

City of Jacksonville General Employees Retirement Plan

Actuarial Valuation and Review as of October 1, 2020



This report has been prepared at the request of the Board of Trustees to assist in administering the Plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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Segal



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April 30, 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. The actuarial valuation report was accepted by the Board of Trustees for approval at the April 22, 2021 Board meeting. The report has subsequently been updated to add Section 5 (GASB Information), and to update certain pages based on updated employer and employee contributions. Neither the Florida Chapter 112 Determined Employer Contribution nor the City's required minimum contribution changed as a result of these updates.

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

A handwritten signature in black ink that reads "Jeffrey S. Williams".

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

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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.

Section 1: Actuarial Valuation Summary

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 \$72,194,000, 101.33% 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

Section 1: Actuarial Valuation Summary

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,

Section 1: Actuarial Valuation Summary

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

Section 1: Actuarial Valuation Summary

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.

Section 1: Actuarial Valuation Summary

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	<u>-31,508,163</u>	<u>-31,735,211</u>	<u>-29,370,746</u>
	• City's required minimum contribution*	\$83,696,811	\$76,832,977	\$71,249,679
	• Actual employer contributions	--	--	72,194,000
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.

Section 1: Actuarial Valuation Summary

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.

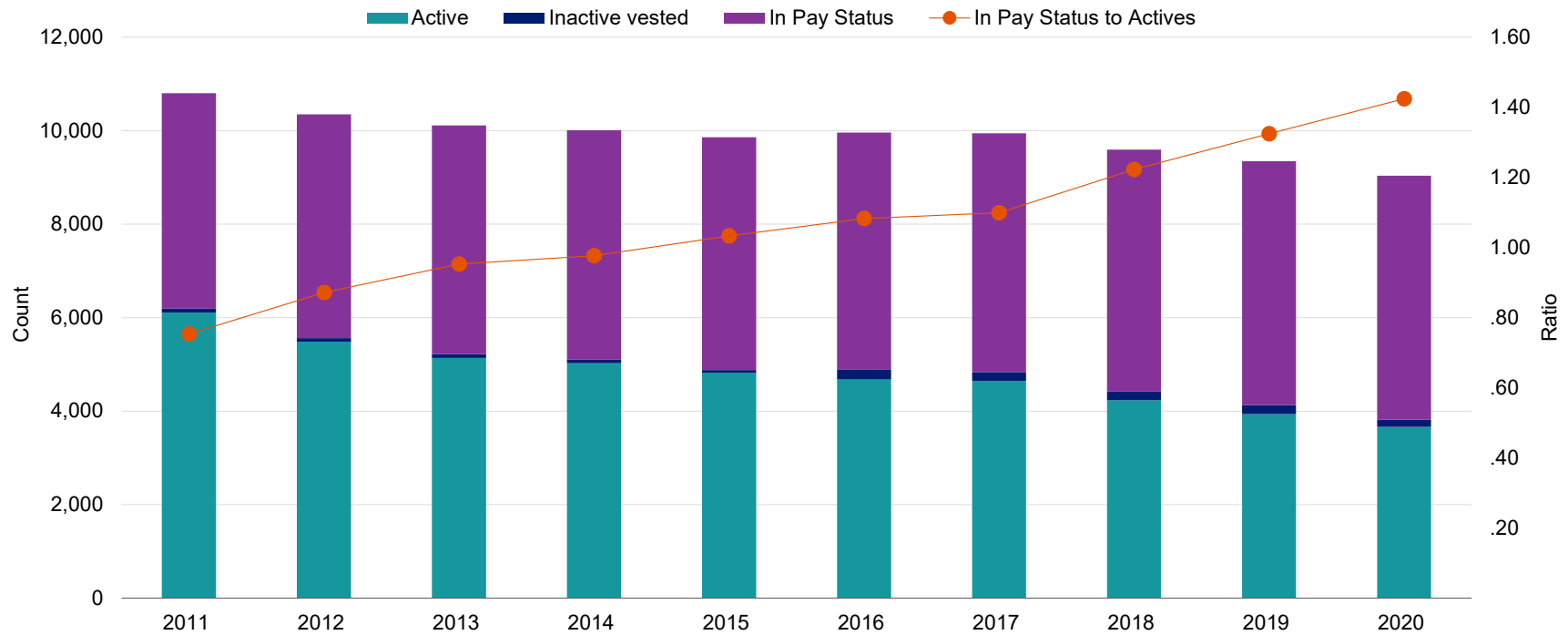
As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

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

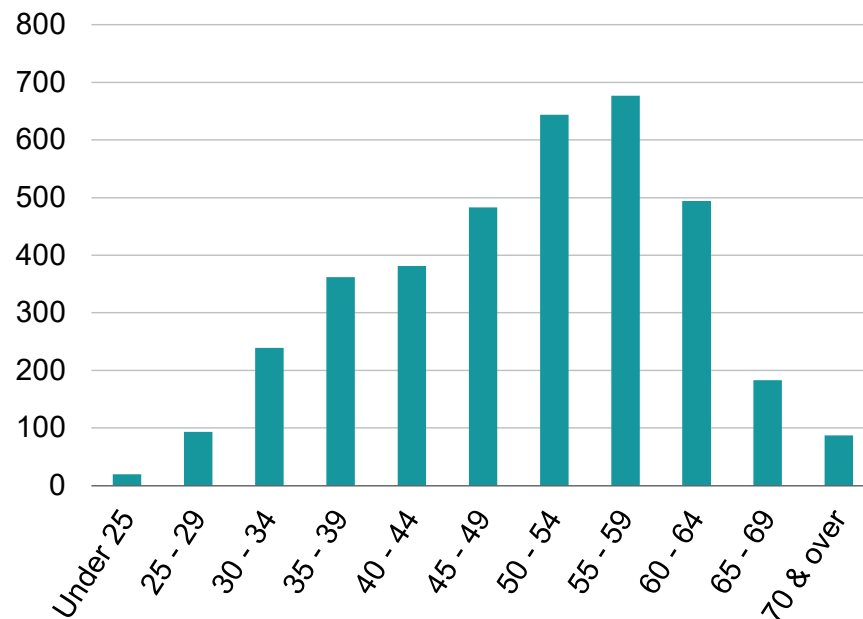
Section 2: Actuarial Valuation Results

Active participants

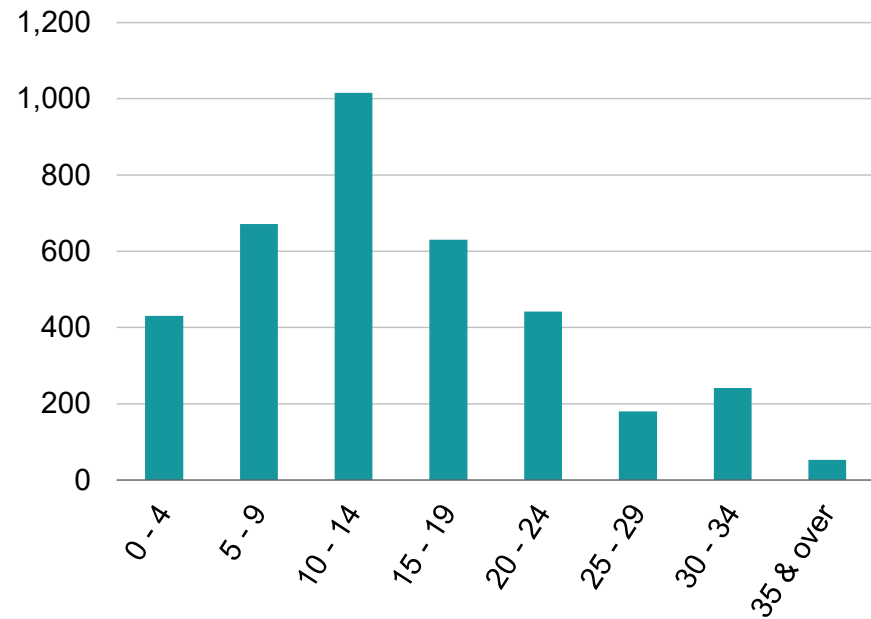
As of September 30,	2020	2019	Change
Active participants	3,663	3,937	-7.0%
Average age	50.7	50.1	0.6
Average years of service	14.8	14.0	0.8
Average compensation	67,394	63,496	6.1%

