



CURRAN ACTUARIAL
— CONSULTING, LTD. —

**Annual Funding Valuation
June 30, 2023**

**Louisiana
State Police
Retirement System**



October 6, 2023

Board of Trustees
Louisiana State Police Retirement System
9224 Jefferson Highway
Baton Rouge, Louisiana 70809


Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Louisiana State Police Retirement System for the fiscal year ending June 30, 2023. Our report is based on the actuarial assumptions specified and relies on the data supplied by the system's administrators and accountants. This report was prepared at the request of the Board of Trustees of the Louisiana State Police Retirement System. The primary purposes of the report are to determine the actuarially required contribution for the retirement system for the fiscal year ending June 30, 2024, and to recommend the net direct employer contribution rate for Fiscal 2025. This report does not contain the information necessary for accounting disclosures as required by Governmental Accounting Standards Board (GASB) Statements 67 and 68; that information is included in a separate report. This report was prepared exclusively for Louisiana State Police Retirement System for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

In our opinion, all assumptions on which this valuation is based are reasonable individually and in the aggregate. Both economic and demographic assumptions are based on our expectations for future experience for the fund. This report has been prepared in accordance with generally accepted actuarial principles and practices, and to the best of our knowledge and belief, fairly reflects the actuarial present values and costs stated herein. The undersigned actuary is a member of the American Academy of Actuaries, has met the qualification standards for the American Academy of Actuaries to render the actuarial opinions incorporated in this report, and is available to provide further information or answer any questions with respect to this valuation.

Sincerely,

CURRAN ACTUARIAL CONSULTING, LTD.

By: 

Gregory Curran, F.C.A., M.A.A.A., A.S.A.
Senior Consulting Actuary

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SUMMARY OF VALUATION RESULTS LOUISIANA STATE POLICE RETIREMENT SYSTEM

	June 30, 2023	June 30, 2022
Census Summary:		
Active Members	903	914
Retired Members and Survivors	1,395	1,355
Terminated Due a Deferred Benefit	29	32
Terminated Due a Refund	212	200
Payroll:	\$ 72,925,139	\$ 72,075,629
Benefits in Payment:	\$ 78,010,957	\$ 72,704,372
Present Value of Future Benefits	\$ 1,637,322,963	\$ 1,543,559,092
Actuarial Accrued Liability (EAN):	\$ 1,435,238,228	\$ 1,371,245,509
Unfunded Actuarial Accrued Liability:	\$ 338,420,447	\$ 302,965,699
Experience Account:	\$ 0	\$ 0
PBI Funding Account:	N/A	N/A
Actuarial Value of Assets:	\$ 1,096,817,781	\$ 1,068,279,810
Market Value of Assets (Includes Experience Account):	\$ 1,045,811,117	\$ 997,876,785
Ratio of AVA to Actuarial Accrued Liability:	76.42%	77.91%
	Fiscal 2023	Fiscal 2022
Market Rate of Return (Excluding Money Market DROP funds):	7.45%	-12.37%
Actuarial Rate of Return (Excluding Money Market DROP funds):	5.12%	6.76%
Non-Money Market DROP Account Interest Credit Rate:	4.62%	6.26%
	Fiscal 2024	Fiscal 2023
Employer's Normal Cost (Mid-year):	\$ 16,532,864	\$ 15,172,311
Amortization Cost (Mid-year):	\$ 40,035,856	\$ 33,499,763
Projected Administrative Expenses:	\$ 1,350,734	\$ 1,269,385
Insurance Premium Taxes	\$ (1,500,000)	\$ (1,500,000)
Net Direct Employer Actuarially Required Contributions:	\$ 56,419,454	\$ 48,441,459
Projected Payroll:	\$ 78,953,018	\$ 71,937,646
Actuarially Required Net Direct Employer Contribution Rate:	71.5%	67.3%
Actual Employee Contribution Rate:		
Employees whose first state service occurred before Jan. 1, 2011:	8.5%	8.5%
Employees whose first state service occurred on or after Jan. 1, 2011:	9.5%	9.5%
Actual Net Direct Employer Contribution Rate:	70.4%	62.9%
	Fiscal 2025	Fiscal 2024
Minimum Recommended Net Direct Employer Cont. Rate:	70.6%	70.4%
PBI Funding Account AFC Rate:	0.00%	N/A
Total Recommended Employer Contribution Rate:	70.6%	N/A

GENERAL COMMENTS

The values and calculations in this report were determined by applying statistical analysis and projections to system data and the assumptions listed. There is sometimes a tendency for readers to either dismiss results as mere guesses or alternatively to ascribe a greater degree of accuracy to the results than is warranted. In fact, neither of these assessments is valid. Actuarial calculations by their very nature involve estimations. As such, it is likely that eventual results will differ from those presented. The degree to which such differences evolve will depend on several factors including the completeness and accuracy of the data utilized, the degree to which assumptions approximate future experience, and the extent to which the mathematical model accurately describes the plan's design and future outcomes.

Data quality varies from system to system and year to year. The data inputs involve both asset information and census information of plan participants. In both cases, the actuary must rely on third parties; nevertheless, steps are taken to reduce the probability and degree of errors. The development of assumptions is primarily the task of the actuary; however, information and advice from plan administrators, staff, and other professionals may be factored into the formation of assumptions. The process of setting assumptions is based primarily on analysis of past trends, but modification of historical experience is often required when the actuary has reason to believe that future circumstances may vary significantly from the past. Setting assumptions includes, but is not limited to, collecting past plan experience and studying general population demographics and economic factors from the past. The actuary will also consider current and future macro-economic and financial expectations as well as factors that are likely to impact the particular group under consideration. Hence, assumptions will also reflect the actuary's judgment with regard to future changes in plan population and decrements in view of the particular factors that impact participants. Thus, the process of setting assumptions is not mere guess work but rather a process of mathematical analysis of past experience and of those factors likely to impact the future.

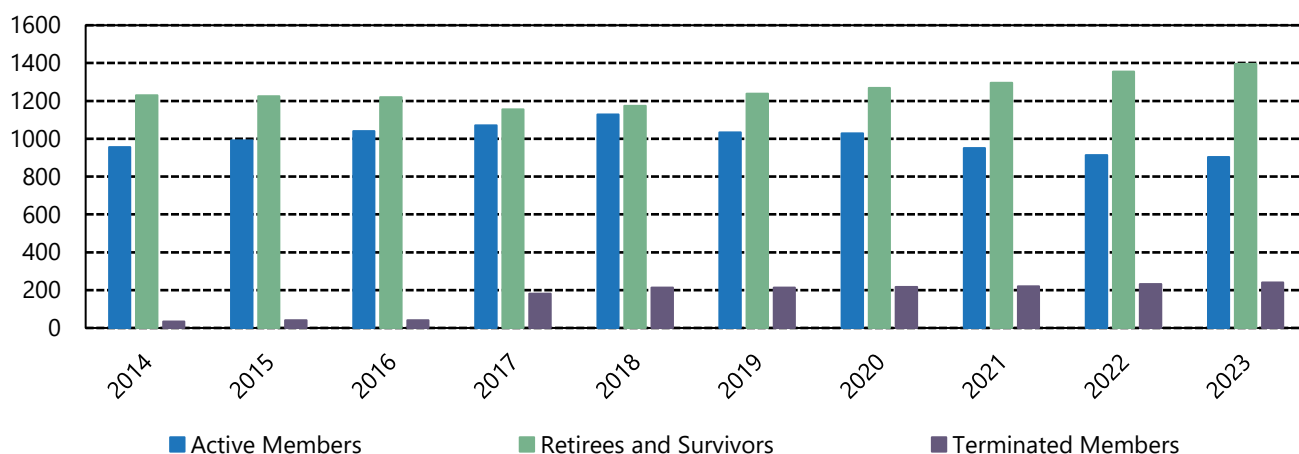
One area where an actuary has limited ability to develop accurate estimates is the projection of future investment earnings. The difficulties here are significant. First, the future is rarely like the past, and the data points available to develop a stochastic analysis are far fewer than the number required for statistical significance. In this area, some guess work is inevitable. However, there are tools available to lay a foundation for making estimates with an expectation of reliability. Although past data is limited, the available data is likely to provide some insight into the future. This data consists of general economic and financial values such as past rates of inflation, rates of return variance, and correlations of returns among various asset classes, along with the actual asset experience of the plan. In addition, the actuary can review the current asset market environment as well as economic forecasts from governmental and investment research groups to form a reasonable opinion with regard to probable future investment experience for the plan.

All of the above efforts would be in vain if the assumption process were static and the plan would have to deal with the consequences of actual experience differing from assumptions after forty or fifty years of compounded errors. However, actuarial funding methods for pension plans all allow for periodic corrections of assumptions to conform with reality as it unfolds. This process of repeated correction of estimates produces imperfect results but is nevertheless a reasonable approach to determine the contribution levels that will provide for the future benefits of plan participants.

COMMENTS ON DATA

For the valuation, the system's administration furnished census data derived from the system's master data processing file indicating each active covered employee's sex, date of birth, service credit, annual salary, and accumulated contributions. Information on retirees detailing retiree dates of birth, beneficiary dates of birth, retiree and beneficiary gender, optional form of benefit chosen, along with original and current benefit amounts, was provided. In addition, data was supplied on former employees who are vested or who have contributions remaining on deposit. As illustrated in Exhibit VIII, there are 903 active contributing members in the system, of whom 555 have vested retirement benefits. 1,395 former members or their beneficiaries are receiving retirement benefits. An additional 241 terminated members have contributions remaining on deposit with the system; of this number 29 have vested rights for future retirement benefits. According to **Figure 1**, active membership has declined over the past few years, while retiree and survivor levels have increased.

Figure 1. Membership Counts



(Fiscal 2014 through 2016 terminated members exclude former members who terminated due a refund.)

Census data submitted to our office is tested for errors, and changes are made when errors are identified. Several types of census data errors are possible. To ensure that the valuation results are as accurate as possible, a significant effort is made to identify and correct these errors. To minimize coverage errors (i.e., missing or duplicated individual records), the records are checked for duplicates, and a comparison of the current year's records to those submitted in prior years is made. Changes in status, new records, and previous records that have no corresponding current record are identified. This portion of the review indicates the annual flow of members from one status to another and is used to check some of the actuarial assumptions such as rates of retirement, withdrawal, and mortality. In addition, the census is checked for reasonableness in several areas such as age, service, salary, and current benefits. Records identified by this review as questionable are checked against data from prior valuations, are reviewed against information on the system's membership database, and may be included in a detailed list of items sent to the system's administrative staff for verification and/or correction. Once the identified data has been researched and either verified or corrected, the final data is used in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record.

A member's salary is an important component of projecting future cash flows and computing normal costs and accrued liabilities. Our modeling requires the entry of annual salary for this purpose. For individuals who have not completed a full year of service during the measurement period, we use an estimate of their service during the fiscal year to annualize salaries.

In addition to the statistical information provided on the system's participants, the system's administrator furnished general information related to other aspects of the system's expenses, benefits, and funding. Valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the firm of Ericksen Krentel. As indicated in the system's financial statements, the net market value of assets was \$1,045,811,117 as of June 30, 2023. Net investment income for Fiscal 2023 measured on a market value basis was \$73,433,643. Contributions to the system for the fiscal year totaled \$61,386,776; benefits and expenses amounted to \$86,886,087.

Notwithstanding our efforts to review both census and financial data for apparent errors, we must rely upon the system's administrative staff and accountants to provide accurate information. Our review of submitted information is limited to validation of reasonableness and consistency. Verification of submitted data to source information is beyond the scope of our efforts.

COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

This valuation is based on the Individual Entry Age Normal actuarial cost method. The unfunded accrued liability is amortized with level payments over various periods as specified in Louisiana Revised Statute R.S. 11:102. Amortization bases for actuarial asset and liability gains or losses (except as noted below) or changes in assumptions were set to be amortized over 30 years between Fiscal 2009 and Fiscal 2018. According to Act 95 of the 2016 Regular Session, effective for the valuation following the fiscal year in which the system first attained a funded percentage of 70%, these amortization periods were to be reduced from 30 to 20 years. Within the Fiscal 2017 valuation, the funded status exceeded 70% and triggered the provision detailed in Act 95. Therefore, beginning with the Fiscal 2018 valuation, new amortization bases (except for contribution shortfalls/excesses and funds added to the Experience Account) have been set at 20 years. All contribution shortfalls and excesses are amortized as a level dollar amount over 5 years, and funds added to the system's Experience Account have continued to be amortized over 10 years.

In each valuation since Fiscal 2015, the first \$5,000,000 of any asset gain (adjusted pro-rata for increases in the actuarial value of assets) is used to immediately reduce the system's oldest outstanding positive amortization base without immediate re-amortization. The statutes provide that, beginning in Fiscal 2020 and every fifth year thereafter, the remaining liability of such bases net of all payments made since the last re-amortization will be re-amortized over the remainder of the amortization period originally established for that amortization base. Therefore, in the 2019 valuation the projected amortization payments for Fiscal 2020 for loss bases that had been previously reduced due to Act 95 of 2016 were re-amortized through the completion of the original amortization period. Details related to the reductions in the oldest positive amortization bases due to the application of the priority allocations are shown in Exhibit V-D. The 1995, 1997, 1999, 2001 and 2002 Experience Loss bases have been affected. Over the past few years, the 1995, 1997, 1999 and 2001 Experience Loss bases have been fully liquidated years earlier than originally planned due to the application of the priority allocations as well as continued

payments on fully liquidated bases. The re-amortization provision effective in Fiscal 2020 resulted in no future payments for those loss bases affected by the priority allocations prior to Fiscal 2020. Application of the 2021 priority allocation fully offset the 2001 Experience Loss base and slightly reduced the 2002 Experience Loss base. Because of asset experience losses in Fiscal 2022, no further reduction was made in the 2002 Experience Loss base. Because the system’s funded ratio is below 80% and the statute does not provide for re-amortization of bases reduced by the priority allocation until 2025, the payments on the 2001 and 2002 Experience Loss bases remain unchanged. This results in an additional offset to the 2002 Experience Loss base as shown in Exhibit V-D. After the system’s funded percentage reaches 80%, the remaining balance of the bases that have been reduced by such gains will be re-amortized annually over the remainder of the amortization period originally established for each base.

Because the system’s valuation interest rate was lowered to 6.95% within the 2021 actuarial valuation, the payments on the system’s unfunded accrued liability were adjusted to account for the change in interest rate. This change caused payments on bases lowered by the priority allocation to be determined based on the original balance prior to impact of the priority allocation.

The system’s Experience Account is funded only in years where the system experiences investment gains in excess of the priority amount. In such years, 50% of the asset gains above the priority amount are added to the system’s Experience Account balance. Beginning with the Fiscal 2015 valuation, any such allocation has been amortized as a loss with level dollar payments over ten years. This requires the employer to fund allocations to the Experience Account over a shorter time period than the required amortization period for experience gains and losses.

In addition, each year the balance in the account is credited with investment earnings or debited with investment losses, shown in this report as the rate of return on the actuarial value of assets. The balance in the account cannot exceed the reserve necessary to grant one (or two if the system has a funded ratio of 80% or greater) cost-of-living adjustment (or permanent benefit increase) as otherwise authorized by law. Any funds credited to the Experience Account reduce those allocated to the Investment Gain/Loss Experience base. The funding methodology for the plan includes the system’s Experience Account in the Actuarial Value of Assets.

The Priority Amount, which represents the maximum amount of system returns in excess of the system’s actuarially assumed rate of return that may be applied to the oldest outstanding positive amortization base. The Priority Amount was first applicable in the Fiscal 2015 valuation. The following chart details its value since its creation:

Historical Priority Amount					
Fiscal 2015	\$5,000,000	Fiscal 2018	\$6,633,747	Fiscal 2021	\$7,969,006
Fiscal 2016	\$5,497,148	Fiscal 2019	\$6,980,899	Fiscal 2022	\$8,352,460
Fiscal 2017	\$6,056,800	Fiscal 2020	\$7,273,861	Fiscal 2023	\$8,575,587

According to valuation reports prepared by the system’s prior actuary, the valuation interest rate was increased from 7.0% to 7.5% on July 1, 1990. The assumption remained 7.5% through June 30, 2013. Effective July 1, 2013, the valuation interest rate was lowered to 7.0% in conjunction with the system’s

experience study. Effective July 1, 2021, the valuation interest rate was lowered to 6.95%. Since this date, the actuary's reasonable range for the valuation interest rate assumption has included the assumed rate in each year.

Prior to the Fiscal 2023 valuation, the system's actuary performed an Experience Study to review and update all plan actuarial assumptions. This study was performed primarily based on the plan's experience during the period from July 1, 2017 through June 30, 2022, but due to the impact of experience heavily influenced by Covid-19, adjustments were made to the study period for many of the assumptions reviewed. A detail of updated assumptions is contained later within this report. Details related to the analysis used to reset assumptions may be found in the Experience Study report. For Fiscal 2023, the net effect of the changes in assumptions resulting from the system's Experience Study was a liability assumption loss of \$8,423,694. The interest-adjusted amortization payment on this loss was \$765,882, or 0.97% of projected payroll.

