement date.

Annuitant Mortality Rates:

	Rate (%)[1]			
	Healthy		Disabled	
Age	Male	Female	Male	Female
55	1.04	0.55	2.53	1.91
60	1.16	0.61	3.08	2.27
65	1.45	0.88	3.93	2.83
70	2.34	1.51	5.08	3.79
75	3.90	2.62	6.98	5.46
80	6.63	4.65	10.12	8.31
85	11.21	8.64	14.68	12.60
90	18.13	15.47	21.29	17.72

[1] Mortality rates shown for base table.

Termination Rates before Retirement:

	Rate (%)			
	Mortality[1]		Disability[2]	
Age	Male	Female	Male	Female
20	0.05	0.04	0.03	0.03
25	0.06	0.05	0.04	0.04
30	0.07	0.05	0.05	0.05
35	0.08	0.06	0.08	0.08
40	0.10	0.08	0.12	0.12
45	0.14	0.11	0.18	0.18
50	0.21	0.17	0.30	0.30
55	0.32	0.25	0.47	0.47
60	0.50	0.40	0.75	0.75
65	0.87	0.69	0.00	0.00

[1]Mortality rates shown for base table

[2]100% of disabilities are assumed to be non-service incurred.

Retirement Rates:

100% retirement assumed at age 65 with 5 years of service; for ages less than 65, retirement rate assumptions are based on service as follows:

Service	Rate (%)
Under 20	0%
20	50
21 – 24	40
25 – 27	50
28 & Over	100

Refund of Contributions:

95% of participants that are vested and terminate are assumed to take a refund of their employee contributions in lieu of their accrued benefit deferred to age 65.

Retirement Rates for Inactive Vested Participants:

65

Unknown Data for Participants:

Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.

Section 4: Actuarial Valuation Basis

Value of Applicable Tax Revenue:	Actual revenue of $93,742,144 for fiscal 2020 is used as the basis of the City's revenue projection. This amount is prior to application of the allocation percentage.
Tax Revenue Growth Rate:	4.25%. This assumption is determined by the City. Segal has not reviewed the information used to set this assumption, but Segal previously reviewed the sensitivity of this assumption when it was initially set.
Projected Tax Revenue Allocation:	5.97%. This percentage is determined by the City; last year's percentage was 6.17%.
Administrative Expenses:	Previous year's actual expenses; $153,000 for October 1, 2020.
Family Composition:	60% of participants are assumed to be married. None are assumed to have dependent children. Females are assumed to be three years younger than their spouses.
Actuarial Value of Assets:	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected market return, and is recognized over a five - year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis based on each member's benefit accrual rate and are allocated by compensation. Normal Cost is not included for participants who are assumed to retire with 100% certainty in the upcoming plan year based on the retirement assumptions.
Justification for Change in Actuarial Assumptions and Methods:	Following ongoing board review of discount rate options: ➤ The discount rate was lowered from 6.90% to 6.80%.

Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	October 1 through September 30	
Plan Status:	Closed as of September 30, 2017	
Normal Retirement:	*Age Requirement*	Age 65 with five years of Credited Service or any age with 20 years of Credited Service.
	Regular Benefit Amount	3.0% of Final Monthly Compensation times years of Credited Service for the first 20 years plus 2.0% of Final Monthly Compensation times years of Credited Service for years in excess of 20. However, the benefit may not exceed 80% of Final Monthly Compensation.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Early Retirement:	None	
Service-Incurred Disability:	*Age Requirement*	None
	Service Requirement	None
	Regular Benefit Amount	50% of the average salary earned in the last three years immediately preceding disability retirement.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Non-service Incurred Disability:	*Age Requirement*	None
	Service Requirement	5 years of Credited Service
	Regular Benefit Amount	25% percent of the average salary earned in the last three years immediately preceding disability retirement. For each year of service in excess of 5 years, the benefit shall be increased 2.5%, to a maximum of 50%.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month.

	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Vesting:	*Age Requirement*	None
	Service Requirement	5 years of Credited Service
	Regular Benefit Amount	Accrued Normal Retirement Benefit payable at age 65.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Credited Service, not less than $25 per month or more than $150 per month. Payable at Age 65.
	Minimum Benefit Amount	$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Spouse's Pre-Retirement Death Benefit:	*Age Requirement*	None
	Service Requirement	None
	Regular Benefit Amount	If the Member is eligible for retirement, the surviving spouse is entitled to 75% of the member's accrued retirement benefit. If the Member is not eligible for retirement, the surviving spouse is entitled to 75% of the pension the Member would have received if the Member had worked to eligibility for Normal Retirement at current salary, using a 2% annual accrual rate.
	Supplemental Benefit Amount	Monthly benefit of $5 times years of Member's Credited Service, not less than $25 per month or more than $150 per month.
	Minimum Benefit Amount	75% of $69.31 per whole year of Member's Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1st.
Spouse's Post-Retirement Death Benefit:	*Regular Benefit Amount*	Surviving spouse is entitled to 75% of the Member's regular benefit.
	Supplemental Benefit Amount	Surviving spouse is entitled to 100% of the Member's supplemental benefit.
	Minimum Benefit Amount	75% of the Member's Minimum Benefit Amount at retirement.
Member:	All City Corrections Officers hired prior to October 1, 2017.	
Member Contributions:	10% of Earnable Compensation, additional 2% of Earnable Compensation during DROP participation.	
Credited Service:	The number of full years and months worked from date of participation to date of termination or retirement, plus any prior service purchased.	
Final Monthly Compensation:	Average monthly rate of Earnable Compensation during the highest 36 consecutive months (78 pay periods) out of the last ten years of employment.	
Earnable Compensation:	Base pay for regular hours worked as an employee, plus service raises and excluding bonuses, adjusted compensation, overtime or any extra compensation over and above regularly budgeted salaries.	