Distribution of Active Participants as of September 30, 2020

Actives by Age



Actives by Years of Service



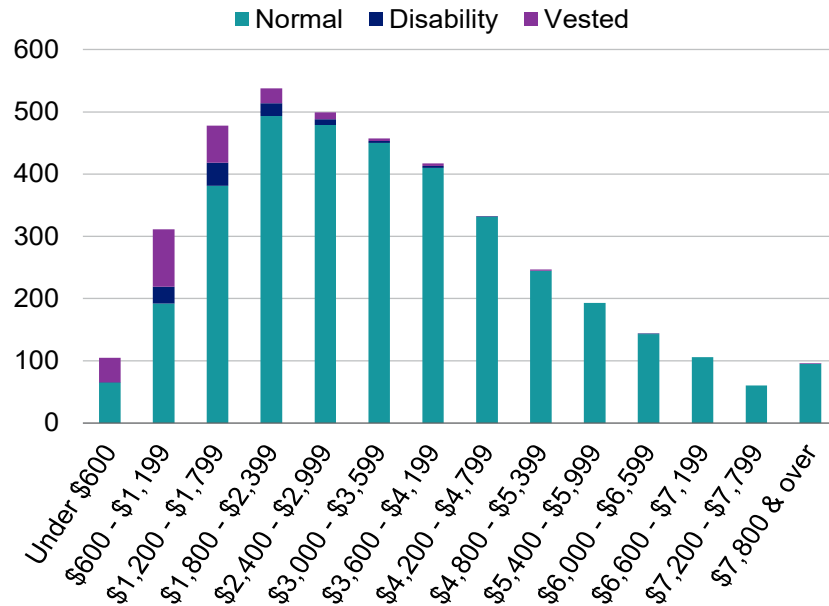
Section 2: Actuarial Valuation Results

Retired participants and beneficiaries

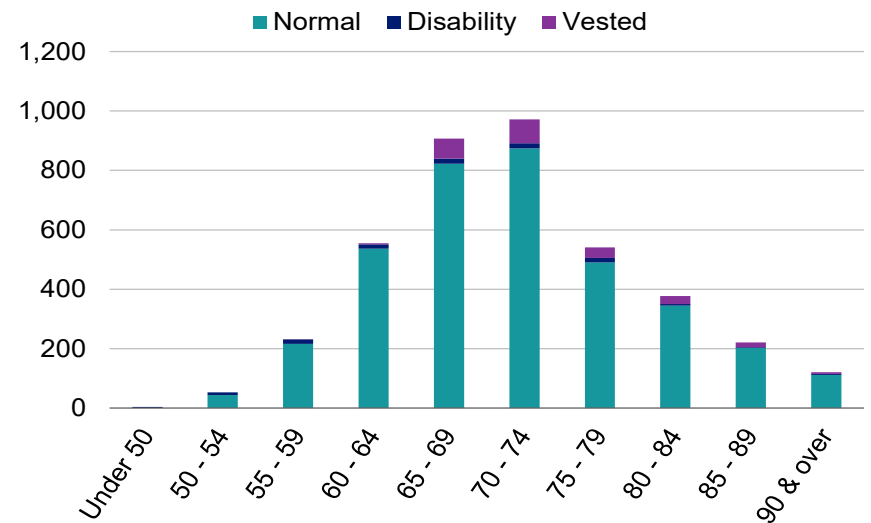
As of September 30,	2020	2019	Change
Retirees	3,983	3,966	0.4%
Beneficiaries	1,235	1,249	-1.1%
Average age	72.6	72.4	0.2
Average regular benefit amount	\$2,976	\$2,892	2.9%
Average supplement amount	114	116	-1.7%
Total monthly amount	16,125,149	15,686,733	2.8%

Distribution of Retired Participants as of September 30, 2020

Retired Participants by Type and Monthly Amount Including Supplement



Retired Participants by Type and Age



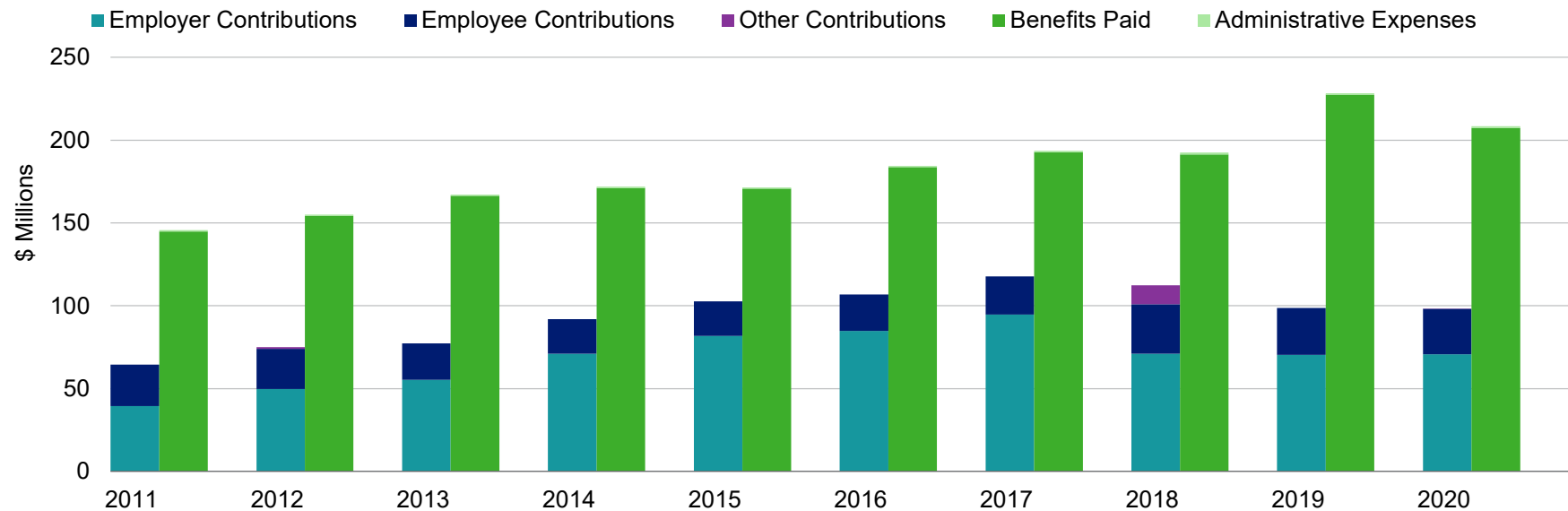
Section 2: Actuarial Valuation Results

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 Amount¹	Percent Deferred²	Unrecognized Amount³
(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%	<u>0</u>
(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)			<u>2,042,779,798</u>
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

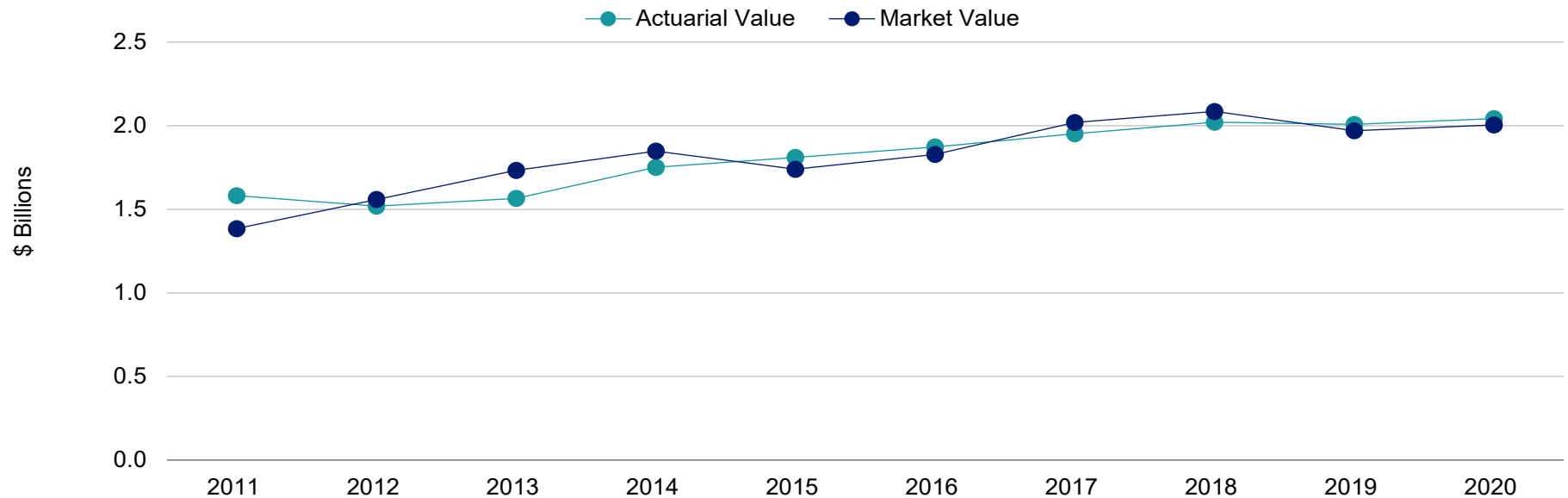
Deferred return as of September 30, 2020 recognized in each of the next four years:

