ACTUARIAL REVIEW OF THE 2020 ACTUARIAL VALUATION OF THE PAROCHIAL EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL SERVICES

PRESENTED TO THE PUBLIC RETIREMENT SYSTEMS' ACTUARIAL COMMITTEE

AUGUST 17, 2021

LOUISIANA LEGISLATIVE AUDITOR
MICHAEL J. "MIKE" WAGUESPACK, CPA

July 22, 2021

Ms. Dainna S. Tully
Administrative Director
Parochial Employees' Retirement System
7905 Wrenwood Boulevard
Baton Rouge, Louisiana 70809

Re: Actuarial Review of the 2020 Actuarial Valuation

Dear Ms. Tully:

To fulfill the requirements of R.S. 11:127(C) to the Public Retirement Systems' Actuarial Committee (PRSAC) for 2020, the Louisiana Legislative Auditor (LLA) has conducted an Actuarial Review for the Parochial Employees' Retirement System (PERS).

The remainder of this letter contains the results of our Actuarial Review of your December 31, 2020, actuarial valuation (prepared by G.S. Curran & Company and dated June 1, 2021). More specifically, we have reviewed for appropriateness certain actuarial assumptions and methods employed by PERS 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,

Michael J. Waguespack, CPA
Legislative Auditor

MJW:JJR:ch

cc: G.S. Curran & Company, Ltd.

1600 NORTH THIRD STREET • POST OFFICE BOX 94397 • BATON ROUGE, LOUISIANA 70804-9397
WWW.LLA.LA.GOV • PHONE: 225-339-3800 • FAX: 225-339-3870

Scope of Review

The 2020 actuarial valuation report for the Parochial Employees' Retirement System (PERS) for funding purposes was prepared by G.S. Curran & Company (GSC), and dated June 1, 2021.

This Actuarial Review of that report was prepared by James J. Rizzo, Senior Consultant and Actuary, and Piotr Krekora, Senior Consultant and Actuary, both employed by Gabriel, Roeder, Smith & Company (GRS). GRS is under contract with the Louisiana Legislative Auditor (LLA) to provide backup, research, calculations, actuarial services and advice to the LLA, and to fulfill the statutory functions of the Actuary for the LLA.

This Actuarial Review includes evaluations of the appropriateness of key actuarial assumptions and methods. However, a full actuarial valuation replicating the System actuary's results was not performed; nor was a full actuarial valuation performed using recommended assumptions and methods. Finally, we did not perform a full and detailed research analysis to determine our preferred or most appropriate net return assumption, but we applied reasonable estimating techniques to develop our recommendations.

This Actuarial Review is limited to (1) a review of the System's treatment of future COLA benefits, (2) a review of the System's investment return assumption, and (3) a review of the System's mortality assumptions.

1. <u>Cost-of-Living Adjustments (COLAs)</u>.

The cost of future COLAs is currently not included in the 2020 Actuarial Valuation. Future COLAs are currently recognized in the calculations of costs and liabilities only after they are granted. This is an appropriate treatment for this year, for this System, for *funding* purposes, but not for *accounting* purposes.

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

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 the balance accumulated in PERS' 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 by any retirement system, it is appropriate for an actuary to recognize the likelihood and magnitude of future "Gain-sharing COLAs" in the measurement of system costs and liabilities for *funding* purposes, provided the Gain-sharing COLAs are material and are actuarially measurable. In this regard, recognizing future Gain-sharing COLA benefits in advance for *funding* purposes is no different than recognizing future disability, death and refund benefits in advance when there is a reasonable expectation of being approved and paid. However, future COLAs should be recognized in advance in costs and liabilities for *accounting* purposes under a different standard (described below).

As discussed below, it is more likely than not that future COLAs for PERS members will be paid under the FDA statutes, not under the Gain-sharing COLA statutes.

PERS differs from many other Louisiana state and statewide retirement systems in that it has accumulated a substantial balance in its FDA in recent years by way of actual contributions that have exceeded the minimum recommended net direct employer contribution. The FDA balance in PERS may be used to fund COLAs when otherwise permitted under the rules.