Cost of Living Adjustment:	On the December 1st after the initial benefit commencement date, and on each December 1st thereafter, the regular benefit is increased by 3%.
DROP:	Members with 20 or more years of service may elect to defer receipt of their retirement benefits while continuing employment with the City for up to 5 years. Upon the effective date of participating in the DROP, a member's years of service and Final Monthly Compensation become frozen for purposes of determining pension benefits. Additional service beyond the date of DROP participation no longer accrues any additional benefits under the Retirement System. Benefits that would have been payable are accumulated at interest to date of termination and paid or rolled over in a single sum, and payments are made directly to the Member thereafter based on the accrued retirement benefit at the DROP start date. COLA increases start at termination of employment rather than at the start of the DROP.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.

Monthly Investment Performance Analysis

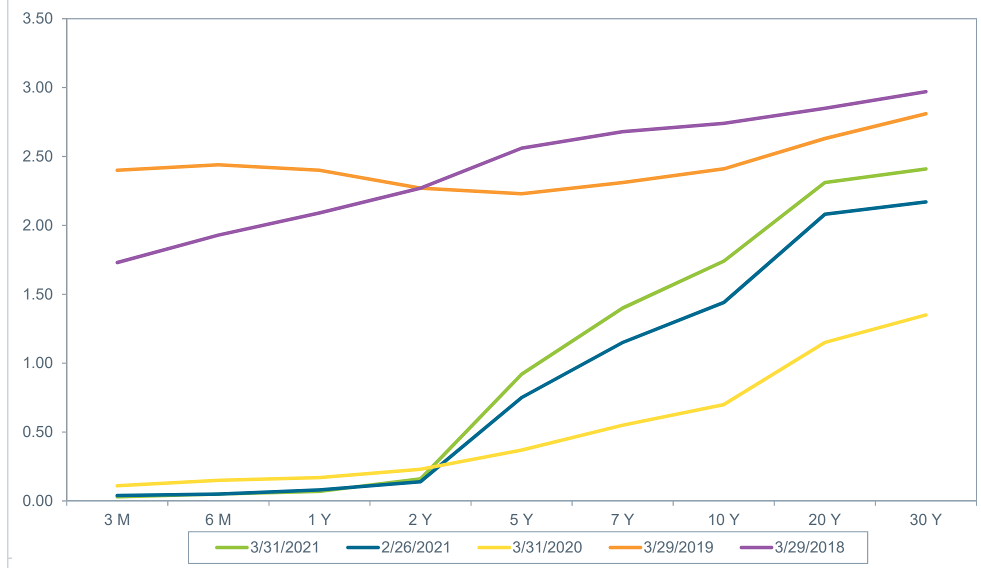
City of Jacksonville Employees' Retirement System

Period Ended: March 31, 2021

General Market Commentary

- Global equity markets continued their strong performance in March, led by positive economic data and increasing investor confidence. All major indices posted low to mid-single digit returns, with value indices continuing to outperform their growth counterparts.
- International indices pulled back in the latter half of the month, due to a spike in new COVID-19 cases. As a result, several EU countries have decided to reintroduce lockdown measures to attempt to limit the spread of the virus.
- Once again, the Federal Reserve reiterated it will continue with its policy of near-zero interest rates and maintain the current pace of asset purchases designed to stimulate the economy. Fed Chairman Powell did, however, convey increased expectations for economic activity and employment going forward, as well as increased inflation estimates, although not enough to warrant a policy change. The FOMC now predicts GDP to grow 6.5% in 2021, compared to the 4.2% forecast that was stated at the December 2020 meeting. Additionally, the FOMC estimates unemployment will fall to 4.5% by the end of the year, and expects core inflation in 2021 to be 2.2%, with long run expectations still at 2%.
- Equity markets posted positive returns in March as the S&P 500 (Cap Wtd) Index returned 4.38% and the MSCI EAFE (Net) Index returned 2.30%. Emerging markets returned -1.51% as measured by the MSCI EM (Net) Index.
- The Bloomberg US Aggregate Bond Index returned -1.25% in March, underperforming the -0.69% return by the Bloomberg US Treasury Intermediate Term Index. International fixed income markets returned -2.59%, as measured by the FTSE Non-US World Gov't Bond Index.
- Public real estate, as measured by the FTSE NAREIT Eq REITs Index (TR), returned 4.57% in March and 5.33% over the trailing five-year period.
- The Cambridge US Private Equity Index returned 12.62% for the trailing one-year period and 12.87% for the trailing five-year period ending September 2020.
- Absolute return strategies, as measured by the HFRI FOF Comp Index, returned -0.28% for the month and 23.82% over the trailing one-year period.
- Crude oil's price fell by 3.80% during the month, but has increased by 188.87% YoY.