(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

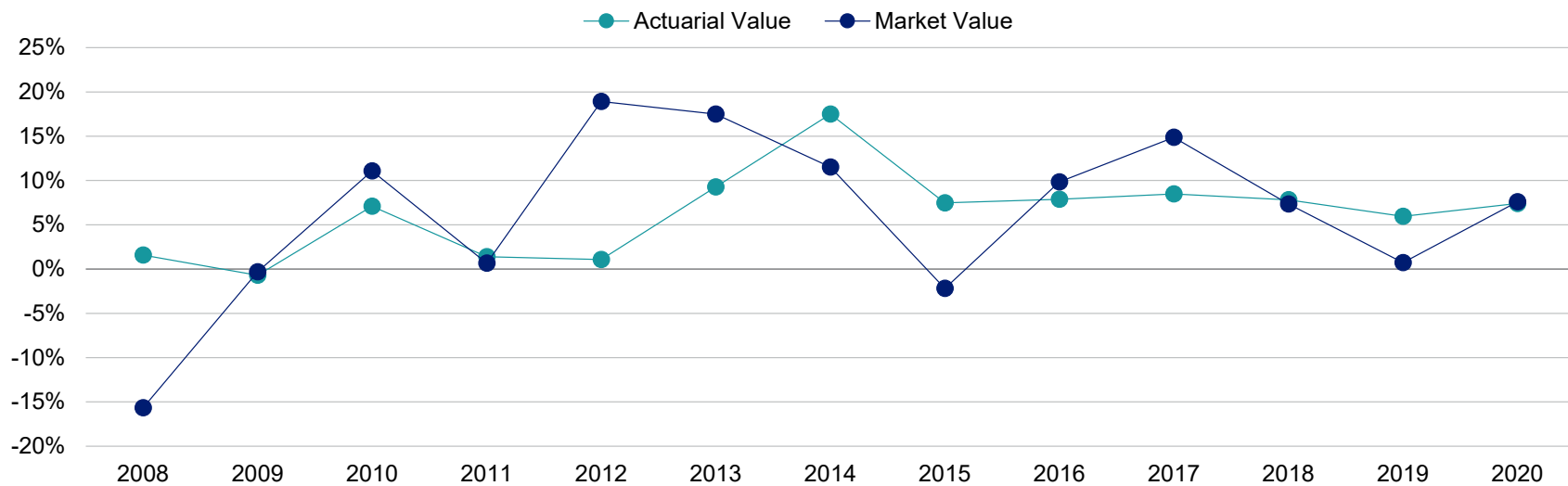
¹ In \$ billions

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%

Section 2: Actuarial Valuation Results

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	<u>-9,814,682</u>
4	Net experience gain: 1 + 2 + 3	\$80,130

¹ Details on next page

Section 2: Actuarial Valuation Results

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	<u>\$13,253,788</u>	<u>\$9,987,510</u>

Section 2: Actuarial Valuation Results

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 \$9,814,682, which is 0.29% 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.

Section 2: Actuarial Valuation Results

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	-72,194,000
4	Interest on 1, 2 & 3	<u>87,160,911</u>
5	Expected unfunded actuarial accrued liability	\$1,310,858,844
6	Changes due to:	
	• (Gain)/loss	-\$80,130
	• Assumptions	<u>36,145,490</u>
	Total changes	<u>\$36,065,360</u>
7	Unfunded actuarial accrued liability at end of year	<u>1,346,924,204</u>

Section 2: Actuarial Valuation Results

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	<u>-22,849,972</u>	<u>-9.12%</u>	<u>-23,166,958</u>	<u>-9.12%</u>
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	<u>2,042,779,798</u>		<u>2,008,173,331</u>	
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	<u>\$83,696,811</u>	<u>33.40%</u>	<u>\$76,832,977</u>	<u>30.28%</u>
12. Projected payroll	\$250,567,103		\$253,732,620	

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

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

Section 2: Actuarial Valuation Results

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.

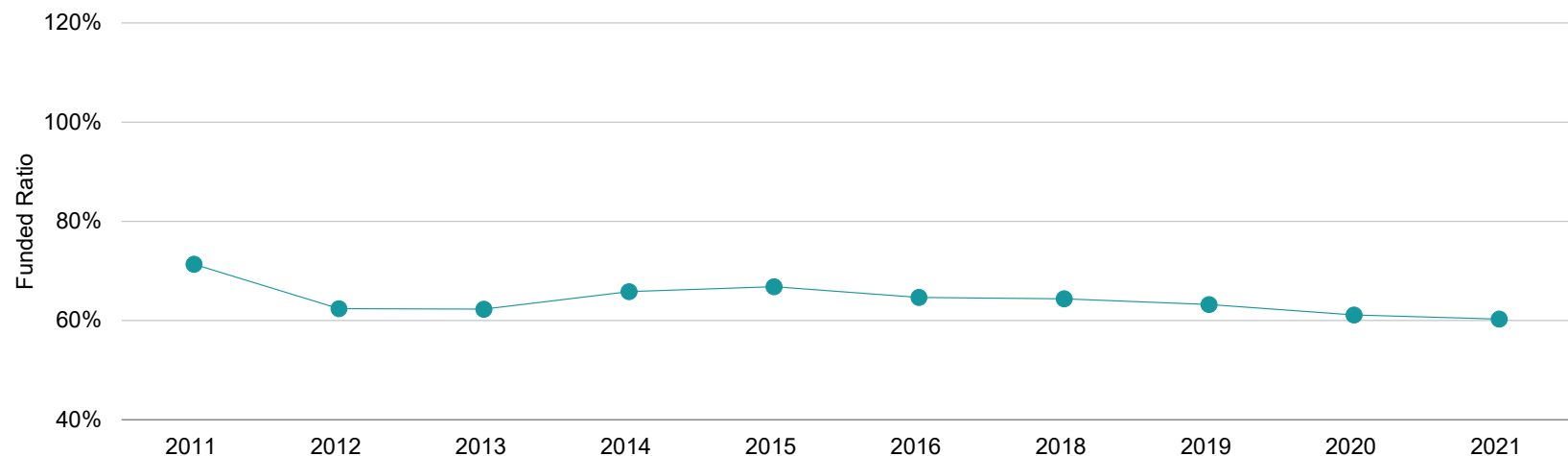
Reconciliation of Actuarially Determined Contribution from October 1, 2020 to October 1, 2021

	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	2,529,871
• Effect of investment gain	-704,681
• Effect of other gains and losses on accrued liability	699,028
• 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

Section 2: Actuarial Valuation Results

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%



Section 2: Actuarial Valuation Results

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	\$55,386,000	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	72,194,000	101.33%
2021	76,832,977	--	--
2022	83,696,811	--	--

Section 2: Actuarial Valuation Results

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.

Section 2: Actuarial Valuation Results

- **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.