Prior to the passage of Act 184 in the 2023 Regular Session of the Louisiana Legislature, the only method of funding future cost-of-living adjustments (COLAs) was through the Experience Account. The statutes related to the Experience Account prior to Act 184 of 2023 targeted COLA funding only in years where the system's net actuarial rate of return exceeded its assumed rate of return. With portfolio return volatility, funding a COLA within the Experience Account was only a matter of time. Since no Experience Account funds may be used without specific legislative enactment, prior to Act 184 of 2023 our basic assumption has been that the Experience Account would eventually fill (although the length of time could vary greatly). Beginning in the Fiscal 2017 actuarial valuation report, a liability has been recognized for the existing balance in the Experience Account together with the present value of future contributions to the account up to the maximum permissible value based upon account limitations as of the valuation date. This liability approach was in recognition of the fact that the legal mechanism for credits to the Experience Account are substantively automatic up to the limit set on the account balance. However, contributions to this account in excess of the account limit require a legislative act. Although the Board of Trustees has authority to recommend ad hoc COLAs be approved by the legislature under limited circumstances, these COLAs have not been shown to have a historical pattern, the amounts of the COLAs have not been relative to a defined cost-of-living or inflation index, and there is no evidence to conclude that COLAs will be granted on a predictable basis in the future. Therefore, for purposes of determining the present value of benefits, these COLAs were deemed not to be substantively automatic, and the present value of benefits excludes COLAs beyond the current account limitations of the Experience Account. Since a liability for future COLAs up to the authorized Experience Account balance has been included in the system's accrued liabilities, the assets in the Experience Account were included in the valuation assets for funding purposes.

For reports prior to 2017, the term actuarial value of assets referred to the smoothed asset value reduced by the Experience Account. The term actuarial value of assets in this report refers to the smoothed asset values, as calculated in Exhibit III – B, unreduced for any side funds.

With the passage of Act 184 of 2023 (see Changes in Plan Provisions for a full description), the future of COLA funding for LSPRS has changed dramatically. No change in the liability approach regarding the Experience Account has been made within this valuation. Further Board education will be needed to develop a revised liability recognition approach. This will be discussed in future valuations.

RISK FACTORS

Defined benefit pension plans are subject to a number of risks. These risks can be related either to plan assets or liabilities. In order to pay benefits, the plan must have sufficient assets when benefits become due. Several factors can lead to asset levels that are below those required to pay promised benefits.

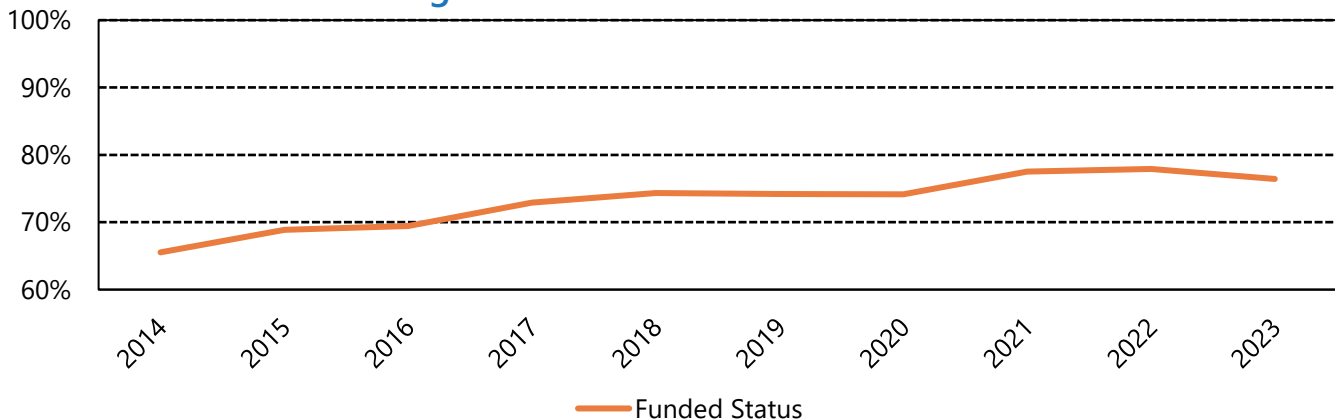
Contribution Policy Risk

The first risk in this regard is the failure to contribute adequate funds to the plan. In some ways, this is the greatest risk since other risks can usually be addressed by adequate actuarial funding. Louisiana constitutional and statutory provisions greatly limit this risk by requiring that state and statewide plans maintain funding on an actuarial basis. The state constitution sets forth general requirements with specific funding parameters specified in the state statutes. This results in a funding policy that is expected to achieve a 100% funded status in time.

Funded Status

Beyond identifying risk categories, it is possible to quantify some risk factors. One fairly well-known risk metric is the funded ratio of the plan. This rate is given as plan assets divided by plan liabilities. However, the definition of each of these terms may vary. The two typical alternatives used for assets are the market and actuarial value of assets. There are several alternative measures of liability depending on the funding method employed. The Governmental Accounting Standards Board (GASB) specifies that, for financial reporting purposes, the funded ratio is determined by using the market value of assets divided by the entry age normal accrued liability. This value is given in the system's financial report. Alternatively, we have calculated the ratio of the actuarial value of assets to the entry age normal accrued liability based on the funding methodology used to fund the plan. The ratio is 76.42% for the plan as of June 30, 2023.

Figure 3. Historical Funded Status



This value gives some indication of the financial strength of the plan; however, it does not guarantee the ability of the system to pay benefits in the future or indicate that in the future, contributions are likely to be less than or greater than current contributions. In addition, the ratio cannot be used in isolation to compare the relative strength of different retirement systems. However, the trend of this ratio over time can give some insight into the financial health of the plan. Even in this regard, caution is warranted since

market fluctuations in asset values and changes in plan assumptions can distort underlying trends in this value. Exhibit IX and **Figure 3** give a history of this value for the last ten years.

Following are a number of risks and risk measures related to system assets:

Inflation Risk

All pension plans are subject to the uncertainty of asset performance, of which inflation is a major component. The total nominal rate of return on assets is comprised of the real rates of return earned on the portfolio of investments plus the underlying inflation rate. High levels of inflation pose a risk to plan members in that they reduce the purchasing power of plan benefits. As the plan attempts to offset inflation by providing COLAs (often in the form of permanent benefit increases), minimum contribution rates will inevitably increase unless provisions are made to prefund such adjustments. Very low inflation typically reduces the nominal rate of return on assets; deflation can potentially reduce the capital value of trust assets. During the decade preceding 2020, inflation levels remained in a fairly narrow range. Since 2020, inflation has significantly increased. So far, Federal Reserve efforts to fight inflation have not had the desired effect. Forecasters seem to believe that although long-term average rates of future inflation may be higher than projected in recent years, the impact of near-term inflation will not be significant. There is always the possibility that high inflation will become a problem in the future or that the country will experience a deflationary period; however, most expert opinion currently assesses these alternatives as unlikely in the near term.

Reinvestment Risk

Another element of asset risk is reinvestment risk. Interest rate declines can subject pension plans to an increase in this risk. As fixed income securities mature, investment managers may be forced to reinvest funds at decreasing rates of return. For the foreseeable future it is unlikely, though not impossible, that interest rates will steeply decline, which mitigates the reinvestment risk the plan currently faces. As the current cycle of increasing interest rates abates, the possibility of reinvestment risk will undoubtedly increase.

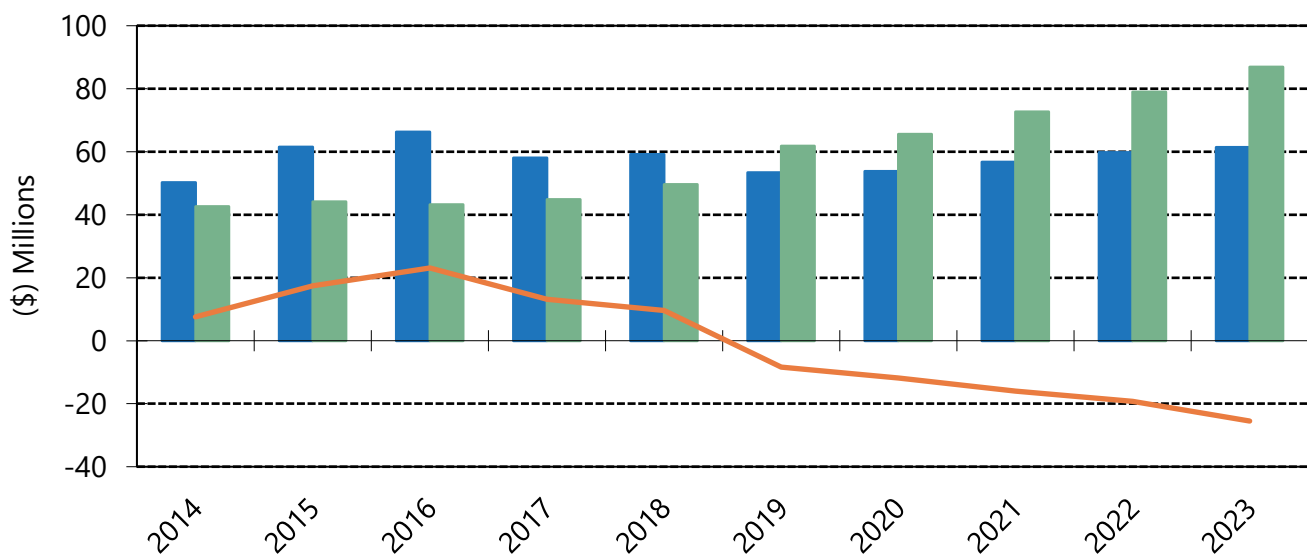
Asset Return Volatility Risk

Long-term asset performance depends not only on average returns but also on the volatility of returns. Two portfolios of identical size with identical average rates of return will accumulate different levels of assets if the volatility of returns differs since increased volatility reduces the accumulation of assets. Volatility of returns will be determined by both market conditions and the asset allocation of the investment portfolio. If the system's investment portfolio has a substantial allocation to assets that have low price stability, the risk of portfolio volatility will increase, although low correlations among asset classes can mitigate this risk.

Cash Flow Risk

The system is also exposed to risk related to cash flow. Where benefit payments exceed contributions to the plan, the plan will be required to use investment income or potentially investment capital to pay benefits. In cases where it is necessary to use investment income to pay retirement benefits, investment market downturns place additional stress on the portfolio and make the recovery from such downturns more difficult since funds available for reinvestment are reduced by benefit payments. The historical cash flow graph and demonstration given below in **Figure 2** compares the total contribution income to benefits and expenses to determine the noninvestment cash flow of the system over the last ten years. Only recently have annual benefit payments exceeded annual contributions to the plan.

Figure 2. Annual Net Non-Investment Cash Flows



		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Contribution Income (\$Mil)	■	50.2	61.5	66.3	58.1	59.2	53.4	53.8	56.7	59.8	61.4
Benefits and Expenses (\$Mil)	■	42.6	44.1	43.2	44.9	49.6	61.8	65.6	72.7	79.0	86.9
Net Non-Inv. Cash Flow (\$Mil)	—	7.6	17.4	23.0	13.2	9.6	-8.4	-11.8	-16.0	-19.2	-25.5

Future net non-investment cash flows for the system will be determined based upon both the system maturity and future contribution levels. Hence, increases in future contributions due to adverse actuarial experience will tend to mitigate the potential of negative cash flows arising from the natural maturation of the system, whereas reduced contribution levels resulting from positive experience will tend to increase the scale of negative cash flows. Absent a significant increase in the active membership of the system, the trend of higher proportions of retired membership may continue and the current trend toward higher levels of negative non-investment cash flows could continue in the near future.

Sensitivity to Investment Gains/Losses

Every retirement system is subject to investment return risk. When the rate of return on the actuarial value of assets does not equal the assumed rate of return, the system experiences investment gains or losses. These can cause contribution rate requirements to be more volatile. We have determined that based on the system's current assets and demographics, for each percentage the actuarial rate of return is under the assumed rate of return on the actuarial value of assets, there will be a corresponding increase in the actuarially required contribution as a percentage of projected payroll of 1.26% for the system. For earnings above the assumed rate of return, the reduction in costs will generally be less than this amount due to the priority allocation and the allocation of a portion of investment gains to the Experience Account.

Sensitivity to Changes in Valuation Interest Rate

With regard to the economic assumptions, we have determined that a reduction in the valuation interest rate by 1% (without any change to other collateral factors) would increase the actuarially required employer contribution rate for 2024 by 21.1% of payroll. After accounting for the effect of the contribution shortfall, the recommended employer contribution rate for Fiscal 2025 would increase by 25.7%. Future adjustments to the future assumed rates of return may be required; however, the likelihood of such an event is difficult to gauge since it requires assigning probabilities to future capital market scenarios.

Following are a number of risks and risk measures related to system liabilities:

Maturity Risk

The ability of a system to recover from adverse asset or liability performance is related to the maturity of the plan population. In general, plans with increasing active membership are less vulnerable to asset and liability gains and losses than mature plans since changes in plan costs can be partially allocated to new members. If the plan has a large number of active members compared to retirees, asset or liability losses can be more easily addressed. As more members retire, contributions can only be collected from a smaller segment of the overall plan population. Often, population ratios of actives to annuitants are used to measure the plan's ability to adjust or recover from adverse events since contributions are made by or on behalf of active members but not for retirees. Thus, if the plan suffers a mortality loss through increased longevity, this will affect both actives and retirees, but the system can only fund this loss by contributions related to active members. A measure of risk related to plan maturity is the ratio of total benefit payments to active payroll. For Fiscal 2023 this ratio is 107%; ten years ago this ratio was 78%.

One other area of exposure the plan faces is the possibility that plan assumptions will need to be revised to conform to changing actual or expected plan experience. Such assumption revisions may relate to economic or demographic factors. With regard to the economic assumptions, there is always the possibility that market expectations will require an adjustment to the assumed rate of return. Current market expectations are that in this area a decrease in the assumptions is more probable than an increase. The magnitude of any potential such change will be related to future capital market expectations.

Non-economic Assumption Risk

Non-economic assumptions such as mortality or other rates of decrement such as withdrawal, retirement, or disability are also subject to change. In general, such changes tend to affect plan costs less than adjustments to the assumed rates of return. Quantifying the probability or magnitude of such changes is beyond the scope of this report.

In summary, there is a risk that future actuarial measurements may differ significantly from current measurements presented in this report due to factors such as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, and changes in plan provisions or applicable law. Ordinarily, variations in these factors will offset to some extent. However, even with the expectation that not all variations in costs will likely travel in the same direction, factors such as those outlined above have the potential on their own accord to pose a significant risk to future cost levels and solvency of the system.

Data Error Risk

Liability risk also includes items such as data errors. No actuarial valuation can provide accurate figures without accurate data on plan members, former members, retirees, and survivors. Significant errors in plan data can distort or disguise plan liabilities. When data corrections are made, the plan may experience unexpected increases or decreases in liabilities.

Liability Duration Risk

Each pension plan has its own unique benefit structure and demographic profile. As a result, each plan will respond to changes in interest rates in a unique way. As the expected rate of return on investments changes and the interest rate used to discount plan liabilities is adjusted, the shift in plan liabilities will depend upon the duration of the liabilities (which can be understood as the plan's sensitivity to the change in the interest rate). A slightly different measure of the duration for the plan can also be understood as an indicator of the plan's maturity. When a pension plan is first established, all participants are active members; as members retire and the plan matures, the duration of the plan decreases. A determination of the liability duration gives some insight into the investment time horizon of the plan. Thus, the liability duration of a closed plan can be thought of as the weighted center of gravity of plan benefit cash flows with expected cash flows occurring both before and after the duration value. For open plans with a continuous flow of new entrants this measure is somewhat less informative since the duration horizon keeps changing as new members enter the plan. For this plan we have estimated the effective liability duration as 10.81 years.

Other Liability Risks

In addition to asset risk, the plan is also subject to risks related to liabilities. These risks include such things as longevity risk (the risk that retirees will live longer than expected), termination risk (the risk that fewer than the anticipated number of members will terminate service prior to retirement), and other factors that may have an impact on the liability structure of the plan. In a general sense, the short-term effects of these risks on the cost structure of the plan are somewhat limited since changes in these factors tend to be gradual and follow long-term secular trends. Final average compensation plans are also vulnerable

to unexpectedly large increases in salary for individual members near retirement. The effect of such events frequently relates to pay plan revisions where salaries catch up after a number of years of slow growth. Revisions of this type usually depend on general economic conditions and can result in liability losses. However, they are generally infrequent and are more of a short-term issue.

Even natural disasters and dislocations in the economy or other unforeseen events can present risks to the plan. These events can affect member payroll and plan demographics, both of which impact costs. The risk associated with either of these factors can vary depending upon the severity of the event and cannot be easily forecasted.

CHANGES IN PLAN PROVISIONS

The following legislative changes directly affecting the retirement system were enacted during the 2023 Regular Session of the Louisiana Legislature.

Act 184 creates a Permanent Benefit Increase (PBI) funding account for the purpose of funding future permanent benefit increases. The funding of this account is to be provided by an additional employer contribution rate (called the AFC rate) to be required of employers in addition to the actuarially required employer contribution rate under certain circumstances. Contributions collected through the AFC rate will be credited to the PBI funding account for the sole purpose of prefunding permanent benefit increases to qualifying retirees and survivors. As of July 1, 2023 the AFC rate will be set to zero.

The PBI funding account will be credited with:

1. Additional employer contributions derived from the AFC rate.
2. That portion of the system's net investment income attributable to the balance in the PBI account at the end of the prior year.

The PBI funding account will be debited with:

1. That portion of any net investment loss attributable to the balance in the PBI account at the end of the prior year.
2. An amount sufficient to fund any PBI granted pursuant to these provisions.

PBI funding account credit/debit limitations:

1. In no event shall the balance in the PBI account fall below zero.
2. The amount credited may not cause the account to exceed the reserve necessary to grant the sum of the items in a and b:
 - a. Two permanent benefit increases of 2% of each recipient's current benefit limited to the first \$60,000 of the recipient's annual benefit.
 - b. Two supplemental benefit increases to retirees and beneficiaries who are over 65 and have received benefits since June 30, 2001.

