

ACTUARIAL REVIEW OF THE  
2018 ACTUARIAL VALUATION OF THE  
LOUISIANA ASSESSORS' RETIREMENT FUND



ACTUARIAL SERVICES  
PRESENTED TO THE PUBLIC RETIREMENT SYSTEMS' ACTUARIAL COMMITTEE  
AUGUST 2, 2019

UPDATED TO INCLUDE RESPONSE FROM G.S. CURRAN & COMPANY, LTD.  
AUGUST 5, 2019



LOUISIANA LEGISLATIVE AUDITOR  
DARYL G. PURPERA, CPA, CFE

July 15, 2019

Ms. Kathy Bertrand, Executive Director  
Louisiana Assessors' Retirement Fund (LARF)  
3060 Valley Creek Drive  
Baton Rouge, Louisiana 70808

***Re: Actuarial Review of the 2018 Actuarial Valuation***

Dear Ms. Bertrand:

To fulfill the requirements of R.S. 11:127(C) to the Public Retirement Systems' Actuarial Committee (PRSAC) for 2018, the Louisiana Legislative Auditor (LLA) has conducted an Actuarial Review for the Louisiana Assessors' Retirement Fund (LARF).

In lieu of a Comprehensive Actuarial Review or a Brief Actuarial Review as we have prepared for statewide retirement systems in the past, we are submitting herein an Actuarial Review for PRSAC's consideration. The scope of this Actuarial Review is less robust than a Comprehensive Actuarial Review, but provides more specific opinions and recommendations than previous Brief Actuarial Reviews.

The remainder of this letter contains the results of our Actuarial Review of your September 30, 2018 actuarial valuation (prepared by G.S. Curran & Company and dated February 28, 2019). More specifically, we have evaluated for appropriateness certain actuarial assumptions and methods employed by the System and its actuary.

I would like to thank you, your staff and the board's actuary for the cooperation and assistance provided for this review.

Sincerely,

Daryl G. Purpera, CPA, CFE  
Legislative Auditor

DGP:JJR:LPG:ch

cc: G.S. Curran & Company

2018 ACTUARIAL REVIEW FOR LARF

## **Scope of Review**

The 2018 actuarial valuation report for the Louisiana Assessors' Retirement Fund (LARF) for funding purposes was prepared by the actuary for LARF, G.S. Curran & Company, dated February 28, 2019.

This Actuarial Review of that report was prepared by James J. Rizzo of Gabriel, Roeder, Smith & Company, who serve as staff to the actuary for the Louisiana Legislative Auditor, and includes evaluations for appropriateness of key actuarial assumptions and methods.

This Actuarial Review presents opinions concerning various assumptions and methods employed by the board and its actuary in the 2018 funding valuation. However, a full actuarial valuation replicating the actuary's results was not performed; nor was a full actuarial valuation performed using recommended assumptions and methods.

This Actuarial Review is limited to discussion of (1) appropriate treatment of LARF's cost-of-living (COLA) benefits, (2) appropriate investment return assumptions, (3) appropriate salary increase assumptions given recent reductions in the assumed rate of inflation, (4) the system actuary's use of acceptable mortality tables, and (5) the rates of withdrawal.

## **Findings**

### **1. Cost-of-Living Adjustments (COLAs).**

The cost of future COLAs is currently not included in the 2018 funding valuation. Future COLAs are currently recognized in the calculations of costs and liabilities only after they are granted.

There are, basically, two broad categories of COLAs available to LARF:

1. "Gain-sharing COLA." This is a COLA granted when the actuarial earnings exceed the actuarial assumption by a sufficient margin and
2. "FDA COLA." This is a COLA granted and paid out of funds that have accumulated in the Funding Deposit Account (FDA).

There are many other rules for COLAs relating to: how often and when they may be granted, minimum and maximum percentage and dollar increases granted, and who is eligible to receive the increases.