Section 2: Actuarial Valuation Results

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)	<u>884,040,153</u>	<u>857,520,479</u>
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%

Section 2: Actuarial Valuation Results

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	<u>1,412,653,463</u>	<u>1,370,909,168</u>
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	<u>1,346,924,204</u>	<u>1,278,140,150</u>
Total of current and future assets	<u>\$3,739,167,981</u>	<u>\$3,634,799,308</u>

Section 3: Supplemental Information

Exhibit A: Table of Plan Demographics

Category	Year Ended September 30		Change From Prior Year
	2020	2019	
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%

Section 3: Supplemental Information

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

Age	Years of Service									
	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

Section 3: Supplemental Information

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

Section 3: Supplemental Information

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	\$72,194,000	\$70,338,000
• Employee contributions	26,014,000	28,334,000
• Less administrative expenses	<u>-1,084,000</u>	<u>-959,000</u>
<i>Net contribution income</i>	<i>\$97,124,000</i>	<i>\$97,713,000</i>
Investment income:		
• Interest, dividends, and other income	\$16,442,000	\$20,071,000
• Realized and unrealized appreciation	137,471,000 ¹	4,197,000
• Less investment fees	<u>-8,515,000</u>	<u>-9,481,000</u>
<i>Net investment income</i>	<i><u>\$145,398,000</u></i>	<i><u>\$14,787,000</u></i>
Total income available for benefits	\$242,522,000	\$112,500,000
Less benefit payments:		
• Benefit payments	-\$192,749,000	-\$185,078,000
• Refunds	<u>-14,520,000</u>	<u>-42,272,000</u>
<i>Net benefit payments</i>	<i>-\$207,269,000</i>	<i>-\$227,350,000</i>
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 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.

Section 3: Supplemental Information

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	<u>-239,671,000</u>	<u>-229,699,000</u>
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

Section 3: Supplemental Information

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	72,194,000	26,014,000	0	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

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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 Statutes, outstanding balances were amortized using a 1.50% payroll growth rate for October 1, 2020 valuation.

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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 Statutes, outstanding balances were amortized using a 1.50% payroll growth rate for October 1, 2020 valuation.

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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

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	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: <u>Investment return</u> - the rate of investment yield that the Plan will earn over the long-term future; <u>Mortality rates</u> - the rate or probability of death at a given age for employees and retirees; <u>Retirement rates</u> - the rate or probability of retirement at a given age or service; <u>Disability rates</u> - the rate or probability of disability retirement at a given age; <u>Withdrawal rates</u> - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;

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	<u>Salary increase rates</u> - 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

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	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.

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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.

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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%.

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

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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	72,194,000
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		Year Ended September 30, 2019
	New Assumptions	Old Assumptions	
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	<u>201,767,643</u>	<u>201,767,643</u>	<u>193,534,210</u>
• 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	<u>2,303,896,206</u>	<u>2,283,697,024</u>	<u>2,235,258,792</u>
Total	\$3,739,167,981	\$3,692,583,725	\$3,634,799,308

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

	Year Ended September 30, 2020		Year Ended September 30, 2019
	New Assumptions	Old Assumptions	
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	<u>33,707,869</u>	<u>33,227,041</u>	<u>35,524,495</u>
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	<u>-29,961,166</u>	<u>-28,247,974</u>	<u>-30,161,927</u>
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

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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	<u>0</u>
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

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

Section 4: Actuarial Valuation Basis

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:

Age	Rate (%)			
	Healthy		Disabled	
	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.

Section 4: Actuarial Valuation Basis

Termination Rates Before Retirement:

Age	Rate (%)			
	Mortality ¹		Disability	Withdrawal ²
	Male	Female		
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.

Section 4: Actuarial Valuation Basis

Termination Retirement before Retirement (continued)

Service	Withdrawal ¹	
	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

Section 4: Actuarial Valuation Basis

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

Retirement Rates:	Fewer Than 31 Years of Service		31 or More Years of Service	
	Age	Rate (%) ¹	Service	Rate (%) ¹
	45-54	5	31-33	15
	55	15	34-35	30
	56-60	7	36	35
	61-63	10	37	60
	64-65	30	38-39	50
	66-69	20	40	100
	70 & Over	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.

Section 4: Actuarial Valuation Basis

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:	<p>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.</p> <p>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.</p>
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:	<p>Following ongoing board review of discount rate options:</p> <ul style="list-style-type: none">➤ The discount rate was lowered from 6.90% to 6.80%.

Section 4: Actuarial Valuation Basis

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:	<i>Age Requirement</i>	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.
	<i>Regular Benefit Amount</i>	2.5% of Final Monthly Compensation times years of Credited Service, not more than 80% of Final Monthly Compensation.
	<i>Supplemental Benefit Amount</i>	Monthly benefit of \$5 times years of Credited Service, not less than \$25 per month or more than \$150 per month.
	<i>Minimum Benefit Amount</i>	\$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1 st .
Early Retirement:	<i>Age Requirement</i>	Age 50 with 20 years of Credited Service
	<i>Regular Benefit Amount</i>	Accrued Service Retirement Regular Benefit Amount reduced by 0.5 percent for each month the benefit commencement precedes age 55.
	<i>Supplemental Benefit Amount</i>	Monthly benefit of \$5 times years of Credited Service, not less than \$25 per month or more than \$150 per month.
	<i>Minimum Benefit Amount</i>	\$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1 st .
	<i>Age Requirement</i>	Any age with 25 years of Credited Service
	<i>Regular Benefit Amount</i>	2.0% of Final Monthly Compensation times years of Credited Service
	<i>Supplemental Benefit Amount</i>	Monthly benefit of \$5 times years of Credited Service, not less than \$25 per month or more than \$150 per month.
	<i>Minimum Benefit Amount</i>	\$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1 st .
Off-the-job Disability:	<i>Service Requirement</i>	5 years of Credited Service
	<i>Regular Benefit Amount</i>	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
	<i>Supplemental Benefit Amount</i>	Monthly benefit of \$5 times years of Credited Service, not less than \$25 per month or more than \$150 per month.

Section 4: Actuarial Valuation Basis

	<i>Minimum Benefit Amount</i>	\$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1 st .
On-the-job Disability:	<i>Service Requirement</i>	Immediate eligibility
	<i>Regular Benefit Amount</i>	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
	<i>Supplemental Benefit Amount</i>	Monthly benefit of \$5 times years of Credited Service, not less than \$25 per month or more than \$150 per month.
	<i>Minimum Benefit Amount</i>	\$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1 st .
Vesting:	<i>Age Requirement</i>	None
	<i>Service Requirement</i>	5 years of Credited Service
	<i>Regular Benefit Amount</i>	Accrued Service Retirement Regular Benefit payable at age 65.
	<i>Supplemental Benefit Amount</i>	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.
	<i>Minimum Benefit Amount</i>	\$69.31 per whole year of Credited Service, not to exceed 30. Minimum accrual rate increases 4% each October 1 st .
Spouse's Pre-Retirement Death Benefit:	<i>Age Requirement</i>	None
	<i>Service Requirement</i>	None
	<i>Regular Benefit Amount</i>	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.
	<i>Supplemental Benefit Amount</i>	Monthly benefit of \$5 times years of Member's Credited Service, not less than \$25 per month or more than \$150 per month.
	<i>Minimum Benefit Amount</i>	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.	

Section 4: Actuarial Valuation Basis

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 April 1 st nearest the fifth anniversary of the initial benefit commencement date, and on each April 1 st 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.

Section 5: GASB Information

General information about the pension plan

Plan Description

Plan membership. At October 1, 2020, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	5,218
Vested terminated members entitled to but not yet receiving benefits	156
Active members	3,663
Total	9,037

Section 5: GASB Information

Net pension liability

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Components of the Net Pension Liability		
Total Pension Liability	\$3,389,704,002	\$3,286,313,481
Plan Fiduciary Net Position	2,005,459,000	1,989,646,000
Net Pension Liability	1,384,245,002	1,296,667,481
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	59.16%	60.54%

The Net Pension Liability (NPL) for the plan was measured as of September 30, 2020 and 2019. Plan Fiduciary Net Position (plan assets) was valued as of the measurement dates and the Total Pension Liability (TPL) was determined from actuarial valuations as of October 1, 2020 and 2019, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL are the same as those used in the GERP actuarial valuations as of October 1, 2020 and October 1, 2019, respectively.

Actuarial assumptions. The TPL as of September 30, 2020 and 2019, that were measured by actuarial valuations as of October 1, 2020 and 2019, respectively, used the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	3.00% - 7.50%, of which 2.50% is the Plan's long-term payroll inflation
Investment rate of return	6.80%, net of pension plan investment expense, including inflation (previously 6.90%)
Other assumptions	See the October 1, 2020 valuation for a complete description of all actuarial assumptions. These assumptions were developed in the analysis of actuarial experience study for the period October 1, 2012 through September 30, 2017.