Treasury Yield Curve (%)



Economic Indicators	Mar-21		Feb-21	Mar-20	10 Yr	20 Yr
Federal Funds Rate (%)	0.06	▼	0.07	0.08	0.63	1.42
Breakeven Inflation - 5 Year (%)	2.60	▲	2.42	0.53	1.73	1.83
Breakeven Inflation - 10 Year (%)	2.37	▲	2.15	0.93	1.93	2.01
Breakeven Inflation - 30 Year (%)	2.31	▲	2.11	1.25	2.05	2.24
Bloomberg US Agg Bond Index - Yield (%)	1.61	▲	1.42	1.59	2.31	3.45
Bloomberg US Agg Bond Index - OAS (%)	0.31	▼	0.34	0.95	0.52	0.62
Bloomberg US Agg Credit Index - OAS (%)	0.86	—	0.86	2.55	1.29	1.44
Bloomberg US Corp: HY Index - OAS (%)	3.10	▼	3.26	8.80	4.70	5.38
Capacity Utilization (%)	74.39	▲	73.36	73.56	76.54	76.56
Unemployment Rate (%)	6.0	▼	6.2	4.4	6.0	6.1
PMI - Manufacturing (%)	64.7	▲	60.8	49.7	53.9	52.9
Baltic Dry Index - Shipping	2,046	▲	1,675	1,366	1,118	2,302
Consumer Conf (Conf Board)	109.70	▲	90.40	118.80	96.76	90.35
CPI YoY (Headline) (%)	2.6	▲	1.7	1.5	1.7	2.1
CPI YoY (Core) (%)	1.6	▲	1.3	2.1	1.9	2.0
PPI YoY (%)	5.9	▲	2.4	-1.5	1.2	2.0
M2 YoY (%)	N/A	N/A	27.1	10.2	7.9	7.0
US Dollar Total Weighted Index	114.13	▲	113.11	122.82	105.42	103.22
WTI Crude Oil per Barrel ($)	59	▼	62	20	68	63
Gold Spot per Oz ($)	1,708	▼	1,734	1,577	1,412	1,028

Treasury Yield Curve (%)	Mar-21	Feb-21	Mar-20	Mar-19	Mar-18
3 Month	0.03	0.04	0.11	2.40	1.73
6 Month	0.05	0.05	0.15	2.44	1.93
1 Year	0.07	0.08	0.17	2.40	2.09
2 Year	0.16	0.14	0.23	2.27	2.27
5 Year	0.92	0.75	0.37	2.23	2.56
7 Year	1.40	1.15	0.55	2.31	2.68
10 Year	1.74	1.44	0.70	2.41	2.74
20 Year	2.31	2.08	1.15	2.63	2.85
30 Year	2.41	2.17	1.35	2.81	2.97

Market Performance (%)	MTD	QTD	CYTD	1 Yr	3 Yr	5 Yr	7 Yr	10 Yr
S&P 500 (Cap Wtd)	4.38	6.17	6.17	56.35	16.78	16.29	13.59	13.91
Russell 2000	1.00	12.70	12.70	94.85	14.76	16.35	11.05	11.68
MSCI EAFE (Net)	2.30	3.48	3.48	44.57	6.02	8.85	4.80	5.52
MSCI EAFE SC (Net)	2.19	4.50	4.50	61.98	6.32	10.50	7.42	8.01
MSCI EM (Net)	-1.51	2.29	2.29	58.39	6.48	12.07	6.58	3.65
Bloomberg US Agg Bond	-1.25	-3.38	-3.38	0.71	4.65	3.10	3.31	3.44
ICE BofAML 3 Mo US T-Bill	0.01	0.02	0.02	0.12	1.49	1.19	0.87	0.63
NCREIF ODCE (Gross)	2.09	2.09	2.09	2.30	4.88	6.19	8.25	9.67
FTSE NAREIT Eq REITs Index (TR)	4.57	8.87	8.87	37.78	9.45	5.33	7.68	8.56
HFRI FOF Comp Index	-0.28	1.86	1.86	23.82	5.43	5.61	3.87	3.42
Bloomberg Cmdty Index (TR)	-2.15	6.92	6.92	35.04	-0.20	2.31	-5.81	-6.28

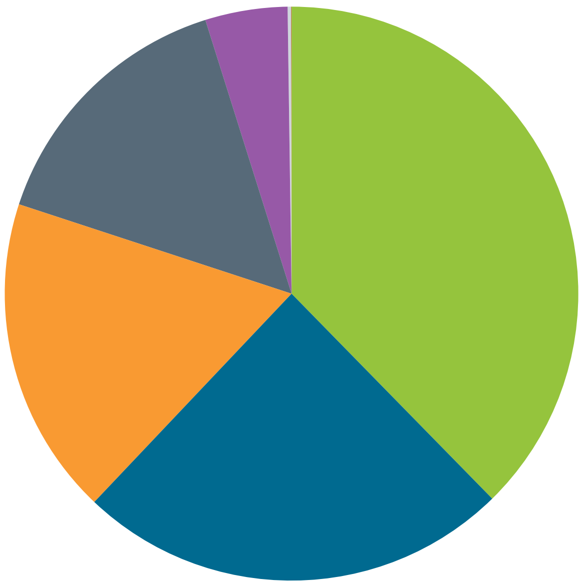
NCREIF performance is reported quarterly; MTD and QTD returns are shown as "N/A" on interim-quarter months and until available. Data shown is as of most recent quarter-end.
Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service.

