



CURRAN ACTUARIAL
— CONSULTING, LTD. —

Annual Funding Valuation
September 30, 2023
(Revised)

Louisiana Assessors'
Retirement Fund



July 5, 2024

Board of Trustees
Louisiana Assessors' Retirement Fund
P.O. Box 14699
Baton Rouge, Louisiana 70898-4699

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Louisiana Assessors' Retirement Fund for the fiscal year ending September 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 Assessors' Retirement Fund of the State of Louisiana. The primary purpose of this report is to determine the actuarially required contribution for the retirement system for the fiscal year ending 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 Assessors' Retirement Fund for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

In our opinion, all assumptions on which this valuation is based are reasonable individually and in the aggregate. Both economic and demographic assumptions are based on our expectations for future experience for the fund. These assumptions are based upon the September 30, 2020 Experience Study and described within that separate report, unless stated otherwise.

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 ASSESSORS' RETIREMENT FUND

	September 30, 2023	September 30, 2022
Census Summary: Active Members	738	742
Retired Members and Survivors	585	582
Terminated Due a Deferred Benefit	16	17
Terminated Due a Refund	117	122
Payroll:	\$ 48,544,396	\$ 47,050,664
Benefits in Payment:	\$ 26,051,988	\$ 25,080,912
Present Value of Future Benefits	\$ 705,509,828	\$ 682,668,321
Actuarial Accrued Liability (EAN):	\$ 538,874,563	\$ 519,649,573
Funding Deposit Account Credit Balance	\$ 46,701,984	\$ 49,069,632
Actuarial Value of Assets (AVA):	\$ 515,476,581	\$ 502,658,527
Market Value of Assets (MVA):	\$ 489,878,538	\$ 453,406,301
Ratio of AVA to EAN Actuarial Accrued Liability:	95.66%	96.73%
	Fiscal 2023	Fiscal 2022
Market Rate of Return:	9.5%	-15.0%
Actuarial Rate of Return:	3.8%	4.3%
	Fiscal 2024	Fiscal 2023
Employers' Normal Cost (Mid-year):	\$ 17,086,361	\$ 16,422,281
Estimated Administrative Cost	\$ 356,333	\$ 303,697
Projected Ad Valorem Tax Contributions	\$ (16,426,341)	\$ (14,939,307)
Projected Revenue Sharing Funds	\$ (351,574)	\$ (351,329)
Net Direct Employer Actuarially Required Contributions:	\$ 664,779	\$ 1,435,342
Projected Payroll:	\$ 49,344,493	\$ 48,057,322
Actuarially Required Net Direct Employer Contribution Rate:	1.35%	2.99%
Board Adopted Net Direct Employer Contribution Rate:	5.00%	3.50%
Statutory Employee Contribution Rate:	8.00%	8.00%
	Fiscal 2025	Fiscal 2024
Minimum Recommended Net Direct Employer Contribution Rate:	1.25%	3.00%

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 regarding future changes in plan population and decrements in view of the particular factors which 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 stochastic trials 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 regarding probable future investment experience for the plan.

All of the above efforts would be in vain if the assumption process was 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 results which although imperfect is nevertheless a reasonable approach to determine the contribution levels which will provide for the future benefits of plan participants.