Section 5: GASB Information

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return ¹
Domestic equity	30.0%	6.65%
International equity	20.0%	7.40%
Fixed income	20.0%	0.50%
Real estate	15.0%	3.75%
Private equity	7.5%	10.65%
Alternatives	7.5%	2.55%
Total	100.0%	

Discount rate. The discount rates used to measure the Total Pension Liability (TPL) were 6.80% and 6.90% as of September 30, 2020 and September 30, 2019, respectively. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position (FNP) was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both September 30, 2020 and September 30, 2019.

¹ Based on capital market assumptions provided by Segal Marco Advisors

Section 5: GASB Information

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability (NPL) of the Plan as of September 30, 2020, which is allocated to all employers, calculated using the discount rate of 6.80%, as well as what the Plan's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (5.80%) or 1-percentage-point higher (7.80%) than the current rate.

Net Pension Liability	1% Decrease (5.80%)	Current Discount Rate (6.80%)	1% Increase (7.80%)
City of Jacksonville	\$807,783,943	\$626,624,247	\$475,308,103
Jacksonville Electrical Authority	940,490,776	729,569,248	553,394,122
Jacksonville Housing Authority	33,961,480	26,345,024	19,983,273
North Florida Transportation Planning Organization	2,199,834	1,706,483	1,294,404
Total	\$1,784,436,033	\$1,384,245,002	\$1,049,979,902

Section 5: GASB Information

Schedule of changes in Net Pension Liability – Last two fiscal years

Reporting Date for Employer under GASB 68 Measurement Date	September 30, 2021 September 30, 2020	September 30, 2020 September 30, 2019
Total Pension Liability		
Service cost	\$39,959,741	\$39,904,477
Interest	222,362,072	219,284,310
Change of benefit terms	0	0
Differences between expected and actual experience	12,192,218	33,434,609
Changes of assumptions	36,145,490	4,913,569
Benefit payments, including refunds of member contributions	<u>-207,269,000</u>	<u>-207,904,000</u>
Net change in Total Pension Liability	\$103,390,521	\$89,632,965
Total Pension Liability – beginning	<u>3,286,313,481</u>	<u>3,196,680,516</u>
Total Pension Liability – ending	<u>\$3,389,704,002</u>	<u>\$3,286,313,481</u>
Plan Fiduciary Net Position		
Contributions – employer	\$72,194,000	\$70,338,000
Contributions – employee	26,014,000	28,334,000
Net investment income	125,958,000	14,789,000
Benefit payments, including refunds of member contributions	-207,269,000	-207,904,000
Administrative expense	-1,084,000	-967,000
Other	<u>0</u>	<u>0</u>
Net change in Plan Fiduciary Net Position	\$15,813,000	-\$95,410,000
Plan Fiduciary Net Position – beginning	<u>1,989,646,000</u>	<u>2,085,056,000</u>
Plan Fiduciary Net Position – ending	\$2,005,459,000	\$1,989,646,000
Net Pension Liability – ending	<u>\$1,384,245,002</u>	<u>\$1,296,667,481</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	59.16%	60.54%
Covered payroll ¹	\$246,387,379	\$249,982,877
Plan Net Pension Liability as percentage of covered payroll	561.82%	518.70%

¹ Pensionable payroll as of the measurement date

Section 5: GASB Information

Notes to Schedule:

Benefit changes:

There have not been any benefit changes in the two most recent fiscal years.

Assumption changes:

As of September 30, 2019 the assumed investment return was lowered from 7.00% to 6.90%.

As of September 30, 2019 the mortality assumptions were changed from being based on the FRS mortality tables used in the July 1, 2018 FRS actuarial valuation for the non-special risk personnel to the FRS mortality tables used in the July 1, 2019 FRS actuarial valuation for personnel other than special risk and K-12 instructional personnel. The set forward used to adjust for the plan's experience for healthy pre- and post-retirement lives was changed from 2.5 years to 2.0 years with the adoption of the new base table. The mortality improvement scale was changed from scale BB to scale MP2018 in conjunction with this change.

As of September 30, 2020 the assumed investment return was lowered from 6.90% to 6.80%.

Section 5: GASB Information

Deferred outflows of resources and deferred inflows of resources – Total for all employers

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Deferred Outflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$48,195,144	\$26,280,166
Changes of assumptions or other inputs	62,602,645	84,352,504
Net difference between projected and actual earnings on pension plan investments	54,517,000	38,756,172
Difference between expected and actual experience in the Total Pension Liability	<u>29,120,171</u>	<u>43,680,728</u>
Total Deferred Outflows of Resources	\$194,434,960	\$193,069,570
Deferred Inflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$48,195,144	\$26,280,166
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on pension plan investments	0	0
Difference between expected and actual experience in the Total Pension Liability	<u>1,818,692</u>	<u>3,637,384</u>
Total Deferred Inflows of Resources	\$50,013,836	\$29,917,550
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended September 30:		
2021	N/A	\$61,006,236
2022	\$55,812,871	42,222,929
2023	48,051,206	34,461,264
2024	39,051,533	25,461,591
2025	1,505,514	0
2026	0	0
Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68

Section 5: GASB Information

There are changes in each employer's proportionate share of the total Net Pension Liability (NPL) during the measurement period ended September 30, 2020. The net effect of the change on the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources is recognized over the average of the expected remaining service lives of all employees that are provided with pensions through GERP which is four years determined as of September 30, 2019 (the beginning of the measurement period ending September 30, 2020). This is described in Paragraph 33a. of GASB 68.

In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended September 30, 2020 is recognized over the same period. This is zero because the proportionate share was determined using the actual employer contributions.

The average of the expected service lives of all employees is determined by:

- Calculating each active employee's expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each nonactive or retired member.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

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Schedule of recognition of change in total Net Pension Liability

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience on Total Pension Liability

Reporting Date for Employer under GASB 68 Year Ended September 30	Differences between Expected and Actual Experience	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	Thereafter
2016	-\$4,784,947	5	-\$956,989	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2017	60,436,838	5	12,087,368	12,087,368	0	0	0	0	0	0
2018	16,293,511	5	3,258,702	3,258,702	3,258,702	0	0	0	0	0
2019	-7,274,767	4	-1,818,692	-1,818,692	-1,818,692	0	0	0	0	0
2020	33,434,609	4	8,358,653	8,358,652	8,358,652	8,358,652	0	0	0	0
2021	12,192,218	4	N/A	<u>3,048,053</u>	<u>3,048,055</u>	<u>3,048,055</u>	<u>3,048,055</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense			N/A	\$24,934,083	\$12,846,717	\$11,406,707	\$3,048,055	\$0	\$0	\$0

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Assumption Changes

Reporting Date for Employer under GASB 68 Year Ended September 30	Assumption Changes	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	Thereafter
2016	-\$18,044,461	5	-\$3,608,892	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2017	72,969,220	5	14,593,844	14,593,844	0	0	0	0	0	0
2018	64,389,844	5	12,877,969	12,877,969	12,877,969	0	0	0	0	0
2019	80,635,093	4	20,158,773	20,158,773	20,158,773	0	0	0	0	0
2020	4,913,569	4	1,228,393	1,228,392	1,228,392	1,228,392	0	0	0	0
2021	36,145,490	4	N/A	<u>9,036,371</u>	<u>9,036,373</u>	<u>9,036,373</u>	<u>9,036,373</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense			N/A	\$57,895,349	\$43,301,507	\$10,264,765	\$9,036,373	\$0	\$0	\$0

As described in Exhibit of Deferred Outflows of Resources and Deferred Inflows of Resources, the average of the expected remaining service lives of all employees that are provided with pensions through GERP (active and inactive employees) determined as of September 30, 2019 (the beginning of the measurement period ending September 30, 2020) is four years.

