

April 4, 2017

Mr. Timothy Johnson
Executive Director
Jacksonville Police and Fire Pension Fund
One West Adams Street, Suite 100
Jacksonville, FL 32202

Re: Jacksonville Police and Fire Pension Fund – Experience Study on Payroll Growth Assumption

Dear Tim:

As requested, we are enclosing an Experience Study on the Payroll Growth Assumption for the Jacksonville Police and Fire Pension Fund (Fund).

This experience study examines the 20-year historical period from October 1, 1996 to October 1, 2016 as well as a 5-year projection to October 1, 2021. The projection incorporates the collectively bargained negotiated salary increases scheduled to be granted in 2017 through 2019. The study period provided sufficient data to form a basis for recommending a revision in the payroll growth assumption to be used in future actuarial valuations of the Fund.

Please refer to the enclosed exhibit for details.

The long-term payroll growth assumption is currently 2.5% per year for purposes of amortizing the Unfunded Actuarial Accrued Liability (UAAL) and projecting the contribution amount to the contribution year (the year beginning one year after the valuation date). Future contributions are assumed to be equal to the dollar amount of the calculated contribution, payable in December of the fiscal year beginning one year after the valuation date. In the October 1, 2016 actuarial valuation, the payroll growth assumption was limited to the actual 10-year historical compound average payroll growth rate, as required by Florida Statute 112.64(5)(a), which was 0.067%.

Florida Statute 112.64(5)(b) states the following:

“An unfunded liability amortization schedule that includes a payroll growth assumption and is in existence on September 30, 1996, or is established thereafter, may be continued using the same payroll growth assumption, or one not exceeding the payroll growth assumption established at the start of the schedule, regardless of the actual 10-year average payroll growth rate, provided that:

- 1. The assumptions underlying the payroll growth rate are consistent with the actuarial assumptions used to determine unfunded liabilities, including, but not limited to, the inflation assumption; and*
- 2. The payroll growth rate is reasonable and consistent with future expectations of payroll growth.”*

Based on the above, the Fund may use a forward-looking payroll growth rate for purposes of amortizing the UAAL that is consistent with the Fund’s actuarial assumptions and which is reasonable and consistent with

future expectations of payroll growth.

Summary of Findings

- The actual 10-year compound average payroll growth rate through October 1, 2016 was **0.067%**.
- The actual 20-year compound average payroll growth rate through October 1, 2016 was **1.483%**.
- When covered payroll is projected to October 1, 2021, the projected 10-year compound average payroll growth rate is estimated to be **1.269%** on an open-group projection basis (based on actual payroll through September 30, 2016 and reflecting anticipated new hires from October 1, 2016 through October 1, 2021), and **-0.096%** on a closed-group basis (reflecting the anticipated plan closure on October 1, 2017).

The projected payroll through October 1, 2021 is based on the following:

- Actual covered payroll as of the October 1, 2016 actuarial valuation date.
- The negotiated across-the-board salary increases of 6.5% in 2017 and 2018 and 7.0% in 2019. These temporary additional salary increases have been added to the current salary increase assumption of 3.5% per year, including inflation, for total projected salary increases of 10.0% in 2017 and 2018 and 10.5% in 2019. This was done to include the impact of promotions and longevity/step increases.
- Annual salary increases of 3.5% in 2020 and 2021 (equal to the current salary increase assumption).
- New employees are assumed to be hired each year after 2016 at a rate sufficient to maintain a constant employee headcount.
- New employees are assumed to have the same demographic characteristics at their dates of employment as those of members hired during the three-year period ending June 30, 2016.
- The initial (first-year) salaries for new employees are assumed to increase by the negotiated across-the-board salary increases in 2017-2019 (6.5%, 6.5%, and 7.0%), and by the Fund's inflation assumption (2.5%) in 2020 and 2021.
- Existing and future employees are assumed to decrement each year based on the current valuation assumptions.

Considerations in Making Our Recommendation

When a pension fund closes to new entrants, it is generally advisable to no longer use a payroll growth rate in the amortization of the UAAL. In fact, the Florida Division of Retirement usually requires closed pension funds to amortize the UAAL as a level dollar amount (i.e., using a 0% payroll growth assumption).

The Jacksonville Police and Fire Pension Fund is in a unique situation in that if Ordinance 2017-257 passes and the pension liability surtax is applied, then Florida Statute 112.64(6) will apply. Florida Statute 112.64(6)(a) requires the Fund to amortize the UAAL, net of the present value of the pension liability surtax, over 30 years immediately following approval of the pension liability surtax. Florida Statute 112.64(6)(b) requires the payroll of all employees in job classifications which are covered by a closed retirement plan (regardless of the plan they participate in) to be included when determining the payroll

growth assumption to be used to amortize the UAAL. This means state law stipulates that the payroll growth assumption be based on an open group, rather than a closed group.

