



CURRAN ACTUARIAL
— CONSULTING, LTD. —

Annual Funding Valuation
June 30, 2023

**Louisiana
School Employees'
Retirement System**



October 5, 2023

Board of Trustees
Louisiana School Employees' Retirement System
8660 United Plaza Boulevard
Baton Rouge, Louisiana 70809

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Louisiana School Employees' 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 School Employees' Retirement System of the State of Louisiana. 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 the Louisiana School Employees' 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 system. 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 SCHOOL EMPLOYEES' RETIREMENT SYSTEM

		June 30, 2023	June 30, 2022
Census Summary:	Active Members	11,486	11,450
	Retired Members and Survivors	13,876	13,812
	DROP Participants	507	577
	Terminated Due a Deferred Benefit	602	568
	Terminated Due a Refund	5,305	4,979
Payroll (excluding DROP accruals):		\$ 345,894,314	\$ 319,921,190
Benefits in Payment:		\$ 190,673,203	\$ 187,682,379
Present Value of Future Benefits		\$ 3,148,319,778	\$ 3,078,211,149
Actuarial Accrued Liability (EAN):		\$ 2,811,720,059	\$ 2,806,773,108
Unfunded Actuarial Accrued Liability:		\$ 634,289,655	\$ 686,968,204
Experience Account:		\$ 648,681	\$ 605,339
PBI Funding Account:		N/A	N/A
Actuarial Value of Assets:		\$ 2,177,430,404	\$ 2,119,804,904
Market Value of Assets (Includes Experience Account):		\$ 2,206,734,240	\$ 2,141,775,693
Ratio of Actuarial Value of Assets to Actuarial Accrued Liability:		77.44%	75.52%
		Fiscal 2023	Fiscal 2022
Market Rate of Return (Excluding Money Market DROP funds):		7.44%	-0.64%
Actuarial Rate of Return (Excluding Money Market DROP funds):		7.16%	7.57%
Non-Money Market DROP Account Interest Credit Rate:		6.66%	7.07%
		Fiscal 2024	Fiscal 2023
Employers' Normal Cost (Mid-year):		\$ 25,561,863	\$ 23,644,471
Amortization Cost (Mid-year):		\$ 57,646,626	\$ 62,464,353
Projected Administrative Expenses:		<u>\$ 4,799,070</u>	<u>\$ 4,772,693</u>
Net Direct Employer Actuarially Required Contributions:		\$ 88,007,559	\$ 90,881,517
Projected Payroll:		\$ 353,003,130	\$ 324,093,196
Actuarially Required Net Direct Employer Contribution Rate:		24.9%	28.0%
Actual Employee Contribution Rate:			
Employees whose first state service occurred before July 1, 2010:		7.5%	7.5%
Employees whose first state service occurred on or after July 1, 2010:		8.0%	8.0%
Actual Net Direct Employer Contribution Rate:		27.6%	27.6%
		Fiscal 2025	Fiscal 2024
Minimum Recommended Net Direct Employer Cont. Rate:		24.0%	27.6%
PBI Funding Account AFC Rate:		1.80%	N/A
Total Recommended Employer Contribution Rate:		25.8%	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.

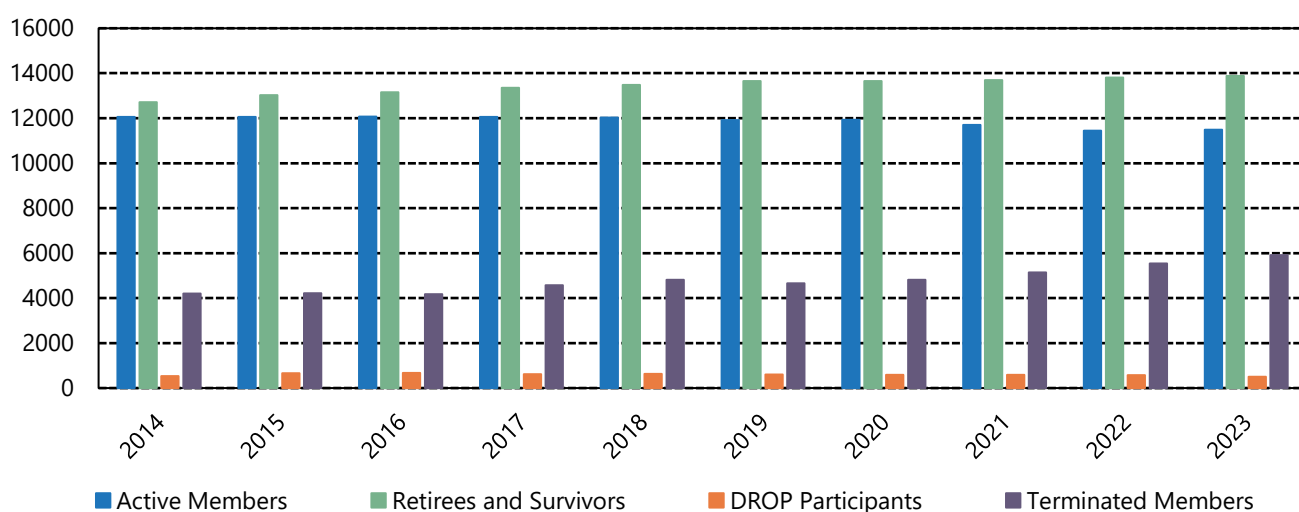
One area where an actuary has limited ability to develop accurate estimates is the projection of future investment earnings. The difficulties here are significant. First, the future is rarely like the past, and the data points available to develop a stochastic analysis are far fewer than the number required 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 11,486 active contributing members in the system, of whom 7,163 have vested retirement benefits; in addition, there are 507 participants in the Deferred Retirement Option Plan (DROP). 13,876 former members or their beneficiaries are receiving retirement benefits. An additional 5,907 terminated members have contributions remaining on deposit with the system; of this number, 602 have vested rights for future retirement benefits. According to **Figure 1**, active membership has declined slowly over recent years, while retiree and survivor levels have increased slightly over the past decade. The system has also seen an increase in the number of terminated members.

Figure 1. Membership Counts



Census data submitted to our office is tested for errors, and changes are made where 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.

Determining the status of a member as of the valuation date can be a challenge in some cases because employers do not immediately inform the system of changes in member status. To improve this process, we ask the system to provide a spreadsheet of monthly salary postings for the entire fiscal year. Members who were reported by the system as active and contributing (because the employer has not informed the system about the member's termination of employment) are changed to terminated due a refund of contributions or terminated due a vested, deferred benefit if they did not receive salary in the last few months of the fiscal year. Care is taken to consider that school employees may not all be paid on a twelve-month basis.

Our current methodology accounts for the possibility that current and future DROP participants may elect to retire upon DROP completion or may elect to remain employed. To make projections related to the accumulation of additional benefits after completing DROP participation, we need a reasonable estimate of annual salary during DROP. Because employers are not required to contribute during a member's DROP participation period, salary is currently not reported to the system during that period. Therefore, we have used a member's pre-DROP salaries to estimate salary during the DROP period.

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 Duplantier, Hrapmann, Hogan & Maher, L.L.P. As indicated in the system's financial statements, the net market value of assets was \$2,206,734,240 as of June 30, 2023. Net investment income for Fiscal 2023 measured on a market value basis was \$153,418,063. Contributions to the system for the fiscal year totaled \$124,295,037; benefits and expenses amounted to \$212,754,553. With benefits and expenses exceeding contributions to the system, system staff must raise funds from the investment portfolio to meet cash flow needs.

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 actuarial accrued liability is amortized with level payments over various periods as specified in Louisiana Revised Statute R.S. 11:102. Effective with the June 30, 2014 valuation, the system's outstanding amortization bases were consolidated and re-amortized over thirty years with level payments. Following this amendment, 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. 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 72%, these amortization periods were to be reduced from 30 years to 20 years. Within the Fiscal 2016 valuation, the funded status reached 72.54% and triggered the provision detailed in Act 95. Therefore, beginning with the Fiscal 2017 actuarial valuation, new amortization bases (with the exception of 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 \$15,000,000 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 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, the 2020 valuation included a re-amortization of the 2014 Cumulative Base over the remaining amortization period. This resulted in a decrease in the required amortization payment. After the system’s funded percentage reaches 80%, the remaining balance of the consolidated amortization base will be re-amortized annually over the remaining amortization period.

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 investment gains above the priority amount are added to the Experience Account balance. Beginning with the 2015 valuation, any such allocation has been amortized as a loss with level dollar payments over ten years. This requires employers to fund allocations to the Experience Account over a shorter time period than the required amortization period for experience gains and losses. The funding methodology for the plan also includes the application of LSERS side funds defined by R.S. 11:102. The only side fund currently utilized is the system’s Experience Account.

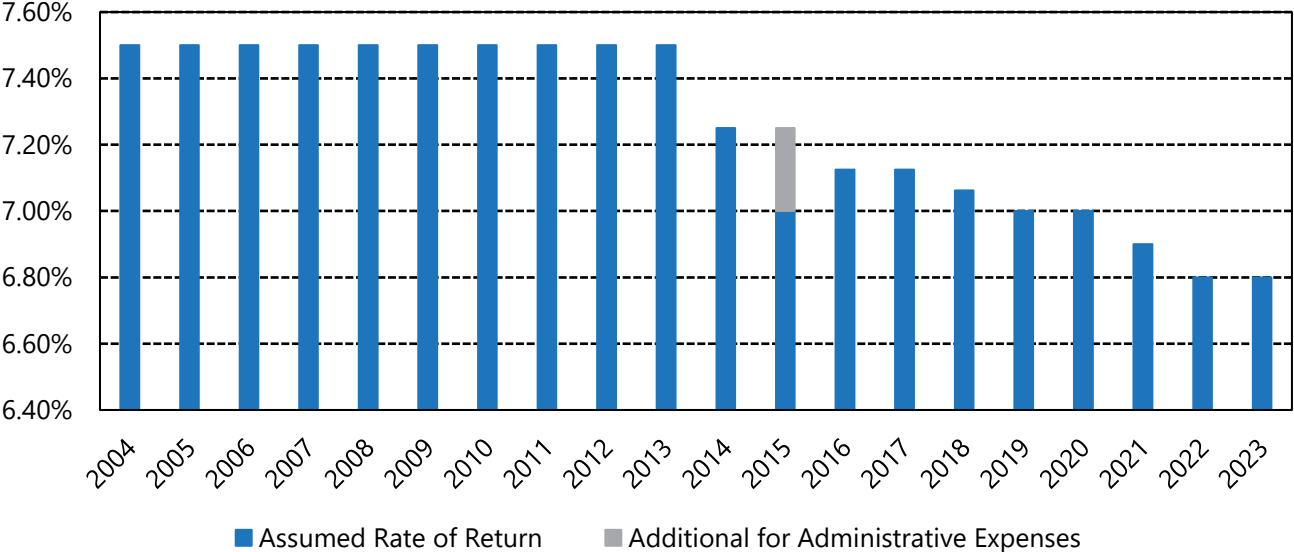
In addition, each year the balance in the account is credited with investment earnings or debited with investment losses, shown in this report as the rate of return on the actuarial value of assets. The balance in the account cannot exceed the reserve necessary to grant one (or two if the system has 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 Priority Amount 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	\$15,000,000	Fiscal 2018	\$16,310,113	Fiscal 2021	\$17,154,693
Fiscal 2016	\$15,386,586	Fiscal 2019	\$16,371,779	Fiscal 2022	\$17,671,000
Fiscal 2017	\$15,932,442	Fiscal 2020	\$16,371,779	Fiscal 2023	\$18,151,374

Over the years, changes have been made to the system’s assumed rate of return and discount rate. The following chart (Figure 2) details the assumed rate of return over the past twenty years. The assumed rate of return is not necessarily the discount rate used to determine plan liabilities. In all years but 2015, the discount rate was equal to the assumed rate of return. For 2015, the system’s liabilities were determined based on a discount rate that was 0.25% below the assumed rate of return. The 0.25% difference accounted implicitly for the impact of administrative expenses (which had not previously been included in the determination of the actuarially determined minimum recommended employer contribution rate). Beginning with the 2016 valuation, administrative expenses were explicitly included in the determination of the employer contribution rate; thus, no implicit adjustment was necessary.

Figure 2. Assumed Rate of Return



Changes in capital market assumptions and desired reductions in investment return risk resulted in reductions to the system’s assumed rate of return over the past decade. In particular, in preparation for the Fiscal 2021 actuarial valuation, the Board of Trustees was advised by its actuary that the 7.0% valuation interest rate utilized in the prior valuation remained within the actuary’s reasonable range. Despite this and given the market returns experienced by the system’s investment portfolio during Fiscal 2021, the actuary recommended that the Board of Trustees consider opportunistically lowering the valuation interest rate as a risk reduction tool. The Board voted to authorize lowering the valuation interest rate by up to 0.10% as long as the system met certain benchmarks. Thus, the Fiscal 2021 valuation was run based upon a 6.90% valuation interest rate since those requirements were met. Given the limited reduction, the actuary did not recommend lowering the assumed rate of inflation.