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Projected and Actual Earnings on Pension Plan Investments

Reporting Date for Employer under GASB 68 Year Ended September 30	Differences between Projected and Actual Earnings	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	Thereafter
2016	\$175,540,575	5	\$35,108,095	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2017	-39,489,525	5	-7,897,905	-7,897,905	0	0	0	0	0	0
2018	-133,575,436	5	-26,715,087	-26,715,087	-26,715,087	0	0	0	0	0
2019	-2,936,856	5	-587,371	-587,371	-587,371	-587,371	0	0	0	0
2020	127,307,955	5	25,461,591	25,461,591	25,461,591	25,461,591	25,461,591	0	0	0
2021	7,527,572	5	N/A	<u>1,505,516</u>	<u>1,505,514</u>	<u>1,505,514</u>	<u>1,505,514</u>	<u>1,505,514</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense			N/A	-\$8,233,256	-\$335,353	\$26,379,734	\$26,967,105	\$1,505,514	\$0	\$0

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Total Increase (Decrease) in Pension Expense

Reporting Date for Employer under GASB 68 Year Ended September 30	Total Increase (Decrease) in Pension Expense	2020	2021	2022	2023	2024	2025	2026	Thereafter
2016	\$152,711,167	\$30,542,214	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2017	93,916,533	18,783,307	18,783,307	0	0	0	0	0	0
2018	-52,892,081	-10,578,416	-10,578,416	-10,578,416	0	0	0	0	0
2019	70,423,470	17,752,710	17,752,710	17,752,710	-587,371	0	0	0	0
2020	165,656,133	35,048,637	35,048,635	35,048,635	35,048,635	25,461,591	0	0	0
2021	55,865,280	N/A	<u>13,589,940</u>	<u>13,589,942</u>	<u>13,589,942</u>	<u>13,589,942</u>	<u>1,505,514</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense		N/A	\$74,596,176	\$55,812,871	\$48,051,206	\$39,051,533	\$1,505,514	\$0	\$0

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Pension expense – Total for all employers

Reporting Date for Employer under GASB 68 Measurement Date	September 30, 2021 September 30, 2020	September 30, 2020 September 30, 2019
Components of Pension Expense		
Service cost	\$39,959,741	\$39,904,477
Interest on the Total Pension Liability	222,362,072	219,284,310
Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	--	--
Current-period benefit changes	--	--
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	3,048,053	8,358,653
Expensed portion of current-period changes of assumptions or other inputs	9,036,371	1,228,393
Member contributions	-26,014,000	-28,334,000
Projected earnings on plan investments	-133,485,572	-142,096,955
Expensed portion of current-period differences between actual and projected earnings on plan investments	1,505,516	25,461,591
Administrative expense	1,084,000	967,000
Other	--	--
Recognition of beginning of year deferred outflows of resources as pension expense	98,025,291	98,084,751
Recognition of beginning of year deferred inflows of resources as pension expense	-37,019,055	-41,584,936
Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	--	--
Pension Expense	\$178,502,417	\$181,273,284

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Schedule of reconciliation of Net Pension Liability –Total for all employers

Reporting Date for Employer under GASB 68 Measurement Date	September 30, 2021 September 30, 2020	September 30, 2020 September 30, 2019
Beginning Net Pension Liability	\$1,296,667,481	\$1,111,624,516
Pension expense	178,502,417	181,273,284
Employer contributions	-72,194,000	-70,338,000
New net deferred inflows/outflows	42,275,340	130,607,496
New net deferred inflows/outflows due to change in proportion	0	0
Recognition of prior deferred inflows/outflows	<u>-61,006,236</u>	<u>-56,499,815</u>
Ending Net Pension Liability	\$1,384,245,002	\$1,296,667,481

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Schedule of contributions – Last ten fiscal years

Year Ended September 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll ¹	Contributions as a Percentage of Covered Payroll ²
2011	\$39,123,971	\$39,378,000	-\$254,029	\$314,054,361	12.54%
2012	57,497,706	49,899,000	7,598,706	283,020,575	17.63%
2013	66,659,915	55,386,000	11,273,915	265,404,735	20.87%
2014	81,351,295	71,000,000	10,351,295	262,368,813	27.06%
2015	86,069,361	81,751,000	4,318,361	254,034,479	32.18%
2016	89,058,931	84,898,000	4,160,931	250,894,295	33.84%
2017	94,526,754	94,700,000	-173,246	257,850,484	36.73%
2018	93,743,647	71,024,000	22,719,647	253,982,175	27.96%
2019	95,290,428	70,338,000	24,952,428	249,982,877	28.14%
2020	100,620,425	72,194,000	28,426,425	246,387,379	29.30%

See accompanying notes to this schedule on next page.

¹ Pensionable payroll as of the measurement date.

² The City contributed the percentage of payroll represented by the actuarially determined contribution in the corresponding actuarial valuation for years ending on or before September 30, 2016. Actual dollar contributions may be more or less than the actuarially determined contributions due to actual payroll being different from projected payroll. Effective with the September 30, 2017 fiscal year, the City implemented a policy to ensure that the calculated dollar amount of the actuarially determined contribution was met.

Effective with the September 30, 2018 fiscal year, the City began contributing based on an adjusted state minimum required contribution that reflects an adjustment for an offset for amortization of the discounted value of projected surtax revenue allocated to the plan beginning in 2030.

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Notes to Schedule:

Methods and assumptions used to establish “actuarially determined contribution” rates:

Valuation date	Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll, using 1.50% annual increases ¹
Remaining amortization period	As of October 1, 2018 the effective amortization period is 28 years.
Asset valuation method	The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between actual and expected returns on a market value basis and is recognized over a five-year period. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 20% of the market value of assets.
Actuarial assumptions:	
Investment rate of return	7.00%, net of pension plan investment expense, including inflation.
Inflation rate	2.50%
Projected salary increases	3.00% - 7.50%, of which 2.50% is the Plan’s long-term payroll inflation
Cost of living adjustments	Plan provisions contain a 3.00% COLA
Other assumptions	Same as those used in the October 1, 2018 funding actuarial valuation.

¹ The Fund’s payroll inflation assumption was 2.50% as of October 1, 2018. Per Part VII, Chapter 112.64(5)(a) of Florida Statutes, the payroll growth assumption used for amortization of the unfunded liability is not allowed to exceed the average annual payroll growth for the proceeding ten years. However, pursuant to Chapter 112.64(5)(b), and after adjusting this analysis to account for bargained pay level increases and inclusion of DC plan participants in the total payroll, the assumption was set at 1.50%.

Section 5: GASB Information

Results by Employer

Determination of Proportionate Share

Actual Employer Contributions by Employer September 30, 2019 to September 30, 2020

Employer	Contributions	Percentage
City of Jacksonville	\$32,681,000	45.2683%
Jacksonville Electrical Authority	38,050,000	52.7052%
Jacksonville Housing Authority	1,374,000	1.9032%
North Florida Transportation Planning Organization	<u>89,000</u>	<u>0.1233%</u>
Total for all Employers	72,194,000	100.0000%

Allocation of September 30, 2020 Net Pension Liability (NPL)

Employer	Net Pension Liability	Percentage
City of Jacksonville	\$626,624,247	45.2683%
Jacksonville Electrical Authority	729,569,248	52.7052%
Jacksonville Housing Authority	26,345,024	1.9032%
North Florida Transportation Planning Organization	<u>1,706,483</u>	<u>0.1233%</u>
Total for all Employers	\$1,384,245,002	100.0000%

Notes:

Based on the September 30, 2019 through September 30, 2020 employer contributions, as provided by the City.

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For purposes of the above results, we have assumed that the reporting date for the employer under GASB 68 is September 30, 2021. The reporting date and measurement date for the plan under GASB 67 are assumed to be September 30, 2020. This means that assets and liabilities are determined as of September 30, 2020 and are not adjusted or “rolled forward” to September 30, 2021. Other results, such as the total deferred inflows and outflows would also be allocated based on the same proportionate shares determined above.

The following items are allocated based on the corresponding proportionate share within each employer:

- Net Pension Liability
- Service cost
- Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- Member contributions
- Projected earnings on plan investments
- Expensed portion of current-period differences between actual and projected earnings on plan investments
- Administrative expense
- Recognition of beginning of year deferred outflows of resources as pension expense

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Schedule of Proportionate Share of the Net Pension Liability – Total for all Employers

Reporting Date for Employer under GASB 68 as of September 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of Its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2016	100.0%	\$977,320,544	\$254,034,479	384.72%	64.03%
2017	100.0%	1,074,102,013	250,894,295	428.11%	63.00%
2018	100.0%	1,021,052,610	257,850,484	395.99%	66.42%
2019	100.0%	1,111,624,516	253,982,175	437.68%	65.23%
2020	100.0%	1,296,667,481	249,982,877	518.70%	60.54%
2021	100.0%	1,384,245,002	246,387,379	561.82%	59.16%

¹ Pensionable payroll as of the measurement date.