PBIs funded by the PBI funding account shall begin on the July 1st following legislative approval and shall equal up to 2% of the current benefit up to \$60,000 annually. The following qualification rules apply:

1. A regular retiree must be at least age 62 and have received benefits for at least 2 years;
2. A disability retiree must have received benefits for at least 2 years;

3. A beneficiary of a deceased retiree is eligible if the retiree would have met the above criteria had they still been alive;
4. A non-retiree beneficiary is eligible if they have received benefits for at least 2 years and the deceased member's age would have been at least 62.

Supplemental PBIs shall equal 2% of the current benefit up to \$60,000 annually. Such supplemental PBIs shall be payable to all retirees and beneficiaries who are at least age 65 and who retired on or before June 30, 2001.

HCR 67 urges the United States Congress to review and eliminate or reduce the Government Pension Offset and Windfall Elimination Provision, which can result in decreases to Social Security Benefits for certain retirees and beneficiaries.

HCR 70 urges and requests the state treasurer and the state and statewide retirement systems to:

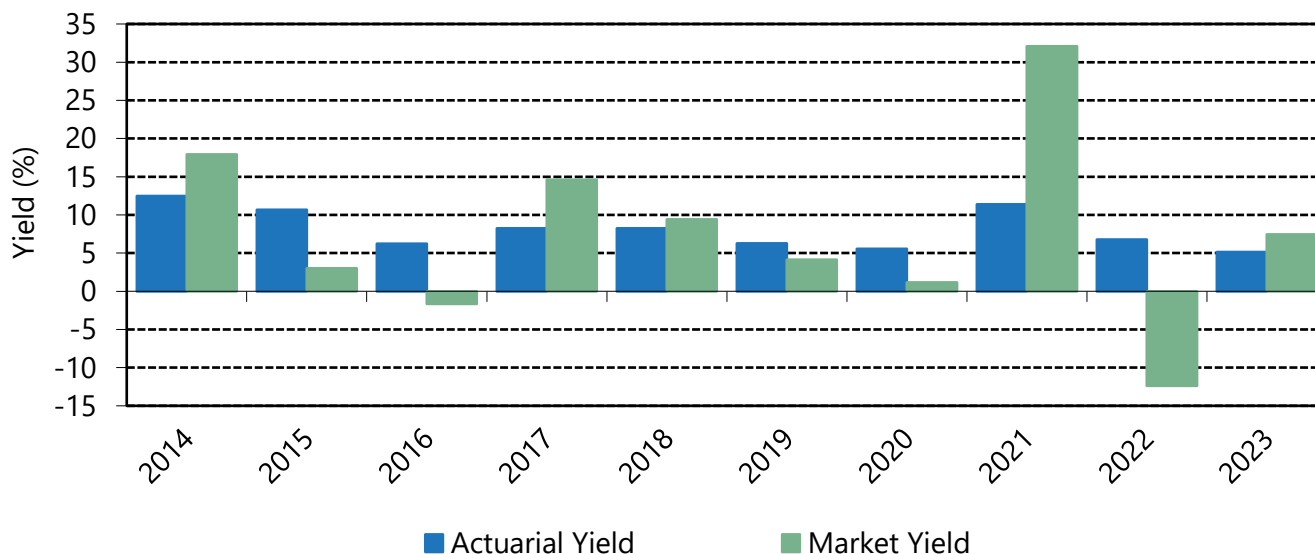
1. Report on investment advisors and companies used by the treasurer and the retirement systems that discriminate against the fossil fuel industry through environmental, social, and governance policies.
2. Report on investment of state and pension assets using nonpecuniary factors.
3. Report on the asset allocation of all of their investments.
4. Provide a report to the legislature including the name of any investment management company, investment advisor, mutual fund, or entity that uses nonpecuniary factors for investment purposes on behalf of the retirement system.
5. Provide a report to the legislature on any entity under contract that is known to boycott energy companies, including the aggregate amount that the listed entity has invested in Louisiana public companies and in U.S. and Louisiana oil and gas companies.
6. Provide a report to the legislature including specified information on investments and categorizing investments in Louisiana, within the United States, and outside the United States.

HCR 110 urges and requests that the state and statewide public retirement system boards of trustees uphold their fiduciary duty when making financial decisions and not allow Environmental, Social, and Governance policies to influence their investment decisions.

ASSET EXPERIENCE

The actuarial and market rates of return for the past ten years are given below (Figure 4). These investment rates of return were determined by assuming a uniform distribution of income and expense throughout the fiscal year.

Figure 4. Historical Asset Yields



	Market Yield †	Actuarial Yield †
2014	17.93%	12.48%
2015	3.00%	10.66%
2016	-1.63%	6.23%
2017	14.62%	8.23%
2018	9.40%	8.22%
2019	4.12%	6.26%
2020	1.15%	5.56%
2021	32.10%	11.38%
2022	-12.37%	6.76%
2023	7.45%	5.12%

† Rates of return calculated based on assets inclusive of Experience Account but exclusive of money market DROP assets and income.

Geometric Average Market Rates of Return		
5-year average	(Fiscal 2019 – 2023)	5.50%
10-year average	(Fiscal 2014 – 2023)	7.00%
15-year average	(Fiscal 2009 – 2023)	6.20%
20-year average	(Fiscal 2004 – 2023)	6.60%
25-year average	(Fiscal 1999 – 2023)	5.70%
30-year average	(Fiscal 1994 – 2023)	7.00%

The market rate of return gives a measure of investment return on a total return basis and includes realized and unrealized capital gains and losses as well as interest income. The rate of return is calculated on assets invested in the system's portfolio. The system maintains DROP assets for one former DROP participant whose remaining DROP account balance is invested in money market investments. This balance has been excluded from the rate of return calculation. This rate of return gives an indication of performance for an actively managed portfolio where securities are bought and sold with the objective of producing the highest total rate of return. During 2023, the system earned \$5,776,401 of dividends, interest, and other recurring income. In addition, the system had net realized and unrealized capital gains on investments of \$70,385,154. In addition, the system had investment expenses of \$2,727,912.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 6.95% in effect for Fiscal 2023. DROP accounts for former DROP participants who left all or a portion of their DROP account balances on deposit with the system that are credited with earnings based on the actuarial rate of return of the system should be credited with 4.62% (i.e., 5.12% less 0.5% as detailed in the prior provision of R.S. 11:1312 as authorized by Section 4 of Act 480 of the 2009 Regular Legislative Session). The actuarial rate of return is calculated based on the actuarial value of assets net of DROP assets invested in money market accounts and includes all interest, dividends, and recognized capital gains as given in Exhibit VI net of money market income earned by DROP assets. Investment income used to calculate this yield is based upon a smoothing of investment returns above or below the valuation interest rate over a five-year period, subject to constraints. The difference between rates of return on an actuarial and market value basis results from the smoothing of gains or losses on investments relative to the valuation interest rate. Yields in excess of the applicable interest assumption will reduce future costs; yields below the applicable interest assumption will increase future costs. For Fiscal 2023, the system experienced an actuarial investment loss of \$19,334,651 below assumed actuarial earnings using the assumed rate of 6.95% in effect during Fiscal 2023. The interest-adjusted amortization payment on this loss was \$1,757,907, or 2.23% of projected payroll.

Since the system's actuarial rate of return was below the valuation interest rate for Fiscal 2023, no funds were available to apply against the oldest outstanding positive base or to add to the system's Experience Account.

DEMOGRAPHICS AND LIABILITY EXPERIENCE

The average active contributing member is 42.01 years old with 14.8 years of service credit and an annual salary of \$80,759. The system's active contributing membership experienced a decrease of 11 members during Fiscal 2023; over the last five years, the number of active contributing members decreased by 130.

The average service retiree is 66 years old with an annual benefit of \$63,620 and an average retirement age of 51. The number of retirees and beneficiaries receiving benefits from the system increased by 40 during the fiscal year. Over the last five years, the number of retirees and beneficiaries receiving benefits from the system increased by 221 with annual benefits in payment increasing by \$30,681,188.

Liability experience for the year was unfavorable with net plan liability experience losses totaling \$22,988,468. The interest-adjusted amortization credit on this loss was \$2,090,112, or 2.65% of projected payroll. The system experienced slightly fewer active member retirements and disabilities along with a

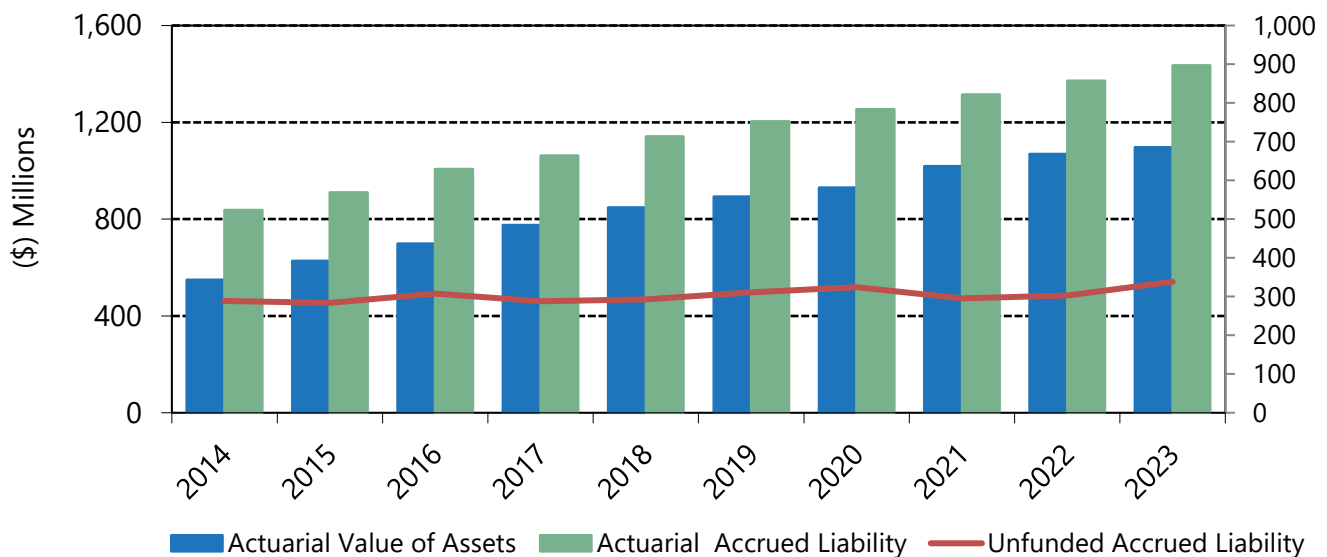
greater number of withdrawals and retiree and survivor deaths than projected. These items tend to decrease plan costs. Despite this, the significant rate of average salary increase caused an increase in normal cost and accrued liability that led to a net liability loss.

FUNDING ANALYSIS AND RECOMMENDATIONS

Actuarial funding of a retirement system is a process whereby funds are accumulated over the working lifetimes of employees in such a manner as to have sufficient assets available at retirement to pay for the lifetime benefits accrued by each member of the system. The required contributions are determined by an actuarial valuation based on rates of mortality, termination, disability, and retirement, as well as investment return and other statistical measures specific to the particular group. Each year a determination is made of two cost components: the normal cost and the amortization payments on the unfunded actuarial accrued liability. The normal cost refers to the annual cost for active members allocated each year by the particular cost method utilized. New entrants to the system can also increase or lower normal costs as a percentage of payroll depending upon their demographic distribution.

To determine the amortization payments on the unfunded actuarial accrued liability (UAL), you must first determine the UAL by computing the difference between the entry age normal accrued liability and the actuarial value of assets. Each year the system experiences gains and losses, which causes the UAL to decrease or increase. **Figure 5** below provides a history of the UAL, determined as the difference between actuarial accrued liability and the actuarial value of assets.

Figure 5. Actuarial Value of Assets versus Actuarial Accrued Liability



* Actuarial Value of Assets includes the balance of the Experience Account beginning with Fiscal 2017.

Each year the UAL grows with interest and is reduced by payments. In addition, it may be increased or diminished by plan experience, changes in assumptions, or changes in benefits including COLAs (where COLAs are not prefunded). Contributions in excess of or less than the actuarially required amount can also decrease or increase the UAL balance.

Finally, since payments on the system's UAL are made on a fixed, level dollar schedule, percentage of payroll costs are affected by changes in plan payroll. If payroll increases, these costs are reduced as a percentage of payroll. Conversely, if payroll decreases, these costs are increased as a percentage of payroll.

In order to establish the actuarially required contribution in any given year, it is necessary to define the assumptions, funding method, and method of amortizing the UAL. Thus, the determination of what contribution is actuarially required depends upon the funding method and amortization schedules employed. Regardless of the method selected, the ultimate cost of providing benefits is dependent upon the benefits, expenses, and investment earnings. Only to the extent that some methods accumulate assets more rapidly and thus produce greater investment earnings does the funding method affect the ultimate cost.

An explanation of the change in costs related to asset and liability gains and losses as well as changes in demographics and assumptions is given in prior sections of the report. In addition to these components, variances in contribution levels and payroll also affect costs. For Fiscal 2023 contributions totaled \$1,703,855 more than required; the interest-adjusted amortization credit based on the contribution surplus for Fiscal 2024 is \$401,288, or 0.51% of projected payroll. In addition, for Fiscal 2024 the net effect of the change in payroll on amortization costs was to decrease such costs by 4.14% of projected payroll. In addition to annual gains and losses, the net direct employer contribution rate was affected by the elimination of the credit related to the 2018 contribution gain.

A reconciliation of the change in costs is given below. Values listed in dollars are interest adjusted for payment throughout the fiscal year. Percentages are based on the projected payroll for Fiscal 2024 except for those items labeled Fiscal 2023.

The derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The employer's normal cost for Fiscal 2024, interest adjusted for mid-year payment is \$16,532,864. The amortization payments on the system's UAL total \$40,035,856. The total actuarially required contribution is determined by adding these two values together with administrative expenses. The net direct actuarially required employer contribution for Fiscal 2024 is determined based on the sum of employer normal cost, amortization payments on the unfunded actuarial accrued liability, and projected administrative expenses. As given in line 14 of Exhibit I, the total actuarially required employer contribution (net of Insurance Premium Taxes) for Fiscal 2024 is \$56,419,454, or 71.5% of projected payroll.

Since the actual employer contribution rate for Fiscal 2024 is 70.4% of payroll, there will be a contribution deficit of 1.1% of payroll. This deficit will increase the actuarially required contribution recommended for Fiscal 2025. In order to determine a minimum recommended net direct employer contribution rate for Fiscal 2025, the employer normal cost and amortization payments were estimated for Fiscal 2025 and adjusted for the impact of the estimated contribution shortfall for Fiscal 2024. As given in line 25 of Exhibit I, the estimated actuarially required net direct employer contribution for Fiscal 2025 is \$57,119,394, or 70.6% of projected payroll.

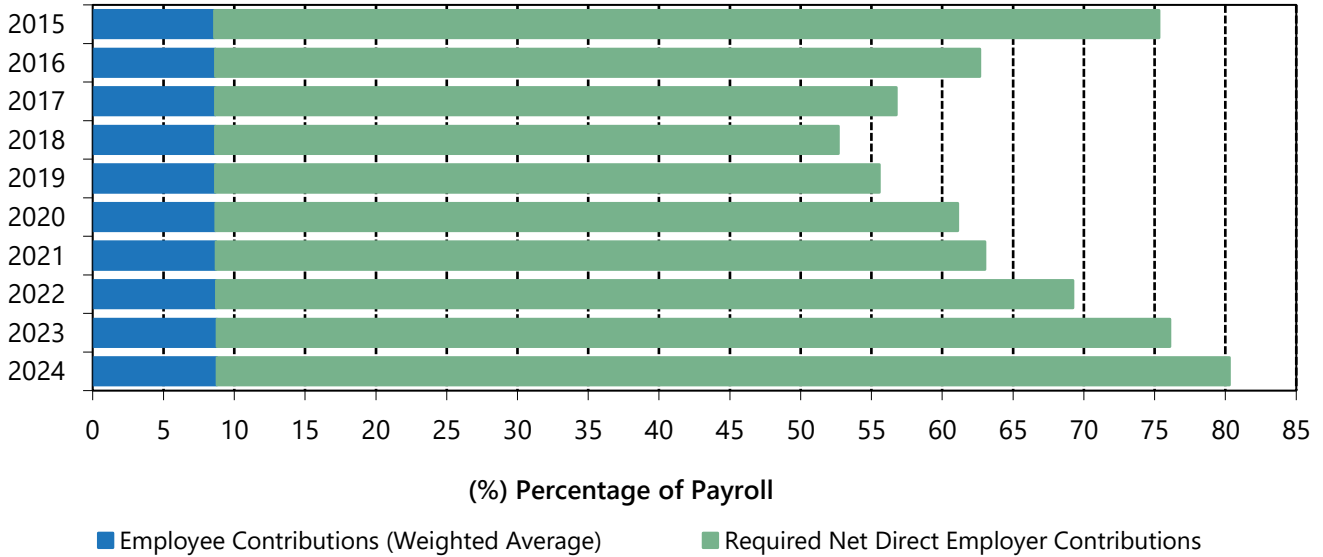
The following is a derivation of the total normal cost and amortization payment portion of the minimum recommended employer contribution rate, which shows the many items that impact costs from one year

to the next. Because the actuarial valuation is completed after the beginning of Fiscal 2024, Exhibit I must add projections for another year and produce a minimum recommended employer contribution rate for Fiscal 2025.