Prior to the Fiscal 2022 valuation, the system’s actuary found that the 6.90% valuation interest rate remained within the system’s reasonable range based on the 2022 consultant average capital market assumptions. Nevertheless, after consultation with system management, an additional opportunistic reduction from 6.90% to 6.80% was made in the Fiscal 2022 valuation. No change was made in the assumed rate of inflation.

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 and the related school closures, 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.

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 both the Experience Account and the Amortization Conversion Account, where applicable. 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 LSERS 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. The following categories describe a number of key risks and provide measurements related to a few.

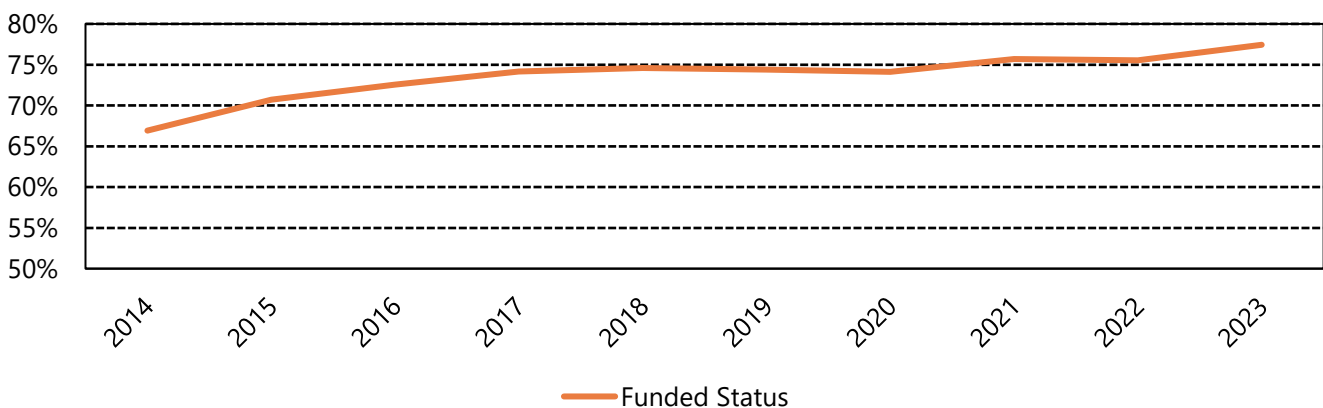
Contribution Policy Risk

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 a ratio of plan assets to 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 77.44% for the plan as of June 30, 2023.

Figure 4. 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 4** give a history of this value for the last ten years. Note that the underlying trend is somewhat disguised since the system has significantly reduced the valuation interest rate over this period. Absent the reductions in the discount rate, the current ratio would be higher.

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.

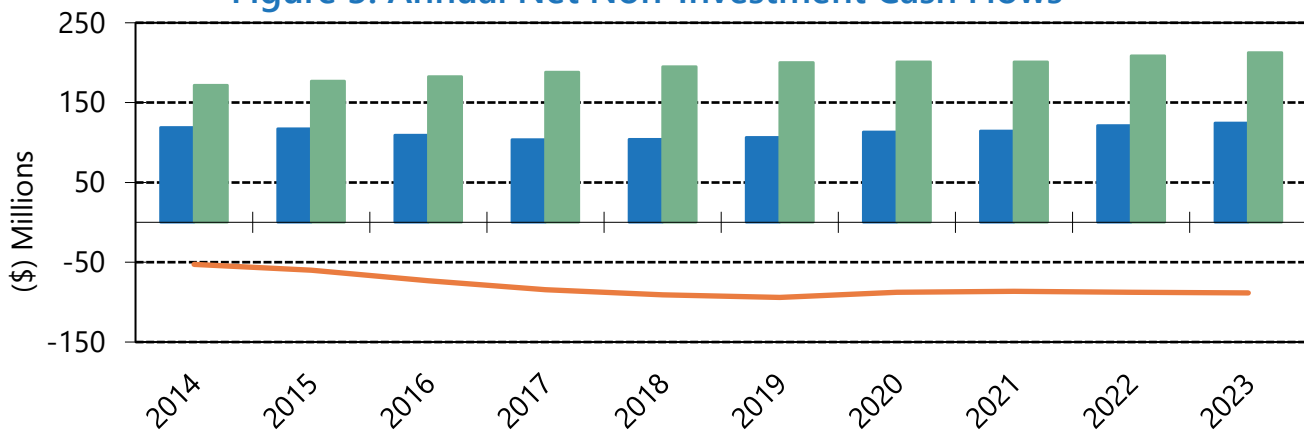
Asset Return Volatility Risk

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 3** compares the total contribution income to benefits and expenses to determine the noninvestment cash flow of the system over the last ten years. In that ten-year period, annual benefit payments have exceeded annual contributions to the plan. In this situation, portfolio construction is very important, and investment staff must consider what level of liquidity is necessary.

Figure 3. Annual Net Non-Investment Cash Flows



		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Contribution Income (\$Mil)	■	118.9	117.1	109.4	103.6	104.0	106.2	113.2	114.5	121.1	124.3
Benefits and Expenses (\$Mil)	■	171.6	177.1	182.7	188.1	195.0	200.3	200.9	201.1	208.7	212.8
Net Non-Inv. Cash Flow (\$Mil)	—	-52.7	-60.0	-73.3	-84.5	-91.0	-94.1	-87.7	-86.6	-87.6	-88.5

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. A forecast valuation was performed in 2023 to better understand expected future cash flows. Greater information on this subject is contained within the forecast valuation report presented to the Board of Trustees.

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 0.55% 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 7.8% of payroll. After accounting for the effect of the contribution shortfall, the recommended employer contribution rate for Fiscal 2025 would increase by 9.5%. 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 55%; ten years ago, this ratio was 49%.

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 8.71 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 two permanent benefit increases of 2% of each recipient's current benefit limited to the first \$60,000 of the recipient's annual benefit.
3. In no event shall the AFC rate be set at a level that, when combined with the system's minimum recommended employer contribution rate, would result in employers paying a rate in excess of 27.6%.

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.

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:

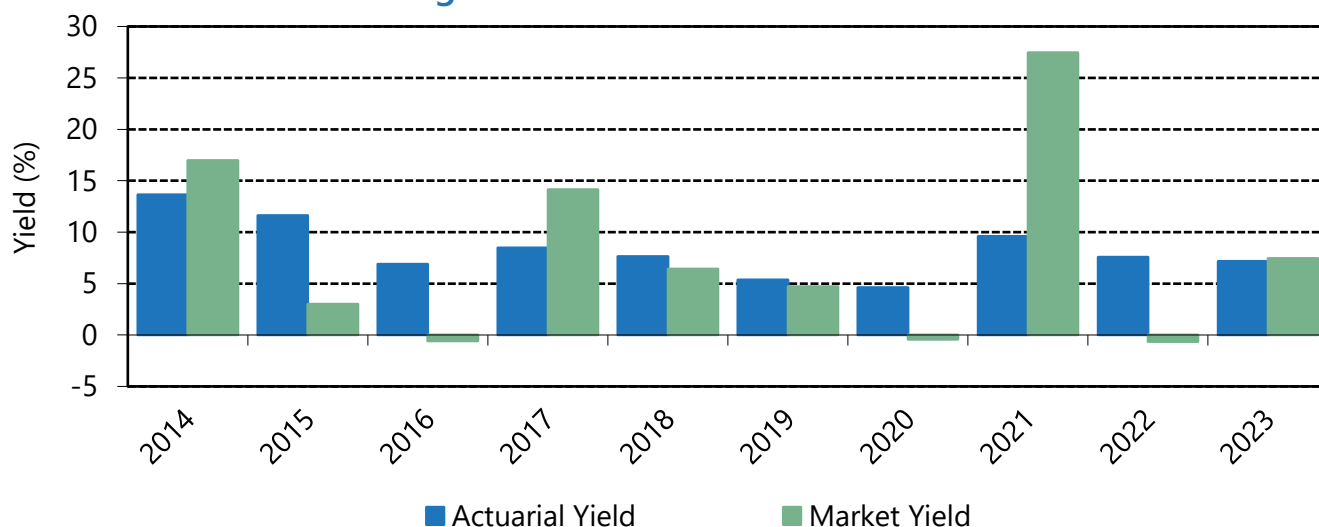
1. Report on investment advisors and companies used by the treasurer and the retirement systems that discriminate against the fossil fuel industry through environmental, social, and governance policies.
2. Report on investment of state and pension assets using nonpecuniary factors.
3. Report on the asset 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 5). These investment rates of return were determined by assuming a uniform distribution of income and expense throughout the fiscal year.

Figure 5. Historical Asset Yields



	Market Yield +	Actuarial Yield +
2014	16.96%	13.63%
2015	3.00%	11.63%
2016	-0.59%	6.90%
2017	14.14%	8.47%
2018	6.41%	7.64%
2019	4.70%	5.37%
2020	-0.42%	4.61%
2021	27.45%	9.58%
2022	-0.64%	7.57%
2023	7.44%	7.16%

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

Geometric Average Market Rates of Return		
5-year average	(Fiscal 2019 – 2023)	7.2%
10-year average	(Fiscal 2014 – 2023)	7.5%
15-year average	(Fiscal 2009 – 2023)	7.0%
20-year average	(Fiscal 2004 – 2023)	7.0%
25-year average	(Fiscal 1999 – 2023)	6.3%
30-year average	(Fiscal 1994 – 2023)	7.2%

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. DROP and IBRP assets invested in money market investments have 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 \$38,382,007 of dividends, interest, and other recurring income. In addition, the system had net realized and unrealized capital gains on investments of \$134,458,122. In addition, the system had investment expenses of \$19,422,066.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 6.80% in effect for Fiscal 2023. DROP accounts that are credited with earnings based on the actuarial rate of return of the system should be credited with 6.66% (i.e., 7.16% less 0.50% as detailed in R.S. 11:1152(F)(3)). The actuarial rate of return is calculated based on the actuarial value of assets net of DROP and IBRP 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 and IBRP 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 gain of \$7,208,270 above assumed actuarial earnings using the assumed rate of 6.80%. The interest adjusted amortization payment on this gain was \$648,194, or 0.18% of projected payroll.

Since the investment gain of \$7,208,270 was less than the priority amount for Fiscal 2023, the entire amount was used to offset the oldest positive amortization base. Therefore, no funds were added to the system's Experience Account.

DEMOGRAPHICS AND LIABILITY EXPERIENCE

The average active contributing member is 53 years old with 9.1 years of service credit and an annual salary of \$30,114. The system's active contributing membership experienced an increase of 36 members during Fiscal 2023; over the last five years, the number of active contributing members decreased by 547. The number of DROP participants decreased by 70 during Fiscal 2023.

The average service retiree is 74 years old with an annual benefit of \$14,414 and an average retirement age of 61. The number of retirees and beneficiaries receiving benefits from the system increased by 64 during the fiscal year. Over the last five years, the number of retirees and beneficiaries increased by 394 with annual benefits in payment increasing by \$18,744,784.

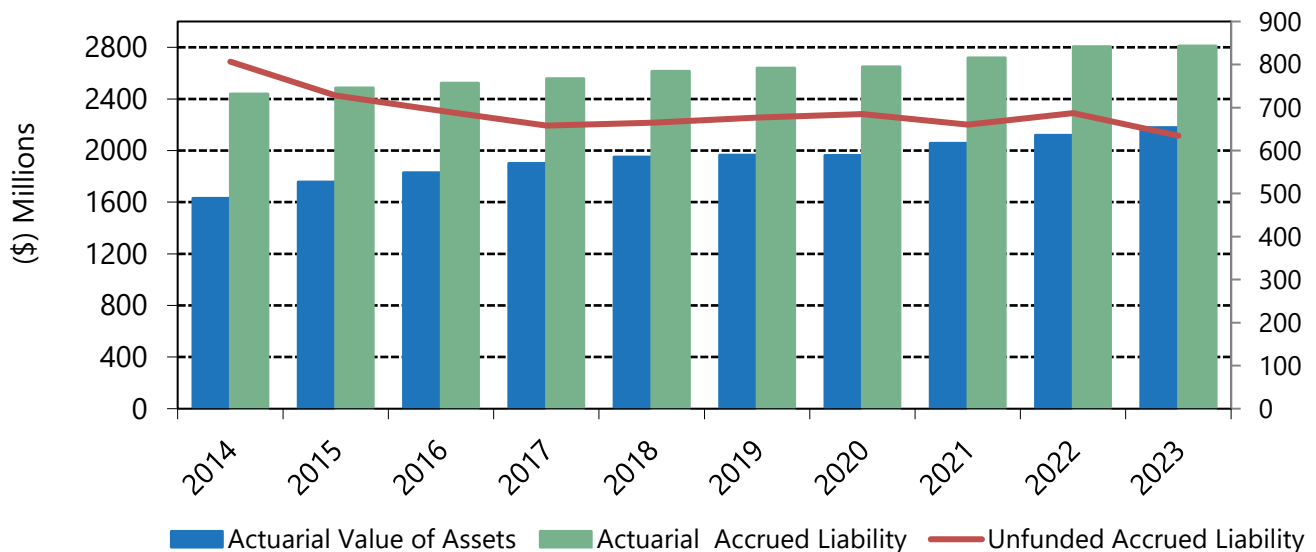
Liability experience for the year was unfavorable with a net plan liability experience loss totaling \$26,632,163. The interest-adjusted amortization credit on this loss was \$2,394,859, or 0.68% of projected payroll. The primary reason for the unfavorable liability experience were the significant losses due to salary increases significantly exceeding assumption. Partially offsetting the unfavorable experience was retirements and DROP entries less than expectations and retiree deaths in excess of expectations.