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Allocation of Changes in Total Net Pension Liability

In addition to the amounts shown in the preceding tables, there are changes in proportionate share of the total Net Pension Liability (NPL) between the measurement periods ending on September 30, 2020 and September 30, 2019 as a result of change in allocation percentage (the actual contributions made by an employer as a percentage of total contributions). The difference in proportionate share of the total NPL due to change in allocation percentage during the measurement period ending on September 30, 2020 is recognized over the average of the expected remaining service lives of all employees (four years). These amounts are shown below. While these amounts are different for each employer, they sum to zero over all employers.

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for September 30, 2021

Employer	Total Change to be Recognized	Recognition Period (Years)	2021	2022	2023	2024	Thereafter
City of Jacksonville	-\$44,906,427	4	-\$11,226,606	-\$11,226,607	-\$11,226,607	-\$11,226,607	\$0
Jacksonville Electrical Authority	43,812,764	4	10,953,191	10,953,191	10,953,191	10,953,191	0
Jacksonville Housing Authority	1,056,496	4	264,124	264,124	264,124	264,124	0
North Florida Transportation Planning Organization	37,167	4	9,291	9,292	9,292	9,292	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for September 30, 2020

Employer	Total Change to be Recognized	Recognition Period (Years)	2020	2021	2022	2023	Thereafter
City of Jacksonville	\$19,224,508	4	\$4,806,127	\$4,806,127	\$4,806,127	\$4,806,127	\$0
Jacksonville Electrical Authority	-17,895,153	4	-4,473,789	-4,473,788	-4,473,788	-4,473,788	0
Jacksonville Housing Authority	-920,323	4	-230,080	-230,081	-230,081	-230,081	0
North Florida Transportation Planning Organization	-409,032	4	-102,258	-102,258	-102,258	-102,258	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for September 30, 2019

Employer	Total Change to be Recognized	Recognition Period (Years)	2019	2020	2021	2022	Thereafter
City of Jacksonville	\$9,206,359	4	\$2,301,589	\$2,301,590	\$2,301,590	\$2,301,590	\$0
Jacksonville Electrical Authority	-10,239,726	4	-2,559,930	-2,559,932	-2,559,932	-2,559,932	0
Jacksonville Housing Authority	1,033,367	4	258,341	258,342	258,342	258,342	0
North Florida Transportation Planning Organization	0	4	0	0	0	0	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0

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Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for September 30, 2018

Employer	Total Change to be Recognized	Recognition Period (Years)	2018	2019	2020	2021	2022	Thereafter
City of Jacksonville	-\$11,089,655	5	-\$2,217,931	-\$2,217,931	-\$2,217,931	-\$2,217,931	-\$2,217,931	\$0
Jacksonville Electrical Authority	11,715,684	5	2,343,136	2,343,137	2,343,137	2,343,137	2,343,137	0
Jacksonville Housing Authority	-447,163	5	-89,431	-89,433	-89,433	-89,433	-89,433	0
North Florida Transportation Planning Organization	-178,866	5	-35,774	-35,773	-35,773	-35,773	-35,773	0
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0

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Deferred outflows of resources and deferred inflows of resources – City of Jacksonville

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Deferred Outflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$11,913,844	\$19,021,561
Changes of assumptions or other inputs	28,339,156	41,526,738
Net difference between projected and actual earnings on pension plan investments	24,678,922	19,079,664
Difference between expected and actual experience in the Total Pension Liability	<u>13,182,207</u>	<u>21,504,022</u>
Total Deferred Outflows of Resources	\$78,114,129	\$101,131,985
Deferred Inflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$35,897,752	\$6,391,234
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on pension plan investments	0	0
Difference between expected and actual experience in the Total Pension Liability	<u>823,292</u>	<u>1,790,684</u>
Total Deferred Inflows of Resources	\$36,721,044	\$8,181,918
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended September 30:		
2021	N/A	\$32,967,784
2022	\$18,928,717	25,676,135
2023	15,331,487	21,771,407
2024	6,451,360	12,534,741
2025	681,521	0
2026	0	0
Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68

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Pension expense – City of Jacksonville

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Components of Pension Expense		
Service cost	\$18,089,097	\$19,644,974
Interest on the Total Pension Liability	100,659,540	107,953,666
Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	-11,226,606	4,806,127
Current-period benefit changes	--	--
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	1,379,801	4,114,965
Expensed portion of current-period changes of assumptions or other inputs	4,090,612	604,738
Member contributions	-11,776,096	-13,948,828
Projected earnings on plan investments	-60,426,656	-69,954,331
Expensed portion of current-period differences between actual and projected earnings on plan investments	681,522	12,534,741
Administrative expense	490,709	476,054
Other	--	--
Recognition of beginning of year deferred outflows of resources as pension expense	44,374,388	48,287,123
Recognition of beginning of year deferred inflows of resources as pension expense	-16,757,898	-20,472,264
Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>2,934,414</u>	<u>-3,379,369</u>
Pension Expense	\$72,512,827	\$90,667,596

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Schedule of reconciliation of Net Pension Liability – City of Jacksonville

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Beginning Net Pension Liability	\$638,349,401	\$526,357,075
Pension expense	72,512,827	90,667,596
Employer contributions	-32,681,000	-34,624,000
New net deferred inflows/outflows	19,137,330	64,298,070
Change in allocation of prior deferred inflows/outflows	-6,463,586	1,674,033
New net deferred inflows/outflows due to change in proportion	-33,679,821	14,418,381
Recognition of prior deferred inflows/outflows	-27,616,489	-27,814,858
Recognition of prior deferred inflows/outflows due to change in proportion	<u>-2,934,414</u>	<u>3,379,369</u>
Ending Net Pension Liability	\$626,624,248	\$638,349,401

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Schedule of Proportionate Share of the Net Pension Liability – City of Jacksonville

Reporting Date for Employer under GASB 68 as of September 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of Its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2016	48.8%	\$476,736,962	\$121,601,265	392.05%	64.03%
2017	47.6%	511,379,968	118,972,519	429.83%	63.00%
2018	46.4%	473,462,095	118,506,089	399.53%	66.42%
2019	47.3%	526,354,208	113,773,163	462.63%	65.23%
2020	49.2%	638,349,401	110,781,005	576.23%	60.54%
2021	45.3%	626,624,247	108,964,730	575.07%	59.16%

¹ Covered payroll as of the measurement date

Section 5: GASB Information

Deferred outflows of resources and deferred inflows of resources – Jacksonville Electrical Authority

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Deferred Outflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$35,202,710	\$6,725,209
Changes of assumptions or other inputs	32,994,856	41,197,763
Net difference between projected and actual earnings on pension plan investments	28,733,300	18,928,514
Difference between expected and actual experience in the Total Pension Liability	<u>15,347,848</u>	<u>21,333,668</u>
Total Deferred Outflows of Resources	\$112,278,714	\$88,185,154
Deferred Inflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$11,507,508	\$18,541,228
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on pension plan investments	0	0
Difference between expected and actual experience in the Total Pension Liability	<u>958,545</u>	<u>1,776,498</u>
Total Deferred Inflows of Resources	\$12,466,053	\$20,317,726
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended September 30:		
2021	N/A	\$27,143,798
2022	\$35,678,901	15,931,096
2023	31,804,892	12,357,093
2024	31,535,384	12,435,441
2025	793,484	0
2026	0	0
Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68

Section 5: GASB Information

Pension expense – Jacksonville Electrical Authority

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Components of Pension Expense		
Service cost	\$21,060,866	\$19,489,347
Interest on the Total Pension Liability	117,196,399	107,098,457
Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	10,953,191	-4,473,789
Current-period benefit changes	--	--
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	1,606,483	4,082,366
Expensed portion of current-period changes of assumptions or other inputs	4,762,638	599,947
Member contributions	-13,710,734	-13,838,326
Projected earnings on plan investments	-70,353,852	-69,400,153
Expensed portion of current-period differences between actual and projected earnings on plan investments	793,485	12,435,441
Administrative expense	571,324	472,283
Other	--	--
Recognition of beginning of year deferred outflows of resources as pension expense	51,664,436	47,904,592
Recognition of beginning of year deferred inflows of resources as pension expense	-19,510,971	-20,310,083
Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>-2,651,648</u>	<u>2,303,307</u>
Pension Expense	\$102,381,617	\$86,363,389