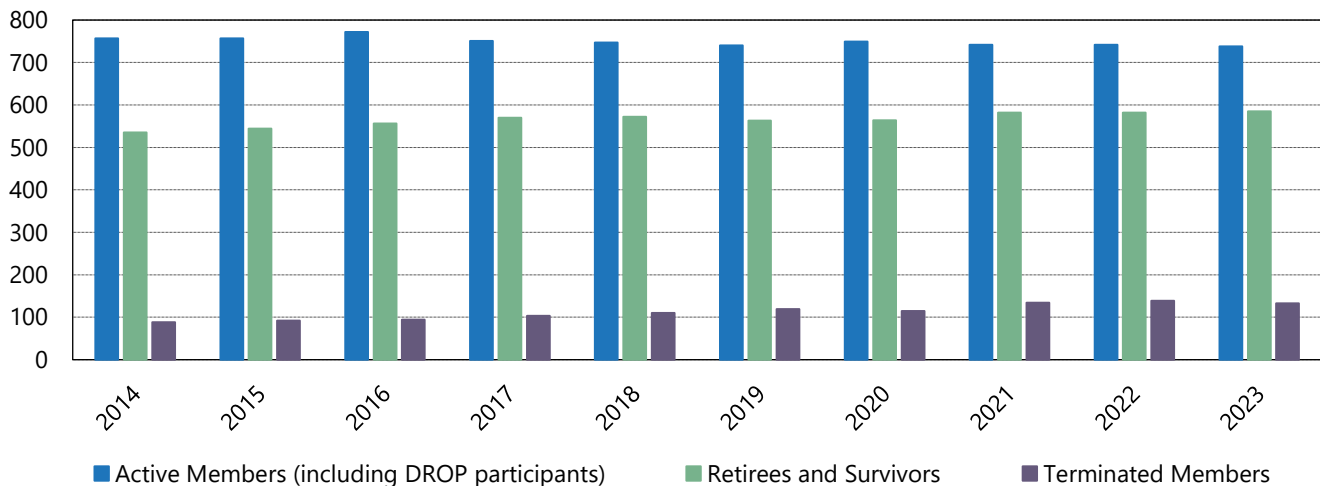
Despite this, future results may materially differ with this actuarial valuation. Employer contribution rates and other funding measures presented in this report will differ as the system is impacted by the following: changes in plan membership, plan liability or investment experience inconsistent with plan assumptions, future changes in plan assumptions or future changes in plan provisions. An analysis of the range of such deviations is outside the scope of this report.

COMMENTS ON DATA

For the valuation, the administrative staff of the system furnished a census on electronic media 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 dates of birth of retirees and beneficiaries, as well as option categories and benefit amounts, was provided in a similar manner. In addition, data was supplied on former employees who are vested or who have contributions remaining on deposit. As illustrated in Exhibit IX, there are 738 active members in the system of whom 347 members have vested retirement benefits; 585 former members or their beneficiaries are receiving retirement benefits. An additional 133 terminated members have contributions remaining on deposit with the system; of this number, 16 have vested rights for future retirement benefits. All participant data is as of September 30, 2023.

Figure 1 shows the membership counts over the past ten years.

Figure 1. Membership Counts



Census data submitted to our office is tested for errors. 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, which 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 retirement rates, rates of withdrawal, and mortality. In addition, the census is checked for reasonableness in several areas, such as age, service, salary, and current benefits. The records identified by this review as questionable are

checked against data from prior valuations; those not recently verified are included in a detailed list of items sent to the system's administrator for verification and/or correction. Once the identified data has been researched and verified or corrected, it is returned to us for use in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record.

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

In addition to the statistical information provided on the system's participants, the system's administrator furnished general information related to other aspects of the system's expenses, benefits and funding. Valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of Hawthorne, Waymouth, and Carroll, L.L.P. As indicated in the system's audit report, the net market value of system's assets was \$489,878,538 as of September 30, 2023. Net investment income for Fiscal 2023 measured on a market value basis was \$42,793,552. Contributions to the system for the fiscal year totaled \$21,771,664; benefits and expenses amounted to \$28,092,979.