Another consideration is potential negative amortization. Any UAAL amortization schedule that results in negative amortization is generally not recommended. Negative amortization exists when the UAAL is expected to increase from one valuation date to the next if there are no changes and all actuarial assumptions are fully realized (i.e., there are no experience gains/losses). It occurs when the scheduled amortization payment on the UAAL is less than the interest on the UAAL for one year. In our opinion, it is especially important to try to prevent negative amortization for the Jacksonville Police and Fire Pension Fund because the UAAL will already be reduced by the present value of a future revenue stream (from the pension liability surtax), which will not start being received by the Fund until 2031. Under a 30-year amortization schedule, the highest payroll growth rate that will allow the initial payment to cover the interest on the UAAL (and prevent negative amortization) is between 1.27% and 1.39%, depending on whether amortization payments are made at the beginning or the end of the year.

It is important to note that the average expected future service of current active members is 10.02 years, which is far less than the 30-year amortization period required by Florida Statute 112(6)(a). Though required, a long amortization period carries more risk, especially in a closed plan, and the funded status could deteriorate in the short run. Furthermore, amortizing the UAAL over 30 years, in effect, transfers costs to future taxpayers, which deviates from language in Florida Statute 112.61 which says “*Accordingly, except as herein provided, it is the intent of this act to prohibit the use of any procedure, methodology, or assumptions the effect of which is to transfer to future taxpayers any portion of the costs which may reasonably have been expected to be paid by the current taxpayers.*”

Recommendation

For a closed pension fund, it is our recommendation to use a 0% payroll growth assumption. Based on our understanding, Florida Statute 112.64(6)(b) requires the future payroll of police officers and firefighters expected hired after October 1, 2017 (who will not become members of the Fund) to be included when setting this assumption, which deviates from our recommended practice for closed pension funds. In consideration of this prescribed method described under Florida Statute 112.64(6)(b) for determining the payroll growth assumption, **our recommendation is that the payroll growth assumption used to amortize the UAAL not exceed 1.25%**. This is based on the projected 10-year compound average payroll growth rate through 2021, which is 1.269% (reflecting the across-the-board negotiated salary increases in 2017-2019 and an OPEN group projection), and the goal of preventing negative amortization on the reduced UAAL (net of the present value of the pension liability surtax).

Additional Disclosures

This experience study was prepared at the request of the Executive Director and is intended for use by the Jacksonville Police and Fire Pension Fund and those designated or approved by the Fund. This study may be provided to other parties only in its entirety and only with the permission of the Board of Trustees.

The purpose of this study is to evaluate the payroll growth assumption to be used for the purposes of amortizing the UAAL and projecting the contribution amount to the contribution year in future actuarial valuations of the Fund. This study should not be relied on for any purpose other than the purpose described

Mr. Timothy Johnson

April 4, 2017

Page 4

above. We are neither attorneys nor legal professionals, and the above information should not be construed as legal advice or opinion. There is no guarantee that the State will agree with the approaches used. We recommend qualified legal counsel review our interpretation of Florida Statutes.

Annual covered payroll amounts from October 1, 1996 to October 1, 2016 were obtained from prior years' actuarial valuation reports of the Jacksonville Police and Fire Pension Fund and prior years' Comprehensive Annual Financial Reports of the City of Jacksonville, downloaded from the City of Jacksonville's website.

The calculations are based on the census data as of July 1, 2016 and the asset data as of October 1, 2016, as provided to us by Pension Board Consultants and as used for the October 1, 2016 Actuarial Valuation. We reviewed this information for reasonability, but did not audit the data. We are not responsible for the accuracy or completeness of this information. Please refer to the Actuarial Valuation report, as prepared by Pension Board Consultants, Inc., dated January 18, 2017, for a description of all actuarial assumptions, methods and plan provisions.


The projections are based upon assumptions regarding future events, which may or may not materialize. Future actuarial measurements may differ significantly from the current measurements presented in this letter due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Fund's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in this study.