As of March 31, 2021

Asset Allocation by Asset Class, Asset Allocation vs. Target, and Schedule of Investable Assets

Asset Allocation by Asset Class

March 31, 2021 : $2,572,837,793

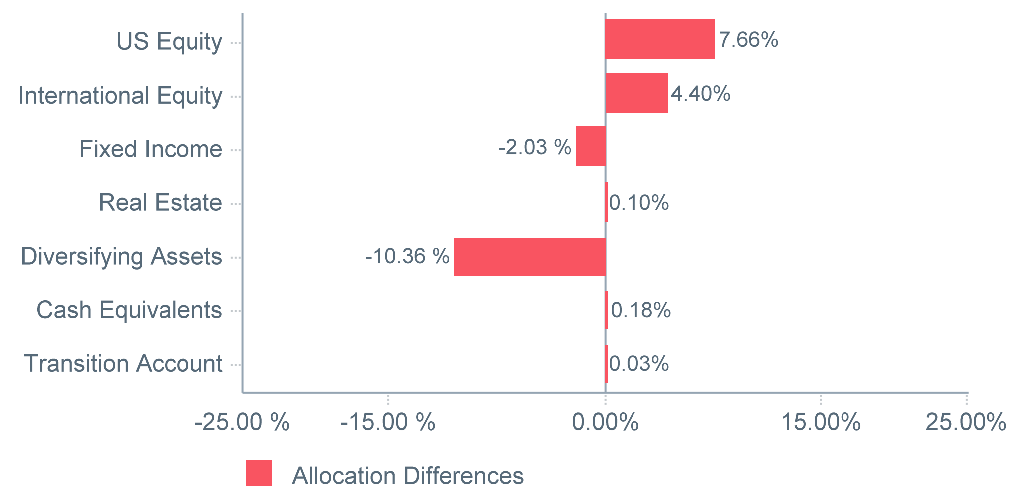


	Market Value ($)	Allocation (%)
US Equity	969,050,334	37.66
International Equity	627,846,413	24.40
Fixed Income	462,338,764	17.97
Real Estate	388,604,975	15.10
Diversifying Assets	119,390,416	4.64
Cash Equivalents	4,716,808	0.18
Transition Account	890,083	0.03

Asset Allocation vs. Target Allocation

	Market Value ($)	Allocation (%)	Min (%)	Target (%)	Max (%)
Total Fund	**2,572,837,793**	**100.00**	**-**	**100.00**	**-**
US Equity	969,050,334	37.66	20.00	30.00	40.00
International Equity	627,846,413	24.40	10.00	20.00	25.00
Fixed Income	462,338,764	17.97	10.00	20.00	30.00
Real Estate	388,604,975	15.10	0.00	15.00	20.00
Diversifying Assets	119,390,416	4.64	0.00	15.00	20.00
Cash Equivalents	4,716,808	0.18	0.00	0.00	10.00
Transition Account	890,083	0.03	0.00	0.00	0.00

Asset Allocation vs. Target Allocation Differences

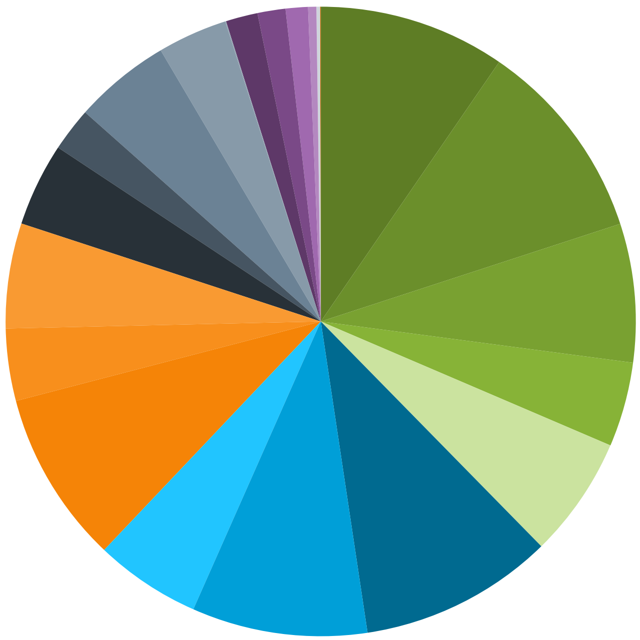


Schedule of Investable Assets

Periods Ending	Beginning Market Value ($)	Net Cash Flow ($)	Gain/Loss ($)	Ending Market Value ($)	% Return
CYTD	**2,469,519,078**	**406,371**	**102,912,344**	**2,572,837,793**	**4.17**

Market values and performance shown are preliminary and subject to change. Performance shown is net of fees. Allocations shown may not sum up to 100% exactly due to rounding.

March 31, 2021 : $2,572,837,793



	Market Value ($)	Allocation (%)
Eagle Capital Large Cap Value (SA)	246,552,383	9.58
Mellon Large Cap Core Index (CF)	267,594,871	10.40
Loomis Sayles Large Cap Growth (CF)	182,904,736	7.11
Mellon Small Cap Value Index (CF)	111,804,045	4.35
William Blair Small Cap Value (SA)	84,975	0.00
Pinnacle Associates US SMID Cap Growth (SA)	160,109,324	6.22
Silchester International Value (CF)	256,296,248	9.96
Baillie Gifford International Growth (BGEFX)	231,498,763	9.00
Acadian Emerging Markets (CF)	140,051,402	5.44
Baird Core Fixed Income (SA)	228,119,974	8.87
Franklin Templeton Global Multisector Plus (CF)	95,444,559	3.71
Loomis Sayles Multisector Full Discretion (CF)	138,774,231	5.39
Harrison Street Core Property, LP	110,079,613	4.28
PGIM Real Estate PRISA II LP (CF)	57,660,857	2.24
Principal US Property (CF)	127,575,454	4.96
UBS Trumbull Property (CF)	92,096,444	3.58
Vanguard RE Idx;ETF (VNQ)	1,192,607	0.05
Harvest Fund Advisors MLP (SA)	42,019,872	1.63
Tortoise Capital Advisors MLP (SA)	36,932,195	1.44
Hancock Timberland (SA)	29,451,268	1.14
Adams Street Private Equity (SA)	10,745,392	0.42
Hamilton Lane Private Credit (SA)	241,688	0.01
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	4,716,808	0.18
Transition Account	890,083	0.03

Market values shown are preliminary and subject to change. Allocations shown may not sum up to 100% exactly due to rounding. During March 2021, William Blair Small Cap Value (SA) was terminated and Mellon Small Cap Value Index (CF) was funded with the proceeds. Market value shown for William Blair Small Cap Value (SA) represents residual cash. Additionally, Hamilton Lane issued its first capital call.