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

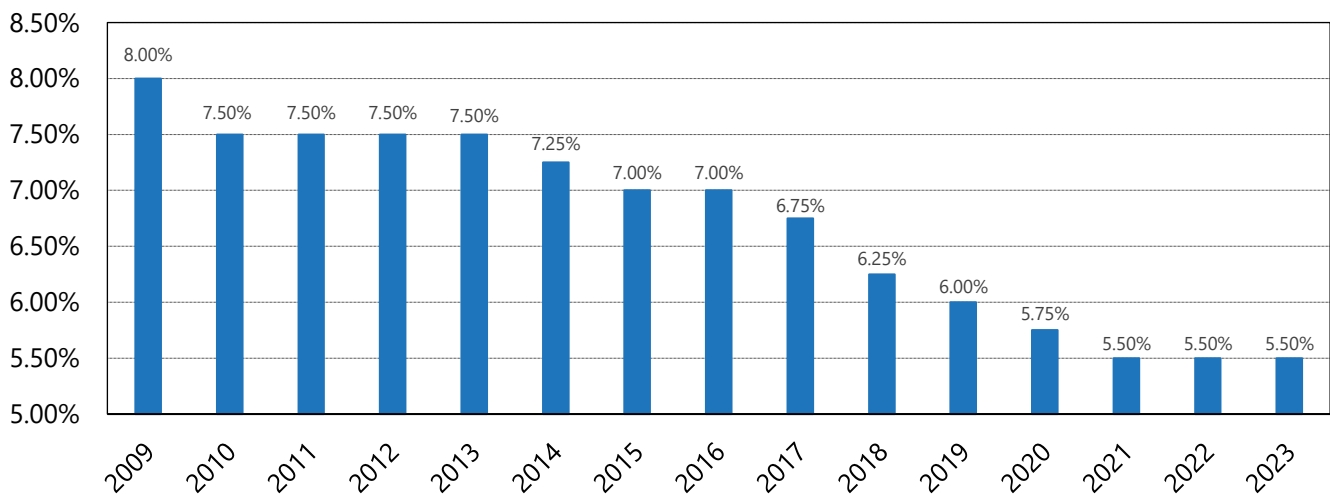
The system's actuarial funding method is set by R.S. 11:22. The system was previously funded under the Frozen Attained Age Normal Cost Method. The Frozen Unfunded Accrued Liability was fully amortized in Fiscal 2019. According to R.S. 11:22(D), for the Fiscal 2019 valuation, the system's funding method was changed to the Aggregate Actuarial Cost Method. This method does not develop an unfunded actuarial liability. Under the Aggregate Cost Method, actuarial gains and losses are spread over future normal costs. Thus, favorable plan experience will lower future normal costs; unfavorable experience will cause future normal costs to increase. In addition, changes in benefits and assumptions are also spread over future normal costs.

The current year actuarial assumptions utilized for this report are based on the results of an actuarial experience study for the period October 1, 2014 – September 30, 2019, unless otherwise specified in this report. This study included a review of all plan decrements in addition to salary scale experience and other demographic factors which impact plan costs. Details related to the study are contained within the 2020 Assessors' Retirement Fund Experience Study Report. The results of the actuarial valuation rely on the assumptions set by this experience study.

Beginning with Fiscal 2010, the Board of Trustees began reducing the long-term rate of return assumption from 8.0%. Over the period from 2010 through 2021, the assumption was reduced to the current rate of 5.50%. **Figure 2** shows the timing of each of these changes.

Despite all of the changes in the valuation interest rate, we continue to review this important assumption once each year. These reviews involve the development of 10,000 stochastic trials spanning 30 years. These trials were performed based on the assumption that portfolio returns are normally distributed based on the expected rate of return and standard deviation of returns inherent in modeling based on our firm’s consultant average capital market assumptions and the system’s target asset allocation. These stochastic trials were then used to determine return levels for each percentile. The reasonable range