We expect that future COLAs granted for PERS would be of the "FDA COLA" type. The two most recent COLAs granted were FDA COLAs, effective January 1, 2018, and January 1, 2021. In addition, a "Gain-sharing COLA" could have been granted for the COLA effective January 1, 2018; however, the Board of Trustees opted for financing the COLA with the balance in the FDA rather than with "excess" interest (i.e., gain-sharing).

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, we expect that future COLAs would be financed by using the balance in the FDA and granting FDA COLAs, rather than granting Gain-sharing COLAs. This opinion may not hold in future years for PERS and is not our opinion for other Louisiana retirement systems.

Actuarial Treatment of "FDA COLAs"

When there is a reasonable expectation that future COLAs will be of the "FDA COLA" type under Louisiana statutes, the appropriate actuarial treatment is different from that of Gain-sharing COLAs:

- For *funding* purposes, future FDA COLAs are already being pre-funded by making higher contributions than what is required under a non-COLA version of the 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. For *funding* purposes, if there is a reasonable expectation that future COLAs would be granted from the balance in the FDA, then no advance-recognition in actuarial calculations is necessary because the advance-recognition is already happening more directly, in the additional contributions. Therefore, the System's current treatment of not recognizing future COLAs in advance is appropriate for *funding* purposes.

- However, for *accounting* purposes, the Governmental Accounting Standards Board (GASB) does not consider whether the contributions are exceeding a minimum funding requirement in its accounting standards for advance-recognition of future COLAs. The GASB is not focused on *funding*, but on *accounting*. The GASB requires advance-recognition of future COLAs for accounting purposes when there is a reasonable pattern expected for granting future COLAs (regardless of whether they are FDA COLAs or otherwise).

Therefore, even when COLAs are actually paid and expected to be paid out of the FDA balance, the GASB standards would require advance-recognition in the actuarial calculations of costs and liabilities that appear in the financial statements of the System and the participating employers if there is a pattern of FDA COLAs expected[1], regardless of whether the actual contributions are exceeding the minimum recommended contributions.

When applying the GASB accounting standards to the Louisiana statutes for granting FDA COLAs to PERS members, the GASB accounting standards consider the COLAs to be "ad hoc" (not automatic). However, the GASB requires any COLAs that are "substantively automatic" to be recognized in advance in the actuarial costs and liabilities of the financial statement for the System and the participating employers.

We believe there is compelling evidence that the historical pattern of COLAs, coupled with the statutory template applied to future COLAs, would require the System to recognize reasonably expected future FDA COLAs in the actuarial calculations (using the same pattern) for the financial statements of the System and the participating employers.

Consider the exhibit on the following page, which illustrates the recent history of COLAs granted to PERS members. The GASB considers COLAs to be "postemployment benefit changes."

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[1] GASB No. 67 paragraph 39 states, "In addition, projected benefit payments should include the effects of (a) projected ad hoc postemployment benefit changes, including ad hoc COLAs, to the extent that they are considered to be substantively automatic;14 . . .". Footnote 14 states, "[14]Considerations that might be relevant to determining whether such changes are substantively automatic include the historical pattern of granting the changes, the consistency in the amounts of the changes or in the amounts of the changes relative to a defined cost-of-living or inflation index, and whether there is evidence to conclude that changes might not continue to be granted in the future despite what might otherwise be a pattern that would indicate such changes are substantively automatic." Similar requirements appear in GASBS No. 68 relative to accounting and financial reporting for participating employers. Refer also to 2015 CIG No. 2015-1 Q&A 5.178.4 for cost-sharing employers.