RVK

City of Jacksonville Employees' Retirement System
Asset Allocation & Performance (Net of Fees)

As of March 31, 2021

	Allocation		Performance (%)										
	Market Value ($)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Total Fund	**2,572,837,793**	**100.00**	**1.17**	**4.17**	**4.17**	**15.91**	**35.88**	**8.75**	**10.16**	**7.83**	**8.70**	**6.71**	**07/01/1999**
Current Total Fund Policy Index			2.06	4.28	4.28	14.98	35.77	8.59	9.11	7.33	8.12	6.14	
Difference			-0.89	-0.11	-0.11	0.93	0.11	0.16	1.05	0.50	0.58	0.57	
Total Equity	**1,596,896,747**	**62.07**	**1.77**	**6.60**	**6.60**	**26.02**	**63.61**	**13.24**	**15.03**	**11.00**	**11.32**	**7.17**	**07/01/1999**
US Equity	**969,050,334**	**37.66**	**3.04**	**8.43**	**8.43**	**28.25**	**67.28**	**16.81**	**16.39**	**12.81**	**13.15**	**7.67**	**07/01/1999**
US Equity Index			3.58	6.35	6.35	21.96	62.53	17.12	16.64	13.44	13.79	7.56	
Difference			-0.54	2.08	2.08	6.29	4.75	-0.31	-0.25	-0.63	-0.64	0.11	
International Equity	**627,846,413**	**24.40**	**-0.14**	**3.90**	**3.90**	**22.73**	**58.21**	**7.84**	**12.87**	**7.87**	**8.00**	**6.75**	**07/01/1999**
International Equity Index			1.26	3.49	3.49	21.10	49.41	6.51	9.76	5.26	4.93	4.54	
Difference			-1.40	0.41	0.41	1.63	8.80	1.33	3.11	2.61	3.07	2.21	
Fixed Income	**462,338,764**	**17.97**	**-1.04**	**-2.49**	**-2.49**	**-0.98**	**4.36**	**3.14**	**3.36**	**2.69**	**3.44**	**5.11**	**07/01/1999**
Fixed Income Index			-1.16	-3.05	-3.05	-1.80	2.95	4.86	3.23	3.40	3.50	4.86	
Difference			0.12	0.56	0.56	0.82	1.41	-1.72	0.13	-0.71	-0.06	0.25	
Real Estate	**388,604,975**	**15.10**	**0.51**	**1.38**	**1.38**	**1.43**	**0.20**	**3.64**	**5.17**	**6.95**	**7.59**	**5.33**	**12/01/2005**
NCREIF ODCE Index (AWA) (Net)			1.91	1.91	1.91	3.03	1.50	3.97	5.26	7.29	8.68	5.79	
Difference			-1.40	-0.53	-0.53	-1.60	-1.30	-0.33	-0.09	-0.34	-1.09	-0.46	
Diversifying Assets	**119,390,416**	**4.64**	**4.40**	**11.43**	**11.43**	**25.99**	**38.54**	**0.66**	**2.39**	**-0.69**	**4.56**	**4.59**	**03/01/2011**
Diversifying Assets Index			4.52	13.81	13.81	29.50	53.17	0.01	1.45	-1.02	2.37	2.38	
Difference			-0.12	-2.38	-2.38	-3.51	-14.63	0.65	0.94	0.33	2.19	2.21	

Market values and performance shown are preliminary and subject to change. Performance shown is net of fees and is annualized for periods greater than one year. Allocations may not sum up to 100% due to the exclusion of managers in liquidation. Please see the addendum for custom benchmark definitions. Fiscal year for the COJ ends 09/30. Performance for Harrison Street Core Property, LP, PGIM Real Estate PRISA II LP (CF), UBS Trumbull Property (CF), NCREIF ODCE Index (AWA) (Net), NCREIF Timberland Index, and Adams Street, LP is available quarterly; interim months assume a 0.00% return. Asset Valuations for Real Estate and Diversifying Assets are lagged/unlagged as reported by the System's book of record, BNY Mellon.