Figure 2. Assumed Rate of Return



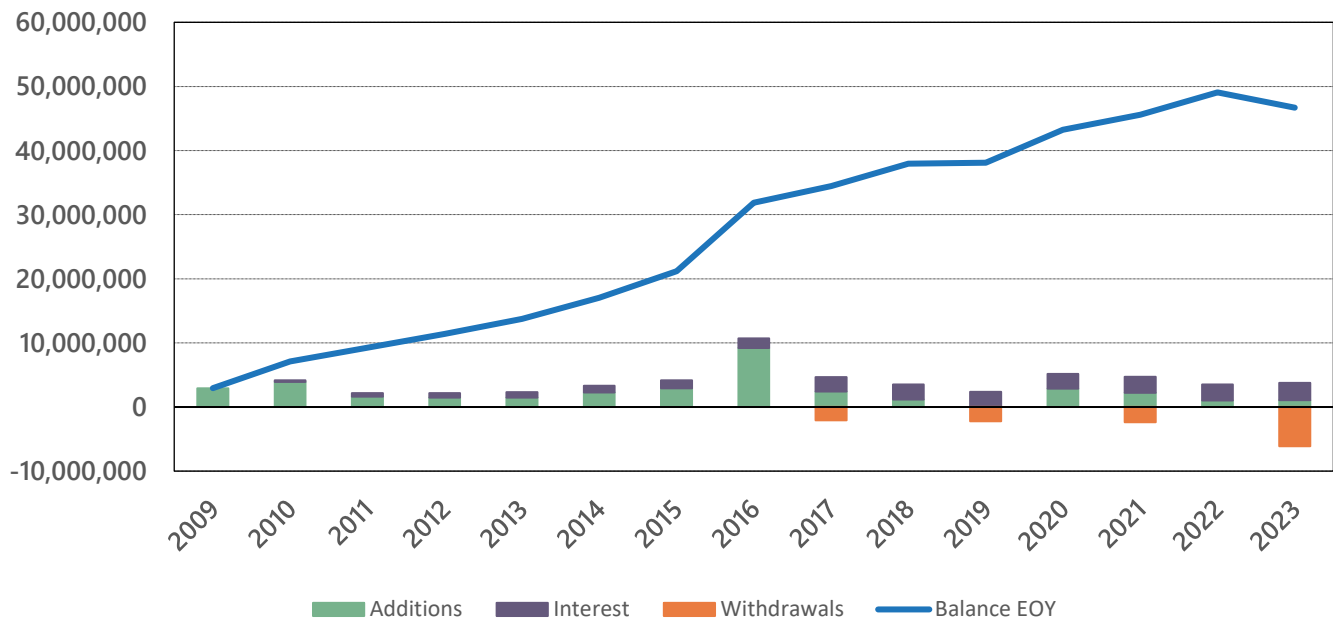
boundaries were set based on the 40th and 60th percentile expected return levels. Based upon these assumptions and the stochastic simulations, the 2023 review set a reasonable range of 5.72% to 6.83%. The resulting percentiles suggest that there is approximately a 64.10% probability that the system will have long-term earnings at or above 5.50% and a 50% probability that the system will have long-term investment earnings at or above 6.28%.

For fiscal 2023, the system’s 5.50% valuation interest rate has fallen slightly below the actuary’s reasonable range. Actuarial standards of practice allow the rate to be set below the actuary’s reasonable range if the Board of Trustees elects to do so to account for adverse deviation. We recommend no change in the current level of the assumption because the reasonable range has changed in a material way over the recent few years. We believe that it is reasonable to maintain conservatism in this assumption to offset the potential for adverse deviation given the amount of change in capital market assumptions since the pandemic.

Prior to the passage of Act 296 in the 2009 legislative session, as detailed by R. S. 11:105, in any year in which the net direct employer contribution was scheduled to decrease, the Board of Trustees could freeze the net direct employer contribution rate and use the excess funds collected, if any, to reduce the frozen unfunded actuarial accrued liability. Also, in any year in which the Board elected to increase contributions pursuant to R.S. 11:106 the excess funds, if any, were used to reduce the system’s frozen unfunded actuarial accrued liability. Notwithstanding such a decrease, payments were made according to the

regular amortization schedule, thereby reducing the amortization period. Such additional unfunded liability payments of \$791,748; \$101,831; \$538,661; \$1,020,879; \$2,890,530; and \$7,988,122 were made in Fiscal 1999, Fiscal 2000, Fiscal 2003, Fiscal 2006, Fiscal 2007, and Fiscal 2008, respectively. As a result of these additional payments, the frozen unfunded actuarial accrued liability was fully amortized as of September 30, 2019, ten years ahead of the original schedule. No future payments will be due on the