	Dollars	Percentage of Payroll
Employer Normal Cost for Fiscal 2023	\$ 15,172,311	21.09%
Cost of Assumption Changes	\$ 1,793,164	2.33%
Cost of Demographic and Salary Changes	<u>\$ (432,611)</u>	<u>(2.48%)</u>
Employer Normal Cost for Fiscal 2024	\$ 16,532,864	20.94%
UAL Payments for Fiscal 2023	\$ 33,499,763	46.57%
Change due to change in payroll	N/A	(4.14%)
Change due to elimination of Amortization Credits/Payments	\$ 2,323,480	2.94%
Additional Amortization Expenses for Fiscal 2024:		
Liability Assumption Loss	\$ 765,882	0.97%
Liability Experience Loss	\$ 2,090,112	2.65%
Asset Experience Loss	\$ 1,757,907	2.23%
Contribution Surplus	<u>\$ (401,288)</u>	<u>(0.51%)</u>
Total Amortization Expense for Fiscal 2024	\$ 40,035,856	50.71%
Insurance Premium Taxes	\$ (1,500,000)	(1.90%)
Projected Administrative Expenses for Fiscal 2024	\$ 1,350,734	1.71%
Total Normal Cost & Amortization Payments	\$ 56,419,454	71.46%

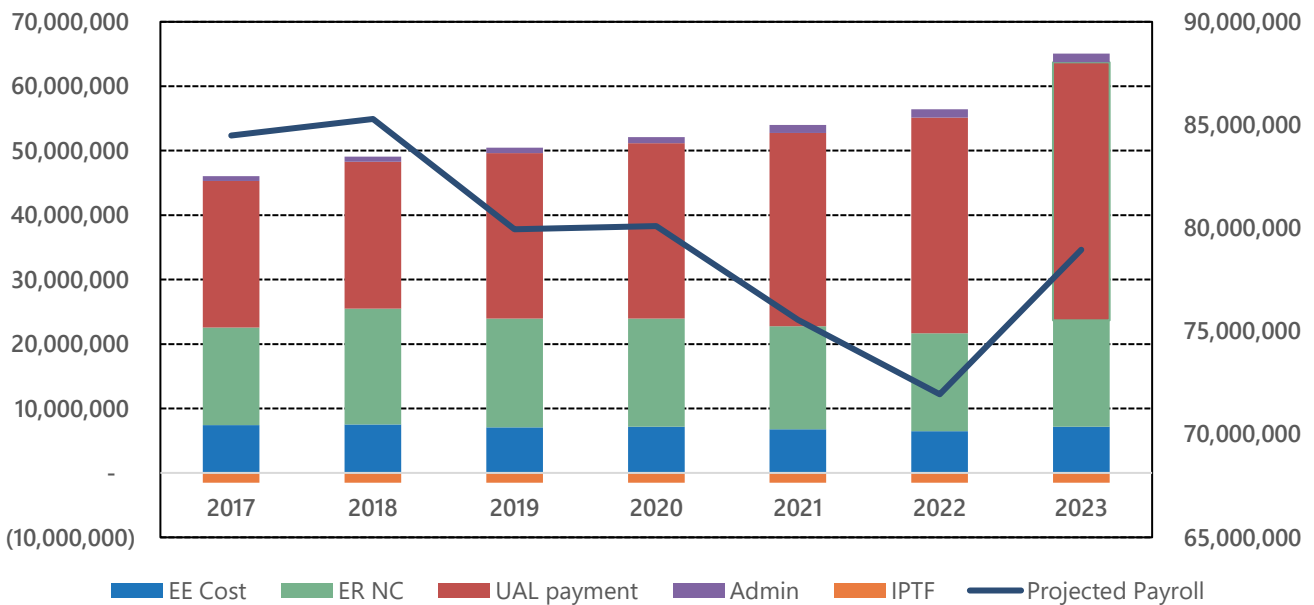
The system experiences changes in the required net direct employer contribution rate each year. **Figure 7** shows the changes in the components of actuarial funding over the past ten years. The average employee contribution rate is changing as more members are enrolled in the new tier of benefits. Members whose first employment making them eligible for membership in a state system occurred on or after January 1, 2011 contribute at an 9.5% of payroll level, whereas previous employees contribute at a 8.5% level. Over time the average rate will trend toward the ultimate 9.5% level. Employer costs change based on system gains and losses and changes in the plan makeup (see **Figure 6** for the history of employee and employer costs as a percentage of payroll and **Figure 7** for the history of dollar costs compared to projected payroll).

Figure 6. Components of Actuarial Funding



(2015 and later employee contribution level is a weighted average of rates paid by employees in different tiers. Counts by tier unavailable prior to 2015)

Figure 7. Components of Dollar Cost versus Payroll



LOW-DEFAULT RISK OBLIGATION MEASURE (LDROM)

The retirement system’s annual actuarial funding valuation determines the employer’s minimum contribution rate based upon a set of actuarial assumptions found to be reasonable individually and in the aggregate for the purpose of the measurement. For a system like the Louisiana State Police Retirement System that is open to new members and expected to exist in perpetuity, boards of trustees generally elect to invest system assets in a basket of asset classes that subject the system to a number of investment risks, including the risk of default. Such risks are generally mitigated through diversification

among the asset classes and through portfolio construction within each asset class. When considering expert opinions about expectations of future returns, generally called capital market assumptions, and when considering historical evidence, it is found that a portfolio composed of a combination of asset classes (including risky assets such as equities, fixed income assets, real estate investments, and other alternative investments) earns a larger return than risk-free or low-default-risk fixed income assets provide. The larger expected return is often referred to as a risk premium as investors generally require a larger return to accept the added risk. It is precisely this exchange of return for added risk that is at the heart of the low-default-risk obligation measure (LDRM) defined within Actuarial Standard of Practice #4. Were the system to simply invest in low-default-risk fixed income securities, the system would be expected to earn less from investment markets but would also expect less portfolio return volatility and less chance of investment default. Since investment income directly offsets the contributions owed by the system's employer, building a portfolio that includes risky assets can be a strategy to lower the long-term requirement for employer contributions, but in doing so, the employer accept certain investment risks.

The LDRM can help to quantify both the impact of investing in a portfolio that includes risky assets and using a long-term expected rate of return from such a portfolio to discount liabilities. In addition, the LDRM can help stakeholders understand how much liabilities would increase if the system was measured using a discount rate that did not include the risk premium for assets with higher default risk.

The standard of practice requires the following when determining the LDRM:

- The actuary should use an immediate gain actuarial cost method.
- The actuary should select a discount rate or rates derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future.
- Other than the discount rate or rates, the actuary may use the same assumptions used in the funding valuation for this measure.

The biggest decision in making LDRM calculations is the discount rate or rates to use. The standard discusses several possibilities. We have elected to base our LDRM calculations on discount rates derived from high-quality corporate bonds, which we believe best represent low-default-risk fixed income investments. For the purpose of these calculations, we intend to use the U.S. Department of the Treasury's High-Quality Market (HQM) Corporate Bond Yield Curve weighted according to the closed fund cash flows developed for the most recently completed system specific GASB 67 analyses. The LDRM calculations have been performed based on the Entry Age Normal funding method.

The U.S. Treasury HQM Corporate Bond Yield Curve is developed using regression variables, projects yield curves beyond the longest maturity date, and makes use of bond market characteristics to help generate a stable curve. It represents spot yields of corporate bonds rated AAA, AA, or A and is available monthly on the IRS website. When the June 2023 HQM Corporate Bond Yield Curve is weighted based on the GASB 67 cash flows, the effective single discount rate derived from the analysis is 5.19%.

In the following section, we will disclose an LDRM-based actuarial accrued liability, which can be compared to the entry age normal actuarial accrued liability, and an LDRM-based funded ratio, which can be compared to the system's funded ratio determined based on the entry age normal actuarial accrued liability. Our calculations are based on the effective single discount rate derived from the U.S.

Treasury HQM Corporate Bond Yield Curve of 5.19%. All other assumptions match those used to determine funding liabilities.

LDROM Comparison	Funding Valuation	LDROM Valuation
Discount Rate	6.95%	5.19%
Accrued Liability for Active Members	\$ 502,713,108	\$ 653,678,839
Accrued Liability for Terminated Members	\$ 10,779,363	\$ 14,062,357
Accrued Liability for Retired Members	\$ 921,745,757	\$ 1,089,554,872
Total Actuarial Accrued Liability (AAL)	\$ 1,435,238,228	\$ 1,757,296,068
Funded Ratio (AVA/AAL)	76.42%	62.42%

The differences in the measures shown above can be viewed within the risk/return framework. By accepting added investment risk, the system is expected to significantly reduce the employer's responsibility to fund system liabilities over the long run, but that decision will likely result in greater variability in employer contributions over time as risky assets typically experience greater return volatility.

COST OF LIVING ADJUSTMENTS

During Fiscal 2023, the actual cost-of-living (as measured by the US Department of Labor CPI-U) increased by 3.0%. The current Experience Account balance is \$0 and the current PBI Funding Account balance is \$0. The most recent COLA approved by the legislature for LSPRS retirees and survivors was paid effective July 1, 2022. Given the remaining balance in the Experience Account, the system has not reached a sufficient level to request that a COLA be approved by the legislature.

Since July 1, 2007, the system has funded retiree cost-of-living adjustments through the Experience Account. With Act 184 of 2023, there has been a significant change in the future of funding cost-of-living adjustments or permanent benefit increases. Within this report, Exhibit VII-Schedule B describes the additional employer funding allocated to the PBI funding account. When this funding level reaches 2.5%, the Experience Account will cease to exist. Until then, both accounts will continue. The experience account is funded when the system earns actuarial investment returns above the assumed rate of return. By siphoning off a portion of investment gains for retiree and beneficiary benefit increases, the resulting minimum employer contribution rate must be set higher than it would otherwise be. With the PBI funding account, an additional employer contribution rate is required when costs decrease. In this case, employer contributions are set at a higher level than they would otherwise be set. Regardless of how benefit increases are funded, they involve significant added employer cost. Within the Summary of Principal Plan Provisions toward the back of this report, there is a full description of both the Experience Account and PBI funding account.

The following is a history of COLAs/PBIs since the creation of the Experience Account:

COLAs/PBIs funded from the Experience Account

July 1, 2022	2.0% permanent benefit increase; retirees at least age 60; disabilities with no age restriction; on benefit up to \$60,000 adjusted for CPI, retired for at least 1 year + 2% supplemental for retirees over age 65
August 31, 2021	Nonrecurring Benefit payment to certain retirees and survivors equal to \$3 for each month of creditable service plus \$2 for each month of Retirement through June 30, 2021, limited to the member's June 2021 monthly Benefit.
July 1, 2018	1.6% permanent benefit increase; retirees at least age 60; disabilities with no age restriction; on benefit up to \$60,000 adjusted for CPI, retired for at least 1 year
July 1, 2016	2.0% permanent benefit increase; retirees at least age 60; disabilities with no age restriction; on benefit up to \$60,000 adjusted for CPI, retired for at least 1 year + 2% supplemental for retirees over age 65
July 1, 2014	1.5% permanent benefit increase; retirees at least age 60; disabilities with no age restriction; on benefit up to \$60,000 adjusted for CPI, retired for at least 1 year + 2% supplemental for retirees over age 65

EXHIBIT I

ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Normal Cost of Retirement Benefits.....	\$ 20,015,251
2.	Normal Cost of Death Benefits.....	\$ 381,240
3.	Normal Cost of Disability Benefits.....	\$ 1,012,937
4.	Normal Cost of Deferred Retirement Benefits.....	\$ 1,189,834
5.	Normal Cost of Contribution Refunds.....	\$ 298,431
6.	TOTAL Normal Cost as of July 1, 2023 (1 + 2 + 3 + 4 + 5).....	\$ 22,897,693
7.	TOTAL Normal Cost Interest Adjusted for Midyear Payment.....	\$ 23,680,023
8.	Adjustment to Total Normal Cost for Employee Portion.....	\$ 7,147,159
9.	TOTAL Employer Normal Cost Adjusted for Midyear Payment (7 – 8).....	\$ 16,532,864
10.	Amortization Payments on Unfunded Accrued Liability (Midyear).....	\$ 40,035,856
11.	Projected Administrative Expenses for Fiscal 2024.....	\$ 1,350,734
12.	Gross Employer Required Contribution (9 + 10 + 11).....	\$ 57,919,454
13.	Projected Insurance Premium Taxes due in Fiscal 2024.....	\$ (1,500,000)
14.	Net Direct Actuarially Required Employer Contribution for Fiscal 2024 (12 + 13).....	\$ 56,419,454
15.	Projected Payroll for Contributing Members (Fiscal 2024).....	\$ 78,953,018
16.	Net Direct Actuarially Required Employer Contribution as a Percentage of Projected Payroll for Fiscal 2024 (14 ÷ 15).....	71.5%
17.	Actual Net Direct Employer Contribution Rate for Fiscal 2024.....	70.4%
18.	Projected Fiscal 2024 Contribution Loss (Gain) as a % of Payroll (16 – 17).....	1.1%
19.	Projected Fiscal 2024 Employer Contribution Shortfall (Surplus) (15 × 18).....	\$ 868,483
20.	Amortization of Interest Adjusted Fiscal 2024 Employer Contribution Shortfall (Surplus) Based on Midyear Payment in Fiscal 2025.....	\$ 211,531
21.	Estimated Fiscal 2025 Employer Normal Cost Adjusted for Midyear Payment.....	\$ 16,946,186
22.	Estimated Fiscal 2025 Amortization Payments.....	\$ 40,077,175
23.	Estimated Fiscal 2025 Administrative Expenses.....	\$ 1,384,502
24.	Projected Insurance Premium Taxes due in Fiscal 2025.....	\$ (1,500,000)
25.	Estimated Actuarially Net Direct Required Employer Contributions for Fiscal 2025 (20 + 21 + 22 + 23 + 24).....	\$ 57,119,394
26.	Projected Payroll for Contributing Members (Fiscal 2025).....	\$ 80,926,843
27.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2025 (25 ÷ 26, Rounded to nearest 0.10%).....	70.6%

EXHIBIT II PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits.....	\$ 659,471,616	
Survivor Benefits.....	6,460,888	
Disability Benefits.....	20,917,409	
Vested Termination Benefits.....	16,655,258	
Refunds of Contributions	1,292,672	
 TOTAL Present Value of Future Benefits for Active Members		 \$ 704,797,843

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement....	\$ 10,026,389	
Terminated Members with Reciprocals		
Due Benefits at Retirement.....	0	
Terminated Members Due a Refund.....	752,974	
 TOTAL Present Value of Future Benefits for Terminated Members.....		 \$ 10,779,363

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees.....	\$ 795,568,345	
Disability Retirees.....	17,682,338	
Survivors & Widows	72,197,852	
Liability Attributable to the Experience Account.....	12,169,856	
Estimated DROP Account Balances Payable to Retirees	24,127,366	
 TOTAL Present Value of Future Benefits for Retirees & Survivors		 \$ 921,745,757
 TOTAL Present Value of Future Benefits.....		 \$ 1,637,322,963

EXHIBIT III – SCHEDULE A MARKET VALUE OF ASSETS

CURRENT ASSETS:

Cash in Banks	\$	150,001
Contributions Receivable		3,472,422
Accrued interest and dividends		632,698
Other Current Assets.....		1,018

TOTAL CURRENT ASSETS \$ 4,256,139

Property Plant & Equipment \$ 1,223,250

INVESTMENTS:

Short-term investments.....	\$	50,143,925
Equities		583,796,705
Fixed Income.....		226,726,637
Alternative Investments		182,628,946
Collateral for Securities Lending.....		60,447,542

TOTAL INVESTMENTS..... \$ 1,103,743,755

DEFERRED OUTFLOWS OF RESOURCES \$ 867,722

TOTAL ASSETS \$ 1,110,090,866

CURRENT LIABILITIES:

Accounts Payable.....	\$	1,001,883
Securities Lending Obligations.....		60,447,542
Other Post-Employment Benefits.....		613,515
Other Current Liabilities		1,986,323

TOTAL CURRENT LIABILITIES \$ 64,049,263

DEFERRED INFLOWS OF RESOURCES..... \$ 230,486

TOTAL LIABILITIES \$ 64,279,749

MARKET VALUE OF ASSETS \$ 1,045,811,117

EXHIBIT III – SCHEDULE B ACTUARIAL VALUE OF ASSETS

Excess (Shortfall) of invested income for current and previous 4 years: †	
Fiscal year 2023.....	\$ 4,954,720
Fiscal year 2022.....	(222,160,845)
Fiscal year 2021.....	221,767,002
Fiscal year 2020.....	(51,903,672)
Fiscal year 2019.....	<u>(24,865,406)</u>
Total for five years.....	\$ (72,208,201)
Deferral of excess (shortfall) of invested income:	
Fiscal year 2023 (80%).....	\$ 3,963,776
Fiscal year 2022 (60%).....	(133,296,507)
Fiscal year 2021 (40%).....	88,706,801
Fiscal year 2020 (20%).....	(10,380,734)
Fiscal year 2019 (0%).....	<u>0</u>
Total deferred for year.....	\$ (51,006,664)
Market value of plan net assets, end of year	\$ 1,045,811,117
Preliminary actuarial value of plan assets, end of year	\$ 1,096,817,781
Actuarial value of assets corridor	
85% of market value, end of year	\$ 888,939,449
115% of market value, end of year.....	\$ 1,202,682,785
Final actuarial value of plan net assets, end of year.....	\$ 1,096,817,781

† Excess (shortfall) of actual investment income versus expected investment income is calculated based on assets and income adjusted to exclude the money market DROP accounts.