Whether and how *future* COLAs should be recognized in annual actuarial valuations for funding purposes and for accounting purposes depends on whether the future COLAs expected are of the "Gain-sharing COLA" variety or the "FDA COLA" variety.

### *Actuarial treatment of “Gain-sharing COLAs”*

When there is a reasonable expectation (not a guaranteed expectation) of “Gain-sharing COLAs” being granted in the future, an actuary should recognize the likelihood and magnitude of future “Gain-sharing COLAs” in the measurement of system costs and liabilities for both funding and accounting purposes.

### *Actuarial treatment of “FDA COLAs”*

However, when there is a reasonable expectation that future COLAs will be of the “FDA COLA” type, the actuarial treatment may be different:

- For funding purposes, future FDA COLAs are already being pre-funded by making higher contributions than what is required under a non-COLA future. The excess contributions are set-aside and not counted as plan assets in the actuarial valuation until such time an FDA COLA is granted, when an equivalent amount is released from the FDA into the actuarial value of assets. Therefore, for funding purposes, if a reasonable expectation of future COLAs is that they would be granted from the balance in the FDA, then no actuarial advance-recognition is necessary.
- For accounting purposes, on the other hand, the Governmental Accounting Standards Board (GASB) does not focus on funding and whether the contributions are exceeding a minimum calculation. GASB requires advance recognition when there is a reasonable pattern expected for granting COLAs (whether they are FDA COLAs or otherwise).

The LARF differs from most other Louisiana state and statewide retirement systems in that it has accumulated a substantial balance in its FDA by way of previous contributions that exceed the minimum recommended net direct employer contribution. LARF is one of two statewide systems that have substantial FDA balances. The FDA balance in the LARF may be used to fund COLAs when otherwise permitted under the rules.

The actuary for the LLA expects that future COLAs granted for LARF would be of the “FDA COLA” type. The last COLA granted was an FDA COLA, effective October 1, 2017. Unless the balance in the FDA is used repeatedly for other purposes (e.g., reducing the net direct employer contribution or reducing the present value of future costs), thereby depleting the balance available for COLAs, the actuary for the LLA expects that future COLAs would be financed by using the balance in the FDA. This is not the opinion of the actuary for the LLA with respect to all statewide systems.

Conclusion -- For the 2018 LARF funding valuation, the actuary for the LLA accepts the current practice of not recognizing future COLAs in the funding calculations of costs and liabilities as appropriate treatment in this situation.

## **2. Investment Return Assumption.**

For this Actuarial Review, a detailed analysis of independent experts' 2018 forecasts for LARF's portfolio was not undertaken. The last time such a detailed analysis was undertaken by the actuary for the LLA was for the 2017 valuation report (presented in a Comprehensive Actuarial Review dated August 27, 2018).

The LARF board and its actuary lowered the investment return assumption from 6.75% for the 2017 valuation to 6.25% for the 2018 valuation. This was commendable, but we recommend lowering the investment return assumption further.

The appropriateness of a retirement system's investment return assumption for any given year's pension valuation is assessed:

- Primarily, or solely, in terms of the expected future inflation rates and future capital market assumptions for relevant asset classes,
- As forecasted by several reputable and independent professional forecasters,
- And applied to the pension fund's own asset allocation targets,
- Net of the pension fund's own expected investment-related expenses (for either passive or active management, both in-house or external, for custodial and trade-execution fees, and for external investment consulting); and
- The pension plan's duration calculation (an indicator of the projected benefit cash flows).

The LARF's 2017 valuation report used a 6.75% return assumption. In last year's Comprehensive Actuarial Review (CAR) of that 2017 valuation report, we applied the first four bullet points above and developed the most appropriate return assumption for 2017 to be 5.50%. This analysis was based on a consensus average of numerous independent professional inflation and investment forecasters.

The LARF board and its actuary used 6.25% for the 2018 valuation. But numerous independent professional investment forecasters lowered their mid-term and longer term expectations in 2018 as well, causing 6.25% still to be higher than the 2018 consensus. As a matter of information, their 2019 forecasts have come up slightly.