Figure 3. Funding Deposit Account History



frozen unfunded actuarial accrued liability and the system is now funded on the Aggregate Actuarial Cost Method. In addition, the Board of Trustees voted to maintain the net direct employer contribution rate at 13.50% for fiscal years 2009 through 2016, 10% for 2017, 8% for fiscal years 2018 through 2021, 5% for 2022, and 3.5% for 2023 instead of lowering the rate to the minimum recommended employer contribution rate for those years. With the exception of Fiscal 2019, these freezes resulted in additional collections which under the provisions of R.S. 11:105 were credited to the Funding Deposit Account. For Fiscal 2023, the contribution rate was set at 3.50%, which exceeded the minimum recommended rate of 2.00%. The additional funds collected, amounting to \$1,059,608, were also credited to the Funding Deposit Account. A history of the Funding Deposit Account is shown in **Figure 3**.

Although the Board of Trustees has authority to grant ad hoc Cost of Living Increases (COLAs) under limited circumstances, in our opinion the system’s practice of using the Funding Deposit Account to pre-fund ad hoc COLAs and its consistent practice of collecting contributions in excess of the minimum set by valuation makes the inclusion of potential future COLAs in plan liabilities inappropriate. Therefore, the present value of benefits excludes COLAs not previously granted by the Board of Trustees.

The current year actuarial assumptions utilized for the report are outlined at the end of this report. All assumptions used are based on estimates of future long-term experience for the system as described in the system’s 2020 Experience Study report. All calculations, recommendations, and conclusions are based on the assumptions specified. To the extent that prospective experience differs from that assumed,

adjustments to contribution levels will be required. Such differences will be revealed in future actuarial valuations. There were no changes to plan assumptions.

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

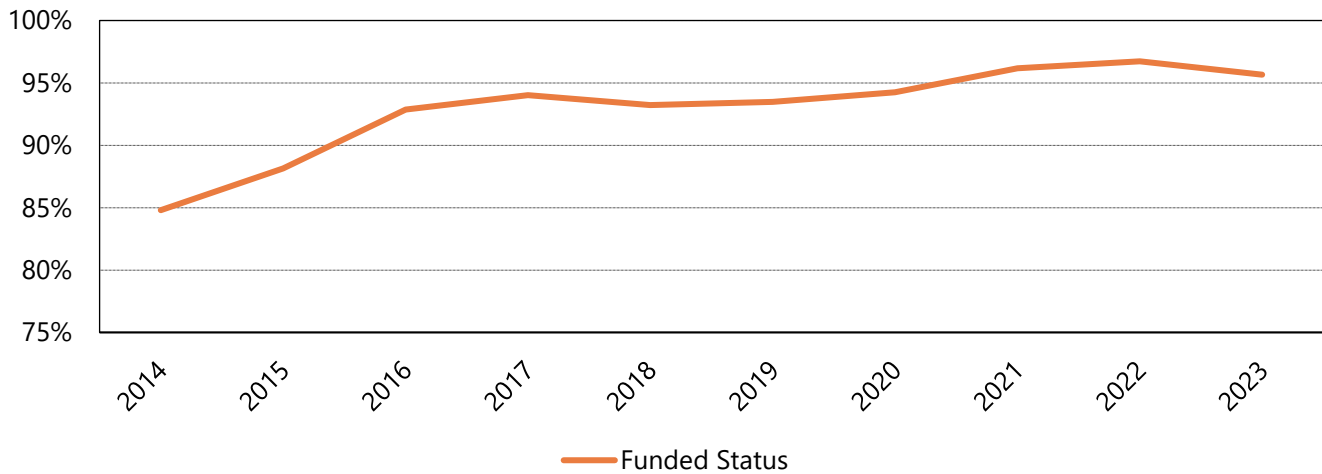
The first risk in this regard is the failure to contribute adequate funds to the plan. In some ways, this is the greatest risk since other risks can usually be addressed by adequate actuarial funding. Louisiana constitutional and statutory provisions greatly limit this risk by requiring that state and 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. The rate is given as plan assets divided by plan liabilities. However, the definition of each of these terms may vary. The two typical alternatives used for assets are the market and actuarial value of assets. There are several alternative measures of liability depending on the funding method employed. The Governmental Accounting Standards Board (GASB) specifies that, for financial reporting purposes, the funded ratio is determined by using the market value of assets divided by the entry age normal accrued liability. This value is given in the system's financial report. Alternatively, we have calculated the ratio of the actuarial value of assets to the entry age normal accrued liability based on the funding methodology used to fund the plan. The ratio is 95.66% for the plan as of September 30, 2023.