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 first must 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 cause the UAL to decrease or increase. As shown in **Figure 6** below, the dollar UAL has declined over the past decade based on a greater level of gains than losses since the 2014 cumulative base was created.

Figure 6. Actuarial Value of Assets versus Actuarial Accrued Liability



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. 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 \$8,539,652 more than required; the interest-adjusted amortization credit based on the contribution surplus for Fiscal 2024 is \$2,004,566, or 0.57% 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 1.58% of projected payroll. In addition to annual gains and losses, the net direct employer contribution rate was affected by the elimination of the payment related to the 2018 contribution loss which decreased costs.

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 \$25,561,863. The amortization payments on the system's UAL total \$57,646,626. 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 12 of Exhibit I, the total actuarially required employer contribution for Fiscal 2024 is \$88,007,559, or 24.9% of projected payroll.

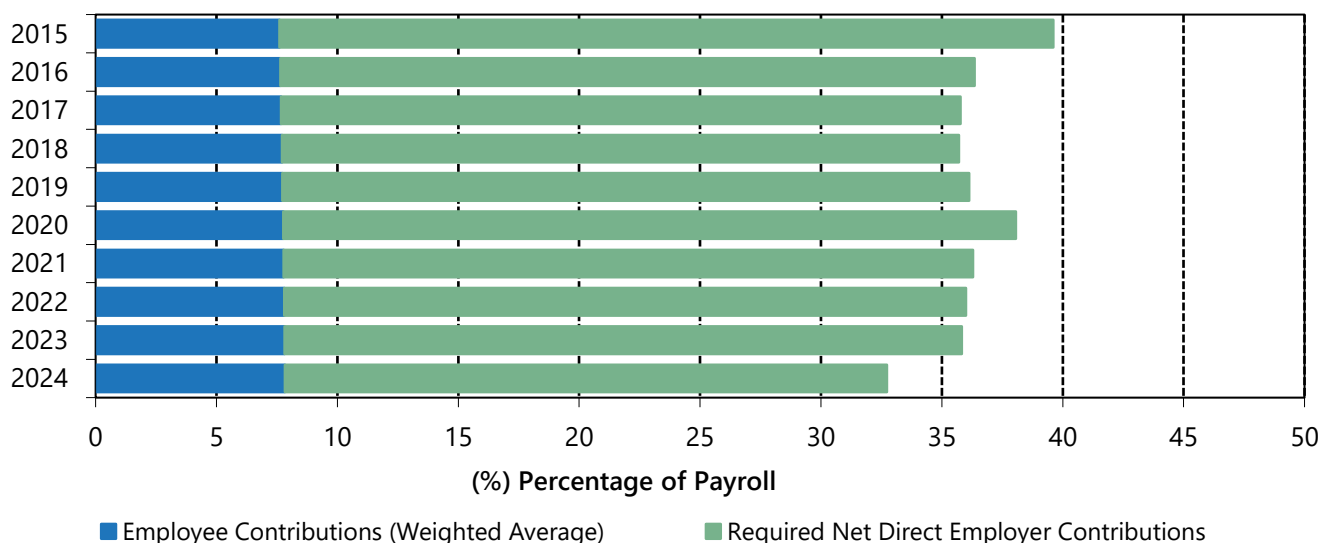
Since the actual employer contribution rate for Fiscal 2024 is 27.6% of payroll, we expect a contribution surplus of 2.7% of payroll. This surplus is expected to decrease the actuarially required contribution recommended for Fiscal 2025. In order to determine a minimum recommended net direct employer 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 surplus for Fiscal 2024. As given in line 22 of Exhibit I, the estimated actuarially required net direct employer contribution for Fiscal 2025 is \$86,320,149, or 24.0% 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	\$ 23,644,471	7.30%
Change in Employer Normal Cost due to change in payroll	N/A	(0.60%)
Cost of Demographic and Salary Changes	1,174,811	0.33%
Change in Assumptions	<u>\$ 742,581</u>	<u>0.21%</u>
Employer Normal Cost for Fiscal 2024	\$ 25,561,863	7.24%
UAL Payments for Fiscal 2023	\$ 62,464,353	19.27%
Change in UAL Cost due to change in payroll	N/A	(1.58%)
Change due to elimination of Amortization	\$ (1,096,408)	(0.31%)
Additional Amortization Expenses for Fiscal 2024:		
Liability Assumption Loss (Gain)	\$ (4,111,612)	(1.16%)
Asset Experience Loss (Gain)	\$ (648,194)	(0.18%)
Priority Allocation	\$ 648,194	0.18%
Liability Experience Loss (Gain)	\$ 2,394,859	0.68%
Contribution Loss (Gain)	\$ (2,004,566)	(0.57%)
Total Amortization Expense (Credit) for Fiscal 2024	\$ 57,646,626	16.33%
Projected Administrative Expenses for Fiscal 2024	\$ 4,799,070	1.36%
Total Normal Cost & Amortization Payments for Fiscal 2024	\$ 88,007,559	24.93%

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 tiers of benefits. Members whose first employment making them eligible for membership in a state system occurred on or after July 1, 2010 contribute at an 8% of payroll level, whereas previous employees contribute at a 7.5% level. Over time the average rate will trend toward the ultimate 8% level. The employer component of cost changes with gains and losses and changes in plan makeup (see **Figure 7**).

Figure 7. Components of Actuarial Funding



(Employee contribution level is a weighted average of rates paid by employees in different tiers)

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 School Employees’ 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 (LDROM) 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 employers, building a portfolio that includes risky assets can be a strategy to lower the long-term requirement for employer contributions, but in doing so, employers accept certain investment risks.

The LDROM 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 LDROM 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 5.21%.

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 5.21%. All other assumptions match those used to determine funding liabilities.

LDRM Comparison	Funding Valuation	LDRM Valuation
Discount Rate	6.80%	5.21%
Accrued Liability for Active Members	\$ 969,491,576	\$ 1,174,892,209
Accrued Liability for Terminated Members	\$ 45,892,895	\$ 54,380,534
Accrued Liability for Retired Members	\$ 1,796,335,588	\$ 2,022,589,972
Total Actuarial Accrued Liability (AAL)	\$ 2,811,720,059	\$ 3,251,862,715
Funded Ratio (AVA/AAL)	77.44%	66.96%

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 \$648,681 and the current PBI Funding Account balance is \$0. The most recent COLA approved by the legislature for LSERS 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	1.4% 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, 2021	Payments to those found to be below the poverty level.
July 1, 2016	1.9% 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, 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
July 1, 2013	3.15% permanent benefit increase; retirees at least age 60; disabilities with no age restriction; retired before July 1, 2001
December 1, 2007	One-time lump sum of 3%, \$300 minimum

EXHIBITS

EXHIBIT I

ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Normal Cost of Retirement Benefits.....	\$	36,275,902
2.	Normal Cost of Death Benefits.....	\$	1,636,934
3.	Normal Cost of Disability Benefits.....	\$	3,086,675
4.	Normal Cost of Deferred Retirement Benefits.....	\$	5,377,826
5.	Normal Cost of Contribution Refunds.....	\$	4,747,672
6.	TOTAL Normal Cost as of July 1, 2023 (1 + 2 + 3 + 4 + 5).....	\$	51,125,009
7.	TOTAL Normal Cost Interest Adjusted for Midyear Payment.....	\$	52,834,673
8.	Adjustment to Total Normal Cost for Employee Portion.....	\$	27,272,810
9.	TOTAL Employer Normal Cost Adjusted for Midyear Payment (7 – 8).....	\$	25,561,863
10.	Amortization Payments on Unfunded Actuarial Accrued Liability at Midyear.....	\$	57,646,626
11.	Projected Administrative Expenses for Fiscal 2024.....	\$	4,799,070
12.	Net Direct Actuarially Required Employer Contribution for Fiscal 2024 (9 + 10 + 11).....	\$	88,007,559
13.	Projected Payroll for Contributing Members (Fiscal 2024).....	\$	353,003,130
14.	Net Direct Actuarially Required Employer Contribution as a Percentage of Projected Payroll for Fiscal 2024 (12 ÷ 13).....		24.9%
15.	Actual Net Direct Employer Contribution Rate for Fiscal 2024.....		27.6%
16.	Projected Fiscal 2024 Contribution Loss (Gain) as a % of Payroll (14 – 15).....		(2.7%)
17.	Projected Fiscal 2024 Employer Contribution Shortfall (Surplus) (13 × 16).....	\$	(9,531,085)
18.	Amortization of Interest Adjusted Fiscal 2024 Employer Contribution Shortfall (Surplus) Based on Midyear Payment in Fiscal 2025.....	\$	(2,312,109)
19.	Estimated Fiscal 2025 Employer Normal Cost Adjusted for Midyear Payment.....	\$	26,087,210
20.	Estimated Fiscal 2025 Amortization Payments on Fiscal 2023 UAL.....	\$	57,626,001
21.	Estimated Fiscal 2025 Administrative Expenses.....	\$	4,919,047
22.	Estimated Actuarially Required Employer Contributions for Fiscal 2025 (18 + 19 + 20 + 21).....	\$	86,320,149
23.	Projected Payroll for Contributing Members (Fiscal 2025).....	\$	360,258,046
24.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2025 (22 ÷ 23, Rounded to nearest 0.10%).....		24.0% †

† The total minimum employer contribution rate for Fiscal 2025, inclusive of the AFC rate for funding the PBI Funding Account, will be 25.8%. See Exhibit VII – B for details regarding the AFC rate.

EXHIBIT II PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	\$ 1,114,590,372	
Survivor Benefits	25,977,182	
Disability Benefits	42,955,889	
Vested Termination Benefits	100,270,065	
Refunds of Contributions	22,297,787	
 TOTAL Present Value of Future Benefits for Active Members		 \$ 1,306,091,295

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement....	\$ 35,622,216	
Terminated Members with Reciprocals Due Benefits at Retirement.....	150,672	
Terminated Members Due a Refund.....	10,120,007	
 TOTAL Present Value of Future Benefits for Terminated Members.....		 \$ 45,892,895

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees	\$ 1,533,520,104	
Disability Retirees	14,916,511	
Survivors	179,270,827	
Liability Attributable to the Experience Account.....	36,484,274	
DROP/IBRP Account Balances Payable to Retirees	31,876,194	
Refundable Balance Payable to Reemployed Retirees.....	267,678	
 TOTAL Present Value of Future Benefits for Retirees & Survivors		 \$ 1,796,335,588
 TOTAL Present Value of Future Benefits.....		 \$ 3,148,319,778

EXHIBIT III – SCHEDULE A MARKET VALUE OF ASSETS

CURRENT ASSETS:

Cash in Banks.....	\$ 19,195,005	
Contributions Receivable	18,336,912	
Accrued Interest and Dividends.....	1,872,411	
Investments Receivable.....	128,566	
Other Current Assets.....	1,504,357	
TOTAL CURRENT ASSETS.....		\$ 41,037,251
Property Plant & Equipment		\$ 3,001,522

INVESTMENTS:

Cash Equivalents.....	\$ 34,833,487	
Equities	622,849,171	
Fixed Income.....	90,810,453	
Real Estate	319,754,278	
Alternative Investments	1,058,673,247	
DROP Balances Held Outside System Assets	44,073,681	
Collateral for Securities Lending.....	56,286,643	
TOTAL INVESTMENTS.....		\$ 2,227,280,960
DEFERRED OUTFLOWS OF RESOURCES		\$ 968,448
TOTAL ASSETS		\$ 2,272,288,181

CURRENT LIABILITIES:

Accounts Payable.....	\$ 1,282,104	
Benefits Payable	292,908	
Refunds Payable.....	63,638	
Investments Payable.....	259,870	
Securities Lending Obligations.....	56,286,643	
Other Post-Employment Benefits.....	4,743,639	
Accrued Payroll and Taxes	381,704	
TOTAL CURRENT LIABILITIES.....		\$ 63,310,506
DEFERRED INFLOWS OF RESOURCES.....		\$ 2,243,435
TOTAL LIABILITIES		\$ 65,553,941
MARKET VALUE OF ASSETS		\$ 2,206,734,240

