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February 1, 2019

Mr. David B. Clark
Executive Director
Arkansas Local Police and Fire Retirement System
620 West 3rd, Suite 200
Little Rock, Arkansas 72201-2212

Re: Supplemental Actuarial Valuations

Dear Mr. Clark:

Enclosed is our actuarial analysis of Senate Bill 72 (SB 72) for the Arkansas Local Police and Fire Retirement System (LOPFI).

Please call if you have any questions or comments.

Respectfully submitted,

David L. Hoffman

Heidi G. Barry, ASA, FCA, MAAA

DLH/HGB:sc
Enclosure

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

Arkansas Local Police and Fire Retirement System
Actuarial Analysis of SB 72
as of December 31, 2017

Requested By:	Mr. David B. Clark, Executive Director Arkansas Local Police and Fire Retirement System
Date:	February 1, 2019
Submitted By:	David L. Hoffman and Heidi G. Barry, ASA, FCA, MAAA Gabriel, Roeder, Smith & Company

As requested, we have determined the expected impact in the employer contribution rate that would result from several proposed benefit changes for members covered in the Arkansas Local Police and Fire Retirement System. This analysis was requested by the Executive Director.

The date of the study was as of December 31, 2017. This supplemental valuation does not predict the result of the December 31, 2018 valuation or of any other future actuarial valuation. (Future activities can affect future valuation results in an unpredictable manner.) Rather, the supplemental valuation gives an indication of the probable effect of the proposed changes on future valuations without comment on the complete end result of the future valuations.

This report is intended to describe the financial effect of the proposed plan changes. No statement in this report is intended to be interpreted as a recommendation in favor of the changes, or in opposition to them.

Heidi G. Barry is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries required to render the actuarial opinions contained herein. The signing individuals are independent of the plan sponsor.

The calculations are based upon assumptions regarding future events, which may or may not materialize. They are also based upon present and proposed plan provisions that are outlined in the report. 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 authors of this report prior to relying on information in the report.

Arkansas Local Police and Fire Retirement System
Actuarial Analysis of SB 72
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The actuarial methods and assumptions were the same as those used in the regular valuation as of December 31, 2017. In particular, the economic assumptions used in the supplemental actuarial valuation were net investment return of 7.50% per year and wage inflation of 3.25% per year. Changes in actuarial accrued liabilities were amortized as a level-percent-of-payroll over a 17-year period for paid service and a 16-year period for volunteer service.

A brief summary of the data used for purposes of the study as of December 31, 2017 is presented below:

Active Members

Service		Valuation	Average in Years	
Type	**Number**	**Payroll**	**Age**	**Service**
Paid Service	6,301	$318,395,158	38.2	12.0
Volunteer Service	7,341	N/A	41.6	10.5

It is our understanding that benefits for current retired and DROP members would not be affected by the proposed benefit changes. They were excluded from this study.

In our professional judgment, the discount rate of 7.5% used in this report deviates materially from the guidance set forth in Actuarial Standard of Practice No. 27 (ASOP No. 27). The September 7, 2017 experience study presentation covering the period from January 1, 2012 through December 31, 2016 included an analysis of the long-term rate of investment return and inflation assumptions and suggested that an investment return assumption in the range of 6.25% to 7.00% would be reasonable. Please see our report dated September 29, 2017 for additional information. Further discussion occurred during the December 7, 2017 Board meeting where a 7.25% discount rate was considered and also determined to be reasonable.

Present Benefit Provisions

Simultaneous Service Credit. Arkansas Code § 24-10-501. A member may be credited both with volunteer service and with paid service when the member earns the service credit simultaneously. A member is limited to earning volunteer service with only one (1) covered employer at a time; and a member shall not earn volunteer service if the member is entitled to paid service for the same work.

Not later than **one (1) year** from and after the date an employer covers its employees and before the retirement of a member included in the employees so covered, the employer shall certify to the board the periods of prior employment of each of its members to be considered for credit as paid service and for credit as volunteer service.