Conclusion -- In the absence of conducting an updated and detailed analysis using LARF's own asset allocation and its own expected cash flow, based only on estimates, the actuary for the LLA considers the 6.25% return assumption for the 2018 valuation to be reasonable. However, a lower return assumption would seem more appropriate.

Large and reputable independent investment forecasters' expectations for the next 10 to 15 years' investment returns are mostly driven by currently high stock price valuations and currently low yields and interest rates. They are not expecting the next 10 to 15 years' investment returns to be anywhere near the high levels we have seen in many prior periods. While their forecasts are not certain or guaranteed, in our opinion they are the best sources for decision-makers to rely on.

In spite of recent gains – *in large part, because of recent gains* - forecasters expect lower returns than we have seen in many prior periods. The LARF pension board and actuary are to be commended for recognizing that in their return assumptions.

LARF has demonstrated that a retirement system can make significant progress toward full actuarial funding, even while moving toward lower and more appropriate return assumptions.

### **3. Salary Scale and Inflation Inconsistency.**

The assumed rate of inflation is an important building block component in both the investment return assumption and salary increases assumption for each active member.

In the most recent funding valuation report (2018), the board's assumption for inflation dropped by 0.30% from the prior year. However, the salary increase assumption did not drop by a similar amount. No parallel change was made in tandem to the salary increase assumption. This makes the salary increase assumption inconsistent with the embedded inflation assumption.<sup>1</sup>

Valuation September 30:	2016	2017	2018
Return Assumption (per the valuation report)	7.00%	6.75%	6.25%
<b>Reduction in Return Assumption from Prior Year</b>	NA	<b>0.25%</b>	<b>0.50%</b>
Inflation Assumption per the valuation report)	2.50%	2.50%	2.20%
<b>Reduction in Inflation Assumption from Prior Year</b>	NA	NA	<b>0.30%</b>
Salary Increase Assumption per the valuation report)	5.75%	5.75%	5.75%
<b>Reduction in Salary Increase Assumption From Prior Year</b>	NA	<b>None</b>	<b>None</b>

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<sup>1</sup> Actuarial Standard of Practice (ASOP) No. 27, section 3.12 states:

Consistency among Economic Assumptions Selected by the Actuary for a Particular Measurement—With respect to any particular measurement, each economic assumption selected by the actuary should be consistent with every other economic assumption selected by the actuary for the measurement period, unless the assumption, considered individually, is not material, as provided in section 3.5.2. A number of factors may interact with one another and may be components of other economic assumptions, such as inflation, economic growth, and risk premiums. In some circumstances, consistency may be achieved by using the same inflation, economic growth, and other relevant components in each of the economic assumptions selected by the actuary. Consistency is not necessarily achieved by maintaining a constant difference between one economic assumption and another. For each measurement date, the actuary should reevaluate the individual assumptions and the relationships among them, and make appropriate adjustments.

Conclusion – For consistency, the salary increase assumption should (and could have) have been lowered in the 2018 valuation.

If the LARF board were to lower the salary increase assumption to be consistent with the lower inflation assumption for the 2018 valuation (decreasing effects), that would lower the required contribution somewhat. This would be a perfect opportunity to partially offset the effects of a more mainstream and lower investment return assumption for 2018 (such as going to 6.0%), and would have less impact on the contribution and liability levels.

#### **4. Mortality Assumption.**

The 2018 Actuarial Valuation (page 40) states that the mortality assumption:

- For active member mortality is the “RP2000 Employee Table set back 4 years for males and set back 3 years for females” and
- For annuitant and beneficiary mortality is the “RP 2000 Healthy Annuitant Table set forward 1 year and projected to 2030 for males and projected to 2030 for females with no set forward.”

These 2018 mortality rates are the same as used in the 2017 valuation.

##### *Base mortality table*

To evaluate the reasonableness of the mortality assumption, the base mortality (RP2000) was reviewed separately from any projection of future mortality rates.