COLA History for the Parochial Employees' Retirement System											
Actuarial Measurement Date	Statutory Conditions Authorizing All COLAs: The Window Rule[2] for Any COLA	Statutory Conditions Authorizing Gain-sharing (G-s) COLAs Pct and Recipients[3]			Authorizing Funding Deposit Account COLAs						
		The Sufficient Actuarial Return Rule[4] for G-s COLAs	R.S. 11:1937 G-s COLA [Up to 2.5%, to Elg Over 62]	R.S. 11:246 G-s COLA [2% or Nothing, to Elg Over 65]	Balance in the FDA	R.S. 11:1937 FDA COLA [Up to 2.5%, to Elg Over 62]	R.S. 11:246 FDA COLA [2% or Nothing, to Elg Over 65]	Amount Granted by Board	Date Approved by Board	Effective Date of COLA	Comments
12/31/2020	Not Satisfied (For YE 2021)	**Satisfied** (9.7% and 9.7% vs. 6.50%)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	$55,177,473 (Plan A) and $4,881,920 (Plan B)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	N/A	N/A	N/A	None permitted for failure of the Window Rule
12/31/2019	**Satisfied** (For YE 2020)	Not Satisfied (6.4% and 6.4% vs. 6.50%)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	$83,972,205 (Plan A) and $6,928,047 (Plan B)	**2.5% Permitted** [To Elg Over 62]	**2%Permitted** [To Elg Over 65]	**2.5% Granted** [To Elg Over 62]	9/21/2020	1/1/2021	COLA granted from Funding Deposit Account
12/31/2018	**Satisfied** (For YE 2019)	Not Satisfied (4.7% and 4.8% vs. 6.75%)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	$78,847,141 (Plan A) and $6,220,583 (Plan B)	**2.5% Permitted** [To Elg Over 62]	**2%Permitted** [To Elg Over 65]	NA	NA	NA	G-s COLA not permitted for failure to satisfy the Inv Return Rule; FDA COLA permitted but not granted
12/31/2017	Not Satisfied (For YE 2018)	**Satisfied** (8.6% and 8.5% vs. 7.00%)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	$66,910,393 (Plan A) and $5,361,971 (Plan B)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	NA	NA	NA	None permitted for failure of the Window Rule
12/31/2016	**Satisfied** (For YE 2017)	**Satisfied** (7.8% and 7.5% vs. 7.00%)	**<2.5% Permitted** [To Elg Over 62]	None Permitted [To Elg Over 65]	$68,896,088 (Plan A) and $5,602,259 (Plan B)	**2.5% Permitted** [To Elg Over 62]	**2%Permitted** [To Elg Over 65]	**2.5% Granted** [To Elg Over 62]	Not Available	1/1/2018	COLA granted from Funding Deposit Account
12/31/2015	Not Satisfied (For YE 2016)	**Satisfied** (7.3% and 7.1% vs. 7.25%)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	$49,644,401 (Plan A) and $4,622,489 (Plan B)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	NA	NA	NA	None permitted for failure of the Window Rule
12/31/2014	Not Satisfied (For YE 2015)	**Satisfied** (10.5% and 10.3% vs. 7.25%)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	$23,781,823 (Plan A) and $2,281,164 (Plan B)	None Permitted [To Elg Over 62]	None Permitted [To Elg Over 65]	NA	NA	NA	None permitted for failure of the Window Rule
12/31/2013[5]	**Satisfied** (For YE 2014)	**Satisfied** (13.0% and 12.8% vs. 7.5%)	**2.5% Permitted** [To Elg Over 62]	**2%Permitted** [To Elg Over 65]	$4,918,053 (Plan A) and $2,126,959 (Plan B)	**2.5% Permitted** [To Elg Over 62]	**2%Permitted** [To Elg Over 65]	**2.5% Granted** [To Elg Over 62]	Not Available	1/1/2015	Gain-sharing COLA granted

[2] Per R.S. 107.1(D)(4)(b) and R.S. 11:243(G)(1) and (3), the Board may grant a benefit increase only if any of the following apply: (a) the system has a funded ratio of at least 90% and has not granted a benefit increase to retirees, survivors, or beneficiaries in the most recent fiscal year, (b) the system has a funded ratio of at least 80% and has not granted such an increase in any of the two most recent fiscal years, or (c) the system has a funded ratio of at least 70% and has not granted a benefit increase to retirees, survivors, or beneficiaries in any of the three most recent fiscal years. The funded ratio as of any fiscal year is the ratio of the actuarial value of assets to the actuarial accrued liability under the funding method prescribed by the office of the legislative auditor.