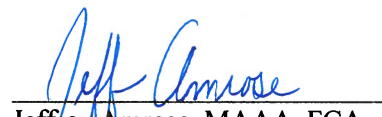
This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Jacksonville Police and Fire Pension Fund. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Peter N. Strong and Jeffrey Amrose are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,


Peter N. Strong, FSA, MAAA, FCA
Enrolled Actuary No. 17-06975


Jeffrey Amrose, MAAA, FCA
Enrolled Actuary No. 17-06599

**JACKSONVILLE POLICE AND FIRE PENSION FUND
PAYROLL GROWTH EXPERIENCE STUDY**

Payroll Growth Assumption

The long-term payroll growth assumption is currently 2.5% per year for purposes of amortizing the UAAL and projecting the contribution amount to the contribution year (the year beginning one year after the valuation date). In the most recent actuarial valuation, this assumption was limited to the actual 10-year historical compound average payroll growth rate, which was 0.067%.

The historical covered payroll and the projected payroll through October 1, 2021 for all members and future hires is shown on the next page. Projected covered payroll for years after October 1, 2016 has been included to illustrate the projected impact of the negotiated across-the-board salary increases of 6.5% in 2017 and 2018 and 7.0% in 2019, which have been added to the current salary increase assumption of 3.5%.

Based on the projected 10-year compound average payroll growth rate through 2021 (reflecting the across-the-board negotiated salary increases in 2017-2019 and an OPEN group projection), and a goal of preventing negative amortization, **our recommendation is for the payroll growth assumption used to amortize the UAAL to not exceed 1.25%.**

**JACKSONVILLE POLICE AND FIRE PENSION FUND
PAYROLL GROWTH EXPERIENCE STUDY**

Projected and Historical Covered Payroll for Active Member Group						
Valuation Date	Covered Payroll, Open Group	Covered Payroll, Plan Closed 10-1-2017	Average Annual % Increase			
			Annual (Open Group)	10-Year (Open Group)	Annual (Closed Group)	10-Year (Closed Group)
10/1/2021*	168,984,836	147,539,843	0.566%	1.269%	-3.205%	-0.096%
10/1/2020*	168,033,062	152,425,187	0.882%	0.615%	-2.276%	-0.362%
10/1/2019*	166,564,176	155,975,584	7.939%	0.686%	4.421%	0.027%
10/1/2018*	154,313,674	149,372,475	6.937%	0.400%	3.513%	0.074%
10/1/2017*	144,303,214	144,303,214	6.419%	0.090%	6.419%	0.090%
10/1/2016	135,599,741	135,599,741	2.158%	0.067%	2.158%	0.067%
10/1/2015	132,735,243	132,735,243	-1.328%	0.178%	-1.328%	0.178%
10/1/2014	134,521,216	134,521,216	2.710%	1.275%	2.710%	1.275%
10/1/2013	130,972,174	130,972,174	-1.975%	1.794%	-1.975%	1.794%
10/1/2012	133,611,459	133,611,459	-10.309%	2.767%	-10.309%	2.767%
10/1/2011	148,967,906	148,967,906	-5.744%	4.470%	-5.744%	4.470%
10/1/2010	158,046,680	158,046,680	1.600%	4.981%	1.600%	4.981%
10/1/2009	155,557,729	155,557,729	4.910%	4.765%	4.910%	4.765%
10/1/2008	148,276,743	148,276,743	3.686%	2.975%	3.686%	2.975%
10/1/2007	143,006,154	143,006,154	6.171%	3.029%	6.171%	3.029%
10/1/2006	134,694,392	134,694,392	3.299%	2.919%	3.299%	2.919%
10/1/2005	130,392,284	130,392,284	10.026%	N/A	10.026%	N/A
10/1/2004	118,510,432	118,510,432	8.094%	N/A	8.094%	N/A
10/1/2003	109,636,548	109,636,548	7.806%	N/A	7.806%	N/A
10/1/2002	101,698,016	101,698,016	5.716%	N/A	5.716%	N/A
10/1/2001	96,199,000	96,199,000	-1.037%	N/A	-1.037%	N/A
10/1/2000	97,207,000	97,207,000	-0.470%	N/A	-0.470%	N/A
10/1/1999	97,666,000	97,666,000	-11.693%	N/A	-11.693%	N/A
10/1/1998	110,598,000	110,598,000	4.229%	N/A	4.229%	N/A
10/1/1997	106,111,000	106,111,000	5.039%	N/A	5.039%	N/A
10/1/1996	101,021,000	101,021,000	N/A	N/A	N/A	N/A
Average Compound Rate from 10/1/96 to 10/1/16:			1.483%			
Average Compound Rate from 10/1/11 to 10/1/21:			1.269%			

*Covered payroll for years after 10/1/2016 are projected and include negotiated salary increases for 2017-2019.