RVK

	Allocation		Performance (%)										
	Market Value ($)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Equity													
Eagle Capital Large Cap Value (SA)	**246,552,383**	**9.58**	**4.47**	**10.89**	**10.89**	**33.19**	**67.73**	**16.46**	**17.53**	**13.51**	**14.43**	**11.55**	**02/01/2007**
Russell 1000 Val Index			5.88	11.26	11.26	29.34	56.09	10.96	11.74	9.40	10.99	6.97	
Difference			-1.41	-0.37	-0.37	3.85	11.64	5.50	5.79	4.11	3.44	4.58	
Mellon Large Cap Core Index (CF)	**267,594,871**	**10.40**	**3.78**	**5.90**	**5.90**	**20.30**	**60.36**	**N/A**	**N/A**	**N/A**	**N/A**	**19.95**	**05/01/2019**
Russell 1000 Index			3.78	5.91	5.91	20.41	60.59	17.31	16.66	13.64	13.97	20.06	
Difference			0.00	-0.01	-0.01	-0.11	-0.23	N/A	N/A	N/A	N/A	-0.11	
Loomis Sayles Large Cap Growth (CF)	**182,904,736**	**7.11**	**2.91**	**3.05**	**3.05**	**12.02**	**53.78**	**20.48**	**N/A**	**N/A**	**N/A**	**20.00**	**08/01/2017**
Russell 1000 Grth Index			1.72	0.94	0.94	12.44	62.74	22.80	21.05	17.50	16.63	22.26	
Difference			1.19	2.11	2.11	-0.42	-8.96	-2.32	N/A	N/A	N/A	-2.26	
Mellon Small Cap Value Index (CF)	**111,804,045**	**4.35**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**04/01/2021**
Russell 2000 Val Index			5.23	21.17	21.17	61.59	97.05	11.57	13.56	8.93	10.06	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Pinnacle Associates US SMID Cap Growth (SA)	**160,109,324**	**6.22**	**-1.00**	**11.43**	**11.43**	**48.23**	**104.14**	**22.81**	**20.75**	**14.25**	**14.22**	**16.54**	**03/01/2010**
Russell 2500 Grth Index			-3.34	2.49	2.49	29.02	87.50	19.96	19.91	14.32	14.21	16.24	
Difference			2.34	8.94	8.94	19.21	16.64	2.85	0.84	-0.07	0.01	0.30	
International Equity													
Silchester International Value (CF)	**256,296,248**	**9.96**	**3.32**	**8.77**	**8.77**	**25.29**	**42.83**	**3.28**	**8.26**	**5.57**	**7.74**	**9.60**	**06/01/2009**
MSCI EAFE Val Index (USD) (Net)			3.37	7.44	7.44	28.08	45.71	1.85	6.57	2.19	3.65	5.45	
Difference			-0.05	1.33	1.33	-2.79	-2.88	1.43	1.69	3.38	4.09	4.15	
Baillie Gifford International Growth (BGEFX)	**231,498,763**	**9.00**	**-4.05**	**-2.64**	**-2.64**	**17.67**	**84.69**	**19.53**	**22.62**	**13.58**	**12.21**	**14.23**	**06/01/2009**
Baillie Gifford Index			-0.32	-0.08	-0.08	13.83	49.36	10.31	11.25	7.49	7.41	9.25	
Difference			-3.73	-2.56	-2.56	3.84	35.33	9.22	11.37	6.09	4.80	4.98	
Baillie Gifford Spliced Index			1.26	3.49	3.49	21.10	49.41	7.32	9.65	5.35	5.91	7.68	
Difference			-5.31	-6.13	-6.13	-3.43	35.28	12.21	12.97	8.23	6.30	6.55	
Acadian Emerging Markets (CF)	**140,051,402**	**5.44**	**0.46**	**7.00**	**7.00**	**26.93**	**58.00**	**3.60**	**10.98**	**5.82**	**3.78**	**4.28**	**02/01/2011**
MSCI Emg Mkts Index (USD) (Net)			-1.51	2.29	2.29	22.43	58.39	6.48	12.07	6.58	3.65	4.08	
Difference			1.97	4.71	4.71	4.50	-0.39	-2.88	-1.09	-0.76	0.13	0.20	

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	Allocation		Performance (%)										
	Market Value ($)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income													
Baird Core Fixed Income (SA)	**228,119,974**	**8.87**	**-1.14**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**-1.14**	**03/01/2021**
Bloomberg US Agg Bond Index			-1.25	-3.38	-3.38	-2.73	0.71	4.65	3.10	3.31	3.44	-1.25	
Difference			0.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.11	
Franklin Templeton Global Multisector Plus (CF)	**95,444,559**	**3.71**	**-1.19**	**-3.22**	**-3.22**	**-1.53**	**-1.20**	**-3.45**	**0.52**	**-0.60**	**1.46**	**4.94**	**09/01/2007**
Frank. Temp. Global Multisector Index			-1.89	-4.34	-4.34	-0.97	5.46	2.85	2.89	2.12	2.39	3.61	
Difference			0.70	1.12	1.12	-0.56	-6.66	-6.30	-2.37	-2.72	-0.93	1.33	
Loomis Sayles Multisector Full Discretion (CF)	**138,774,231**	**5.39**	**-0.74**	**-2.52**	**-2.52**	**1.53**	**14.75**	**6.90**	**7.23**	**5.33**	**6.24**	**6.81**	**10/01/2007**
Bloomberg Gbl Agg Bond Index			-1.92	-4.46	-4.46	-1.32	4.67	2.80	2.66	2.00	2.23	3.26	
Difference			1.18	1.94	1.94	2.85	10.08	4.10	4.57	3.33	4.01	3.55	
Real Estate													
Harrison Street Core Property, LP	**110,079,613**	**4.28**	**0.00**	**1.26**	**1.26**	**1.26**	**2.50**	**5.99**	**7.33**	**N/A**	**N/A**	**7.00**	**11/01/2015**
NCREIF ODCE Index (AWA) (Net)			1.91	1.91	1.91	3.03	1.50	3.97	5.26	7.29	8.68	5.82	
Difference			-1.91	-0.65	-0.65	-1.77	1.00	2.02	2.07	N/A	N/A	1.18	
PGIM Real Estate PRISA II LP (CF)	**57,660,857**	**2.24**	**0.00**	**1.41**	**1.41**	**1.41**	**-1.20**	**4.71**	**5.97**	**N/A**	**N/A**	**7.23**	**01/01/2015**
NCREIF ODCE Index (AWA) (Net)			1.91	1.91	1.91	3.03	1.50	3.97	5.26	7.29	8.68	6.72	
Difference			-1.91	-0.50	-0.50	-1.62	-2.70	0.74	0.71	N/A	N/A	0.51	
Principal US Property (CF)	**127,575,454**	**4.96**	**1.54**	**2.45**	**2.45**	**4.20**	**2.79**	**5.16**	**6.57**	**8.44**	**N/A**	**8.45**	**01/01/2014**
NCREIF ODCE Index (AWA) (Net)			1.91	1.91	1.91	3.03	1.50	3.97	5.26	7.29	8.68	7.36	
Difference			-0.37	0.54	0.54	1.17	1.29	1.19	1.31	1.15	N/A	1.09	
UBS Trumbull Property (CF)	**92,096,444**	**3.58**	**0.00**	**0.00**	**0.00**	**-2.08**	**-5.00**	**-1.19**	**1.46**	**4.08**	**5.76**	**4.40**	**12/01/2005**
NCREIF ODCE Index (AWA) (Net)			1.91	1.91	1.91	3.03	1.50	3.97	5.26	7.29	8.68	5.79	
Difference			-1.91	-1.91	-1.91	-5.11	-6.50	-5.16	-3.80	-3.21	-2.92	-1.39	
Vanguard RE Idx;ETF (VNQ)	**1,192,607**	**0.05**	**5.13**	**8.76**	**8.76**	**18.84**	**36.64**	**11.01**	**6.01**	**8.08**	**8.63**	**13.06**	**12/01/2008**
Custom REITs Index			5.15	8.73	8.73	18.82	36.68	11.62	6.53	8.52	9.15	13.88	
Difference			-0.02	0.03	0.03	0.02	-0.04	-0.61	-0.52	-0.44	-0.52	-0.82	