EXHIBIT IV
PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	\$ 57,481,630
Employer Normal Contributions to the Pension Accumulation Fund	144,603,105
Employer Amortization Payments to the Pension Accumulation Fund	338,420,447
 TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	 \$ 540,505,182

EXHIBIT V – SCHEDULE A
ACTUARIAL ACCRUED LIABILITIES

LIABILITY FOR ACTIVE MEMBERS

Accrued Liability for Retirement Benefits.....	\$ 483,571,660
Accrued Liability for Survivor Benefits.....	3,062,121
Accrued Liability for Disability Benefits.....	11,692,487
Accrued Liability for Vested Termination Benefits.....	5,922,921
Accrued Liability for Refunds of Contributions.....	(1,536,081)

TOTAL Actuarial Accrued Liability for Active Members \$ 502,713,108

LIABILITY FOR TERMINATED MEMBERS..... \$ 10,779,363

LIABILITY FOR RETIREES AND SURVIVORS \$ 921,745,757

TOTAL ACTUARIAL ACCRUED LIABILITY..... \$ 1,435,238,228

ACTUARIAL VALUE OF ASSETS..... \$ 1,096,817,781

UNFUNDED ACTUARIAL ACCRUED LIABILITY \$ 338,420,447

EXHIBIT V – SCHEDULE B
CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

PRIOR YEAR UNFUNDED ACCRUED LIABILITY	\$	302,965,699
Interest on Unfunded Accrued Liability.....	\$	21,056,116
Asset Experience Loss		19,334,651
Liability Assumption Loss		8,423,694
Liability Experience Loss.....		22,988,468
TOTAL Additions to Unfunded Accrued Liability.....	\$	71,802,929
Contribution Excess with Accrued Interest		1,703,855
Interest Adjusted Amortization Payments		34,644,326
TOTAL Reductions to Unfunded Accrued Liability.....	\$	36,348,181
NET Change in Unfunded Accrued Liability.....	\$	35,454,748
CURRENT YEAR UNFUNDED ACCRUED LIABILITY	\$	338,420,447

EXHIBIT V – SCHEDULE C
AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
June 30, 2023

FISCAL YEAR		AMORT. PERIOD	INITIAL BALANCE	YEARS REMAINING	REMAINING BALANCE	AMORT. PAYMENTS
1994	Experience Gain	20	(1,381,660)	6	(624,898)	(122,392)
1996	Experience Gain	20	(9,762,782)	6	(4,415,501)	(864,819)
1998	Experience Gain	20	(2,444,207)	6	(1,105,463)	(216,516)
2000	Experience Gain	20	(21,262,939)	6	(9,616,779)	(1,883,541)
2001	Experience Loss	20	14,218,540	6		1,245,391
2002	Experience Loss	20	36,882,500	6	† 13,924,574	3,267,173
2003	Liability Assumption Loss	24	14,644,647	10	9,008,848	1,196,535
2003	Experience Loss	20	60,111,382	6	27,187,112	5,324,863
2004	Experience Loss	20	16,579,889	6	7,498,735	1,468,701
2005	Experience Loss	20	14,086,441	6	6,371,003	1,247,823
2006	Experience Gain	20	(11,718,142)	6	(5,299,868)	(1,038,031)
2007	Experience Loss	20	13,788,779	6	6,236,372	1,221,455
2008	Liability Assumption Loss	29	9,487,421	15	7,064,597	722,961
2008	Experience Loss	20	29,944,312	6	13,543,180	2,652,565
2009	Liability Assumption Loss	30	1,032,469	16	788,847	77,820
2009	Experience Loss	30	74,940,622	16	57,257,340	5,648,492
2010	Experience Loss	30	26,844,661	17	21,175,849	2,020,977
2011	Experience Loss	30	28,079,134	18	22,798,286	2,111,515
2012	Experience Loss	30	7,358,996	19	6,133,387	552,782
2013	Change in Method Gain	30	(12,256,998)	20	(10,461,485)	(919,735)
2013	Liability Assumption Loss	30	26,210,291	20	22,370,775	1,966,754
2013	Experience Gain	30	(25,552,458)	20	(21,809,306)	(1,917,392)
2014	Experience Gain	30	(1,327,488)	21	(1,158,865)	(99,599)
2015	Experience Loss	30	22,863,386	22	20,375,129	1,715,193
2016	Experience Loss	30	46,924,931	23	42,615,869	3,519,864
2017	Change in Model	30	(5,046,395)	24	(4,663,183)	(378,491)
2017	Liability Assumption Loss	30	5,260,562	24	4,861,088	394,553
2017	Asset Assumption Gain	30	(5,260,562)	24	(4,861,088)	(394,553)
2017	Liability Experience Loss	30	6,707,700	24	6,198,334	503,092
2017	Asset Experience Gain	30	(8,661,909)	24	‡ (8,004,141)	(649,662)
2017	Gains Allocated to Exp. Account	10	970,763	4	467,968	129,033
2017	Priority Excess Allocation	30	6,056,800	24	5,596,861	454,273
2018	Asset Experience Gain	20	(9,489,939)	15	‡ (8,156,223)	(834,674)
2018	Gains Allocated to Exp. Account	10	1,428,096	5	833,351	189,784
2018	Priority Excess Allocation	20	6,633,747	15	5,701,440	583,461
2018	Liability Experience Gain	20	(4,765,728)	15	(4,095,952)	(419,162)
2018	Contribution Gain	5	(9,859,043)	0		
2018	Liability Assumption Loss	20	31,066,762	15	26,700,638	2,732,431
2019	Asset Experience Loss	20	6,255,910	16	5,576,723	550,149
2019	Liability Experience Loss	20	14,797,428	16	13,190,910	1,301,296
2019	Contribution Gain	5	(175,367)	1	(39,954)	(39,954)
2019	Liability Assumption Loss	20	46,005	16	41,011	4,046

Exhibit continued on next page

EXHIBIT V – SCHEDULE C
AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
(Continued)

FISCAL YEAR		AMORT. PERIOD	INITIAL BALANCE	YEARS REMAINING	REMAINING BALANCE	AMORT. PAYMENTS
2020	Asset Experience Loss	20	12,800,034	17	11,792,858	1,125,485
2020	Liability Experience Loss	20	5,965,187	17	5,495,813	524,509
2020	Contribution Gain	5	(460,495)	2	(202,970)	(104,894)
2021	Asset Experience Gain	20	(40,388,905)	18	‡ (38,338,867)	(3,550,841)
2021	Gains Allocated to Exp. Account	10	7,601,224	8	6,459,980	1,009,578
2021	Priority Excess Allocation	20	7,969,006	18	7,564,520	700,605
2021	Liability Experience Loss	20	3,077,350	18	2,921,152	270,549
2021	Contribution Gain	5	(820,781)	3	(525,114)	(186,922)
2021	Liability Assumption Loss	20	7,057,836	18	6,699,599	620,498
2022	Asset Experience Loss	20	1,919,205	19	1,872,134	168,729
2022	Liability Experience Loss	20	19,293,207	19	18,820,014	1,696,186
2022	Contribution Gain	5	(2,890,239)	4	(2,387,152)	(658,213)
2023	Asset Experience Loss	20	19,334,651	20	19,334,651	1,699,830
2023	Liability Experience Loss	20	22,988,468	20	22,988,468	2,021,060
2023	Contribution Gain	5	(1,703,855)	5	(1,703,855)	(388,030)
2023	Liability Assumption Loss	20	8,423,694	20	8,423,694	740,579

TOTAL Unfunded Actuarial Accrued Liability \$ 338,420,447

TOTAL Fiscal 2024 Amortization Payments at Beginning of Year \$ 38,713,169

TOTAL Fiscal 2024 Amortization Payments Adjusted to Mid-Year \$ 40,035,856

† Balance reduced by application of investment gains assigned by Act 399 of 2014.

‡ Asset Experience Gain is the gross gain on assets and includes those gains allocated to the Experience Account and the Priority Allocation to the oldest outstanding positive base.

EXHIBIT V – SCHEDULE D AMORTIZATION BASE ADJUSTMENTS

1995 Experience Loss:

Outstanding Balance of 1995 Experience Loss (as of June 30, 2016)	\$ 15,968,624
Accumulated Priority Allocations as of June 30, 2016.....	\$ (6,056,900)
Amortization Payment on the 1995 Experience Loss (July 1, 2016)	\$ (1,785,663)
Interest on the Net Amortization Base to June 30, 2017	<u>\$ 568,824</u>
Net Balance of the 1995 Experience Loss as of June 30, 2017	\$ 8,694,885
Priority Allocation Applied to 1995 Liability Experience Loss - June 30, 2017	<u>\$ (6,056,800)</u>
Outstanding Balance of 1995 Experience Loss (as of June 30, 2017)	\$ 2,638,085
Amortization Payment on the 1995 Experience Loss (July 1, 2017)	\$ (1,785,663)
Interest on the Net Amortization Base to June 30, 2018	<u>\$ 59,670</u>
Net Balance of the 1995 Experience Loss as of June 30, 2018	\$ 912,092
Priority Allocation Applied to 1995 Experience Loss - June 30, 2018.....	<u>\$ (912,092)</u>
Outstanding Balance of the 1995 Experience Loss (as of June 30, 2018)	\$ 0

1997 Experience Loss:

Outstanding Balance of 1997 Experience Loss (as of June 30, 2017)	\$ 3,324,613
Amortization Payment on the 1997 Experience Loss (July 1, 2017)	\$ (391,192)
Interest on the Net Amortization Base to June 30, 2018	<u>\$ 205,339</u>
Net Balance of the 1997 Experience Loss as of June 30, 2018.....	\$ 3,138,760
Priority Allocation Applied to 1997 Experience Loss - June 30, 2018.....	<u>\$ (3,138,760)</u>
Outstanding Balance of the 1997 Experience Loss (as of June 30, 2018)	\$ 0

1999 Experience Loss:

Outstanding Balance of 1999 Experience Loss (as of June 30, 2017)	\$ 9,362,648
Amortization Payment on the 1999 Experience Loss (July 1, 2017)	\$ (1,101,660)
Interest on the Net Amortization Base to June 30, 2018	<u>\$ 578,269</u>
Net Balance of the 1999 Experience Loss as of June 30, 2018.....	\$ 8,839,257
Priority Allocation Applied to 1999 Experience Loss - June 30, 2018.....	<u>\$ (2,582,895)</u>
Outstanding Balance of the 1999 Experience Loss (as of June 30, 2018)	\$ 6,256,362
Amortization Payment on the 1999 Experience Loss (July 1, 2018)	\$ (1,101,660)
Amortization Payment on the 1995 Experience Loss (July 1, 2018)	\$ (1,785,663)
Amortization Payment on the 1997 Experience Loss (July 1, 2018)	\$ (391,192)
Interest on the Net Amortization Base to June 30, 2019	<u>\$ 208,449</u>
Net Balance of the 1999 Experience Loss as of June 30, 2019.....	\$ 3,186,296
Priority Allocation Applied to 1999 Experience Loss - June 30, 2019.....	<u>\$ 0</u>
Outstanding Balance of the 1999 Experience Loss (as of June 30, 2019)	\$ 3,186,296
Amortization Payment on the 1999 Experience Loss (July 1, 2019)	\$ (1,101,660)
Amortization Payment on the 1995 Experience Loss (July 1, 2019)	\$ (1,785,663)
Portion of Amortization Payment on the 1997 Experience Loss (July 1, 2019).....	\$ (298,973)
Interest on the Net Amortization Base to June 30, 2020	<u>\$ 0</u>
Net Balance of the 1999 Experience Loss as of June 30, 2020.....	\$ 0

EXHIBIT V – SCHEDULE D (CONTINUED) AMORTIZATION BASE ADJUSTMENTS

2001 Experience Loss:

Outstanding Balance of 2001 Experience Loss (as of June 30, 2019)	\$ 9,479,559
Remainder from payment on 1997 Liability Experience Loss (July 1, 2019).....	\$ (92,219)
Amortization Payment on the 2001 Liability Experience Loss (July 1, 2019)	\$ (1,261,379)
Interest on the Net Amortization Base to June 30, 2020	<u>\$ 568,817</u>
Net Balance of the 2001 Experience Loss as of June 30, 2020	\$ 8,694,778
Amortization Payment on the 2001 Experience Loss (July 1, 2020)	\$ (1,247,225)
Interest on the Net Amortization Base to June 30, 2021	\$ 521,329
Priority Allocation Portion Applied to 2001 Experience Loss (June 30, 2021)	<u>\$ (7,968,882)</u>
Outstanding Balance of the 2001 Experience Loss (as of June 30, 2021)	\$ 0

2002 Experience Loss:

Outstanding Balance of 2002 Experience Loss (as of June 30, 2021)	\$ 20,905,646
Priority Allocation Portion Applied to 2002 Experience Loss (June 30, 2021)	<u>\$ (124)</u>
Net Balance of the 2002 Liability Experience Loss as of June 30, 2021	\$ 20,905,522
Amortization Payment on the 2002 Experience Loss (July 1, 2021)	\$ (3,267,173)
Amortization Payment on the 2001 Experience Loss (July 1, 2021)	\$ (1,245,391)
Interest on the Net Amortization Base to June 30, 2022	<u>\$ 1,139,311</u>
Net Balance of the 2002 Liability Experience Loss as of June 30, 2022	\$ 17,532,269
Amortization Payment on the 2002 Experience Loss (July 1, 2022)	\$ (3,267,173)
Amortization Payment on the 2001 Experience Loss (July 1, 2022)	\$ (1,245,391)
Interest on the Net Amortization Base to June 30, 2023	<u>\$ 904,869</u>
Net Balance of the 2002 Liability Experience Loss as of June 30, 2023	\$ 13,924,574

EXHIBIT VI ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (June 30, 2022)..... \$ 1,068,279,810

INCOME:

Member Contributions.....	\$	6,657,622
Employer Contributions.....		45,701,923
Irregular Contributions		3,354,628
Motor Vehicle Fees		4,172,603
Insurance Premium Taxes		1,500,000

Total Contributions..... \$ 61,386,776

Net Appreciation of Investments.....	\$	70,385,154
Interest & Dividends		5,673,768
Miscellaneous Income		102,633
Investment Expense.....		(2,727,912)

Net Investment Income..... \$ 73,433,643

TOTAL Income \$ 134,820,419

EXPENSES:

Retirement Benefits	\$	85,123,928
Refunds of Contributions		107,319
Transfers to Other Systems.....		426,127
Administrative Expenses		1,228,713

TOTAL Expenses..... \$ 86,886,087

Net Market Value Income for Fiscal 2023 (Income – Expenses) \$ 47,934,332

Unadjusted Fund Balance as of June 30, 2023
(Fund Balance Previous Year + Net Income)..... \$ 1,116,214,142

Income Adjustment for Actuarial Smoothing..... \$ (19,396,361)

Actuarial Value of Assets: (June 30, 2023)..... \$ 1,096,817,781

EXHIBIT VII – SCHEDULE A EXPERIENCE ACCOUNT

1.	Experience Account Balance – June 30, 2022	\$	0
2.	Investment Gain, if any	\$	0
3.	Priority Allocation to Reduce Oldest Positive UAL Base.....	\$	0
4.	Residual Investment Gain, if any (2 – 3).....	\$	0
5.	Investment Gain to Allocate to the Experience Account (50% × 4).....	\$	0
6.	Credit for Investment Earnings based on AVA rate of return, if positive.....	\$	0
7.	Total Preliminary Credits to be Allocated to Experience Account (5 + 6)	\$	0
8.	Debit for Investment Losses based on AVA rate of return, if negative	\$	0
9.	Present Value of Permanent Benefit Increase Paid July 1, 2023.....	\$	0
10.	Total Preliminary Debits to be Allocated to Experience Account (8 + 9).....	\$	0
11.	Total Net Credit/Debit to be Allocated to Experience Account (7 + 10)	\$	0
12.	Limit to the Experience Account Balance – June 30, 2023 (Present Value of PBI at CPI-U for Fiscal 2023 or 2.00%)	\$	12,169,856
13.	Experience Account Balance – June 30, 2023 (Lesser of 1+11 & 12 - at least 0)..	\$	0

EXHIBIT VII – SCHEDULE B PBI FUNDING ACCOUNT - AFC RATE

1.	Maximum AFC rate as of Fiscal 2024.....	0.0%
2.	Minimum Recommended Employer Contribution Rate for Fiscal 2024.....	70.4%
3.	Minimum Recommended Employer Contribution Rate for Fiscal 2025	<u>70.6%</u>
4.	Decrease in Employer Rate (exclusive of AFC Rate), if any	0%
5.	Maximum addition to the Maximum AFC rate for Fiscal 2025 (50% of 4)	0%
6.	Maximum AFC rate for Fiscal 2025 (Lesser of 1 + 5, 2.5%)	0%
7.	AFC rate capping test:	
	Minimum Recommended Employer Contribution Rate for Fiscal 2025	70.6%
	Maximum AFC rate for Fiscal 2025	<u>0%</u>
	Preliminary Total Employer Contribution Rate for Fiscal 2025.....	70.6%
8.	AFC rate for Fiscal 2025 (limited if Preliminary Total Employer Contribution Rate for Fiscal 2025 exceeds the legislative cap of 27.6%)	0%
9.	Actual required employer contribution rate, inclusive of AFC rate, for Fiscal 2025 (3 + 8)	70.6%