EXHIBIT III – SCHEDULE B ACTUARIAL VALUE OF ASSETS

Excess (Shortfall) of invested income for current and previous 4 years: †	
Fiscal year 2023.....	\$ 13,047,303
Fiscal year 2022.....	(162,770,745)
Fiscal year 2021.....	360,253,165
Fiscal year 2020.....	(137,864,124)
Fiscal year 2019.....	<u>(44,094,322)</u>
Total for five years.....	\$ 28,571,277
Deferral of excess (shortfall) of invested income:	
Fiscal year 2023 (80%).....	\$ 10,437,842
Fiscal year 2022 (60%).....	(97,662,447)
Fiscal year 2021 (40%).....	144,101,266
Fiscal year 2020 (20%).....	(27,572,825)
Fiscal year 2019 (0%).....	<u>0</u>
Total deferred for year.....	\$ 29,303,836
Market value of plan net assets, end of year	\$ 2,206,734,240
Preliminary actuarial value of plan assets, end of year	\$ 2,177,430,404
Actuarial value of assets corridor	
85% of market value, end of year	\$ 1,875,724,104
115% of market value, end of year.....	\$ 2,537,744,376
Actuarial Value of Plan Assets, end of year	\$ 2,177,430,404

† 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	\$ 169,726,766
Employer Normal Contributions to the Pension Accumulation Fund	166,872,953
Employer Amortization Payments to the Pension Accumulation Fund	634,289,655
 TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	 \$ 970,889,374

EXHIBIT V – SCHEDULE A
ACTUARIAL ACCRUED LIABILITIES

LIABILITY FOR ACTIVE MEMBERS

Accrued Liability for Retirement Benefits.....	\$ 886,727,831
Accrued Liability for Survivor Benefits.....	15,414,688
Accrued Liability for Disability Benefits.....	20,285,273
Accrued Liability for Vested Termination Benefits.....	57,941,893
Accrued Liability for Refunds of Contributions.....	(10,878,109)

TOTAL Actuarial Accrued Liability for Active Members \$ 969,491,576

LIABILITY FOR TERMINATED MEMBERS..... \$ 45,892,895

LIABILITY FOR RETIREES AND SURVIVORS \$ 1,796,335,588

TOTAL ACTUARIAL ACCRUED LIABILITY..... \$ 2,811,720,059

ACTUARIAL VALUE OF ASSETS..... \$ 2,177,430,404

UNFUNDED ACTUARIAL ACCRUED LIABILITY \$ 634,289,655

EXHIBIT V – SCHEDULE B
CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

PRIOR YEAR UNFUNDED ACTUARIAL ACCRUED LIABILITY	\$	686,968,204
Interest on Unfunded Actuarial Accrued Liability.....	\$	46,713,838
Liability Experience Loss.....		26,632,163
TOTAL Additions to Unfunded Actuarial Accrued Liability	\$	73,346,001
Asset Experience Gain.....	\$	7,208,270
Liability Assumption Gain.....		45,723,414
Contribution Excess with Accrued Interest		8,539,652
Interest Adjusted Amortization Payments		64,553,214
TOTAL Reductions to Unfunded Actuarial Accrued Liability.....	\$	126,024,550
NET Change in Unfunded Actuarial Accrued Liability.....	\$	(52,678,549)
CURRENT YEAR UNFUNDED ACTUARIAL ACCRUED LIABILITY	\$	634,289,655

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
2014	Cumulative Bases	30	\$904,498,330	21	\$685,306,479	\$61,750,023
2014	Liability Experience Gain	30	(81,635,532)	21	(71,310,063)	(6,063,415)
2015	Change in Data/Model Gain	30	(42,073,134)	22	(37,499,542)	(3,121,866)
2015	Liability Assumption Loss	30	53,611,596	22	47,783,708	3,978,031
2015	Asset Experience Gain	30	(32,513,380)	22	(28,978,989)	(2,412,523)
2015	Liability Experience Gain	30	(29,473,558)	22	(26,269,613)	(2,186,966)
2016	Asset Experience Loss	30	7,620,492	23	6,921,641	565,166
2016	Liability Experience Gain	30	(366,508)	23	(332,898)	(27,182)
2016	Liability Assumption Gain	30	(29,907,056)	23	(27,164,378)	(2,218,026)
2016	Asset Assumption Loss	30	211,528	23	192,129	15,688
2017	Asset Experience Gain	20	(24,634,307)	14	(20,326,952)	(2,150,267)
2017	Gains Allocated to Exp Account	10	3,875,934	4	1,868,177	514,092
2017	Priority Excess Allocation	20	15,932,442	14	13,146,625	1,390,703
2017	Liability Experience Gain	20	(19,955,111)	14	(16,465,922)	(1,741,832)
2017	Liability Assumption Loss	20	20,126,949	14	16,607,715	1,756,831
2017	Asset Assumption Gain	20	(4,562,632)	14	(3,764,850)	(398,261)
2018	Asset Experience Gain	20	(10,056,996)	15	(8,639,698)	(877,008)
2018	Priority Excess Allocation	20	9,415,089	15	8,088,251	821,031
2018	Liability Experience Gain	20	(14,310,770)	15	(12,294,001)	(1,247,953)
2018	Contribution Loss	5	4,655,410	0	0	0
2018	Liability Assumption Loss	20	32,157,641	15	27,625,774	2,804,268
2019	Asset Experience Loss	20	31,319,747	16	27,902,656	2,729,108
2019	Liability Experience Gain	20	(16,145,429)	16	(14,383,909)	(1,406,864)
2019	Contribution Loss	5	87,673	1	19,957	19,957
2019	Liability Assumption Loss	20	14,364,127	16	12,796,952	1,251,647
2019	Residual - Amortization Conversion Account	10	(4,560,266)	6	(3,091,133)	(603,472)
2020	Asset Experience Loss	20	44,948,629	17	41,387,682	3,914,424
2020	Liability Experience Gain	20	(18,714,550)	17	(17,231,934)	(1,629,787)
2020	Contribution Gain	5	(1,289,291)	2	(567,778)	(293,223)
2021	Asset Experience Gain	20	(48,449,668)	18	(45,964,496)	(4,216,955)
2021	Gains Allocated to Exp Account	10	15,647,488	8	13,288,136	2,067,526
2021	Priority Excess Allocation	20	17,154,693	18	16,274,762	1,493,108
2021	Liability Experience Loss	20	2,271,325	18	2,154,820	197,691
2021	Contribution Gain	5	(4,859,377)	3	(3,106,236)	(1,104,227)
2021	Liability Assumption Loss	20	23,492,565	18	22,287,541	2,044,742
2022	Asset Experience Gain	20	(13,224,680)	19	(12,894,980)	(1,150,729)
2022	Priority Excess Allocation	20	13,224,680	19	12,894,980	1,150,729
2022	Liability Experience Loss	20	39,459,944	19	38,476,181	3,433,557
2022	Contribution Gain	5	(7,812,420)	4	(6,448,480)	(1,774,517)
2022	Liability Assumption Loss	20	24,236,466	19	23,632,234	2,108,906

(This Exhibit Continues on the Following Page)

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

FISCAL YEAR		AMORT. PERIOD	INITIAL BALANCE	YEARS REMAINING	REMAINING BALANCE	AMORT. PAYMENTS
2023	Asset Experience Gain	20	(7,208,270)	20	(7,208,270)	(627,219)
2023	Priority Excess Allocation	20	7,208,270	20	7,208,270	627,219
2023	Liability Experience Loss	20	26,632,163	20	26,632,163	2,317,364
2023	Contribution Gain	5	(8,539,652)	5	(8,539,652)	(1,939,701)
2023	Liability Assumption Gain	20	(45,723,414)	20	(45,723,414)	(3,978,565)

TOTAL Unfunded Actuarial Accrued Liability	\$ 634,289,655
TOTAL Fiscal 2024 Amortization Payments at Beginning of Year	\$ 55,781,253
TOTAL Fiscal 2024 Amortization Payments Adjusted to Mid-Year	\$ 57,646,626

† Balance reduced by application of investment gains assigned by Act 399 of 2014.
See Exhibit V – Schedule D for a detailed calculation of the outstanding balance.

EXHIBIT V – SCHEDULE D CUMULATIVE AMORTIZATION BASE ADJUSTMENT

2014 Initial Cumulative Amortization Base.....	\$ 905,696,581
2014 Applied Base Reduction for Privatization Liability	(1,198,251)
2014 Priority Allocation Applied to Base	(7,500,000)
2014 PBI Cap Excess Applied to Base.....	<u>(3,252,257)</u>
2014 Adjusted Initial Amortization Base	\$ 893,746,073
2015 Amortization Payment (Beginning of Year)	(69,677,675)
2015 Interest on Amortization Base net of Amortization Payment.....	59,744,957
2015 Priority Allocation Applied to Base	<u>(15,000,000)</u>
Net Balance as of June 30, 2015 on 2014 Cumulative Base.....	\$ 868,813,355
2016 Amortization Payment (Beginning of Year)	(68,153,884)
2016 Interest on Amortization Base net of Amortization Payment.....	56,046,163
2016 Priority Allocation Applied to Base	<u>0</u>
Net Balance as of June 30, 2016 on 2014 Cumulative Base.....	\$ 856,705,634
2017 Amortization Payment (Beginning of Year)	(68,897,690)
2017 Interest on Amortization Base net of Amortization Payment.....	56,131,316
2017 Priority Allocation Applied to Base	<u>(15,932,442)</u>
Net Balance as of June 30, 2017 on 2014 Cumulative Base.....	\$ 828,006,818
2018 Amortization Payment (Beginning of Year)	(68,897,690)
2018 Interest on Amortization Base net of Amortization Payment.....	54,086,525
2018 Priority Allocation Applied to Base	<u>(9,415,089)</u>
Net Balance as of June 30, 2018 on 2014 Cumulative Base.....	\$ 803,780,564
2019 Amortization Payment (Beginning of Year)	(68,543,363)
2019 Interest on Amortization Base net of Amortization Payment.....	51,926,127
2019 Priority Allocation Applied to Base	<u>0</u>
Net Balance as of June 30, 2019 on 2014 Cumulative Base.....	\$ 787,163,328

(This Exhibit Continues on the Following Page)

EXHIBIT V – SCHEDULE D (Continued)
CUMULATIVE AMORTIZATION BASE ADJUSTMENT

Net Balance as of June 30, 2019 on 2014 Cumulative Base	\$ 787,163,328
2020 Amortization Payment (Beginning of Year)	(68,198,977)
2020 Interest on Amortization Base net of Amortization Payment.....	50,327,505
2020 Priority Allocation Applied to Base	<u>0</u>
Net Balance as of June 30, 2020 on 2014 Cumulative Base	\$ 769,291,856
2021 Amortization Payment (Beginning of Year)	(62,685,798)
2021 Interest on Amortization Base net of Amortization Payment.....	49,462,424
2021 Priority Allocation Applied to Base	<u>(17,154,693)</u>
Net Balance as of June 30, 2021 on 2014 Cumulative Base	\$ 738,913,789
2022 Amortization Payment (Beginning of Year)	(62,209,623)
2022 Interest on Amortization Base net of Amortization Payment.....	46,692,587
2022 Priority Allocation Applied to Base	<u>(13,224,680)</u>
Net Balance as of June 30, 2022 on 2014 Cumulative Base	\$ 710,172,073
2023 Amortization Payment (Beginning of Year)	(61,750,023)
2023 Interest on Amortization Base net of Amortization Payment.....	44,092,699
2023 Priority Allocation Applied to Base	<u>(7,208,270)</u>
Net Balance as of June 30, 2023 on 2014 Cumulative Base	\$ 685,306,479

EXHIBIT VI ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets: (June 30, 2022).....		\$ 2,119,804,904
INCOME:		
Member Contributions.....	\$ 26,932,186	
Employer Contributions.....	96,194,424	
Irregular Contributions	1,168,427	
Total Contributions.....		\$ 124,295,037
Net Appreciation of Investments.....	\$ 134,458,122	
Interest & Dividends	12,104,676	
Alternative Investment Income	26,042,345	
Securities Lending Income	234,986	
Investment Expense.....	(19,422,066)	
Net Investment Income.....		\$ 153,418,063
TOTAL Income		\$ 277,713,100
EXPENSES:		
Retirement Benefits	\$ 189,518,838	
DROP/IBRP Disbursements.....	13,362,316	
Refunds of Contributions	5,852,970	
Transfers to Other Systems.....	258,020	
Administrative Expenses	3,762,409	
TOTAL Expenses.....		\$ 212,754,553
Net Market Value Income for Fiscal 2023 (Income – Expenses)		\$ 64,958,547
Unadjusted Fund Balance as of June 30, 2023 (Fund Balance Previous Year + Net Income).....		\$ 2,184,763,451
Income Adjustment for Actuarial Smoothing.....		\$ (7,333,047)
Actuarial Value of Assets: (June 30, 2023).....		\$ 2,177,430,404