In terms of materiality, the mortality rates for annuitants and beneficiaries are more significant than those for active members. The system’s actuary provided certain details concerning the methods employed for the selection of the base mortality table for annuitants and beneficiaries, which was separated from projections of future improvements in mortality rates. Last year’s CAR of the 2017 valuation report included details concerning the LLA actuary’s evaluation of these methods and the resulting mortality tables adopted. The conclusion for this year’s 2018 valuation report is the same.

Conclusion – The actuary for the LLA considers the LARF’s base tables for mortality rates for annuitants and beneficiaries to be reasonable.

##### *Future improvements in base mortality rates*

The 2018 valuation report does not specify any recognition of future improvements in mortality rates for currently active members. The 2015 actuarial experience study and supplemental information provided by the system’s actuary indicate the base table and projections for future improvements in mortality rates were combined into a single blended table for current active members by making age adjustments. Actuarial literature has suggested the use of more modern methods: a base table and a separate treatment

disclosed for improvements. While the combining method employed by the system's actuary for active members is not unreasonable, at a minimum, disclosure that the age adjustments are intended to reflect an estimate of future mortality improvements should be made in the valuation report.

For annuitants and beneficiaries (more significant than for active members), the 2018 valuation report indicates that future mortality improvements to the base rates are reflected in the singular projection of the rates to 2030. This is the same as indicated in the 2017 valuation report. The primary observations below are the same as presented in more detail in the LLA's CAR for that 2017 valuation report:

- There is no disclosure of the projection scale employed.
- Through examination of the 2015 experience study report and supplemental information provided by the system's actuary, it was determined that the projection scale employed was Scale AA. This is an old projection scale which has been replaced several years ago by more modern projections scales.
- The Society of Actuaries has recommended that generational projection rates are recommended over the use of static projections to a given future year. This recommendation has been in place for several years.

With newer methods recommended by the Society of Actuaries and as published in other actuarial literature, reluctance to move mortality rates to more modern approaches has been defended by stating the board's intention not to make any changes until the next scheduled actuarial experience study. A new experience study is not required to update to more modern approaches. There is no real need for waiting to implement more current methods. More appropriate actuarial treatments can be implemented in any valuation report (whether it was the 2017 report or this 2018 report).

Thus, while the use of Scale AA projected to 2030 is not unreasonable, there are more modern approaches that can be implemented without difficulty.

Conclusion – The actuary for the LLA recommends the more current approach to estimating mortality rate improvements for valuation purposes by either: (a) applying RP2000 projected generationally by Scale BB or (b) RP2006, or the new public sector mortality table, loaded with 120% (for CDC data) and adjusted for partially credible plan-specific experience, then projecting generationally using MP2017 or MP 2018.

While either of these two approaches would be more current and preferable methodologies, we do not find the mortality tables used in the LARF 2018 actuarial funding valuation report to be unreasonable.

This is similar to the conclusion and recommendation in the 2017 CAR of the 2017 valuation report. However, no changes in mortality rates were made in the LARF's 2018 valuation report.

## **5. Rates of Withdrawal**

The 2018 Actuarial Valuation (page 4) for funding states that “the current year actuarial assumptions utilized for this report are based on the results of an actuarial experience study for the period October 1, 2009 - September 30, 2014, unless otherwise specified in this report.”

The withdrawal rates in the experience study report cited above (prepared by the board’s actuary, dated January 25, 2016) were reviewed, and compared to the withdrawal rates disclosed in the 2018 funding valuation report.

Completed Years of Service	Withdrawal Rate	
	Per Experience Study Report	Per 2017 and 2018 Valuation Reports
1 or less	10.0%	10.0%
2	10.0%	6.0%
3	6.0%	6.0%
4	6.0%	6.0%
5	6.0%	6.0%
6	6.0%	6.0%
7	6.0%	6.0%
8	6.0%	2.0%
9	2.0%	2.0%
10	2.0%	5.0%
11 and more	5.0%	5.0%

The rates of withdrawal are slightly different. This was cited in the 2017 CAR prepared by the actuary for the LLA. For the years 2, 8 and 10, the shaded rates indicate the differences.