EXHIBIT VIII CENSUS DATA

	Active	Terminated with Funds on Deposit	Retired	Total
Number of members as of June 30, 2022	914	232	1,355	2,501
Additions to Census				
Initial membership	62	11		73
Omitted in error last year				
Death of another member			18	18
Adjustment for multiple records				
Change in Status during Year				
Actives terminating service	(18)	18		
Actives who retired	(57)		57	
Term. members rehired	4	(4)		
Term. members who retire		(7)	7	
Retirees who are rehired				
Refunded who are rehired				
Omitted in error last year				
Eliminated from Census				
Refund of contributions	(1)	(9)		(10)
Deaths	(1)		(42)	(43)
Included in error last year				
Adjustment for multiple records				
Number of members as of June 30, 2023	903	241	1,395	2,539

Actives Census by Age:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
21 - 25	25	5	30	48,164	1,444,928
26 - 30	84	9	93	54,327	5,052,375
31 - 35	106	6	112	58,551	6,557,671
36 - 40	130	5	135	67,826	9,156,547
41 - 45	177	9	186	82,530	15,350,661
46 - 50	174	9	183	98,098	17,951,877
51 - 55	114	8	122	107,575	13,124,151
56 - 60	37	1	38	102,454	3,893,263
61 - 65	4	0	4	98,417	393,666
Total	851	52	903	80,759	72,925,139

Terminated Members Due a Deferred Retirement Benefit:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	6	0	6	29,779	178,672
41 - 45	11	0	11	38,092	419,010
46 - 50	10	2	12	36,351	436,213
36 - 40	6	0	6	29,779	178,672
Total	27	2	29	35,652	1,033,895

Terminated Members Due a Refund of Contributions:

Contributions Ranging		Number	Total Contributions
From	To		
0	- 99	79	3,603
100	- 499	74	19,003
500	- 999	20	13,232
1,000	- 1,999	4	5,229
2,000	- 4,999	9	27,607
5,000	- 9,999	5	36,823
10,000	- 19,999	2	31,358
20,000	- 99,999	18	510,321
100,000	& Above	1	105,798
Total		212	752,974

Regular Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	1	0	1	117,327	117,327
46 - 50	22	1	23	87,771	2,018,724
51 - 55	182	9	191	86,432	16,508,483
56 - 60	165	6	171	88,132	15,070,553
61 - 65	114	2	116	74,187	8,605,639
66 - 70	147	3	150	63,432	9,514,744
71 - 75	185	1	186	45,033	8,376,203
76 - 80	136	1	137	36,122	4,948,679
81 - 85	63	1	64	31,933	2,043,685
86 - 90	23	0	23	27,399	630,188
91 - 95	4	0	4	19,342	77,369
96 - 100	2	0	2	17,352	34,704
Total	1,044	24	1,068	63,620	67,946,298

Disability Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	3	1	4	31,319	125,277
46 - 50	5	0	5	41,668	208,342
51 - 55	5	1	6	36,420	218,520
56 - 60	4	0	4	31,456	125,822
61 - 65	3	0	3	35,957	107,871
66 - 70	6	1	7	25,349	177,442
71 - 75	6	2	8	23,577	188,619
76 - 80	10	0	10	24,425	244,251
81 - 85	5	1	6	28,962	173,770
Total	47	6	53	29,621	1,569,914

Survivors:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 20	1	0	1	89,310	89,310
21 - 25	2	0	2	44,146	88,292
26 - 30	1	0	1	111,369	111,369
31 - 35	0	1	1	54,150	54,150
36 - 40	0	2	2	41,475	82,950
41 - 45	0	1	1	75,069	75,069
46 - 50	2	2	4	47,720	190,881
51 - 55	1	7	8	52,212	417,695
56 - 60	0	6	6	54,968	329,805
61 - 65	1	20	21	49,856	1,046,969
66 - 70	0	27	27	35,038	946,028
71 - 75	1	41	42	28,126	1,181,309
76 - 80	0	47	47	25,726	1,209,099
81 - 85	0	45	45	27,210	1,224,435
86 - 90	1	44	45	22,783	1,025,231
91 - 95	0	17	17	21,177	360,001
96 - 100	0	4	4	15,538	62,152
Total	10	264	274	31,003	8,494,745

Active Members:

Attained Ages	Completed Years of Service								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	
0 - 20	-	-	-	-	-	-	-	-	-
21 - 25	22	8	-	-	-	-	-	-	30
26 - 30	19	38	36	-	-	-	-	-	93
31 - 35	12	17	61	22	-	-	-	-	112
36 - 40	7	7	39	51	30	1	-	-	135
41 - 45	-	2	23	29	95	34	3	-	186
46 - 50	1	1	11	7	41	92	29	1	183
51 - 55	-	-	5	5	22	31	57	2	122
56 - 60	-	-	2	1	8	7	15	5	38
61 - 65	-	-	-	-	-	2	2	-	4
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
Total	61	73	177	115	196	167	106	8	903

Average Annual Salary of Active Members:

Attained Ages	Completed Years of Service								Average
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	
0 - 20	-	-	-	-	-	-	-	-	-
21 - 25	46,647	52,337	-	-	-	-	-	-	48,164
26 - 30	46,821	53,851	58,790	-	-	-	-	-	54,327
31 - 35	47,116	53,519	61,433	60,684	-	-	-	-	58,551
36 - 40	46,946	54,144	61,784	68,612	82,739	57,943	-	-	67,826
41 - 45	-	53,853	64,107	69,180	85,553	99,170	87,664	-	82,530
46 - 50	47,407	52,028	65,493	75,757	89,419	103,750	112,772	120,140	98,098
51 - 55	-	-	63,570	73,489	89,995	106,595	120,720	136,737	107,575
56 - 60	-	-	62,756	77,023	90,615	99,572	105,616	136,915	102,454
61 - 65	-	-	-	-	-	102,845	93,989	-	98,417
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
Average	46,840	53,611	61,648	67,959	86,636	102,885	114,968	134,773	80,759

Terminated Members Due a Deferred Retirement Benefit:

Attained Ages	Years until Retirement Eligibility								Total
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	5	1	-	6
41 - 45	-	-	-	1	9	1	-	-	11
46 - 50	5	2	3	2	-	-	-	-	12
51 - 55	-	-	-	-	-	-	-	-	-
56 - 60	-	-	-	-	-	-	-	-	-
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
Total	5	2	3	3	9	6	1	-	29

Average Annual Benefits of Terminated Members Due a Deferred Retirement Benefit:

Attained Ages	Years until Retirement Eligibility								Average
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	30,291	27,217	-	29,779
41 - 45	-	-	-	35,018	39,869	25,174	-	-	38,092
46 - 50	47,461	31,949	31,035	20,954	-	-	-	-	36,351
51 - 55	-	-	-	-	-	-	-	-	-
56 - 60	-	-	-	-	-	-	-	-	-
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
Average	47,461	31,949	31,035	25,642	39,869	29,438	27,217	-	35,652

Service Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	
0 - 50	11	7	5	1	-	-	-	-	24
51 - 55	35	51	32	52	18	3	-	-	191
56 - 60	15	20	23	57	44	12	-	-	171
61 - 65	3	2	8	23	18	51	11	-	116
66 - 70	-	-	-	6	3	56	68	17	150
71 - 75	-	-	-	-	-	19	56	111	186
76 - 80	-	-	-	-	-	3	12	122	137
81 - 85	-	-	-	-	-	-	1	63	64
86 - 90	-	-	-	-	-	-	-	23	23
91 & Over	-	-	-	-	-	-	-	6	6
Total	64	80	68	139	83	144	148	342	1,068

Average Annual Benefits Payable to Service Retirees:

Attained Ages	Completed Years Since Retirement								Average
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	
0 - 50	84,538	97,345	88,843	80,508	-	-	-	-	89,002
51 - 55	90,010	88,709	91,202	80,748	84,072	67,785	-	-	86,432
56 - 60	93,549	96,060	103,101	95,720	72,666	60,123	-	-	88,132
61 - 65	99,035	108,819	86,482	100,792	83,470	57,407	59,146	-	74,187
66 - 70	-	-	-	93,549	65,763	70,121	64,427	26,373	63,432
71 - 75	-	-	-	-	-	72,563	66,539	29,471	45,033
76 - 80	-	-	-	-	-	57,076	75,744	31,709	36,122
81 - 85	-	-	-	-	-	-	90,660	31,000	31,933
86 - 90	-	-	-	-	-	-	-	27,399	27,399
91 & Over	-	-	-	-	-	-	-	18,679	18,679
Average	90,322	91,805	94,498	90,755	77,233	64,787	65,929	30,069	63,620

Disability Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	2	2	-	-	-	-	-	4
46 - 50	-	1	4	-	-	-	-	-	5
51 - 55	-	-	2	2	1	1	-	-	6
56 - 60	-	-	-	1	1	1	1	-	4
61 - 65	-	-	-	1	-	1	1	-	3
66 - 70	-	-	-	-	1	-	1	5	7
71 - 75	-	-	-	-	-	-	1	7	8
76 - 80	-	-	-	-	-	-	-	10	10
81 & Over	-	-	-	-	-	-	2	4	6
Total	-	3	8	4	3	3	6	26	53

Average Annual Benefits Payable to Disability Retirees:

Attained Ages	Completed Years Since Retirement								Average
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	37,654	24,985	-	-	-	-	-	31,319
46 - 50	-	55,782	38,140	-	-	-	-	-	41,668
51 - 55	-	-	33,076	42,207	28,424	39,530	-	-	36,420
56 - 60	-	-	-	37,853	28,075	20,325	39,569	-	31,456
61 - 65	-	-	-	49,860	-	32,469	25,542	-	35,957
66 - 70	-	-	-	-	40,896	-	15,978	24,114	25,349
71 - 75	-	-	-	-	-	-	17,714	24,415	23,577
76 - 80	-	-	-	-	-	-	-	24,425	24,425
81 & Over	-	-	-	-	-	-	27,278	29,804	28,962
Average	-	43,697	33,585	43,032	32,465	30,775	25,560	25,190	29,621

Surviving Beneficiaries of Former Members:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	
0 - 30	-	2	1	-	-	-	1	-	4
31 - 35	-	-	-	1	-	-	-	-	1
36 - 40	-	2	-	-	-	-	-	-	2
41 - 45	-	-	1	-	-	-	-	-	1
46 - 50	-	1	-	1	1	1	-	-	4
51 - 55	-	1	2	1	-	-	1	3	8
56 - 60	1	-	2	-	1	2	-	-	6
61 - 65	-	2	2	4	1	1	5	6	21
66 - 70	-	-	-	2	4	3	4	14	27
71 - 75	-	-	-	-	2	6	4	30	42
76 - 80	-	-	-	-	-	2	4	41	47
81 & Over	-	-	-	-	-	-	6	105	111
Total	1	8	8	9	9	15	25	199	274

Average Annual Benefits Payable to Survivors of Former Members:

Attained Ages	Completed Years Since Retirement								Average
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	
0 - 30	-	100,340	57,401	-	-	-	30,891	-	72,243
31 - 35	-	-	-	54,150	-	-	-	-	54,150
36 - 40	-	41,475	-	-	-	-	-	-	41,475
41 - 45	-	-	75,069	-	-	-	-	-	75,069
46 - 50	-	63,972	-	48,369	53,283	25,257	-	-	47,720
51 - 55	-	111,369	56,697	85,561	-	-	43,225	21,382	52,212
56 - 60	94,748	-	57,713	-	64,246	27,693	-	-	54,968
61 - 65	-	90,341	68,040	77,876	67,683	25,984	34,943	25,054	49,856
66 - 70	-	-	-	59,482	67,395	52,586	29,188	20,212	35,038
71 - 75	-	-	-	-	55,213	45,675	30,554	22,487	28,126
76 - 80	-	-	-	-	-	61,380	26,619	23,899	25,726
81 & Over	-	-	-	-	-	-	43,023	22,987	24,070
Average	94,748	79,957	62,171	68,728	62,802	44,080	34,097	22,943	31,003

EXHIBIT IX YEAR-TO-YEAR COMPARISON

	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Number of Active Members	903	914	951	1,029
Number of Retirees & Survivors	1,395	1,355	1,295	1,268
Number of Terminated Due Deferred Benefits	29	32	37	38
Number Terminated Due Refunds	212	200	183	179
Active Lives Payroll (excludes DROP)	\$ 72,925,139	\$ 72,075,629	\$ 75,908,386	\$ 80,281,571
Retiree Benefits in Payment	\$ 78,010,957	\$ 72,704,372	\$ 64,716,050	\$ 59,283,227
Market Value of Assets (Includes Side Funds)	\$ 1,045,811,117	\$ 997,876,785	\$ 1,159,337,587	\$ 891,750,736
Ratio of Actuarial Value of Assets to Actuarial	76.42%	77.91%	77.54%	74.16%
Actuarial Accrued Liability (EAN)	\$ 1,435,238,228	\$ 1,371,245,509	\$ 1,314,386,755	\$ 1,254,441,437
Actuarial Value of Assets †	\$ 1,096,817,781	\$ 1,068,279,810	\$ 1,019,236,031	\$ 930,326,943
UAL (Funding Excess)	\$ 338,420,447	\$ 302,965,699	\$ 295,150,724	\$ 324,114,494
Experience Account	\$ 0	\$ 0	\$ 9,497,110	\$ 2,195,198
	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021
Employee Contribution Rate For Employees Hired Before January 1, 2011	8.50%	8.50%	8.50%	8.50%
Employee Contribution Rate For Employees Hired On Or After January 1, 2011	9.50%	9.50%	9.50%	9.50%
Actuarially Required Employer Contribution as a Percentage of Projected Payroll	71.50%	67.30%	60.50%	52.40%
Actual Employer Contribution as a Percentage of Projected Payroll	70.40%	62.90%	58.80%	52.40%

† Prior to 2017, AVA was net of Experience Account

Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
1,033	1,129	1,071	1,041	991	956
1,239	1,174	1,155	1,220	1,224	1,229
44	44	43	41	41	34
170	169	139	N/A	N/A	N/A
\$ 79,742,159	\$ 85,349,504	\$ 84,059,551	\$ 75,969,718	\$ 64,632,596	\$ 54,331,845
\$ 54,960,399	\$ 47,329,769	\$ 43,286,212	\$ 41,866,788	\$ 41,737,344	\$ 40,440,528
\$ 893,350,033	\$ 866,309,038	\$ 782,572,348	\$ 670,423,169	\$ 659,126,281	\$ 622,793,610
74.19%	74.34%	72.91%	69.45%	68.85%	65.53%
\$ 1,203,479,513	\$ 1,141,255,546	\$ 1,062,446,959	\$ 1,006,626,437	\$ 910,845,343	\$ 837,940,546
\$ 892,857,106	\$ 848,456,307	\$ 774,664,801	\$ 699,121,700	\$ 627,083,218	\$ 549,075,148
\$ 310,622,407	\$ 292,799,239	\$ 287,782,158	\$ 307,504,737	\$ 283,762,125	\$ 288,865,398
\$ 2,079,574	\$ 1,957,062	\$ 5,260,562	\$ 3,963,595	\$ 12,416,791	\$ 12,069,552

Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
8.50%	8.50%	8.50%	8.50%	8.50%	8.50%
9.50%	9.50%	9.50%	9.50%	9.50%	9.50%
46.90%	44.00%	48.10%	54.00%	66.70%	76.20%
49.10%	43.10%	47.40%	51.20%	60.80%	75.30%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

The Louisiana State Police Retirement System (LSPRS) was established by Act 293 of the 1938 Legislative Session, for the purpose of providing retirement allowances and other benefits as described under R.S. 11:1301 – 11:1345. The following summary of plan provisions covers many of the most important plan provisions covering LSPRS but is not a description of every plan provision and should only be used for general informational purposes. This summary does not constitute a guarantee of benefits. The provisions contained within this section are as of June 30, 2023.

MEMBERSHIP

Sworn, commissioned law enforcement officers of the Division of State Police of the Department of Public Safety who have completed the State Police Training Academy Course of Instruction on the Effective Date of the Fund and those subsequently employed who did not withdraw employee contributions. In addition, the secretary and deputy secretary of the Department of Public Safety, provided they are sworn, commissioned State Police officers who have graduated from the State Police Academy.

CONTRIBUTION RATES

Employees whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or before December 31, 2010 contribute 8.50% of salary and employees whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after January 1, 2011 contribute 9.50% of salary. The employer contributes an actuarially determined normal contribution rate plus accrued liability contribution rate.

CONTRIBUTION REFUNDS

Upon withdrawal from service, members not entitled to a retirement allowance may receive a refund of accumulated contributions.

FINAL AVERAGE COMPENSATION

For members employed prior to September 8, 1978, the average final salary is the average salary including any additional pay or salary provided by the legislature over and above that set by the Civil Service Commission, received for the year ending on the last day of the month immediately preceding the date of retirement or date of death or for any one-year period, whichever is the greatest.

For members employed on or after September 8, 1978, and on or before December 31, 2010, the average final salary is the average salary including any additional pay or salary provided by the legislature over and above that set by the Civil Service Commission, received for the thirty-six month period ending on the last day of the month immediately preceding the date of retirement or date of death or for any thirty-six consecutive months, whichever is the greatest. The earnings to be considered exclude overtime, expenses, and clothing allowances. The earnings to be considered for the thirteenth through the twenty-fourth month shall not exceed one hundred twenty-five percent of the earnings of the first through the twelfth month. The earnings to be considered for the final twelve months shall not exceed one hundred twenty-five percent of the earnings of the thirteenth through the twenty-fourth month.