EXHIBIT VII – SCHEDULE A EXPERIENCE ACCOUNT

1.	Experience Account Balance – June 30, 2022	\$	605,339
2.	Investment Gain, if any	\$	7,208,270
3.	Priority Allocation to Reduce Oldest Positive UAL Base	\$	7,208,270
4.	Residual Investment Gain, if any (2 – 3).....	\$	0
5.	Investment Gain to Allocate to the Experience Account (50% × 4).....	\$	0
6.	Credit for Positive Investment Returns on AVA basis, if applicable.....	\$	43,342
7.	Total Preliminary Credits to be Allocated to Experience Account (5 + 6)	\$	43,342
8.	Debit for Negative Investment Returns on AVA basis, if applicable.....	\$	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)	\$	43,342
12.	Upper Limit to the Experience Account Balance – June 30, 2023..... (Present Value of PBI at CPI-U for Fiscal 2023 or 2.50%, whichever is less)	\$	36,484,274
13.	Experience Account Balance – June 30, 2023 (Lesser of 1+11 & 12 - at least 0).	\$	648,681

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.....		27.6%
3.	Minimum Recommended Employer Contribution Rate for Fiscal 2025		<u>24.0%</u>
4.	Decrease in Employer Rate (exclusive of AFC Rate), if any		3.6%
5.	Maximum addition to the Maximum AFC rate for Fiscal 2025 (50% of 4)		1.8%
6.	Maximum AFC rate for Fiscal 2025 (Lesser of 1 + 5, 2.5%)		1.8%
7.	AFC rate capping test:		
	Minimum Recommended Employer Contribution Rate for Fiscal 2025		24.0%
	Maximum AFC rate for Fiscal 2025		<u>1.8%</u>
	Preliminary Total Employer Contribution Rate for Fiscal 2025.....		25.8%
8.	AFC rate for Fiscal 2025 (limited if Preliminary Total Employer Contribution Rate for Fiscal 2025 exceeds the legislative cap of 27.6%)		1.8%
9.	Actual required employer contribution rate, inclusive of AFC rate, for Fiscal 2025 (3 + 8).....		25.8%

EXHIBIT VIII CENSUS DATA

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2022	11,450	5,547	577	13,812	31,386
Additions to Census					
Initial membership	1,405	215			1,620
Omitted in error last year					
Death of another member				170	170
Adjustment for multiple records					
Change in Status during Year					
Actives terminating service	(687)	687			
Actives who retired	(413)			413	
Actives entering DROP	(158)		158		
Term. members rehired	117	(117)			
Term. members who retire		(35)		35	
Refunded who are rehired	33	2			35
DROP participants retiring			(107)	107	
DROP returned to work	120		(120)		
Status error last year	3	3	(1)	(5)	
Eliminated from Census					
Refund of contributions	(329)	(339)			(668)
Deaths	(53)	(55)		(644)	(752)
Included in error last year	(2)	(1)			(3)
Adjustment for multiple records				(12)	(12)
Number of members as of June 30, 2023	11,486	5,907	507	13,876	31,776

Actives Census by Age:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	18	2	20	27,797	555,945
21 - 25	119	54	173	28,141	4,868,392
26 - 30	160	173	333	28,069	9,347,049
31 - 35	282	389	671	29,734	19,951,621
36 - 40	302	563	865	29,323	25,364,175
41 - 45	378	695	1,073	30,497	32,723,231
46 - 50	415	762	1,177	31,113	36,620,132
51 - 55	601	1,042	1,643	31,080	51,064,500
56 - 60	879	1,337	2,216	31,081	68,875,816
61 - 65	725	940	1,665	29,947	49,861,305
66 - 70	556	481	1,037	28,764	29,828,392
71 - 75	248	190	438	27,180	11,904,870
76 - 80	77	57	134	28,911	3,874,016
81 - 85	17	17	34	26,411	897,971
86 - 90	4	2	6	22,825	136,952
91 - 95	0	1	1	19,947	19,947
Total	4,781	6,705	11,486	30,114	345,894,314

* The active census includes 7,163 actives with vested benefits, including 561 active former DROP participants. The 507 current DROP participants are excluded.

Drop Participants by Age:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
46 - 50	1	0	1	59,826	59,826
51 - 55	12	13	25	31,207	780,171
56 - 60	69	79	148	26,137	3,868,245
61 - 65	126	184	310	15,187	4,707,876
66 - 70	10	3	13	3,609	46,913
71 - 75	4	3	7	2,324	16,269
76 - 80	2	0	2	2,389	4,777
81 - 85	1	0	1	1,898	1,898
Total	225	282	507	18,710	9,485,975

Terminated Members Due a Deferred Retirement Benefit:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
26 - 30	6	3	9	3,405	30,645
31 - 35	11	8	19	3,993	75,864
36 - 40	27	14	41	7,123	292,054
41 - 45	26	37	63	8,098	510,158
46 - 50	28	56	84	7,465	627,059
51 - 55	44	74	118	8,894	1,049,507
56 - 60	68	89	157	9,777	1,534,938
61 - 65	31	33	64	7,957	509,256
66 - 70	8	15	23	6,338	145,775
71 - 75	7	6	13	4,586	59,623
76 - 80	2	6	8	3,866	30,929
81 - 85	1	1	2	4,984	9,967
86 - 90	0	1	1	199	199
Total	259	343	602	8,100	4,875,974

Terminated Members Due a Refund of Contributions:

Contributions Ranging		Number	Total Contributions
From	To		
0	- 99	826	37,729
100	- 499	1,435	364,991
500	- 999	722	521,133
1,000	- 1,999	817	1,187,361
2,000	- 4,999	983	3,201,918
5,000	- 9,999	448	3,058,204
10,000	- 19,999	69	901,737
20,000	- 99,999	5	129,695
Total		5,305	*9,402,768

* Excludes \$717,239 in refunds due to heirs of deceased members and \$267,678 in refunds due to reemployed retirees.

Regular Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	1	0	1	7,633	7,633
46 - 50	6	3	9	14,033	126,295
51 - 55	29	32	61	22,163	1,351,945
56 - 60	181	196	377	22,274	8,397,425
61 - 65	753	869	1,622	17,486	28,362,720
66 - 70	1,027	1,367	2,394	15,818	37,867,755
71 - 75	1,085	1,393	2,478	15,031	37,247,965
76 - 80	764	1,277	2,041	13,118	26,774,168
81 - 85	524	954	1,478	10,613	15,685,988
86 - 90	269	509	778	9,866	7,675,486
91 - 95	108	188	296	9,727	2,879,258
96 - 100	20	25	45	12,450	560,229
101 - 105	4	2	6	10,742	64,453
Total	4,771	6,815	11,586	14,414	167,001,320

Disability Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	1	3	4	7,577	30,306
46 - 50	3	10	13	9,178	119,320
51 - 55	15	34	49	8,945	438,298
56 - 60	19	57	76	9,204	699,501
Total	38	104	142	9,066	1,287,425

Survivors:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 20	12	15	27	13,457	363,334
21 - 25	4	4	8	9,620	76,959
26 - 30	1	4	5	8,263	41,317
31 - 35	5	6	11	8,627	94,894
36 - 40	9	5	14	6,967	97,538
41 - 45	5	17	22	8,601	189,211
46 - 50	9	19	28	9,026	252,736
51 - 55	17	47	64	11,608	742,884
56 - 60	24	84	108	11,813	1,275,791
61 - 65	40	143	183	11,881	2,174,275
66 - 70	50	205	255	12,160	3,100,877
71 - 75	68	310	378	10,867	4,107,648
76 - 80	62	313	375	10,453	3,919,821
81 - 85	60	261	321	9,411	3,020,777
86 - 90	32	199	231	8,453	1,952,614
91 - 95	8	88	96	8,443	810,517
96 - 100	2	19	21	7,205	151,314
101 - 105	0	1	1	11,951	11,951
Total	408	1,740	2,148	10,421	22,384,458

Active Members:

Attained Ages	Completed Years of Service								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 & Over	
0 - 20	18	2	-	-	-	-	-	-	20
21 - 25	71	100	2	-	-	-	-	-	173
26 - 30	111	173	49	-	-	-	-	-	333
31 - 35	169	321	147	30	4	-	-	-	671
36 - 40	190	361	196	79	36	3	-	-	865
41 - 45	163	385	267	129	107	22	-	-	1,073
46 - 50	137	353	267	147	168	79	25	1	1,177
51 - 55	153	424	356	236	222	171	78	3	1,643
56 - 60	186	516	466	326	387	266	49	20	2,216
61 - 65	137	431	397	238	189	127	94	52	1,665
66 - 70	88	245	246	137	129	85	62	45	1,037
71 & Over	55	155	129	69	64	41	38	62	613
Total	1,478	3,466	2,522	1,391	1,306	794	346	183	11,486

Average Annual Salary of Active Members:

Attained Ages	Completed Years of Service								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 & Over	
0 - 20	27,662	29,014	-	-	-	-	-	-	27,797
21 - 25	27,421	28,679	26,765	-	-	-	-	-	28,141
26 - 30	25,797	28,147	32,942	-	-	-	-	-	28,069
31 - 35	27,570	28,238	32,973	38,449	56,828	-	-	-	29,734
36 - 40	25,743	28,259	31,095	34,998	35,336	46,676	-	-	29,323
41 - 45	26,938	28,865	30,442	33,840	36,127	39,110	-	-	30,497
46 - 50	27,376	28,407	30,572	32,773	33,123	38,381	46,558	100,823	31,113
51 - 55	26,608	28,449	30,351	31,533	33,748	35,757	38,073	36,102	31,080
56 - 60	27,080	28,271	30,827	31,783	33,395	33,601	36,204	44,437	31,081
61 - 65	26,281	27,608	30,754	30,778	31,704	32,219	32,804	31,922	29,947
66 - 70	25,437	25,745	26,814	30,552	31,882	31,830	34,188	34,724	28,764
71 & Over	25,296	24,300	26,188	27,407	31,029	31,859	29,149	32,370	27,461
Total	26,616	27,936	30,236	31,852	33,259	34,243	35,314	34,576	30,114

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	20 & Over	
0 - 30	-	-	-	-	-	-	-	9	9
31 - 35	-	-	-	-	-	-	-	19	19
36 - 40	-	-	-	-	-	-	4	37	41
41 - 45	-	-	-	-	-	4	56	3	63
46 - 50	-	-	-	1	7	74	2	-	84
51 - 55	2	-	1	6	104	5	-	-	118
56 - 60	44	31	33	45	4	-	-	-	157
61 - 65	63	1	-	-	-	-	-	-	64
66 - 70	23	-	-	-	-	-	-	-	23
71 & Over	24	-	-	-	-	-	-	-	24
Total	156	32	34	52	115	83	62	68	602

Average Annual Benefits of 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	20 & Over	
0 - 30	-	-	-	-	-	-	-	3,405	3,405
31 - 35	-	-	-	-	-	-	-	3,993	3,993
36 - 40	-	-	-	-	-	-	6,917	7,146	7,123
41 - 45	-	-	-	-	-	16,865	7,649	4,789	8,098
46 - 50	-	-	-	2,984	5,568	7,828	2,899	-	7,465
51 - 55	13,888	-	41,418	8,757	8,772	3,099	-	-	8,894
56 - 60	9,922	11,433	9,864	8,889	4,607	-	-	-	9,777
61 - 65	8,049	2,177	-	-	-	-	-	-	7,957
66 - 70	6,338	-	-	-	-	-	-	-	6,338
71 & Over	4,197	-	-	-	-	-	-	-	4,197
Total	7,807	11,143	10,792	8,760	8,432	7,979	7,448	5,666	8,100

Service Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	20 & Over	
0 - 50	1	4	1	1	3	-	-	-	10
51 - 55	13	16	7	8	12	4	-	1	61
56 - 60	82	53	43	59	89	33	13	5	377
61 - 65	236	231	168	315	376	150	107	39	1,622
66 - 70	126	175	188	334	822	380	264	105	2,394
71 - 75	52	52	91	165	697	683	537	201	2,478
76 - 80	23	33	39	68	247	453	782	396	2,041
81 - 85	9	9	13	32	93	142	433	747	1,478
86 - 90	2	1	2	3	21	35	88	626	778
91 & Over	-	-	-	-	3	8	18	318	347
Total	544	574	552	985	2,363	1,888	2,242	2,438	11,586

Average Annual Benefits Payable to Service Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	20 & Over	
0 - 50	12,859	13,575	7,994	14,972	14,601	-	-	-	13,393
51 - 55	31,091	32,040	16,377	13,069	14,990	7,575	-	5,750	22,163
56 - 60	21,832	26,080	24,647	23,528	23,858	15,382	8,465	7,198	22,274
61 - 65	14,909	15,021	15,083	16,501	23,478	20,173	13,688	8,309	17,486
66 - 70	10,411	12,278	13,888	14,384	16,771	21,116	16,571	7,692	15,818
71 - 75	12,461	14,699	12,549	13,304	14,822	15,230	18,255	9,761	15,031
76 - 80	12,653	9,714	13,622	12,461	13,310	13,659	14,101	10,811	13,118
81 - 85	7,462	12,783	11,573	14,457	12,897	12,134	10,650	9,849	10,613
86 - 90	5,854	5,661	11,893	10,269	11,875	12,433	10,736	9,543	9,866
91 & Over	-	-	-	-	14,987	10,392	15,067	9,763	10,098
Total	14,808	15,285	14,809	15,275	16,959	16,112	14,544	9,784	14,414