[3] Per R.S. 11:1937, the Board is authorized to provide a COLA of up to 2.5% of the current benefit to eligible pensioners over age 62. Additionally, per R.S. 11:246, the Board is authorized to provide an additional or supplemental COLA of 2% to eligible pensioners over age 65. No COLA may be provided during any fiscal year until the lapse of at least one-half of the fiscal year.

[4] Per R.S. 11:1937, the Board is authorized to use interest earnings on investments of the system in excess of normal requirements to provide a supplemental COLA of up to 2.5% of the current benefit to eligible pensioners over age 62. Additionally, per R.S. 11:246, the Board has the authority to provide a supplemental COLA of 2% to eligible pensioners over age 65 if there is sufficient excess interest earnings to fund the entire 2% additional COLA.

[5] The 12/31/13 valuation date marks the first year that Act 170 applies, after the trustees elected to be covered under R.S. 11:243 by 12/31/13.

Following are the "considerations that might be relevant to determining whether such changes are substantively automatic."

1. "the historical pattern of granting the changes,"

2. "the consistency in the amounts of the changes ***or*** in the amounts of the changes relative to a defined cost-of-living or inflation index" *[notice the "or" is highlighted for emphasis]*, and

3. "whether there is evidence to conclude that changes might not continue to be granted in the future despite what might otherwise be a pattern that would indicate such changes are substantively automatic."

These are specific *considerations* that might be relevant to determining whether such "postemployment benefit changes" (e.g., COLAs or PBIs) are substantively automatic. This is not an exhaustive or exclusive list of *considerations*, and all three *considerations* are not required in order to treat the pattern of postemployment benefit changes to be treated as "substantively automatic." But these are among considerations enumerated by the GASB that might be relevant.

Consideration 1 is satisfied: Since the December 31, 2013, valuation, the Board granted COLAs every third year. There were three such times:

- As of January 1, 2015, based on the December 31, 2013, Actuarial Valuation;

- As of January 1, 2018, based on the December 31, 2016, Actuarial Valuation; and

- As of January 1, 2021, based on the December 31, 2019, Actuarial Valuation.

This is a pattern of granting COLAs every third year, thus satisfying *Consideration 1*.

Consideration 2 is satisfied: The amounts of the change in benefits (i.e., the COLA amounts) have been consistent. In each of the three times, the Board granted a COLA of 2.5%. Therefore, there has been "consistency in the amounts of the change" in benefits.

This consideration does not require that the COLA granted must be consistent "in the amounts of the changes relative to a defined cost-of-living or inflation index" in order to be treated as "substantively automatic." The consideration may be consistency "in the amount of the change" in benefits granted.

The amount of the COLA granted in each of these three instances was 2.5% of the current benefits to eligible retirees over age 62. That satisfies the *Consideration 2* for consistency in amounts of the changes in benefits.

Consideration 3 is satisfied: There is no "evidence to conclude that changes might not continue to be granted in the future despite what might otherwise be a pattern that would indicate such changes are substantively automatic." Such evidence, if it were to exist, might override the *Considerations 1 and 2*. However, we find no such evidence: no statute change, no Board resolution, etc. Thus, *Consideration 3* is satisfied.

Using the GASB's own stated *considerations*, it is clear that the value of expected future COLAs should be recognized in the actuarial calculations of costs and liabilities in the financial statements of the System and the participating employers; not for funding, but for accounting.

Another consideration (not specifically enumerated in the GASB standard) is "reasonable likelihood." Based on (a) PERS' expected funded status, (b) expected contributions per the current funding policy and recent pattern of contribution practice, (c) expected FDA balances, and (d) the current Louisiana COLA statutes, it is likely that PERS will be permitted to grant an FDA COLA every two or three years in the foreseeable future. Furthermore, it is reasonably likely that the PERS Board will indeed grant the FDA COLAs every two or three years or possibly a Gain-sharing COLA when permitted if the FDA balance falls significantly. Of course, there is a chance the Board will not grant a COLA (whether FDA or Gain-sharing) when permitted to do so. But, at this point, there is a "reasonable likelihood" the Board will grant them every two or three years, even if the COLA were to be not granted in all years that it is permitted.

Regardless of "reasonable likelihood," all three GASB-stated *considerations* are satisfied and sufficient to require the actuarial value of future COLA increases to be included for *accounting* purposes in the costs and liabilities presented in the financial statements of the System and participating employers.