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 X 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 reduction in this rate, the current ratio would be significantly higher.

Figure 4. Historical Funded Status



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. Should the plan attempt 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. Since the Board has used the Funding Deposit Account to prefund COLAs over the last seven years, the minimum employer contribution rates have not been affected. 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 long-term average rates of future inflation may remain higher than rates projected during the period prior to 2020 and the Covid-19 pandemic. There is always the possibility that high inflation will remain 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.

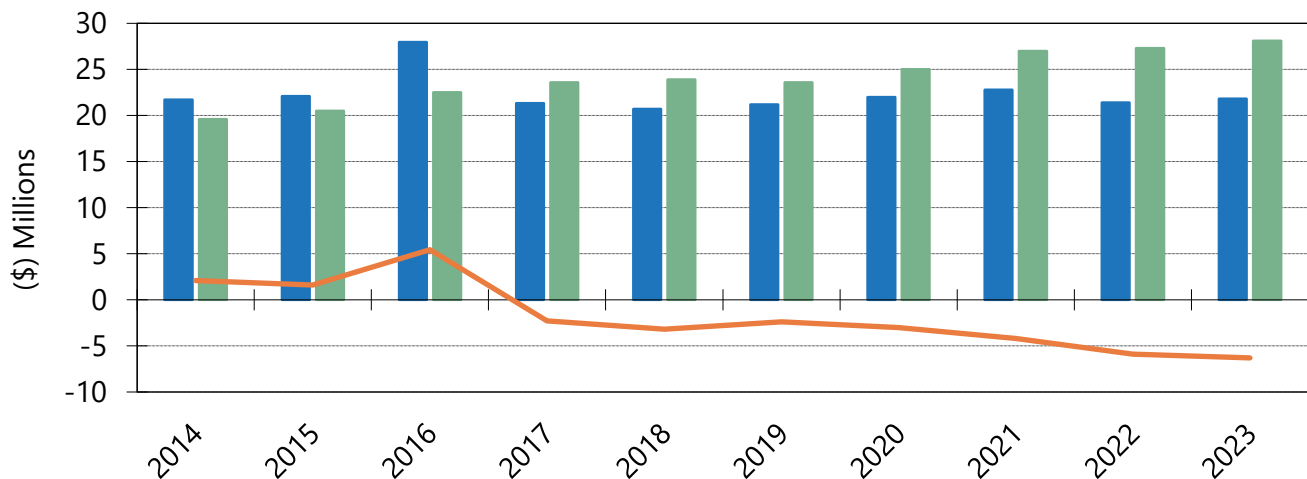
Asset Return Volatility Risk

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 flows. Where benefit payments exceed contributions to a 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 5** 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 since 2017. In this situation, portfolio construction is very important, and investment staff must consider what level of liquidity is necessary.