Disability Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 & Over	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	2	2	-	-	-	-	-	-	4
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	1	9	2	1	-	-	-	-	13
51 - 55	4	21	15	8	1	-	-	-	49
56 - 60	6	34	21	9	4	2	-	-	76
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 - 75	-	-	-	-	-	-	-	-	-
76 - 80	-	-	-	-	-	-	-	-	-
81 & Over	-	-	-	-	-	-	-	-	-
Total	13	66	38	18	5	2	-	-	142

Average Annual Benefits Payable to Disability Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 & Over	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	9,322	5,832	-	-	-	-	-	-	7,577
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	8,387	9,497	9,910	5,638	-	-	-	-	9,178
51 - 55	11,014	8,326	9,937	7,145	13,189	-	-	-	8,945
56 - 60	10,499	10,429	8,704	7,432	5,305	5,517	-	-	9,204
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 - 75	-	-	-	-	-	-	-	-	-
76 - 80	-	-	-	-	-	-	-	-	-
81 & Over	-	-	-	-	-	-	-	-	-
Total	10,314	9,493	9,254	7,205	6,882	5,517	-	-	9,066

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	30 & Over	
0 - 30	1	18	11	1	7	2	-	-	40
31 - 35	-	-	1	1	3	2	3	1	11
36 - 40	-	2	2	1	6	2	1	-	14
41 - 45	-	3	3	5	4	2	-	5	22
46 - 50	-	1	7	6	10	1	1	2	28
51 - 55	5	6	13	11	12	6	6	5	64
56 - 60	1	16	18	19	19	17	11	7	108
61 - 65	1	17	37	36	50	19	17	6	183
66 - 70	4	18	47	55	50	46	22	13	255
71 - 75	2	19	35	82	116	68	36	20	378
76 - 80	2	10	20	57	120	94	50	22	375
81 & Over	-	4	14	31	70	168	182	201	670
Total	16	114	208	305	467	427	329	282	2,148

Average Annual Benefits Payable to Survivors of Former Members:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 & Over	
0 - 30	10,800	12,584	12,963	4,497	11,685	7,705	-	-	12,040
31 - 35	-	-	2,574	26,406	10,411	3,004	8,494	3,190	8,627
36 - 40	-	8,365	5,283	7,677	7,786	7,326	1,200	-	6,967
41 - 45	-	9,941	11,508	11,315	6,493	4,313	-	6,739	8,601
46 - 50	-	16,217	11,036	8,000	8,956	8,279	5,157	4,137	9,026
51 - 55	13,853	22,255	13,999	10,675	10,015	7,473	5,557	8,463	11,608
56 - 60	55,885	16,530	14,514	12,169	12,009	6,602	7,148	6,275	11,813
61 - 65	13,013	14,320	12,983	14,815	11,826	9,119	5,361	8,067	11,881
66 - 70	9,848	13,485	14,985	14,384	13,954	8,132	7,445	6,754	12,160
71 - 75	11,167	11,197	12,517	11,760	12,273	9,294	7,530	7,166	10,867
76 - 80	25,504	12,158	11,458	11,125	11,197	9,770	9,224	7,304	10,453
81 & Over	-	11,086	16,384	9,629	9,351	7,888	8,949	8,788	8,876
Total	16,356	13,615	13,423	12,175	11,423	8,508	8,388	8,291	10,421

EXHIBIT IX YEAR-TO-YEAR COMPARISON

	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Number of Active Members	11,486	11,450	11,700	11,925
Number of Retirees & Survivors	13,876	13,812	13,699	13,657
DROP Participants	507	577	587	595
Number of Terminated Due Deferred Benefits	602	568	487	395
Number Terminated Due Refunds	5,305	4,979	4,649	4,425
Active Lives Payroll (excludes DROP participants)	\$ 345,894,314	\$ 319,921,190	\$ 305,839,425	\$ 298,720,034
Retiree Benefits in Payment	\$ 190,673,203	\$ 187,682,379	\$ 181,539,981	\$ 178,634,191
Market Value of Assets (Includes Side Funds)	\$ 2,206,734,240	\$ 2,141,775,693	\$ 2,243,057,149	\$ 1,845,618,894
Ratio of Actuarial Value of Assets to Actuarial Accrued Liability	77.44%	75.52%	75.70%	74.14%
Actuarial Accrued Liability (EAN)	\$ 2,811,720,059	\$ 2,806,773,108	\$ 2,718,374,040	\$ 2,649,075,730
Actuarial Value of Assets (Net of Side Funds)	\$ 2,177,430,404	\$ 2,119,804,904	\$ 2,057,868,923	\$ 1,963,950,923
UAL (Funding Excess)	\$ 634,289,655	\$ 686,968,204	\$ 660,505,117	\$ 685,124,807
Experience Account	\$ 648,681	\$ 605,339	\$ 19,911,687	\$ 5,413,514
Amortization Conversion Account	\$ 0	\$ 0	\$ 0	\$ 0
	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021
Employee Contribution Rate For Employees Hired Before July 1, 2010	7.50%	7.50%	7.50%	7.50%
Employee Contribution Rate For Employees Hired On Or After July 1, 2010	8.00%	8.00%	8.00%	8.00%
Actuarially Required Employer Contribution as a Percentage of Projected Payroll	24.9%	28.0%	28.2%	28.5%
Actual Employer Contribution as a Percentage of Projected Payroll	27.6%	27.6%	28.7%	28.7%

† Beginning in Fiscal 2017, valuation assets and accrued liability include the Experience Account and exclude the Amortization Conversion Account.

Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
11,920	12,033	12,055	12,075	12,061	12,054
13,648	13,482	13,354	13,148	13,024	12,711
605	631	622	676	660	537
333	339	311	275	276	413
4,328	4,475	4,268	3,898	3,940	3,793
\$ 289,730,586	\$ 288,861,936	\$ 284,075,888	\$ 284,835,111	\$ 276,949,800	\$ 274,347,650
\$ 176,378,784	\$ 171,928,419	\$ 167,428,815	\$ 159,448,329	\$ 154,831,625	\$ 146,084,220
\$ 1,940,389,574	\$ 1,946,113,040	\$ 1,922,705,998	\$ 1,767,810,247	\$ 1,851,456,181	\$ 1,857,367,056
74.39%	74.59%	74.16%	72.54%	70.71%	66.92%
\$ 2,640,451,339	\$ 2,614,250,388	\$ 2,562,633,003	\$ 2,522,157,498	\$ 2,485,583,187	\$ 2,438,251,413
\$ 1,964,143,343	\$ 1,949,906,654	\$ 1,900,329,127	\$ 1,829,595,670	\$ 1,757,432,206	\$ 1,631,618,702
\$ 676,307,996	\$ 664,343,734	\$ 662,303,876	\$ 692,561,828	\$ 728,150,981	\$ 806,632,711
\$ 5,174,949	\$ 4,911,217	\$ 4,562,632	\$ 633,076	\$ 23,058,055	\$ 20,787,326
\$ 0	\$ 6,838,575	\$ 11,106,470	\$ 15,719,788	\$ 19,079,106	\$ 19,640,033

Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
30.3%	28.4%	27.8%	27.9%	28.7%	32.0%
29.4%	28.0%	27.6%	27.3%	30.2%	33.0%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

The Louisiana School Employees' Retirement System (LSERS) was established as of July 1, 1947, for the purpose of providing retirement allowances and other benefits as described under R.S. 11:1001 – 11:1206. The following summary of plan provisions covers many of the most important plan provisions covering LSERS 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

Any school bus operator, janitor, custodian, maintenance employee, bus aide, monitor or attendant or other regular school employee helping with the transportation of school children, and who is a legal employee of a parish or city school board of the State of Louisiana along with employees of the system.

CONTRIBUTION RATES

Employees whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred before July 1, 2010 contribute 7.50% of salary, and employees whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after July 1, 2010 contribute 8.00% of salary. Employers contribute an actuarially determined normal contribution rate plus accrued liability contribution rate. Members are not required to contribute to the system once they have enough service to have accrued 100% of their final average compensation, but the employer is required to continue to contribute the employer's contribution until the member retires or enters DROP.

CONTRIBUTION REFUNDS

Upon withdrawal from service, members not entitled to a retirement allowance may receive a refund of accumulated contributions. Refunds are payable ninety days after the effective date of withdrawal from service if the member's employer has submitted all contributions. (Members who are entitled to a retirement allowance may waive their right to the benefit and accept a refund of accumulated contributions.)

FINAL AVERAGE COMPENSATION

For members whose first employment making them eligible for membership in the system began on or before June 30, 2006, the final average compensation is based on the 36 highest successive or joined months of employment. The compensation used to determine the final average compensation cannot increase more than 10% per year unless the raise is due to an increase in compensation by legislative act or city/parish system-wide salary increase.

For members whose first employment making them eligible for membership in the system began on or after July 1, 2006, and whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or before June 30, 2010, the final average compensation is based on the 60 highest successive or joined months of employment. The compensation used to determine the

final average compensation cannot increase more than 10% per year unless the raise is due to an increase in compensation by legislative act or city/parish system-wide salary increase.

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems began on or after July 1, 2010, the final average compensation is based on the 60 highest successive or joined months of employment. The compensation used to determine the final average compensation cannot increase more than 15% per year unless the raise is due to an increase in compensation by legislative act or city/parish system-wide salary increase.

VESTED WITHDRAWAL BENEFITS

Members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or before June 30, 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 sixty.

Members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after July 1, 2010, and on or before June 30, 2015, who have five 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 sixty.

Members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after July 1, 2015, who have five 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 sixty-two.

NORMAL RETIREMENT BENEFITS

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or before June 30, 2010, eligibility for normal retirement occurs upon the attainment of age 60 and 10 years of accredited service, or age 55 and 25 years of accredited service, or at any age and 30 years of accredited service. The retirement allowance is equal to three and one-third percent of the member's final average compensation multiplied by his years of creditable service.

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after July 1, 2010, and on or before June 30, 2015, eligibility for normal retirement occurs upon the attainment of age 60 and 5 years of accredited service. The retirement allowance is equal to two and one-half percent of the member's final average compensation multiplied by his years of creditable service.

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after July 1, 2015, eligibility for normal retirement occurs upon the attainment of age 62 and 5 years of accredited service. The retirement allowance is equal to two and one-half percent of the member's final average compensation multiplied by his years of creditable service.

In addition to the normal retirement benefits, members receive a supplementary allowance equal to twenty-four dollars per annum, or two dollars per month, for each year of accredited service.

The retirement benefits provided by the system cannot annually exceed one hundred percent of average compensation.

EARLY RETIREMENT

Members are eligible to retire under the early retirement provisions if they have at least twenty years of service credit regardless of attained age, exclusive of military service and unused annual and sick leave.

The early retirement benefit is calculated, inclusive of military service credit and allowable unused annual and sick leave, actuarially reduced from the earliest age that the member would normally become eligible for a regular retirement benefit if they had continued in service to that age.

OPTIONAL ALLOWANCES

Members may receive their benefits as a life annuity, or, in lieu of such, receive a reduced benefit according to the option selected, which is the actuarial equivalent of the maximum benefit.

Option 1 – If the retiree dies before receiving in annuity payments the present value of their annuity as it was at the time of retirement, the balance is paid to his beneficiary.

Option 2 – Upon retirement, the member receives a reduced benefit. Upon the retiree's death, the designated beneficiary will continue to receive the same reduced benefit.

Option 3 – Upon retirement, the member receives a reduced benefit. Upon the retiree's death, the designated beneficiary will receive one-half of the member's reduced benefit.

Option 4 – Upon retirement, the member elects to receive a reduced benefit and to provide a specified benefit to their designated beneficiary, which in total is actuarially equivalent to the maximum benefit. The form of benefit selected under Option 4 must be approved by the Board of Trustees.

NOTE: Under the legal construct for Option 4, the Board of Trustees has approved the pop up form of benefit, which provides a benefit that reverts to the maximum benefit if the beneficiary predeceases the retiree. This feature requires additional reduction to the member's benefit. Members may select the pop up form with Option 2, Option 3, or Option 4 (where the member may specify a percentage benefit for their beneficiary other than 100% or 50%).

Self-Funded COLA Options: A member may also elect to receive an actuarially reduced benefit that provides for an automatic 2 ½% annual compound increase in monthly retirement benefits based on the reduced benefit and commencing on the later of age fifty-five or retirement anniversary; this COLA is in addition to any ad hoc COLAs that are payable.