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	Allocation		Performance (%)										
	Market Value ($)	%	MTD	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Diversifying Assets													
Harvest Fund Advisors MLP (SA)	**42,019,872**	**1.63**	**6.73**	**18.37**	**18.37**	**45.20**	**73.91**	**-1.66**	**0.68**	**-4.17**	**3.15**	**3.37**	**03/01/2011**
S&P MLP Index (TR)			4.95	20.43	20.43	55.63	94.46	-2.32	0.45	-5.93	-0.21	-0.23	
Difference			1.78	-2.06	-2.06	-10.43	-20.55	0.66	0.23	1.76	3.36	3.60	
Tortoise Capital Advisors MLP (SA)	**36,932,195**	**1.44**	**6.65**	**17.31**	**17.31**	**42.82**	**59.19**	**-5.75**	**-2.16**	**-6.03**	**1.46**	**1.34**	**03/01/2011**
Tortoise Spliced Index			7.85	20.88	20.88	45.24	88.66	-3.30	-0.16	-6.34	-0.52	-0.53	
Difference			-1.20	-3.57	-3.57	-2.42	-29.47	-2.45	-2.00	0.31	1.98	1.87	
Hancock Timberland (SA)	**29,451,268**	**1.14**	**0.00**	**0.00**	**0.00**	**3.84**	**10.12**	**6.80**	**7.36**	**6.61**	**6.24**	**3.85**	**10/01/2006**
NCREIF Timberland Index			0.00	0.00	0.00	0.58	0.70	1.46	2.36	3.58	4.47	5.07	
Difference			0.00	0.00	0.00	3.26	9.42	5.34	5.00	3.03	1.77	-1.22	
Adams Street Private Equity (SA)	**10,745,392**	**0.42**	**0.00**	**0.00**	**0.00**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**0.00**	**11/01/2020**
S&P 500 Index+3%			4.64	6.96	6.96	20.85	61.04	20.28	19.78	17.00	17.33	23.84	
Difference			-4.64	-6.96	-6.96	N/A	N/A	N/A	N/A	N/A	N/A	-23.84	
Hamilton Lane Private Credit (SA)	**241,688**	**0.01**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**03/01/2021**
ICE BofAML Gbl Hi Yld Index +2%			-0.44	0.41	0.41	8.50	28.18	8.06	9.78	6.99	8.22	-0.44	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Dreyfus Gvt Csh Mgt;Inst (DGCXX)	**4,716,808**	**0.18**	**0.00**	**0.01**	**0.01**	**0.01**	**0.06**	**1.38**	**1.12**	**0.84**	**0.61**	**1.36**	**04/01/2001**
FTSE 3 Mo T-Bill Index			0.01	0.02	0.02	0.04	0.21	1.45	1.15	0.84	0.60	1.36	
Difference			-0.01	-0.01	-0.01	-0.03	-0.15	-0.07	-0.03	0.00	0.01	0.00	

Private equity funds tend to underperform in the early stages of their maturity; returns tend to improve as funds mature.

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Performance Related Comments:

- Performance is annualized for periods greater than one year.
- Performance and market values shown are preliminary and subject to change.
- The inception date shown indicates the first full month of performance following initial funding.
- The market value shown for the Transition Account includes residual assets from terminated managers.
- RVK began monitoring the assets of the City of Jacksonville Retirement System on 01/01/2019. Prior historical data was provided by the custodian and previous consultant.
- Franklin Templeton Global Multisector Plus (CF) performance prior to 03/2016 is represented by Templeton Global Total Return (SICAV).