Figure 5. Annual Net Non-Investment Cash Flows



		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Contribution Income (\$Mil)	■	21.7	22.1	28.0	21.3	20.7	21.2	22.0	22.8	21.4	21.8
Benefits and Expenses (\$Mil)	■	19.6	20.5	22.5	23.6	23.9	23.6	25.0	27.0	27.3	28.1
Net Non- Inv. Cash Flow (\$Mil)	—	2.1	1.6	5.5	-2.3	-3.2	-2.4	-3.0	-4.2	-5.9	-6.3

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

Sensitivity to Investment Gains/Losses

Every retirement system is subject to investment return risk. When the rate of return on the actuarial value of assets does not equal the assumed rate of return, the system experiences investment gains or losses. These can cause contribution rate requirements to be more volatile. We have determined that based on current assets and demographics, for each percentage under (over) the assumed rate of return on the actuarial value of assets, there will be a corresponding increase (decrease) in the actuarially required contribution as a percentage of projected payroll of 0.94% for the fund.

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 Fiscal 2024 by 16.86% of payroll. 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 54%; ten years ago, this ratio was 42%.

Assumption Risk

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. Market expectations related to the assumed rate of return do not currently suggest that a further decrease in the assumption is warranted. We will continue to monitor capital market assumptions and the Board's decisions related to asset mix. We will advise the Board if the reasonable range changes in any material way in the future.

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

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

Data Error Risk

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

Liability Duration Risk

Each pension plan has its own unique benefit structure and demographic profile. As a result, each plan will respond to changes in interest rates in a unique way. As the expected rate of return on investments changes and the interest rate used to discount plan liabilities is adjusted, the shift in plan liabilities will depend upon the duration of the liabilities (which can be understood as the plan's sensitivity to the change in the interest rate). A slightly different measure of the duration for the plan can also be understood as an indicator of the plan's maturity. When a pension plan is first established, all participants are active members; as members retire and the plan matures, the duration of the plan decreases. A determination of the liability duration gives some insight into the investment time horizon of the plan. Thus, the liability duration of a closed plan can be thought of as the weighted "center of gravity" of plan benefit cash flows with expected cash flows occurring both before and after the duration value. For open plans with a continuous flow of new entrants, this measure is somewhat less informative since the duration horizon keeps changing as new members enter the plan. For this plan we have estimated the effective liability duration as 10.48 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 several years of slow growth. Revisions of this type usually depend on general economic conditions and can result in liability losses. However, they generally are 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 forecast.

CHANGES IN PLAN PROVISIONS

The following resolutions were enacted during the 2023 Regular Session of the Louisiana Legislature.

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:

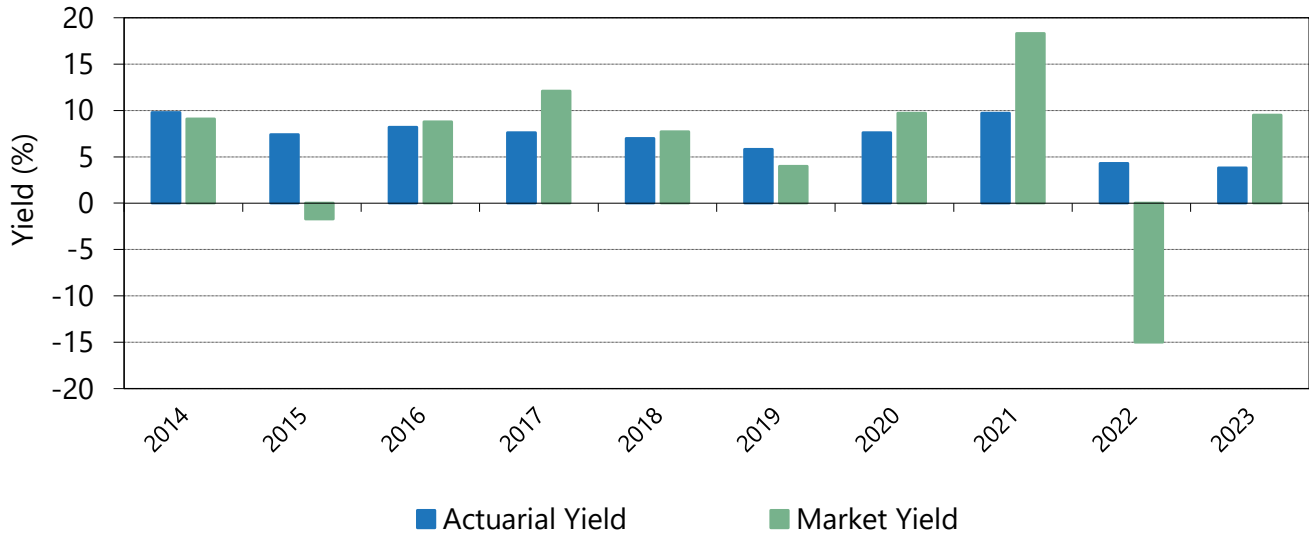
1. Report on investment advisors and companies used by the treasurer and the retirement systems that discriminate against the fossil fuel industry through environmental, social, and governance policies.
2. Report on investment of state and pension assets using nonpecuniary factors.
3. Report on the asset 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 6). These investment rates of return were determined by assuming a uniform distribution of income and expense throughout the fiscal year.