Initial Benefit Retirement Plan (IBRP): This plan is available only to members who have not participated in the Deferred Retirement Option Plan (DROP) and who meet regular retirement eligibility requirements.

Under this plan, members may receive an initial benefit plus a reduced monthly retirement allowance, which, when combined, equal the actuarially equivalent amount of the maximum or optional retirement allowance. The reduced monthly retirement allowance can be paid in the form of a maximum benefit or according to options described above. The initial benefit may not exceed an amount equal to thirty-six payments of the member's maximum retirement allowance. The initial benefit is placed in an account called an IBRP Account where interest is credited annually and can be withdrawn as a lump-sum payment, monthly payments, or other periodic payments.

DISABILITY BENEFITS

Any member who meets the minimum service requirement for disability and who has been officially certified as likely to be totally and permanently incapacitated, either mentally or physically, from the further performance of the duties being performed is entitled to disability benefits.

A member whose first employment making them eligible for membership in LSERS occurred on or before June 30, 2006, may apply for disability benefits if he is not eligible to receive a regular service retirement allowance and has five years of actual credited service. The disability retirement allowance is equal to two and one-half percent of final average compensation multiplied by the years of creditable service, but not less than thirty-three and one-third percent of final average compensation. Such members are not eligible to choose an optional allowance. Upon the death of a disability retiree who leaves a surviving spouse who had been married to the deceased for at least two years prior to death, the spouse receives a benefit equal to 75% of the benefit being received by the disability retiree at death. These benefits are payable for the life of the spouse unless the spouse remarries before age 55. In such a case, the benefit ceases upon the remarriage.

A member whose first employment making them eligible for membership in LSERS occurred on or after July 1, 2006, and whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or before June 30, 2010, may apply for disability benefits if he is not eligible to receive a regular service retirement allowance and has ten years of actual credited service. The disability retirement allowance is equal to three percent of final average compensation multiplied by the years of creditable service. Upon the death of a disability retiree who leaves a surviving spouse who had been married to the deceased for at least two years prior to the death of the disability retiree, the spouse receives a benefit equal to 75% of the benefit being received by the disability retiree at their death. These benefits are payable for the life of the spouse unless the spouse remarries before age 55. In such a case, the benefit ceases upon the remarriage.

A member whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after July 1, 2010, may apply for disability benefits if he is not eligible to receive a regular service retirement allowance and has ten years of actual credited service. The disability retirement allowance is equal to the regular retirement formula without reduction by reason of age. A selection of retirement option must be made at the time of retirement, and upon the death of the disabled retiree, the option amount selected is paid to the option beneficiary.

SURVIVOR BENEFITS

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or before June 30, 2010:

In the case of a death of an active member with 5 years of creditable service (at least 2 years earned immediately prior to death) or a member with 20 years of service at the time of death who has a surviving spouse with a minor child or children, the benefit payable is 75% of the deceased member's final average compensation or \$300 per month, whichever is greater. One-third of this benefit is designated to the spouse and two-thirds to the minor child or children. Child benefits cease at attainment of eighteen years, or upon marriage, except that benefits may continue until age twenty-three if the child remains a full-time student at a high school, vocational school, college, or university.

In the case of a death of an active member with 5 years of creditable service (at least 2 years earned immediately prior to death) or a member with 20 years of service at the time of death who has no surviving spouse but has a minor child or children, the benefit payable is 75% of the deceased member's final average compensation or \$300 per month, whichever is greater. These benefits are paid to the person having legal custody of the child, and benefits cease at attainment of eighteen years, or upon marriage, except that benefits may continue until age twenty-three if the child remains a full-time student at a high school, vocational school, college, or university.

In the case of a death of an active member with 10 years of creditable service (at least 2 years earned immediately prior to death) or a member with 20 years of service at the time of death who has a surviving spouse but has no minor child or children, the benefit payable is 50% of the deceased member's final average compensation or \$200 per month, whichever is greater. Such benefits will not be paid to any surviving spouse who has remarried since the death of the member prior to the age of 55 unless the member was eligible for regular retirement or had 20 years of service credit on the date of death.

Any surviving child of a deceased member, regardless of age, who has a total physical or mental disability and is dependent on the surviving spouse or other legal guardian, may continue to receive lifetime surviving child benefits equal to 75% of the deceased member's final average compensation or \$300 per month, whichever is greater. The total benefits are reduced to an amount which, when added to the other state assistance being received, does not exceed the maximum survivor benefits payable.

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.

For members whose first employment making them eligible for membership in one of Louisiana's state retirement systems occurred on or after July 1, 2010:

In the case of a death of an active member with 5 years of creditable service (at least 2 years earned immediately prior to death) or a member with 20 years of service at the time of death who has a surviving spouse with a minor child or children, a spousal survivor is paid a benefit equal to 50% of the benefit to which the member would have been entitled if he had retired on the date of his death

using the member's applicable accrual rate regardless of years of service or age, or \$600 per month, whichever is greater.

These benefits are payable for the life of the spouse unless the spouse remarries before age 55. In such a case, the benefit ceases upon the remarriage and resumes payment upon a subsequent divorce or death of a new spouse.

When all surviving children cease to be eligible for benefits, the surviving spouse is paid the benefits due to a surviving spouse without minor children or disabled children, as described below.

In addition to any benefits payable to a spouse or in cases where only surviving minor or disabled children are due benefits, each surviving eligible child, subject to a maximum of two children, is paid 50% percent of the benefit to which a spouse with children is entitled. These benefits are payable even if a member dies after retirement leaving an eligible minor or disabled child.

Any surviving child of a deceased member, regardless of age, who has a total physical or mental disability and is dependent on the surviving spouse or other legal guardian may continue to receive surviving child benefits. The total benefits paid are reduced to an amount which, when added to the other state assistance being received, does not exceed the maximum survivor benefits payable.

In the case of a death of an active member with 10 years of creditable service (at least 2 years earned immediately prior to death) or a member with 20 years of service at the time of death who has a surviving spouse to whom they were married for at least one year prior to their death, who has no minor child or children, a spousal survivor benefit equal to the accrued benefit that would have been due under option 2, or \$600 per month, whichever is greater, is payable. Unless the member was eligible to retire at the time of death, such spousal benefits cease upon remarriage and resume upon a subsequent divorce or death of the new spouse.

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.

DEFERRED RETIREMENT OPTION PLAN (DROP)

In lieu of terminating employment and accepting a service retirement allowance, any member of the system who is eligible to receive a regular retirement allowance may elect to participate in DROP and defer the receipt of benefits. An election to participate may be made only once, and the duration of participation shall be specified and shall not exceed three years. The three-year period begins within sixty calendar days after the member reaches eligibility. The participation period must end not more than three years and sixty calendar days from the date the member reaches eligibility. Upon commencement of participation in the plan, active membership in the system terminates and neither the employee nor employer contributions are payable. Compensation and creditable service remain as they existed on the effective date of commencement of participation in the plan, and creditable service excludes conversion of sick and annual leave. The monthly retirement benefits that would have been payable, had the member elected to cease employment and receive a service retirement allowance, are paid into the DROP account. Upon termination of employment at the end of the specified period of participation, a participant in the program may receive, at his option, a lump sum payment from the DROP account equal to the payments

to the account or systematic disbursements based on the individual's subaccount in any manner approved by the Board. The monthly benefits that were being paid into the system during the period of participation will begin to be paid to the retiree based on the option selected at DROP entry. If employment is not terminated at the end of the DROP period, payments into the account cease and employee and employer contributions resume. Monthly retirement benefits payable after termination of participation in the plan and employment include a base benefit equal to the participant's monthly credit to the account plus conversion of sick and annual leave, if any, based on the final average compensation rate used to calculate the monthly credit and an additional benefit if employment continues. The additional benefit is based on service credit for the period after plan participation. If the participant dies while still employed, the credits and benefits, if any, due beneficiaries are payable as if the member retired immediately prior to death.

NOTE: For anyone eligible to enter DROP prior to January 1, 2004, the DROP Account Balance earns interest at a rate of one-half of one percentage point below the percentage rate of return of the system's investment portfolio as certified by the actuary on an annual basis. All other DROP accounts are moved to a self-directed plan administered by a third-party provider (Empower Retirement) selected by the Board of Trustees, effective January 1, 2020.

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 any investment experience gain in excess of the priority amount (\$15 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) if the system is less than 80% funded or two PBIs if the system is at least 80% funded. R.S. 11:1145.1 sets forth the basis for determining the maximum percentage increase in the benefits permissible. LSERS had a funded ratio of 77.44% 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 7.25%, 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. 11:1145.1(C)(2), 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.

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 permanent benefit increase 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.
3. In no event shall the AFC rate be set at a level that when combined with the system's minimum recommended employer contribution rate would result in employers paying a rate in excess of 27.6%.

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

6.80% (net of investment expenses)

ANNUAL SALARY INCREASE RATE

3.75% (2.50% inflation / 1.25% 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

125% of the Pub-2010 General Below Median Employee Table for males and 135% of the Pub-2010 General Below Median Employee Table for females, each with the full generational MP2021 scale.

ANNUITANT AND BENEFICIARY MORTALITY

125% of the Pub-2010 General Below Median Healthy Retiree Table for males and 135% of the Pub-2010 General Below Median Healthy Retiree Table for females, each with the full generational MP2021 scale.

DISABLED LIVES MORTALITY

125% of the Pub-2010 Non-Safety Disabled Retiree Table for males and 135% of the Pub-2010 Non-Safety Disabled Retiree Table for females, each with the full generational MP2021 scale.

WITHDRAWAL RATES

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

Service Duration (\leq)	Rate	Service Duration (\leq)	Rate
1	0.15	15	0.02
2	0.12	16	0.02
3	0.10	17	0.02
4	0.09	18	0.02
5	0.08	19	0.01
6	0.07	20	0.05
7	0.07	21	0.05
8	0.06	22	0.04
9	0.06	23	0.04
10	0.05	24	0.04
11	0.04	25	0.04
12	0.04	26	0.04
13	0.03	>26	0.03
14	0.03		

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

VESTING ELECTING PERCENTAGE

For vested members who terminate prior to retirement eligibility, the percentage that elect to receive a deferred retirement benefit in lieu of refunding their accumulated employee contributions is assumed to be 35% for members terminating with no more than fourteen years of service. For those vested members terminating with greater than fourteen years of service but no more than nineteen years of service, it is assumed that 65% will elect to receive a deferred retirement benefit in lieu of refunding their accumulated employee contributions. For vested members terminating with more than nineteen years of service, it is assumed that 98% will elect an actuarially reduced early retirement (if eligible) or a deferred retirement benefit (if ineligible for early retirement) in lieu of refunding their accumulated employee contributions.

DISABILITY RATES

100% 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.

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.

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 1% percent of the accrued benefit.

RETIREMENT LIMITATIONS

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

DROP ENTRY RATES

The table of these rates is included later in the report. These rates apply only to those individuals eligible to enter the DROP plan and are applied only in the year of earliest DROP eligibility.

DROP PARTICIPATION PERIOD

All DROP participants are assumed to participate for 3 years. At the end of the DROP participation period, 65% of participants are assumed to retire; the other 35% are assumed to work one additional year.

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS

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

MARRIAGE STATISTICS

70% of the members are assumed to be married; husbands are assumed to be two 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 Table F1: Family Households, by Type, Age of Own Children, Age of Family Members, and Age of Householder provided by the U.S. Census Bureau, except for Remarriage Rates which utilize the rates from the 28th valuation of the Railroad Retirement System:

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

Although the Board of Trustees has authority to recommend ad hoc cost-of-living adjustments (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. In particular, since the Experience Account balance cannot exceed the value of one COLA (two if certain conditions are met) authorized under R.S. 11:1145.1, COLAs beyond that which can be funded by the current balance and future contributions sufficient to grant a single payment of this COLA were deemed not to be substantively automatic and therefore were not included in the present value of future benefits.