<u>Conclusion</u>

For PERS' 2020 Actuarial Valuation for *funding* purposes, we accept the 2020 treatment of not recognizing future COLAs in the *funding* calculations of costs and liabilities as appropriate treatment in this situation. However, we disagree with the non-recognition of future COLAs to PERS members for *accounting* purposes in the financial statements of the System and participating employers.

2. Investment Return Assumption.

While we prefer a lower return assumption for the 2020 Actuarial Valuation, we find the Board's 6.40% return assumption to be acceptable. For context, the following table summarizes the last few years' investment return assumptions selected by the system's Board of Trustees as compared to the preferred return assumption developed by the Actuary for the LLA.

	Board's Assumption	LLA Actuary's Assumption*
2018 Actuarial Valuation	6.50%	6.25%
2019 Actuarial Valuation	6.50%	6.25% (estimated)
2020 Actuarial Valuation	6.40%	5.75% (estimated)
2021 Actuarial Valuation	NA	5.25% - 5.75% (estimated)

** In our review of the 2018 actuarial valuation, we prepared a Comprehensive Actuarial Review, in which the "most appropriate" or "preferred" return assumption was developed using a robust process with research inputs from several professional forecasters. In our reviews of the 2019 and 2020 actuarial valuations (as well as the 2021 projection), estimates were made based on general knowledge of the direction and change-magnitude of forecasters' expectations and based on the System's own asset allocation.*

For this Actuarial Review, a detailed analysis of independent experts' 2020 forecasts for PERS's portfolio was not undertaken. Instead, we developed estimates based on prior detailed analyses for PERS and our general understanding of the direction and change-magnitude of forecasters' expectations in recent years.

Comparisons

Following are the primary reasons why our 5.75% estimated 2020 return assumption differs from the System's 6.40% assumption:

- Inflation: The consensus average expectations of professional inflation forecasters published in 2020 for the mid-term and longer-term lead to a 2.00% future inflation assumption embedded in the return assumption, while PERS' actuary indicates that a 2.30% assumption for future inflation embedded in the salary scale and return assumption.

- Time Horizon: Our most appropriate or preferred return assumption is between the mid-term consensus average forecast (a lower rate) and the longer-term consensus average forecast (higher) of professional investment forecasters. PERS' Board relies on a strict long-term forecast for setting the return assumption, as attested and recommended by its actuary, without reflecting what is expected to happen during the next 10 years. We believe the mid-term expectations should be considered in the process, resulting in a final blended rate between the mid-term and long-term horizon forecasts.

- Methodology: The Actuary for the LLA and the System's actuary both rely on various independent professional forecasts to inform our opinions. In doing so, we both are applying an accepted principle in forecasting science (obtain inputs from several subject matter experts). However, our methodologies differ (a) in how we map the asset classes of the investment forecasters and the asset classes in the System's own investment policy statement and (b) in the mathematical models applied.

In our opinion, the appropriate benchmark for whether 6.40% is conservative or optimistic would be to compare it to a consensus average of several expert investment forecasters, based on the fund's own asset allocation with adjustments for investment expenses and cash flow expectations. That is the comparison we make to assess whether a given return assumption is conservative, aggressive, or just about right.

There has been a downward movement in return expectations among professional investment forecasters over the last several years (faster and farther than the Board has been lowering its return assumption). What we have seen in the mainstream of professional forecasters since 2019 was a decrease for 2020's mid-term and longer-term forecasts. Also, it appears that the fund's asset allocation may have changed somewhat since our last comprehensive analysis.

Based on a simplified analysis of these factors, we estimate the most appropriate return assumption for PERS' 2020 Actuarial Valuation would move down from our 6.25% in the detailed 2018 analysis to approximately 5.75% for 2020 (compared to the System's 6.40% assumption).

A Disciplined Process

While PERS' 2020 return assumption is within a reasonable range (near the top) around our most appropriate assumption, the cost of being materially wrong is substantial, whether it is over a 10-year period or a 30-year period, and could be detrimental to plan members (jeopardizing actuarial benefit security) and detrimental to taxpayers (unexpected contribution increases).