Custom Composite Benchmark Comments:

- **Current Total Fund Policy Index**: The passive Current Total Fund Policy Index is calculated monthly and currently consists of 30% Russell 3000 Index, 20% MSCI ACW Ex US Index (USD) (Net), 20% Fixed Income Index, 15% NCREIF ODCE Index (AWA) (Net), and 15% Diversifying Assets Index. Prior to 11/01/2017, the Current Total Fund Policy Index consists of the Legacy Total Fund Policy Index.
- **Legacy Total Fund Policy Index**: The passive Legacy Total Fund Policy Index is calculated monthly and currently consists of 35% Russell 3000 Index, 20% MSCI ACW Ex US Index (USD) (Net), 19% Fixed Income Index, 15% NCREIF ODCE Index (AWA) (Net), 10% Diversifying Assets Index, and 1% FTSE 3 Mo US T-Bill Index.
- **US Equity Index**: The passive US Equity Index consists of 100% DJ US TSM Index through 06/2009 and 100% Russell 3000 Index thereafter.
- **International Equity Index**: The passive International Equity Index consists of 100% MSCI EAFE Index (USD) (Gross) through 01/2011 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- **Fixed Income Index**: The passive Fixed Income Index consists of 100% Bloomberg US Agg Bond Index through 10/2017 and 100% Bloomberg US Universal Bond Index thereafter.
- **Diversifying Assets Index**: The active Diversifying Assets Index is calculated monthly using beginning of month investment weights applied to each corresponding primary benchmark return. Prior to 10/01/2020, the Diversifying Assets Index consist of 67% S&P MLP Index (TR)/33% NCREIF Timberland Index. Prior to 11/01/2017, the Diversifying Assets Index consist 50% S&P MLP Index (TR)/50% NCREIF Timberland Index.

Custom Manager Benchmark Comments:

- **Baillie Gifford Index**: The passive Baillie Gifford Index consists of 100% MSCI EAFE Grth Index (USD) (Net) through 10/2017 and 100% MSCI ACW Ex US Grth Index (USD) (Net) thereafter.
- **Baillie Gifford Spliced Index**: The passive Baillie Gifford Spliced Index consists of 100% MSCI EAFE Index (USD) (Net) through 11/2019 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- **Frank. Temp. Global Multisector Index**: The passive Frank. Temp. Global Multisector Index consists of 100% ICE BofAML Gbl Hi Yld Index through 12/2009 and 100% Bloomberg Multiverse Index thereafter.

- **Custom REITs Index**: The passive Custom REITs Index consists of 100% MSCI US REIT Index (USD) (Gross) through 01/2019 and 100% Vanguard Spl Real Estate Index thereafter.
- **Vanguard Spliced Real Estate Index**: The Vanguard Spl Real Estate Index consists of MSCI US REIT Index (USD) (Gross) adjusted to include a 2% cash position (Lipper Money Market Average) through 04/30/2009, MSCI US REIT Index (USD) (Gross) through 01/31/2018, MSCI US IM Real Estate 25/50 Transition Index through 07/24/2018, and MSCI US IM Real Estate 25/50 Index (Gross) thereafter.
- **Tortoise Spliced Index**: The passive Tortoise Spliced Index consists of 100% S&P MLP Index (TR) through 07/2020 and 100% Alerian Midstream Energy Index thereafter.

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Employee Communications

Employee Communication	Audience	Method	Target Date	Actual Date	Comments
General Information and FAQs for CITY/JHA	All GEPP Active Members	E-mail, Web	3/11/2021	3/11/2021	Post to pension portal, COJ websites. COJ intranet, JEA TBD based on union negotiations
General Information and FAQs for JEA	All GEPP Active Members	E-mail, Web	3/19/2021	3/15/2021	
Estimated LRO Benefits for CITY/JHA Employees	LRO Eligible CITY/JHA Employees	Mail, Portal	4/1/2021	3/30/2021	ESTIMATED benefit options provided for April 10, 2021 or earliest eligible date using end of pay-period
CITY Employee Q&A Meetings	LRO Eligible CITY/JHA Employees	Zoom/in person	4/6/2021-4/7/2021	4/6/2021-4/7/2021	
Estimated LRO Benefits for JEA Employees	LRO Eligible JEA Employees	Mail, Portal	5/1/2021		ESTIMATED benefit options will be provided for May 8, 2021 or earliest eligible date using end of pay-period
JEA Employee Q&A Meetings	LRO Eligible JEA Employees	WebEx/in person	Early May		
DEADLINE Reminder E-mail for CITY/JHA Employees	LRO Eligible CITY/JHA Employees	E-mail	5/17/2021		
Election Window CLOSES for CITY/JHA Employees	LRO Eligible CITY/JHA Employees	Portal	5/31/2021		
DEADLINE Reminder E-mail for JEA Employees	LRO Eligible JEA Employees	E-mail	6/14/2021		
Election Window CLOSES for JEA Employees	LRO Eligible JEA Employees	Portal	6/30/2021		

Employees that elect the LRO receive confirmation notices of their elections. Employees also receive final calculations and applications following their election (up through the end the October based on retirement dates).

2020-529
2021 Limited Retirement Option
UPDATED 4/19/2021

LRO Active Member Populations

Employer	Eligible	Elected LRO	Elected %	Deadline to Elect
CITY	462	31	6.7%	May 31, 2021
JHA	17	1	5.9%	May 31, 2021
JEA	TBD	0	NA	June 30, 2021
TOTAL	**479**	**32**	**6.7%**	**June 30, 2021**

LRO Eligibility Categories

Category	Eligible	Eligible %	Elected LRO	Elected %
20+ Years of Service (Any Age)	102	21%	10	31%
10+ Years of Service (Age 55+)	335	70%	17	53%
5+ Years of Service (Age 60+)	38	9%	5	16%
TOTAL	**479**	**100%**	**32**	**100%**

LRO Pension Benefit Election

Election	Elected LRO	%
Regular Pension (Maximum Monthly Benefit)	11	34%
Reduced Pension with 5% PLOP	4	13%
Reduced Pension with 10% PLOP	3	9%
Reduced Pension with 15% PLOP	8	25%
DB to DC Transfer	6	19%
TOTAL	**32**	**100%**