ACTUARIAL TABLES AND RATES

for members with first state service before July 1, 2010

Age	Retirement Rates	DROP Rates	Post-DROP Retirement Rates	Disability Rates
18	0.00000	0.00000	0.00000	0.00120
19	0.00000	0.00000	0.00000	0.00120
20	0.00000	0.00000	0.00000	0.00120
21	0.00000	0.00000	0.00000	0.00120
22	0.00000	0.00000	0.00000	0.00120
23	0.00000	0.00000	0.00000	0.00120
24	0.00000	0.00000	0.00000	0.00120
25	0.00000	0.00000	0.00000	0.00120
26	0.00000	0.00000	0.00000	0.00120
27	0.00000	0.00000	0.00000	0.00120
28	0.00000	0.00000	0.00000	0.00120
29	0.00000	0.00000	0.00000	0.00120
30	0.00000	0.00000	0.00000	0.00120
31	0.00000	0.00000	0.00000	0.00120
32	0.00000	0.00000	0.00000	0.00120
33	0.00000	0.00000	0.00000	0.00120
34	0.00000	0.00000	0.00000	0.00120
35	0.00000	0.00000	0.00000	0.00120
36	0.00000	0.00000	0.00000	0.00120
37	0.00000	0.00000	0.00000	0.00130
38	0.00000	0.00000	0.00000	0.00140
39	0.00000	0.00000	0.00000	0.00140
40	0.00000	0.00000	0.00000	0.00150
41	0.00000	0.00000	0.00000	0.00170
42	0.00000	0.00000	0.00000	0.00180
43	0.00000	0.00000	0.00000	0.00200
44	0.00000	0.00000	0.00000	0.00210
45	0.00000	0.00000	0.00000	0.00240
46	0.05000	0.73000	0.00000	0.00270
47	0.05000	0.73000	0.50000	0.00300
48	0.05000	0.73000	0.50000	0.00340
49	0.05000	0.73000	0.50000	0.00390
50	0.05000	0.73000	0.50000	0.00440
51	0.05000	0.73000	0.50000	0.00510
52	0.27000	0.73000	0.50000	0.00590
53	0.23000	0.73000	0.50000	0.00690
54	0.21000	0.73000	0.52000	0.00800
55	0.20000	0.70000	0.53000	0.00940
56	0.19000	0.66000	0.52000	0.01110
57	0.19000	0.66000	0.48000	0.01310
58	0.18000	0.66000	0.44000	0.01550
59	0.18000	0.66000	0.39000	0.01830
60	0.17000	0.55000	0.33000	0.02670
61	0.16000	0.43000	0.29000	0.03120
62	0.16000	0.43000	0.25000	0.03180
63	0.16000	0.20000	0.23000	0.02880
64	0.17000	0.20000	0.23000	0.02290
65	0.18000	0.20000	0.23000	0.01430
66	0.19000	0.20000	0.23000	0.00360
67	0.20000	0.20000	0.23000	0.00360
68	0.21000	0.20000	0.23000	0.00360
69	0.22000	0.20000	0.22000	0.00360
70	0.22000	0.20000	0.21000	0.00360
71	0.22000	0.20000	0.20000	0.00360
72	0.22000	0.20000	0.20000	0.00360
73	0.22000	0.20000	0.19000	0.00360
74	0.22000	0.20000	0.19000	0.00360
75	0.22000	0.20000	0.19000	0.00360

ACTUARIAL TABLES AND RATES

for members with first state service on or after July 1, 2010 and before July 1, 2015

Age	Retirement Rates (Svc<10)	Retirement Rates (10<Svc<=20)	Retirement Rates (Svc>20)	DROP Rates	Post-DROP Retirement Rates	Disability Rates
18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00130
38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00140
39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00140
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00150
41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00170
42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00180
43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00200
44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00210
45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00240
46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00270
47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00300
48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00340
49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00390
50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00440
51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00510
52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00590
53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00690
54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00800
55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00940
56	0.00000	0.00000	0.00000	0.00000	0.00000	0.01110
57	0.00000	0.00000	0.00000	0.00000	0.00000	0.01310
58	0.00000	0.00000	0.00000	0.00000	0.00000	0.01550
59	0.00000	0.00000	0.00000	0.00000	0.00000	0.01830
60	0.07000	0.13000	0.20000	***	0.30000	0.02670
61	0.07000	0.11000	0.16000	0.16000	0.26000	0.03120
62	0.08000	0.12000	0.16000	0.16000	0.23000	0.03180
63	0.09000	0.12000	0.16000	0.10000	0.21000	0.02880
64	0.11000	0.14000	0.17000	0.10000	0.21000	0.02290
65	0.12000	0.15000	0.18000	0.10000	0.21000	0.01430
66	0.14000	0.16000	0.19000	0.10000	0.21000	0.00360
67	0.15000	0.17000	0.20000	0.10000	0.21000	0.00360
68	0.15000	0.18000	0.21000	0.10000	0.21000	0.00360
69	0.14000	0.18000	0.22000	0.10000	0.20000	0.00360
70	0.13000	0.17000	0.22000	0.10000	0.19000	0.00360
71	0.12000	0.17000	0.22000	0.10000	0.18000	0.00360
72	0.11000	0.16000	0.22000	0.10000	0.18000	0.00360
73	0.11000	0.16000	0.22000	0.10000	0.17000	0.00360
74	0.12000	0.17000	0.22000	0.10000	0.17000	0.00360
75	0.13000	0.17000	0.22000	0.10000	0.17000	0.00360

*** The DROP entry rate (if applicable) at age 60 equals 0.16 if service is less than or equal to 10 years, 0.35 if service is more than 10 years but less than or equal to 20 years, and 0.55 if service is more than 20 years.

ACTUARIAL TABLES AND RATES

for members with first state service on or after July 1, 2015

Age	Retirement Rates (Svc≤10)	Retirement Rates (10<Svc≤20)	Retirement Rates (Svc>20)	DROP Rates	Post-DROP Retirement Rates	Disability Rates
18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120
37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00130
38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00140
39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00140
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00150
41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00170
42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00180
43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00200
44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00210
45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00240
46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00270
47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00300
48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00340
49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00390
50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00440
51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00510
52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00590
53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00690
54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00800
55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00940
56	0.00000	0.00000	0.00000	0.00000	0.00000	0.01110
57	0.00000	0.00000	0.00000	0.00000	0.00000	0.01310
58	0.00000	0.00000	0.00000	0.00000	0.00000	0.01550
59	0.00000	0.00000	0.00000	0.00000	0.00000	0.01830
60	0.00000	0.00000	0.00000	0.00000	0.00000	0.02670
61	0.00000	0.00000	0.00000	0.00000	0.00000	0.03120
62	0.08000	0.14000	0.20000	***	0.23000	0.03180
63	0.09000	0.12000	0.16000	0.16000	0.21000	0.02880
64	0.11000	0.14000	0.17000	0.16000	0.21000	0.02290
65	0.12000	0.15000	0.18000	0.10000	0.21000	0.01430
66	0.14000	0.16000	0.19000	0.10000	0.21000	0.00360
67	0.15000	0.17000	0.20000	0.10000	0.21000	0.00360
68	0.15000	0.18000	0.21000	0.10000	0.21000	0.00360
69	0.14000	0.18000	0.22000	0.10000	0.20000	0.00360
70	0.13000	0.17000	0.22000	0.10000	0.19000	0.00360
71	0.12000	0.17000	0.22000	0.10000	0.18000	0.00360
72	0.11000	0.16000	0.22000	0.10000	0.18000	0.00360
73	0.11000	0.16000	0.22000	0.10000	0.17000	0.00360
74	0.12000	0.17000	0.22000	0.10000	0.17000	0.00360
75	0.13000	0.17000	0.22000	0.10000	0.17000	0.00360

*** The DROP entry rate (if applicable) at age 62 equals 0.16 if service is less than or equal to 10 years, 0.35 if service is more than 10 years but less than or equal to 20 years, and 0.55 if service is more than 20 years.

PRIOR YEAR ASSUMPTIONS

ACTIVE MEMBER MORTALITY

130% of the RP2014 Employee Table with Blue Collar Adjustment for males and 115% of the RP2014 Employee Table with Blue Collar Adjustment for females, each with the full generational MP2017 scale.

ANNUITANT AND BENEFICIARY MORTALITY

130% of the RP2014 Healthy Annuitant Table with Blue Collar Adjustment for males and 115% of the RP2014 Healthy Annuitant Table with Blue Collar Adjustment 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.

ANNUAL SALARY INCREASE RATE

3.25% (2.50% inflation / 0.75% merit)

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.

DROP ENTRY RATES

The table of these rates is included later in the report. These rates apply only to those individuals eligible to enter the DROP plan and are applied only in the year of earliest DROP eligibility.

DROP PARTICIPATION PERIOD

All DROP participants are assumed to participate for 3 years and retire at the end of this participation period.

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS

Active former DROP participants retire according to the rates listed for all actives. The table of these rates through age 75 is included later in the report.

DISABILITY RATES

The table of these rates through age 75 is included later in this report. 55% of the disability rates used for the 21st valuation of the Railroad Retirement System for individuals with 10-19 years of service.

WITHDRAWAL RATES

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

Service	Rate	Service	Rate
<1	0.07	15	0.01
1	0.13	16	0.01
2	0.12	17	0.02
3	0.09	18	0.03
4	0.07	19	0.05
5	0.06	20	0.05
6	0.06	21	0.05
7	0.06	22	0.04
8	0.06	23	0.05
9	0.05	24	0.05
10	0.04	25	0.05
11	0.04	26	0.03
12	0.03	27	0.02
13	0.03	28	0.10
14	0.02	>28	0.01

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

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 U.S. Census reports from 2010 and the 2014 Family Household Survey:

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

VESTING ELECTING PERCENTAGE

For members terminating with less than twenty years of service, it is assumed that 60% will withdraw their accumulated employee contributions. For members terminating with twenty or more years of service, it is assumed that only 2% will withdraw their accumulated employee contributions. The remaining are assumed to receive a deferred vested retirement benefit.

PRIOR YEAR ACTUARIAL TABLES AND RATES

Age	Retirement Rates	Post-DROP Retirement Rates	DROP Rates	Disability Rates
18	0.00000	0.00000	0.00000	0.00083
19	0.00000	0.00000	0.00000	0.00083
20	0.00000	0.00000	0.00000	0.00083
21	0.00000	0.00000	0.00000	0.00083
22	0.00000	0.00000	0.00000	0.00083
23	0.00000	0.00000	0.00000	0.00083
24	0.00000	0.00000	0.00000	0.00083
25	0.00000	0.00000	0.00000	0.00083
26	0.00000	0.00000	0.00000	0.00083
27	0.00000	0.00000	0.00000	0.00083
28	0.00000	0.00000	0.00000	0.00083
29	0.00000	0.00000	0.00000	0.00083
30	0.00000	0.00000	0.00000	0.00083
31	0.00000	0.00000	0.00000	0.00083
32	0.00000	0.00000	0.00000	0.00083
33	0.00000	0.00000	0.00000	0.00083
34	0.00000	0.00000	0.00000	0.00083
35	0.00000	0.00000	0.00000	0.00094
36	0.00000	0.00000	0.00000	0.00105
37	0.00000	0.00000	0.00000	0.00116
38	0.00000	0.00000	0.00000	0.00132
39	0.00000	0.00000	0.00000	0.00149
40	0.00000	0.00000	0.00000	0.00171
41	0.00000	0.00000	0.00000	0.00193
42	0.00000	0.00000	0.00000	0.00215
43	0.00000	0.00000	0.00000	0.00242
44	0.00000	0.00000	0.00000	0.00275
45	0.00000	0.00000	0.00000	0.00314
46	0.17000	0.00000	0.83000	0.00358
47	0.17000	0.50000	0.83000	0.00402
48	0.17000	0.50000	0.83000	0.00457
49	0.17000	0.50000	0.83000	0.00517
50	0.17000	0.50000	0.83000	0.00589
51	0.25000	0.50000	0.75000	0.00671
52	0.28000	0.50000	0.72000	0.00759
53	0.33000	0.50000	0.67000	0.00864
54	0.17000	0.50000	0.83000	0.00979
55	0.19000	0.37000	0.81000	0.01111
56	0.36000	0.28000	0.64000	0.01265
57	0.18000	0.23000	0.82000	0.01436
58	0.40000	0.22000	0.60000	0.01628
59	0.33000	0.24000	0.67000	0.01854
60	0.23000	0.26000	0.61000	0.02684
61	0.18000	0.23000	0.49000	0.02684
62	0.16000	0.19000	0.44000	0.02684
63	0.17000	0.17000	0.42000	0.02684
64	0.22000	0.18000	0.38000	0.02684
65	0.27000	0.22000	0.32000	0.02684
66	0.31000	0.24000	0.24000	0.02684
67	0.31000	0.23000	0.20000	0.02684
68	0.28000	0.20000	0.20000	0.02684
69	0.24000	0.18000	0.21000	0.02684
70	0.22000	0.19000	0.22000	0.02684
71	0.22000	0.21000	0.21000	0.02684
72	0.23000	0.24000	0.21000	0.02684
73	0.22000	0.24000	0.25000	0.02684
74	0.22000	0.22000	0.33000	0.02684
75	0.23000	0.24000	0.39000	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 system 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 system of the difference between the expected and actual experience of the system. 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

A value of assets that reflects averaged (or smoothed) investment returns over a specified period of time. The actuarial value of assets is used to determine the required plan contributions. The use of smoothed asset values is meant to reduce contribution volatility.

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.

DEFERRED RETIREMENT OPTION PLAN (DROP) ACCOUNT

The account into which DROP accruals are paid and from which DROP lump sum balances are disbursed.

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 RETIREMENT PLAN (IBRP) ACCOUNT

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

NET VALUATION ASSETS

Refers to the actuarial value of assets, determined based upon the smoothing technique described in the section on Actuarial Assumptions within this report, reduced by the Amortization Conversion Account balance, if any.

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.