The detailed process of our assessment of actuarial return assumptions is captured in our treatment of the most significant factors in setting, defending or assessing the appropriateness of an assumed return. We assessed the following factors using estimations this year, without a comprehensive analysis:

1. Forecasts of future rates of *inflation* (forward-looking), as expected by experts who are both independent and nationally recognized in the field of inflation forecasting;

2. Forecasts of future *investment returns* (forward-looking) and other capital market assumptions for various asset classes, as expected by experts who are both independent and nationally recognized in the field of investment return forecasting;

3. The investment policy's current and future *asset allocation percentages*, by asset class;

4. *Future investment performance* of the pension fund's portfolio: (1) as expected by each independent forecaster, (2) considering the consensus average of their 50th percentile expectation for the System's compound return over time; and

5. *Expected benefit cash flow* influences how much of a fund's future earnings will be affected by mid-term forecasts versus long-term forecasts.

This disciplined process assures decision-makers that the result is a net return assumption that:

a. Is unbiased, objective, free of agency risk (i.e., not overly influenced by what the participating agencies think is affordable);

b. Is developed in a disciplined, robust, and defensible manner; and

c. Improves actuarial benefit security, intergenerational equity, and contribution stability.

Time Horizon of Future Expectations

Supporting documentation for the investment return assumption from PERS' actuary indicates that the long-term (20-30 years) capital market assumptions from investment consulting firms was the basis for the recommendation and the selection of the return assumption. However, we believe an assumed rate of return between mid-term and long-term is more appropriate for PERS and for most other retirement systems. Longer-term horizon forecasts (e.g., 20-30 years) are useful for one component of the process, but not to the exclusion of mid-term horizon forecasts.

Pension funds are, indeed, long-term arrangements usually; and pension trustees are often reminded not to be overly concerned about short-term investment volatility. However, these are not relevant to the selection of a pension return assumption. For plans with significant benefit cash flows expected in the following 10 to 15 years, in our opinion, investment return forecasts over a horizon of 20-30 years are too long to be used exclusively for the selection of assumed rate of return for pension valuations.

In most years, long-term expectations from reputable forecasting experts have been generally higher than mid-term expectations, creating a pattern that actuaries sometimes call *select-and-ultimate expectations*. This resembles a yield curve in the fixed income field. A lower rate is expected during the select period (e.g., next 10 years), followed by a higher rate for the ultimate period (e.g., years 11 through 30).

Based on the 2020 Actuarial Valuation, the majority of PERS' current assets will be paid out during the next 10 years – and will not be there to help generate a higher return expected in the later years. That mid-term exposure needs to be recognized in the selection of the return assumption, as indicated by ASOP No. 27 section 3.8.3(f).

The final pension return assumption should lie somewhere between the mid-term horizon forecasts and the longer-term horizon forecasts. That is true regardless of whether the system is characterized as very mature, mature or not mature, and regardless of whether the system has significant negative cash flow, slight negative cash flow or no negative cash flow yet, and regardless of whether a fund has grown in absolute terms over the years.

The simple fact that a significant amount of a plan's assets will leave the trust fund (during the select period) prior to the time when the returns are expected to be higher in the later years (ultimate period), is sufficient to require the final return assumption to be a *blend* between the mid-term and longer-term forecasts, i.e., a single equivalent rate. Whether the final blended rate is less than half-way between the mid-term forecast and the longer-term forecast, or more than half-way, depends on the duration of the expected benefit cash flow rather than how negative the *net* cash flow is.

<u>Conclusion</u>

In the absence of conducting a comprehensive analysis using updated 2020 expert forecasts, we estimate and recommend that the PERS' retirement Board and actuary consider lowering the return assumption for the 2020 Actuarial Valuation to approximately 5.75%. However, the System's 6.40% return assumption for its 2020 valuation is within a reasonable range around the preferred (or most appropriate) rate.

In the absence of changes in the asset allocations or significant changes in the markets and inflation expectations between now and December 31, 2021 (or even later when the next valuation is being prepared), we expect the most appropriate return assumption for the 2021 actuarial valuation to fall further, to approximately 5.25% to 5.75%.