Other Service Credit (OSC) Recognition. Arkansas Code § 24-10-508(a). An active member who has at least five (5) years of actual service and who has service in an Arkansas law enforcement agency or fire department and who has been employed as a public safety or law enforcement officer in any agency not covered by the system or any other system that is reciprocal to the System shall receive credited service for that service. A member hired on or after July 1, 2013, shall accrue ten (10) years of actual service in order to be eligible under this section.

Vested Termination Annuity. Arkansas Code § 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his or her early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he or she becomes eligible for a vested termination annuity; provided he or she lives to his or her normal retirement age and does not withdraw his or her accumulated contributions. The vested annuity amount, payable monthly for life from his or her normal retirement age, is computed in the same manner as an age and service annuity, based upon his or her service and pay record to time of leaving LOPFI coverage. **However, final average pay is increased by one-half of any increase in the inflation index for the period from termination of employment to beginning of annuity payments.**

Disability Retirement. Arkansas Code § 24-10-607. The disability annuity shall be effective the first day of the calendar month next following **the later of his or her termination of active membership; or six (6) months before the date the proper application is filed** with the Board. A proper application to the Board by the member or former member or on behalf of the member shall be filed with the Board no later than **one (1) year** after the termination of active membership.

Proposed Benefit Provisions

Simultaneous Service Credit. Arkansas Code § 24-10-501. **A member who is hired on or after July 1, 2019, may be covered by only one (1) employer until he or she accrues ten (10) years of actual service credit in the system. After a member accrues ten (10) years of actual service credit in the system, the member may only accrue a maximum of five (5) additional years of the service credit described under subdivision (a)(2) of this section.**

Not later than **ten (10) calendar days** from and after the date an employer covers its employees and before the retirement of a member included in the employees so covered, the employer shall certify to the board the periods of prior employment of each of its members to be considered for credit as paid service and for credit as volunteer service.

Other Service Credit Recognition. Arkansas Code § 24-10-508. **No additional service credit shall be credited under this section on or after April 1, 2019.**

Any OSC Recognition standing to a member's record on file with LOPFI as of April 1, 2019 would not be impacted.

Vested Termination Annuity. Arkansas Code § 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his or her early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he or she becomes eligible for a vested termination annuity; provided he or she lives to his or her normal retirement age and does not withdraw his or her accumulated contributions. For an annuity with an effective date that is on or after July 1, 2019, the vested annuity amount, payable monthly for life from his or her normal retirement age, is computed in the same manner as an age and service annuity, **based upon his or her service and pay record to time of leaving LOPFI coverage**.

Disability Retirement. Arkansas Code § 24-10-607. The disability annuity shall be effective the first day of the calendar month following **his or her termination of active membership and filing of the proper application** with the Board. A proper application to the Board by the member or former member or on behalf of the member shall be filed with the Board no later than **thirty (30) calendar days** after the termination of active membership.

Arkansas Local Police and Fire Retirement System
Actuarial Analysis of SB 72
as of December 31, 2017

Actuarial Statement

The following shows the computed change in the average paid service employer contribution rate that is expected to result from this proposed benefit change:

	Present Provisions	Proposed Provisions	Impact
Employer Contribution Rate			
Employer Normal Cost	9.64%	8.88%	(0.76)%
Unfunded Actuarial Accrued Liability	12.80%	12.36%	(0.44)%
Total Employer Rate	22.44%	21.24%	(1.20)%
Actuarial Accrued Liability (in millions $)	$ 2,317.3	$ 2,298.6	$ (18.7)
Funding Value of Assets (in millions $)	1,774.2	1,774.2	-
Unfunded Actuarial Accrued Liability (in millions $)	543.1	524.4	(18.7)
Amortization Period	17.0	17.0	0.0
Funded Ratio	76.6%	77.2%	0.6%

The reduction in the employer contribution shown above is the result of the change in the final average compensation for the Vested Termination Annuity. The other changes to the plan are made on a prospective basis and any costs savings that result from adopting these changes will emerge over time.

