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January 20, 2021

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

Re: Actuarial Analysis of Senate Bill 4

Dear Mr. Clark:

As requested, enclosed is our Actuarial Analysis of Senate Bill (SB) 4 for members in 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

Casey T. Ahlbrandt-Rains, ASA, MAAA

DLH/HGB/CTA:dj
Enclosure

Arkansas Local Police and Fire Retirement System
Actuarial Analysis of Senate Bill 4
as of December 31, 2019

Requested By:	Mr. David B. Clark, Executive Director Arkansas Local Police and Fire Retirement System
Date:	January 20, 2021
Submitted By:	David L. Hoffman, Heidi G. Barry, ASA, FCA, MAAA and Casey T. Ahlbrandt-Rains, ASA, MAAA Gabriel, Roeder, Smith & Company

This report presents results of an actuarial valuation of proposed benefit changes that would result from SB 4 for members covered in the Arkansas Local Police and Fire Retirement System. This supplemental report was requested by the Executive Director.

The date of the valuation was December 31, 2019. This means that the results of the supplemental valuation indicate what the December 31, 2019 valuation would have shown if the proposed benefit changes had been in effect on that date. Supplemental valuations do not predict the result of future actuarial valuations. Rather, supplemental valuations give an indication of the probable long-term cost of the benefit changes only 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 and Casey T. Ahlbrandt-Rains are Members of the American Academy of Actuaries (MAAA) and meet 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.

The actuarial methods and assumptions were the same as those used in the regular valuation as of December 31, 2019. In particular, the economic assumptions used in the supplemental actuarial valuation were net investment return of 7.50% per year and wage inflation of 2.50% per year. The amortization period is 16 years.

A brief summary of the data used for purposes of the study as of December 31, 2019 is presented below:

Paid Active Members

		Average in Years	
Number*	**Covered Payroll**	**Age**	**Service**
6,889	$ 367,225,538	39.0	12.3

** Includes 380 DROP participants with payroll of $23,451,583*

It is our understanding that benefits for current DROP or retired members would not be affected by the proposed benefit change. They were excluded from this study. However, DROP payroll is used in the determination of the employer contribution rate since employers contribute for members participating in the DROP. Therefore, DROP payroll is used in the analysis.

Present Provisions:

Duty Disability Annuity. A member who becomes totally and permanently disabled from duty-connected causes receives a duty disability annuity computed in the same manner as an age & service annuity, based upon his or her service and pay record to time of disability. The minimum annuity payable is 65% of the member's final average pay.

Proposed Provisions:

Beginning January 1, 2022, the board may add an additional amount to a paid service employer contribution to account for the cost of providing a disability benefit for each employee of the employer as provided under § 24-10-607. The employer contribution and any applicable penalty charged or assessed under this subsection does not qualify for inclusion in funding with or the receipt of premium tax revenues provided under § 24-11-214.

Duty Disability Annuity.
An approved duty disability retirement that is effective on or after April 1, 2021, shall be classified as catastrophic duty disability, hazardous duty disability, or ordinary duty disability in accordance with the criteria in the rules for disability retirement established by the board.

(i) A catastrophic duty disability annuity shall be equal to the greater of the following:
(a) The annuity paid to a retirant with twenty-eight (28) years of accrued paid service credit; or
(b) The annuity paid to a retirant for each year of paid service resulting from employment as provided under § 24-10-602.

(ii) A hazardous duty disability annuity shall be equal to the greater of the following:
(a) Sixty-five percent (65%) of the final average pay of the member; or
(b) The annuity paid to a retirant for each year of paid service resulting from employment as provided for in § 24-10-22 602.

(iii) An ordinary duty disability annuity shall be equal to the greater of the following:
(a) Fifteen percent (15%) of the final average pay of the member; or
(b) The annuity paid to a retirant for each year of paid service resulting from employment as provided under § 24-10-602.

This bill shall become effective on April 1, 2021.

Actuarial Statement

Section 7 of the bill introduces 3 levels of duty disability benefits. We do not know how members will be categorized into the three types of duty disabilities. We have shown two of many possible scenarios in our analysis. It is our understanding from conversations with staff that the expected number of catastrophic duty disabilities is expected to be less than 1%. Our first scenario assumes that 1% will be catastrophic, 39% will be hazardous and 60% will be ordinary duty disabilities. The second scenario assumes that that 1/3 of disabilities will be catastrophic, 1/3 will be hazardous and 1/3 will be ordinary duty disabilities.

The following shows the computed change in the employer contribution rate, under current assumptions, that would be necessary to fund the proposed benefit on a level cost basis under both scenarios:

Impact on Results

	Scenario 1	Scenario 2
Employer Contribution Rate		
Employer Normal Cost	-0.51%	-0.20%
Unfunded Actuarial Accrued Liability	-0.12%	-0.06%
Total Employer Rate	-0.63%	-0.26%
Actuarial Accrued Liability (AAL)	$ (5,588,337)	$ (2,692,530)
Funding Value of Assets (FVA)	-	-
Unfunded Actuarial Accrued Liability	(5,588,337)	(2,692,530)
Amortization Period	0.0	0.0
Funded Ratio	0.2%	0.1%

As can be seen, the results vary depending on the allocation of disabilities. If experience emerges differently than assumed, the savings will be different than shown here. If the bill is adopted, the assumptions would be reviewed and updated as experience emerges.

Section 1 of the bill was not analyzed explicitly. The bill is silent with regard to the additional charge that may be applied to a department for a duty or ordinary disability; the final determination is left to the LOPFI Board. The additional charge to a department is expected to offset a portion of the disability costs sustained by the department. However, the ultimate costs of the System as a whole are not changed as a result of Section 1 of the bill.

Comment 1 — The figures shown on the prior page are based on the December 31, 2019 actuarial valuation. Please remember that this change, if adopted, will be based on member data and financial results as of future dates. Given the relatively small number of disabilities in total and the sensitivity of these results to the actual disability benefit that members would qualify for it may be prudent to allow experience to emerge before this provision is modeled in the actuarial valuation.

Comment 2 — 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 this 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 this report.

Comment 3 — 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 this report prior to making such decision.

Comment 4 — This report is intended to describe the financial effect of the proposed plan change. No statement in this report is intended to be interpreted as a recommendation in favor of the change, or in opposition to it.

Comment 5 — 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 6 — This report is intended to describe the financial effect of the proposed plan change on the Retirement System. Except as otherwise noted, potential effects on other benefit plans were not considered.

Comment 7 — 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). Please note that actuarial calculations can and do vary from one valuation year to the next, sometimes significantly if the group valued is very small (less than 30 lives). As a result, the cost impact of a benefit change may fluctuate over time, as the demographics of the group changes.

Comment 8 – This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.