Section 5: GASB Information

Schedule of reconciliation of Net Pension Liability – Jacksonville Electrical Authority

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Beginning Net Pension Liability	\$633,292,398	\$562,372,883
Pension expense	102,381,617	86,363,390
Employer contributions	-38,050,000	-34,352,000
New net deferred inflows/outflows	22,281,307	63,788,701
Change in allocation of prior deferred inflows/outflows	6,306,169	-1,558,276
New net deferred inflows/outflows due to change in proportion	32,859,573	-13,421,364
Recognition of prior deferred inflows/outflows	-32,153,465	-27,594,510
Recognition of prior deferred inflows/outflows due to change in proportion	<u>2,651,648</u>	<u>-2,303,307</u>
Ending Net Pension Liability	\$729,569,247	\$633,292,398

Section 5: GASB Information

Schedule of Proportionate Share of the Net Pension Liability – Jacksonville Electrical Authority

Reporting Date for Employer under GASB 68 as of September 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of Its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2016	49.1%	\$480,353,047	\$127,440,243	376.92%	64.03%
2017	50.4%	541,025,184	126,807,590	426.65%	63.00%
2018	51.7%	527,679,989	134,443,316	392.49%	66.42%
2019	50.6%	562,370,843	135,708,572	414.40%	65.23%
2020	48.8%	633,292,398	134,548,830	470.68%	60.54%
2021	52.7%	729,569,248	133,713,681	545.62%	59.16%

¹ Covered payroll as of the measurement date

Section 5: GASB Information

Deferred outflows of resources and deferred inflows of resources – Jacksonville Housing Authority

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Deferred Outflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,050,714	\$516,684
Changes of assumptions or other inputs	1,191,457	1,526,780
Net difference between projected and actual earnings on pension plan investments	1,037,570	701,487
Difference between expected and actual experience in the Total Pension Liability	<u>554,217</u>	<u>790,621</u>
Total Deferred Outflows of Resources	\$3,833,958	\$3,535,572
Deferred Inflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$549,595	\$969,384
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on pension plan investments	0	0
Difference between expected and actual experience in the Total Pension Liability	<u>34,613</u>	<u>65,837</u>
Total Deferred Inflows of Resources	\$584,208	\$1,035,221
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended September 30:		
2021	N/A	\$942,766
2022	\$1,265,186	703,062
2023	948,556	393,668
2024	1,007,355	460,855
2025	28,653	0
2026	0	0
Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68

Section 5: GASB Information

Pension expense – Jacksonville Housing Authority

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Components of Pension Expense		
Service cost	\$760,516	\$722,271
Interest on the Total Pension Liability	4,232,007	3,969,046
Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	264,124	-230,080
Current-period benefit changes	--	--
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	58,011	151,292
Expensed portion of current-period changes of assumptions or other inputs	171,981	22,234
Member contributions	-495,100	-512,845
Projected earnings on plan investments	-2,540,504	-2,571,955
Expensed portion of current-period differences between actual and projected earnings on plan investments	28,653	460,855
Administrative expense	20,631	17,503
Other	--	--
Recognition of beginning of year deferred outflows of resources as pension expense	1,865,622	1,775,334
Recognition of beginning of year deferred inflows of resources as pension expense	-704,549	-752,687
Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>-161,447</u>	<u>966,812</u>
Pension Expense	\$3,499,945	\$4,017,780

Section 5: GASB Information

Schedule of reconciliation of Net Pension Liability – Jacksonville Housing Authority

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Beginning Net Pension Liability	\$23,469,681	\$21,117,322
Pension expense	3,499,945	4,017,778
Employer contributions	-1,374,000	-1,276,000
New net deferred inflows/outflows	804,586	2,363,996
Change in allocation of prior deferred inflows/outflows	152,067	-80,139
New net deferred inflows/outflows due to change in proportion	792,372	-690,243
Recognition of prior deferred inflows/outflows	-1,161,074	-1,022,647
Recognition of prior deferred inflows/outflows due to change in proportion	<u>161,447</u>	<u>-966,812</u>
Ending Net Pension Liability	\$26,345,024	\$23,469,681

Section 5: GASB Information

Schedule of Proportionate Share of the Net Pension Liability – Jacksonville Housing Authority

Reporting Date for Employer under GASB 68 as of September 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of Its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2016	1.9%	\$18,569,090	\$4,535,512	409.42%	64.03%
2017	1.8%	19,763,477	4,710,802	419.54%	63.00%
2018	1.8%	18,276,842	4,475,739	408.35%	66.42%
2019	1.9%	21,120,866	4,054,520	520.92%	65.23%
2020	1.8%	23,469,681	4,193,896	559.62%	60.54%
2021	1.9%	26,345,024	3,708,968	710.31%	59.16%

¹ Covered payroll as of the measurement date

Section 5: GASB Information

Deferred outflows of resources and deferred inflows of resources – North Florida Transportation Planning Organization

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Deferred Outflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$27,876	\$16,712
Changes of assumptions or other inputs	77,176	101,223
Net difference between projected and actual earnings on pension plan investments	67,208	46,507
Difference between expected and actual experience in the Total Pension Liability	<u>35,899</u>	<u>52,417</u>
Total Deferred Outflows of Resources	\$208,159	\$216,859
Deferred Inflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$240,289	\$378,320
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on pension plan investments	0	0
Difference between expected and actual experience in the Total Pension Liability	<u>2,242</u>	<u>4,365</u>
Total Deferred Inflows of Resources	\$242,531	\$382,685
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended September 30:		
2021	N/A	-\$48,112
2022	-\$59,933	-87,364
2023	-33,729	-60,904
2024	57,434	30,554
2025	1,856	0
2026	0	0
Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68

Section 5: GASB Information

Pension expense – North Florida Transportation Planning Organization

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Components of Pension Expense		
Service cost	\$49,262	\$47,885
Interest on the Total Pension Liability	274,126	263,141
Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	9,291	-102,258
Current-period benefit changes	--	--
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	3,758	10,030
Expensed portion of current-period changes of assumptions or other inputs	11,140	1,474
Member contributions	-32,070	-34,001
Projected earnings on plan investments	-164,560	-170,516
Expensed portion of current-period differences between actual and projected earnings on plan investments	1,856	30,554
Administrative expense	1,336	1,160
Other	--	--
Recognition of beginning of year deferred outflows of resources as pension expense	120,845	117,702
Recognition of beginning of year deferred inflows of resources as pension expense	-45,637	-49,902
Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>-121,319</u>	<u>109,250</u>
Pension Expense	\$108,028	\$224,519

Section 5: GASB Information

Schedule of reconciliation of Net Pension Liability – North Florida Transportation Planning Organization

Reporting Date for Employer under GASB 68	September 30, 2021	September 30, 2020
Measurement Date	September 30, 2020	September 30, 2019
Beginning Net Pension Liability	\$1,556,001	\$1,777,236
Pension expense	108,028	224,520
Employer contributions	-89,000	-86,000
New net deferred inflows/outflows	52,117	156,729
Change in allocation of prior deferred inflows/outflows	5,350	-35,618
New net deferred inflows/outflows due to change in proportion	27,876	-306,774
Recognition of prior deferred inflows/outflows	-75,208	-67,800
Recognition of prior deferred inflows/outflows due to change in proportion	<u>121,319</u>	<u>-109,250</u>
Ending Net Pension Liability	\$1,706,483	\$1,556,001

Schedule of Proportionate Share of the Net Pension Liability – North Florida Transportation Planning Organization

Reporting Date for Employer under GASB 68 as of September 30	Proportion of the Net Pension Liability	Proportionate Share of Net Pension Liability	Covered Payroll ¹	Proportionate Share of the Net Pension Liability as a Percentage of Its Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
2016	0.2%	\$1,661,445	\$457,459	363.19%	64.03%
2017	0.2%	1,933,384	403,384	479.29%	63.00%
2018	0.2%	1,633,684	425,340	384.09%	66.42%
2019	0.2%	1,778,599	445,920	398.86%	65.23%
2020	0.1%	1,556,001	459,146	338.89%	60.54%
2021	0.1%	1,706,483	476,762	357.93%	59.16%

¹ Covered payroll as of the measurement date