Multiple large and reputable independent investment forecasters' current and recent expectations for the next 10 years' investment returns are mostly driven by high stock price valuations compared to earnings, low inflation expectations, and currently low yields and interest rates. They are not expecting the next 10 years' investment returns to be anywhere near the high levels we have seen in many prior periods.

3. **Mortality Assumption**.

The 2020 Actuarial Valuation (pages 66/67) states that the mortality assumption for active member mortality and for annuitant and beneficiary mortality is the "Pub-2010 Public Retirement Plans Mortality Table for General Healthy Retirees multiplied by 130% for males and 125% for females, each with full generational projection using the MP2018 scale."

To evaluate the reasonableness of the mortality assumption, we reviewed the base mortality (Pub-2010) separately from the projection scale (MP2018).

Base Mortality Table

The Pub-2010 Public Retirement Plans Mortality Tables Report was published in January 2019. This table was developed by the Society of Actuaries based on data obtained from public sector pension plans across the U.S. It is the most recent reliable broad-base mortality table available, for purposes of national estimates of mortality for public pension plans.

The observed mortality rates were compared to the standard reference table in order to set the appropriate adjustment factors to determine the best fitting table to use for the final mortality assumption. Because the plan is too small for a full statistical credibility of its own mortality experience, observed rates were blended with standard tables. The resulting adjustment factor of 130% was determined by GSC to be the best fit for males, and an adjustment factor of 125% was determined by GSC to be the best fit for females.

Conclusion

The Actuary for the LLA considers the PERS' base tables (before projection for future mortality) for mortality rates to be reasonable for the 2020 Actuarial Valuation for PERS.

Projection Scales

Once the base table was found to be reasonable, we turned our attention to the projection scale used in the mortality assumption to reflect expected mortality improvements over time. The 2020 Actuarial Valuation stated that the Pub-2010 table was projected generationally using scale MP2018. We noted that the projection scale MP2020 was the most recent projection scale available as of that valuation date. However, we find the projection scale MP2018 to be appropriate for the 2020 Actuarial Valuation as well.

Conclusion

The Actuary for the LLA considers the mortality improvement scale to be reasonable for the 2020 Actuarial Valuation for PERS.

Actuarial Certification

This Actuarial Review report constitutes a Statement of Actuarial Opinion. It 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 information it is purported to present. All calculations have been made in conformity with generally accepted actuarial principles and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

James J. Rizzo and Piotr Krekora are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

The signing actuaries are independent of the Parochial Employees' Retirement System.

James J. Rizzo

July 8, 2021
Date

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

Piotr Krekora

July 8, 2021
Date

Piotr Krekora, ASA, EA, MAAA, PhD
Senior Consultant and Actuary
Gabriel, Roeder, Smith & Company

Appendix

Qualifications and Caveats

This Actuarial Review was prepared to fulfill the requirements of R.S. 11:127(C) to the Public Retirement Systems' Actuarial Committee (PRSAC) for 2020 and is intended for use by PRSAC and those designated or approved by PRSAC. This Actuarial Review may be provided to parties other than PRSAC only in its entirety and only with the permission of PRSAC. The Louisiana Legislative Auditor is not responsible for unauthorized use of this Actuarial Review.

This Actuarial Review should not be relied on for any purpose other than the purposes described herein. This Actuarial Review assumes the continuing ability of PERS to collect the contributions necessary to fund this Plan. A determination regarding whether or not PERS is actually willing and able to do so in the future is outside our scope of expertise and was not performed.

The findings in this Actuarial Review are based on data and other information as of December 31, 2020, and forecasts published for 2020. This Actuarial Review was based upon information furnished by PERS, the System's investment consultant, the System's actuary and by numerous external inflation and investment forecasters. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by outside parties.

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.

At the time of this writing, we consider the 2020 forecasts of the future inflation and capital market assumptions (including future investment returns) from the subject matter experts to be suitable for development of a "most appropriate" net return assumption for the 2020 actuarial valuation. There has been considerable uncertainty about the economy and a lot of volatility in the markets. But for now, the robust process and results presented herein seem most appropriate.

This Actuarial Review 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 and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.