In follow-up correspondence to the 2017 CAR the system’s actuary explained that the table in the experience study report is misaligned. The tables in the 2017 and 2018 valuation reports are the correct tables actually produced in the experience study and are, in fact, the tables applied in the 2017 and 2018 valuation reports.

Conclusion – The actuary for the LLA finds that explanation acceptable.

## **Actuarial Certification**

This report is considered to be a Statement of Actuarial Opinion. Therefore, we make the following certification:

I, James J. Rizzo, am a member of the American Academy of Actuaries, an Associate in the Society of Actuaries, an Enrolled Actuary, and I meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein.



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James J. Rizzo, ASA, MAAA  
Senior Consultant and Actuary  
Gabriel, Roeder, Smith & Company

July 15 2019  
Date

I, Lowell P. Good, am a member of the American Academy of Actuaries, an Associate in the Society of Actuaries, an Enrolled Actuary, and I meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein.



Lowell P. Good, ASA, EA, MAAA  
Actuary for the Louisiana Legislative Auditor

July 15, 2019  
Date

RESPONSE FROM  
G.S. CURRAN & COMPANY, LTD.

**G. S. CURRAN & COMPANY, LTD.**  
Actuarial Services  
**10555 N. Glenstone Place • Baton Rouge, Louisiana 70810 • (225) 769-4825**

Gary S. Curran, FCA, MAAA, ASA, EA  
Consulting Actuary

Gregory M. Curran, FCA, MAAA, ASA, EA  
Consulting Actuary

July 29, 2019

Kathy Bertrand, Director  
Louisiana Assessors' Retirement Fund  
P.O. Box 14699  
Baton Rouge, Louisiana 70898

Dear Kathy:

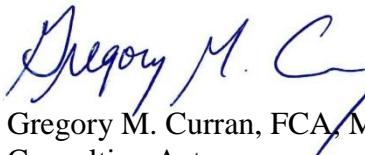
We have completed our analysis of the Actuarial Review of the 2018 Actuarial Valuation of the Louisiana Assessors' Retirement Fund as published by the Louisiana Legislative Auditor (LLA). Within this report, the actuaries for the LLA discuss their opinions and findings related to the assumptions used within the Fund's 2018 actuarial valuation report.

This report focuses on our treatment of cost-of-living adjustments, investment return assumption, salary scale and inflation assumptions, mortality assumptions, and rates of withdrawal. In a few areas there remain some differences in the opinion of the LLA actuaries and our own. We have provided significant detail in past years to explain our opinions and do not feel that repeating that analysis is necessary at this time. We believe that the work being performed by the LLA to continually review the work that we do on behalf of the Board of Trustees is valuable for the retirement fund. Their annual reviews promote a healthy discussion about the assumptions used in the actuarial valuation and provide the Board of Trustees with an additional actuarial opinion. I believe that this process has furthered the education of Board members with regard to actuarial matters and we are happy to discuss any matter contained within the annual actuarial review with the Board or any stakeholder.

At its July meeting, the Board of Trustees approved the performance of a full experience study in 2020. This study will review each of the assumptions within the annual actuarial valuation and recommendations will be made for changes in assumptions to be implemented in the September 30, 2020 actuarial valuation. As we have informed the Board, this study will likely include a move to generational mortality. Also, a full review of salary increases over the recent five year period along with consideration of expected inflation will likely lead to a change in the salary scale assumption. The study will take a look at the investment return assumption and will incorporate updated target asset allocations and capital market. Such a comprehensive review of assumptions will provide another opportunity for education and could lead to changes in the LLA conclusions.

If you have any questions, please give me a call.

Sincerely yours,



Gregory M. Curran, FCA, MAAA, ASA  
Consulting Actuary