For members employed on or after January 1, 2011 the average final salary is the average annual earned compensation of a member for the sixty highest months of successive employment, or for the highest sixty successive joined months of employment where interruption of service occurred; The earnings to be considered for the thirteenth through the twenty-fourth month shall not exceed one hundred fifteen percent of the earnings of the first through the twelfth month. The earnings to be considered for the twenty-fifth through the thirty-sixth month shall not exceed one hundred fifteen percent of the earnings of the thirteenth through the twenty-fourth month. The earnings to be considered for the thirty-seventh through the forty-eighth month shall not exceed one hundred fifteen percent of the earnings of the twenty-fifth through the thirty-sixth month. The earnings for the final twelve months shall not exceed one hundred fifteen percent of the earnings of the thirty-seventh through the forty-eighth month.

VESTED WITHDRAWAL BENEFITS

Members with sufficient service credit who terminate employment prior to reaching retirement eligibility age may elect to leave accumulated contributions on deposit and receive a retirement allowance based on the creditable service and accrual rate for their period of membership upon reaching their retirement eligibility age.

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or before December 31, 2010, who have ten or more years of creditable service, may elect to leave accumulated contributions on deposit and after withdrawal from service receive a retirement allowance based on the creditable service and accrual rate for their period of membership upon reaching age fifty.

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after January 1, 2011, who have twelve or more years of creditable service, may elect to leave accumulated contributions on deposit and after withdrawal from service receive a retirement allowance based on the creditable service and accrual rate for their period of membership upon reaching age fifty-five.

NORMAL RETIREMENT BENEFITS

Any member of the system whose initial date of employment was prior to September 8, 1978, regardless of age, who has credit for at least twenty years of service shall be paid a monthly benefit equal to the sum of three and one-third percent multiplied by the member's monthly average salary, and further multiplied by the number of years of service credited to the member's account, but the total annual benefit shall not exceed one hundred percent of the member's final average annual salary.

Any member of the system, whose first employment making him eligible for membership in one of the state systems occurred on or before December 31, 2010, and who has attained age fifty and who has credit for at least ten years of service shall be paid a monthly benefit equal to the sum of three and one-third percent multiplied by the member's monthly average salary, and further multiplied by the number of years of service credited to the member's account, but the total annual benefit shall not exceed one hundred percent of the member's final average annual salary.

Any member of the system whose initial date of employment occurred on or after September 8, 1978, and whose first employment making him eligible for membership in one of the state systems occurred

on or before December 31, 2010, who has credit for at least twenty-five years of service, regardless of age, shall be paid a monthly benefit equal to the sum of three and one-third percent multiplied by the member's monthly average salary, and further multiplied by the number of years of service credited to the member's account, but the total annual benefit shall not exceed one hundred percent of the member's final average annual salary.

Any member of the system whose first employment making him eligible for membership in one of the state systems occurred on or after January 1, 2011, shall become a member of the New State Police Retirement Plan of the system as a condition of employment.

Any member of the New State Police Retirement Plan shall be eligible for retirement if he has:

- (1) Twenty-five years or more of service, at any age.
- (2) Twelve years or more of service, at age fifty-five or thereafter.
- (3) Twenty years of service credit at any age, exclusive of military service and unused annual and sick leave, but any person retiring under this Paragraph shall have his benefit, inclusive of military service credit and allowable unused annual and sick leave, actuarially reduced from the earliest age that he would normally become eligible for a regular retirement if he had continued in service to that age. Members retiring under the twenty year at any age rule may not participate in Back-DROP or the Initial Benefit Option.

INITIAL BENEFIT OPTION

In lieu of receiving a regular retirement benefit according to the relevant benefit computation rules, a member who does not retire under the Back-DROP may elect to receive a reduced retirement benefit plus an initial lump sum payment of up to thirty-six times the member's maximum monthly retirement benefit. The reduced retirement benefit plus initial lump sum payment will be determined to be actuarially equivalent to the member's regular retirement benefit computed based on the relevant benefit computation rules.

BACK-DEFERRED RETIREMENT OPTION PLAN (BACK-DROP)

In lieu of receiving a normal retirement benefit, a member (1) who has accrued more service credit than the minimum required for eligibility for a normal retirement benefit and (2) who has attained an age that is greater than the minimum required for eligibility for a normal retirement benefit, if applicable, may elect to retire and have his benefits structured, calculated, and paid as provided in the Back-Deferred Retirement Option Program. At the time of retirement, a member who elects to receive a Back-DROP benefit shall select a period that shall not exceed the lesser of thirty-six months or the number of months of creditable service accrued after the member first attained eligibility. The period shall be comprised of the most recent calendar days corresponding to the member's employment for which service credit accrued. For purposes of Back-DROP, creditable service will be reduced by the Back-DROP period and shall not include reciprocal service credit. The sum of the Back-DROP period and the accrued service credit used to calculate the member's monthly benefit shall not exceed thirty years. Final average compensation shall be calculated by excluding all earnings during Back-DROP. Employee contributions received by the retirement system during the Back-DROP period shall, at the member's election, be refunded to the member without interest or deposited directly into the member's Back-DROP account.

Employer contributions and any interest that has accrued on employer and employee contributions received during the period shall be retained by the system and shall not be refunded to the member or to the employer. The member's maximum monthly retirement benefit payable shall be equal to the Back-DROP monthly benefit. In addition to the monthly benefit, the member shall be paid a lump-sum benefit equal to the Back-DROP maximum monthly retirement benefit multiplied by the number of months selected as the Back-DROP period. The Back-DROP lump sum shall, at the member's election, be distributed to the member or transferred to an individual account for self-directed investments. Such account shall be credited with interest at the actual rate of return earned on such account balance investments. Cost-of-living adjustments shall not be payable on the member's Back-DROP lump sum.

ACCUMULATION OF SICK AND ANNUAL LEAVE

A member may convert unused sick and annual leave to retirement credit on the basis of one work day for each eight hours of unused leave. Such converted leave shall not be used to determine eligibility for retirement. A member who has sick and annual leave that if converted to retirement credit would exceed one hundred percent of the member's average compensation may receive a lump sum payment equal to the additional leave's actuarial value.

DISABILITY BENEFITS

The board of trustees shall award disability benefits to any sworn, commissioned law enforcement officer of the office of state police who is eligible and who has been officially certified as having a disability by the State Medical Disability Board.

Any member whose first employment making him eligible for membership in one of the state systems occurred on or before December 31, 2010, who applies for retirement due to a total and permanent disability caused solely as the result of injuries sustained in the performance of his official duties shall receive a disability benefit equal to fifty percent of his average salary, plus one and one-half percent of his average salary for each year of service credit in excess of ten years. Such benefit shall not exceed one hundred percent of the member's average salary.

Any member whose first employment making him eligible for membership in one of the state systems occurred on or before December 31, 2010, who applies for retirement due to a total and permanent disability caused not as a result of injuries sustained in the performance of his official duties with at least five years of service credit shall receive a disability benefit equal to fifty percent of his average salary plus one and one-half percent for each year of service credit in excess of ten years. Such benefit shall not exceed one hundred percent of the member's average salary.

Any member whose first employment making him eligible for membership in one of the state systems occurred on or before December 31, 2010, who applies for retirement due to a total and permanent disability caused solely as the result of injuries sustained in the performance of official duties including loss of limb, loss of organ, total loss of sight or hearing, paralysis, or permanent damage to the brain or spinal cord, shall receive a disability benefit equal to one hundred percent of his average annual salary, or thirty-six thousand dollars annually, whichever is greater.

Any member whose first employment making him eligible for membership in one of the state systems occurred on or after January 1, 2011, who applies for retirement due to a total and permanent disability resulting solely from injuries sustained in the performance of his official duties, shall receive a disability benefit equal to seventy-five percent of his average compensation regardless of years of service.

Any member whose first employment making him eligible for membership in one of the state systems occurred on or after January 1, 2011, who applies for retirement due to a total and permanent disability caused as the result of any other reason, a member with at least ten years of service credit shall receive a disability benefit equal to fifty percent of his average salary plus one and one-half percent for each year of service credit in excess of ten years. Such benefits shall not exceed one hundred percent of the member's average salary.

SURVIVOR BENEFITS

For members whose first employment making them eligible for membership in one of the state systems occurred on or before December 31, 2010:

The surviving spouse of any such sworn commissioned law enforcement officer of the office of state police of the Department of Public Safety and Corrections who is killed in the discharge of his duties, or dies from immediate effects of any injury received as the result of an act of violence occurring while engaged in the discharge of his duties, shall receive a benefit equal to 75% percent of the salary being received by the employee at the time of the decedent's death or injury, provided the surviving spouse was married to the decedent at the time of the event which resulted in the officer's death. If there is no surviving spouse, surviving minor children shall receive the benefit until reaching eighteen years of age, or twenty-three years of age if a student.

The surviving spouse of any such sworn commissioned law enforcement officer of the office of state police of the Department of Public Safety and Corrections whose death occurs other than in the line of duty shall receive a monthly benefit according to the following table:

Deceased Officer's Service Credit	Percent of Final Salary Survivor Benefit
Less than 5 years	25%
At least 5, but less than 10	30%
At least 10, but less than 15	40%
At least 15, but less than 20	50%

If the officer dies with at least 20 years of service, the surviving spouse shall receive a monthly benefit equal to the amount that the employee would have received had the employee elected to retire at the time of his death.

The surviving spouse of any employee whose death occurs other than in the line of duty shall cease receiving benefits while remarried, if remarried before age fifty-five.

Upon the death of an employee where there is no surviving spouse, or if the spouse has remarried and forfeited his or her benefit, the minor children of the deceased shall receive a monthly benefit equal to the greater of 1) 60% of the average salary of the deceased member, or 2) The pension that would have been received by the surviving spouse. Such minor child benefits are divided equally and cease as each minor child reaches eighteen years of age, or twenty-three years of age if a student. Children with a total physical or mental disability may receive benefits beyond age eighteen (or twenty-three).

In the event of the death of member where there is no surviving spouse and no minor children, a monthly pension of twenty-five percent of the average salary of the deceased employee shall be paid to the parent(s) if either of them derives their main support from the employee.

In the event of death of a former employee with at least ten years of service credit, the qualified surviving spouse shall receive a pension equal to the monthly retirement pay that would have been payable to the decedent. In the event of death of a retired employee, the qualified surviving spouse shall receive a pension equal to the monthly retirement pay that was being paid to the decedent on the date of death. (Surviving spouse benefits cease upon remarriage in some cases) If there is no surviving spouse eligible to receive benefits, the minor children of the decedent shall be entitled to share equally in a benefit equal to the greater of the spousal benefit or 60% of the average salary. If there is no surviving spouse or minor children, the qualifying parent(s) of the decedent may be entitled to benefits.

For members whose first employment making them eligible for membership in one of the state systems occurred on or after January 1, 2011:

If a member's death occurs in the line of duty or is a direct result of an injury sustained while in the line of duty, a monthly benefit equal to eighty percent of the member's average compensation will be shared equally by the surviving spouse, qualified minor children, or qualified disabled children.

Upon the death of a member with at least five years of service credit (two of which were earned immediately prior to death unless the member had at least twenty years) other than in the line of duty, the surviving spouse with a minor child or child with a disability, shall receive fifty percent of the benefit to which the member would have been entitled if he had retired on the date of death, or \$600 per month, whichever is greater. (Spousal benefits cease upon remarriage in some cases)

In addition, qualifying children receive fifty percent of the benefit to which the spouse would be entitled, up to a maximum 100% to all children.

A surviving spouse without a minor child or a child with a disability, shall receive a benefit based on the decedent's years of service credit earned to the date of death using the applicable accrual rate, or \$600 per month, whichever is greater. (Spousal benefits cease upon remarriage in some cases)

In the event of death of a member with no surviving spouse or child due benefits, the accumulated contributions are payable to the designated beneficiaries, or estate.

Upon the death of a former member who terminated prior to attaining the requisite age for retirement eligibility with at least twelve years of service credit and contributions on deposit, the

surviving spouse shall receive a monthly benefit equal to fifty percent of the benefit that would have been payable to the decedent.

Upon the death of a retired employee, the surviving spouse shall receive a monthly benefit equal to seventy-five percent of the benefit that was being paid to the decedent on the date of death provided the surviving spouse was married to the decedent for at least two years prior to the decedent's death.

Upon the death of a former member or retired employee with no surviving spouse, or if the spouse has remarried and forfeited his benefit, the minor children shall be entitled to fifty percent of the monthly retirement benefit that would have been payable to the decedent or was being paid to the decedent on the date of death. If there are no qualified children, the parents of the decedent may be entitled to a benefit under certain circumstances.

EXPERIENCE ACCOUNT

Act 333 of 2007 established an Experience Account to be used to pay cost-of-living adjustments (COLAs), or permanent benefit increases (PBIs). The Experience Account is credited with 50% of the investment experience gain in excess of the priority amount (\$5 million as of June 30, 2015, indexed based on increases in the actuarial value of assets) along with that portion of the net investment income, if any, attributable to the prior year balance, subject to maximum accumulation limitation based upon the plan's funded percentage. The account is also debited with that portion of the system's net investment loss, if any, attributable to the prior year balance. In no event may the amount in the Experience Account fall below zero.

The Experience Account cannot be credited with funds that would cause the balance in the account to exceed the reserve of one permanent benefit increase (PBI) defined in R.S. 11:1332(C) plus the cost of a supplemental cost-of-living increase defined in R.S. 11:1332(F) if the system is less than 80% funded, or two PBIs if the system is at least 80% funded. R.S. 11:1332(C) sets forth the basis for determining the maximum percentage increase in the benefits permissible. LSPRS had a funded ratio of 76.42% in Fiscal 2022. The maximum percentage increase is based upon the funded percentage of the system as of the most recent actuarial valuation, and is limited to 2.0% in any year in which the system does not earn an actuarial rate of return of at least 7.00%, according to the following:

Funded Percentage of the System	Maximum Percent PBI
At least 80%	3.0%
At least 75% but less than 80%	2.5%
At least 65% but less than 75%	2.0%
At least 55% but less than 65%	1.5%
Less than 55%	No COLA permitted

Once the balance of the Experience Account accumulates a sum sufficient to grant retirees a PBI, the Board may recommend that the legislature grant a PBI on benefits up to \$60,000 (indexed for inflation since July 1, 2015), not to exceed the lesser of the CPI-U or a percentage determined based on the funded level percentage attained by the system as described in R. S. 11:1332, provided a PBI had not been granted in the prior year. Benefits are restricted to disability retirees and those retirees and beneficiaries who have attained the age of 60 and have been retired for at least one year. Maximum limitations are outlined in

ACT 399 of 2014. In addition, the Experience Account statute outlines a supplemental permanent benefit increase of 2% of the benefit being received (subject to limitation by the indexed \$60,000 limit) to all retirees and beneficiaries who are at least age 65 and who retired on or before June 30, 2001.

Because the system's funded ratio exceeds 75%, the maximum percentage PBI is 2.5%. In addition, when the system is less than 85% funded and the legislature granted a PBI in the preceding fiscal year, no increase may be granted.

If there are sufficient funds in the Experience Account and the system has met the necessary criteria to grant a PBI, the Board of Trustees may recommend to the President of the Senate and the Speaker of the House of Representatives that the system be permitted to grant a PBI.

PBI FUNDING ACCOUNT

Act 184 of 2023 created a PBI funding account for the purpose of funding future PBIs. The funding of this account is to be provided by an additional employer contribution rate (called the AFC rate) to be required of employers in addition to the actuarially required employer contribution rate under certain circumstances. Contributions collected through the AFC rate will be credited to the PBI funding account for the sole purpose of prefunding PBIs to qualifying retirees and survivors. As of July 1, 2023 the AFC rate will be set to zero.

The PBI funding account will be credited with:

1. Additional employer contributions derived from the AFC rate.
2. That portion of the system's net investment income attributable to the balance in the PBI account at the end of the prior year.

The PBI funding account will be debited with:

1. That portion of any net investment loss attributable to the balance in the PBI account at the end of the prior year.
2. An amount sufficient to fund any PBI granted pursuant to these provisions.

PBI funding account credit/debit limitations:

1. In no event shall the balance in the PBI account fall below zero.
2. The amount credited may not cause the account to exceed the reserve necessary to grant two permanent benefit increases of 2% of each recipient's current benefit limited to the first \$60,000 of the recipient's annual benefit plus the reserve necessary to grant two supplemental permanent benefit increases to retirees and beneficiaries who began receiving benefits by June 30, 2001.

PBIs funded by the PBI funding account shall begin on the July 1st following legislative approval and shall equal up to 2% of the current benefit up to \$60,000 annually. The following qualification rules apply:

1. A regular retiree must be at least age 62 and have received benefits for at least 2 years;
2. A disability retiree must have received benefits for at least 2 years;
3. A beneficiary of a deceased retiree is eligible if the retiree would have met the above criteria had they still been alive;
4. A non-retiree beneficiary is eligible if they have received benefits for at least 2 years and the deceased member's age would have been at least 62.

ACTUARIAL ASSUMPTIONS

In determining actuarial costs, certain assumptions must be made regarding future experience under the plan. These assumptions include the rate of investment return, mortality of plan members, rates of salary increase, rates of retirement, rates of termination, rates of disability, and various other factors that have an impact on the cost of the plan. To the extent that future experience varies from the assumptions selected for valuation, future costs will be either higher or lower than anticipated. The following chart illustrates the effect of emerging experience on the plan.

Factor	Increase in Factor Results in
Investment Earnings Rate	Decrease in Cost
Annual Rate of Salary Increase	Increase in Cost
Rates of Retirement	Increase in Cost
Rates of Termination	Decrease in Cost
Rates of Disability	Increase in Cost
Rates of Mortality	Decrease in Cost

ACTUARIAL COST METHOD

Individual Entry Age Normal with allocation of cost based on earnings. Entry and attained ages calculated on an age near birthday basis.