Both a 10 year vesting requirement and a five (5) year limit with regard to simultaneous service would reduce the anticipated cost of the benefit provision. An impact between the 1% to 5% range described in more detail on the next page may result in a reduction in the employer contribution of up to 0.25% of payroll. Actual effects will be based upon actual experience emerging gradually over time.

Elimination of Other Service Credit recognition may result in a reduction in the employer contribution of up to 0.50% of payroll. Actual effects will be based upon actual experience emerging gradually over time.

Please see additional analysis and comments on the following pages.

Discussion

Simultaneous Service

We observed over 600 paid service unreduced retirements during the most recent experience study (2012-2017). Only a small number of these retirements were significantly affected by the provision described above.

We expect this pattern to hold in the future and that the vast majority of retirements will occur either after a participant has earned their full retirement benefit or on or after age 55 for participants that have not yet earned a full retirement benefit. We therefore do not believe that the ability to accrue service simultaneously will have a significant impact on retirement activities.

However, the value of the benefit to an individual is very significant; the value on average of a year of service for a paid service member is about 16% of pay normally but about 26% of pay if a participant accrues simultaneous service for their entire career, a difference of 10% of pay. This cost would emerge slowly over the career of a participant. We can provide some idea of the impact on the employer contribution:

- If the activity results in simultaneous service accrual that significantly impacts 1% of active participants' retirement, then the employer contribution increases by about 0.10% of pay.
- If the activity results in simultaneous service accrual that significantly impacts 5% of active participants' retirement, then the employer contribution increases by about 0.50% of pay.
- If the activity results in simultaneous service accrual that significantly impacts 10% of active participants' retirement, then the employer contribution increases by about 1% of pay.

The active member data indicates that approximately a quarter of the paid service members have additional service credit of any type. This seems to indicate an impact between the 1%-5% range described immediately above. Given our analysis, both a 10 year vesting requirement and a five (5) year limit would significantly reduce the anticipated cost of the benefit provision. An impact between the 1% to 5% range described above may result in a reduction in the employer contribution of up to 0.25% of payroll.

Other Service Credit

No explicit modeling of the proposed benefit change was performed. The analysis instead considered the makeup of the current active population, as reported in the valuation data and discussions with LOPFI staff. Staff has indicated that approximately 500 active members (about 8% of active members), as of January, 2019, are currently utilizing the OSC Recognition provision with average OSC service of about 6.6 years. Elimination of OSC recognition may result in a reduction in the employer contribution of up to 0.50% of payroll. Actual effects will be based upon actual experience emerging gradually over time.

Disability

No explicit modeling of the proposed benefit change was performed. We have no way of knowing if the proposed legislation would decrease the number of applications received by the System. Any cost savings that may result from adopting this benefit provision will be small and emerge over time.

Comments

Comment 1: The probabilities of retirement were not adjusted in connection with these proposals. If members retire differently than our assumptions, as a result of the benefit change, then the cost of the benefit change will be different.

Comment 2: The reader of this report should keep in mind that actuarial calculations are mathematical estimates based on current data and assumptions about future events (which may or may not materialize).

Comment 3: This report is intended to describe the financial effect of the proposed plan changes on the Retirement System. Except as otherwise noted, potential effects on other benefit plans were not considered.

Comment 4: In the event that more than one plan change is being considered, it is very important to remember that the results of separate actuarial valuations cannot generally be added together to produce a correct estimate of the combined effect of all of the changes. The total can be considerably greater than the sum of the parts due to the interaction of various plan provisions with each other, and with the assumptions that must be used.

Comment 5: If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the authors of the report prior to making such decision.

Comment 6: We did not review this bill for compliance with Federal, State, or local laws or regulations, and internal revenue code provisions nor did we attempt to determine whether these changes would contradict or negate other related State, or local laws or provisions of other proposed legislation. Such a review was not within the scope of our assignment