VALUATION INTEREST RATE

6.95% (Net of investment expenses)

ANNUAL SALARY INCREASE RATE

5.50% (2.50% inflation /3.00% merit)

ACTUARIAL ASSET VALUES

All assets are valued at market value adjusted to defer four-fifths of all earnings above or below the valuation interest rate in the valuation year, three-fifths of all earnings above or below the valuation interest rate in the prior year, two-fifths of all earnings above or below the valuation interest rate from two years prior, and one-fifth of all earnings above or below the valuation interest rate from three years prior. The resulting smoothed values are subject to a corridor of 85% to 115% of the market value of assets. If the smoothed value falls outside the corridor, the actuarial value is set equal to the average of the corridor limit and the smoothed value.

ACTIVE MEMBER MORTALITY

Pub-2010 Public Retirement Plans Mortality Table for Safety Below-Median Employees multiplied by 100% for males and 105% for females, each with full generational projection using the MP2021 scales.

ANNUITANT AND BENEFICIARY MORTALITY

Pub-2010 Public Retirement Plans Mortality Table for Safety Below-Median Healthy Retirees multiplied by 100% for males and 105% for females, each with full generational projection using the MP2021 scales.

DISABLED LIVES MORTALITY

Pub-2010 Public Retirement Plans Safety Mortality Table total datasets for disabled retirees multiplied by 100% for males and 105% for females, each with full generational projection using the MP2021 scales.

"IN THE LINE OF DUTY" DEATH

25% of the active deaths are assumed to occur while in the line of duty (service connected).

WITHDRAWAL RATES

The following rates of withdrawal are applied based upon completed years of service:

Service Duration (\leq)	Rate	Service Duration (\leq)	Rate
1	0.01	14	0.01
2	0.02	15	0.01
3	0.02	16	0.01
4	0.03	17	0.01
5	0.03	18	0.01
6	0.03	19	0.01
7	0.03	20	0.01
8	0.02	21	0.01
9	0.02	22	0.01
10	0.02	23	0.01
11	0.01	24	0.01
12	0.01	Above 24	0.01
13	0.01		

Note: The withdrawal rate for individuals eligible to retire is assumed to be zero.

VESTING ELECTING PERCENTAGE

Any member who terminates service credit after reaching the vesting threshold may not receive a refund of employee contributions. Thus, we have elected to recognize that 100% of such employees will wait to receive a vested benefit.

DISABILITY RATES

70% of the disability rates used for the 28th valuation of the Railroad Retirement System for individuals with 10-19 years of service. The table of these rates through age 75 is included later in this report.

"IN THE LINE OF DUTY" DISABILITY

70% of the active disabilities awarded by the Board of Trustees are assumed to have occurred while in the line of duty (service related).

RETIREMENT RATES

The table of these rates through age 75 is included later in the report. These rates apply only to those individuals eligible to retire.

BACK-DROP UTILIZATION:

The actuarial valuation determines values related to regular retirement, 12-month Back-DROP, 24-month Back-DROP, and 36-month Back-DROP. Members are assumed to select the most valuable form of retirement benefit among the scenarios for which they meet eligibility rules. Because historical analysis shows that members do not always select the highest value option, a set of multipliers is applied to the resulting liability values based on the highest level of Back-DROP eligibility.

Maximum Back-DROP period	1-year	2-year	3-year
Multiplier	99.5%	99.0%	98.5%

RETIREMENT LIMITATIONS

Projected retirement benefits are not subject to IRS Section 415 limits.

ACCUMULATED LEAVE POLICIES

Retirements are monitored to determine the amount of leave converted to service credit. Leave credit is accrued throughout the duration of the member's career. The average service credit converted is expressed as a percentage increase in the accrued benefit. For members retiring with up to 15 years of service credit, the average accumulated leave is assumed to be 5% of total service credit. For members with more than 15 years of service credit and up to 20 years of service credit, the average accumulated leave is assumed to be 6% of total service credit. For members with more than 20 years of service credit, the average accumulated leave is assumed to be 8% of total service credit.

MARRIAGE STATISTICS

65% of the members are assumed to be married; husbands are assumed to be three years older than wives.

FAMILY STATISTICS

Assumptions utilized in determining the costs of various survivor benefits as listed below, are derived from the information provided in the 2019 U. S. Census Table F1 (see chart below):

Member's Age	% With Children	Number of Children	Average Age	Remarriage Rates
25	60%	1.77	4	0.04566
35	82%	2.11	8	0.02636
45	63%	1.75	11	0.01355
55	11%	1.42	14	N/A
65	2%	1.50	14	N/A

RETIREE COST OF LIVING ADJUSTMENTS

The present value of future retirement benefits is based on benefits currently being paid by the system and includes previously granted cost of living increases. The present values and accrued liabilities within this report do not include provisions for potential future increases not yet authorized by the Legislature but do include a recognition of the existing balance in the Experience Account together with the present value of future contributions to the Account up to the maximum permissible value of the Account based upon current account limitations.

ACTUARIAL TABLES AND RATES

Age	Retirement Rates - Tier 1	Retirement Rates - Tier 2	Disability Rates
18	0.00000	0.00000	0.00084
19	0.00000	0.00000	0.00084
20	0.00000	0.00000	0.00084
21	0.00000	0.00000	0.00084
22	0.00000	0.00000	0.00084
23	0.00000	0.00000	0.00084
24	0.00000	0.00000	0.00084
25	0.00000	0.00000	0.00084
26	0.00000	0.00000	0.00084
27	0.00000	0.00000	0.00084
28	0.00000	0.00000	0.00084
29	0.00000	0.00000	0.00084
30	0.00000	0.00000	0.00084
31	0.00000	0.00000	0.00084
32	0.00000	0.00000	0.00084
33	0.00000	0.00000	0.00084
34	0.00000	0.00000	0.00084
35	0.00000	0.00000	0.00084
36	0.00000	0.00000	0.00084
37	0.00000	0.00000	0.00091
38	0.00000	0.00000	0.00098
39	0.00000	0.00000	0.00098
40	0.00000	0.00000	0.00105
41	0.00000	0.00000	0.00119
42	0.00000	0.00000	0.00126
43	0.10000	0.10000	0.00140
44	0.10000	0.10000	0.00147
45	0.10000	0.10000	0.00168
46	0.24000	0.24000	0.00189
47	0.24000	0.24000	0.00210
48	0.24000	0.24000	0.00238
49	0.24000	0.24000	0.00273
50	0.15000	0.24000	0.00308
51	0.16000	0.24000	0.00357
52	0.18000	0.24000	0.00413
53	0.20000	0.24000	0.00483
54	0.23000	0.24000	0.00560
55	0.25000	0.25000	0.00658
56	0.27000	0.27000	0.00777
57	0.28000	0.28000	0.00917
58	0.29000	0.29000	0.01085
59	0.30000	0.30000	0.01281
60	0.31000	0.31000	0.01869
61	0.33000	0.33000	0.02184
62	0.36000	0.36000	0.02226
63	0.40000	0.40000	0.02016
64	0.47000	0.47000	0.01603
65	0.58000	0.58000	0.01001
66	0.72000	0.72000	0.00252
67	0.79000	0.79000	0.00252
68	0.86000	0.86000	0.00252
69	0.93000	0.93000	0.00252
70	1.00000	1.00000	0.00252
71	1.00000	1.00000	0.00252
72	1.00000	1.00000	0.00252
73	1.00000	1.00000	0.00252
74	1.00000	1.00000	0.00252
75	1.00000	1.00000	0.00252

PRIOR YEAR ASSUMPTIONS

ANNUAL SALARY INCREASE RATE

5.25% (2.50% inflation /2.75% merit)

ACTIVE MEMBER MORTALITY

110% of the RP2014 Total Dataset Employee Table for males and 105% of the RP2014 Total Dataset Employee Table for females, each with the full generational MP2017 scale.

ANNUITANT AND BENEFICIARY MORTALITY

110% of the RP2014 Total Dataset Healthy Annuitant Table for males and 105% of the RP2014 Total Dataset Healthy Annuitant Table for females, each with the full generational MP2017 scale.

DISABLED LIVES MORTALITY

RP2014 Total Dataset Disabled Tables for Males and Females with the full generational MP2017 scale.

"IN THE LINE OF DUTY" DEATH

20% of the active deaths are assumed to occur while in the line of duty (service connected).

WITHDRAWAL RATES

The following rates of withdrawal are applied based upon completed years of service:

Service Duration (≤)	Rate	Service Duration (≤)	Rate
1	0.036	14	0.003
2	0.026	15	0.003
3	0.011	16	0.003
4	0.009	17	0.003
5	0.018	18	0.003
6	0.028	19	0.003
7	0.030	20	0.003
8	0.027	21	0.003
9	0.021	22	0.003
10	0.017	23	0.003
11	0.016	24	0.003
12	0.014	Above 24	0.010
13	0.003		

Note: The withdrawal rate for individuals eligible to retire is assumed to be zero.

VESTING ELECTING PERCENTAGE

Any member who terminates service credit after reaching the vesting threshold may not receive a refund of employee contributions. Thus, we have elected to recognize that 100% of such employees will wait to receive a vested benefit.

DISABILITY RATES

The table of these rates through age 75 is included later in this report.

“IN THE LINE OF DUTY” DISABILITY

50% of the active disabilities awarded by the Board of Trustees are assumed to have occurred while in the line of duty (service related).

RETIREMENT RATES

The table of these rates through age 75 is included later in the report. These rates apply only to those individuals eligible to retire.

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS

Active Former DROP Participants retire according to the rates listed for all actives in a table of rates through age 75 included later in the report.

Back-DROP UTILIZATION

Back-DROP is an alternative form of retirement benefit elected at the time of retirement. Back-DROP utilization probabilities based on recent experience are as follows:

1-year	2-year	3-year
9.93%	4.96%	12.06%

RETIREMENT LIMITATIONS

Projected retirement benefits are not subject to IRS Section 415 limits.

ACCUMULATED LEAVE POLICIES

Retirements are monitored to determine the amount of leave converted to service credit. Leave credit is accrued throughout the duration of the member’s career. The average service credit converted is expressed as a 5.5% increase in the accrued benefit.

MARRIAGE STATISTICS

70% of the members are assumed to be married; husbands are assumed to be three years older than wives.

FAMILY STATISTICS

Assumptions utilized in determining the costs of various survivor benefits as listed below, are derived from the information provided in the 2015 U. S. Census:

Member's Age	% With Children	Number of Children	Average Age	Remarriage Rates
25	70%	1.84	5	0.04566
35	86%	2.13	9	0.02636
45	75%	1.70	12	0.01355
55	22%	1.42	14	N/A
65	4%	1.45	15	N/A

RETIREE COST OF LIVING ADJUSTMENTS

The present value of future retirement benefits is based on benefits currently being paid by the system and includes previously granted cost of living increases. The present values and accrued liabilities within this report do not include provisions for potential future increases not yet authorized by the Legislature but do include a recognition of the existing balance in the Experience Account together with the present value of future contributions to the Account up to the maximum permissible value of the Account based upon current account limitations.

PRIOR YEAR TABLES AND RATES

Age	Retirement Rates	Disability Rates
18	0.00000	0.00083
19	0.00000	0.00083
20	0.00000	0.00083
21	0.00000	0.00083
22	0.00000	0.00083
23	0.00000	0.00083
24	0.00000	0.00083
25	0.00000	0.00083
26	0.00000	0.00083
27	0.00000	0.00083
28	0.00000	0.00083
29	0.00000	0.00083
30	0.00000	0.00083
31	0.00000	0.00083
32	0.00000	0.00083
33	0.00000	0.00083
34	0.00000	0.00083
35	0.00000	0.00094
36	0.00000	0.00105
37	0.00000	0.00116
38	0.00000	0.00132
39	0.00000	0.00149
40	0.00000	0.00171
41	0.00000	0.00193
42	0.00000	0.00215
43	0.10000	0.00242
44	0.10000	0.00275
45	0.10000	0.00314
46	0.10000	0.00358
47	0.10000	0.00402
48	0.10000	0.00457
49	0.10000	0.00517
50	0.25000	0.00589
51	0.25000	0.00671
52	0.25000	0.00759
53	0.25000	0.00864
54	0.25000	0.00979
55	0.25000	0.01111
56	0.25000	0.01265
57	0.50000	0.01436
58	0.50000	0.01628
59	0.50000	0.01854
60	0.50000	0.02684
61	0.50000	0.02684
62	0.50000	0.02684
63	0.99000	0.02684
64	0.99000	0.02684
65	0.99000	0.02684
66	0.99000	0.02684
67	0.99000	0.02684
68	0.99000	0.02684
69	0.99000	0.02684
70	0.99000	0.02684
71	0.99000	0.02684
72	0.99000	0.02684
73	0.99000	0.02684
74	0.99000	0.02684
75	1.00000	0.02684

GLOSSARY

ACCRUED BENEFIT

The pension benefit that an individual has earned as of a specific date based on the provisions of the plan and the individual's age, service, and salary as of that date.

ACTUARIAL ACCRUED LIABILITY

The actuarial present value of benefits payable to members of the fund less the present value of future normal costs attributable to the members.

ACTUARIAL ASSUMPTIONS

Assumptions as to the occurrence of future events affecting pension costs. These assumptions include rates of mortality, withdrawal, disability, and retirement. Also included are rates of investment earnings, changes in compensation, as well as statistics related to marriage and family composition.

ACTUARIAL COST METHOD

A procedure for determining the portion of the cost of a pension plan to be allocated to each year. Each cost method allocates a certain portion of the actuarial present value of benefits between the actuarial accrued liability and future normal costs. Once this allocation is made, a determination of the normal cost attributable to a specific year can be made along with the payment to amortize any unfunded actuarial accrued liability. To the extent that a particular funding method allocates a greater (lesser) portion of the actual present value of benefits to the actuarial accrued liability it will allocate less (more) to future normal costs.

ACTUARIAL EQUIVALENCE

Payments or receipts with equal actuarial value on a given date when valued using the same set of actuarial assumptions.

ACTUARIAL GAIN (LOSS)

The financial effect on the fund of the difference between the expected and actual experience of the fund. The experience may be related to investment earnings above (or below) those expected or changes in the liability structure due to fewer (or greater) than the expected numbers of retirements, deaths, disabilities, or withdrawals. In addition, other factors such as pay increases above (or below) those forecast can result in actuarial gains or losses. The effect of such gains (or losses) is to decrease (or increase) future costs.

ACTUARIAL PRESENT VALUE

The value, as of a specified date, of an amount or series of amounts payable or receivable thereafter, with each amount adjusted to reflect the time value of money (through accrual of interest) and the probability of payments. For example: if \$600 invested today will be worth \$1,000 in 10 years and there is a 50%

probability that a person will live 10 years, then the actuarial present value of \$1,000 payable to that person if he should survive 10 years is \$300.

ACTUARIAL VALUE OF ASSETS

The value of cash, investments, and other property belonging to the pension plan as used by the actuary for the purpose of the actuarial valuation. This may correspond to the book value, market value, or some modification involving either or both book and market value. Adjustments to market values are often made to reduce the volatility of asset values.

ASSET GAIN (LOSS)

That portion of the actuarial gain attributable to investment performance above (below) the expected rate of return in the actuarial assumptions.

AMORTIZATION PAYMENT

That portion of the pension plan contribution designated to pay interest and reduce the outstanding principal balance of unfunded actuarial accrued liability. If the amortization payment is less than the accrued interest on the unfunded actuarial accrued liability, the outstanding principal balance will increase.

CONTRIBUTION SHORTFALL (EXCESS)

The difference between contributions recommended in the prior valuation and the actual amount received.

DECREMENTS

Events that result in the termination of membership in the system such as retirement, disability, withdrawal, or death.

EMPLOYER NORMAL COST

That portion of the normal cost not attributable to employee contributions. It includes both direct contributions made by the employer and contributions from other non-employee sources such as revenue sharing and revenues related to taxes.

FUNDED RATIO

A measure of the ratio of assets to liabilities of the system according to a specific definition of those two values. Typically, the assets used in the measure are the actuarial value of assets; the liabilities are defined by reference to some recognized actuarial funding method. Thus, the funded ratio of a plan depends not only on the financial strength of the plan but also on the funding method used to determine the liabilities and the asset valuation method used to determine the assets in the ratio.

INITIAL BENEFIT OPTION (IBO) ACCOUNT

The account into which the initial benefit is deposited. Interest is credited thereto, and monthly payments made from this account.

NORMAL COST

That portion of the actuarial present value of pension plan benefits and expenses allocated to a valuation year by the actuarial cost method. This is analogous to one year's insurance premium.

PENSION BENEFIT OBLIGATION

The actuarial present value of benefits earned or credited to date based on the member's expected final average compensation at retirement. For current retirees or terminated members this is equivalent to the actuarial present value of their accrued benefit.

PRIORITY ALLOCATION

The actual returns available for application to the oldest outstanding positive amortization base. (In accordance with R.S. 11:102.4)

PRIORITY AMOUNT

The maximum amount of system returns in excess of the system's actuarially assumed rate of return that may be applied to the oldest outstanding positive amortization base, regardless of whether actual returns that equal or exceed the maximum are available. (In accordance with R.S. 11:102.4)

PROJECTED BENEFITS

The benefits expected to be paid in the future based on the provisions of the plan and the actuarial assumptions. The projected values are based on anticipated future advancement in age and accrual of service as well as increases in salary paid to the participant.

UNFUNDED ACTUARIAL ACCRUED LIABILITY

The excess of the actuarial accrued liability over the actuarial value of assets.

VESTED BENEFITS

Benefits that the members are entitled to even if they withdraw from service.