Figure 6. Historical Asset Yields



	Market Yield	Actuarial Yield
2014	9.1%	9.8%
2015	-1.7%	7.4%
2016	8.8%	8.2%
2017	12.1%	7.6%
2018	7.7%	7.0%
2019	4.0%	5.8%
2020	9.7%	7.6%
2021	18.3%	9.7%
2022	-15.0%	4.3%
2023	9.5%	3.8%

Geometric Average Market Rates of Return		
5-year average	(Fiscal 2019 – 2023)	4.7%
10-year average	(Fiscal 2014 – 2023)	5.9%
15-year average	(Fiscal 2009 – 2023)	6.8%
20-year average	(Fiscal 2004 – 2023)	6.7%
25-year average	(Fiscal 1999 – 2023)	5.8%
30-year average	(Fiscal 1994 – 2023)	6.5%

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 and dividends. 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 fund earned \$8,417,062 of dividends, interest and other recurring income. Net income was increased by realized and unrealized capital gains of \$36,130,604. Investment expenses reduced income by \$1,754,114.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 5.50% in effect for Fiscal 2023. This rate is calculated based on the actuarial value of assets and the market value income adjusted for actuarial smoothing as given in Exhibit VI. Investment income used to calculate this yield is based upon a smoothing of investment income above or below the valuation interest rate over a five year period subject to limits as described in the section detailing actuarial assumptions. The difference between rates of return on an actuarial and market value basis results from the smoothing utilized. In the future, yields in excess of the 5.50% assumption will reduce future costs; yields below 5.50% will increase future costs. For Fiscal 2023, the system experienced net actuarial investment losses of \$8,335,341 below the actuarial assumed earnings rate of 5.50% in effect for Fiscal 2023. This shortfall in earnings produced an actuarial loss, which increased the normal cost accrual rate by 1.5183%.

DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the system is given in Exhibit IX. The average active member is 50 years old with 12.78 years of service and an annual salary of \$65,778. The system's active membership decreased during the fiscal year by 4 members. The plan has experienced a decrease in the active plan population of 9 members over the last five years.

The average regular retiree is 72 years old with an annual benefit of \$45,852. The average age at retirement for regular retirees is 61. The number of retirees and beneficiaries receiving benefits from the system increased by 3 during the fiscal year. Over the last five years, the number of retirees has increased by 13; during this same period, annual benefits in payment increased by \$4,485,849.

Plan liability experience for Fiscal 2023 was favorable. Withdrawals and retiree deaths were above projected levels. Retirements were below projected levels. These factors tend to decrease costs. All other factors were close to neutral in their effect. In aggregate, liability gains decreased the normal cost accrual rate by 0.3346%.

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 applying a cost allocation procedure to the results of an actuarial valuation of liabilities based on rates of mortality, termination, disability, and retirement, as well as investment return and other statistical measures specific to the particular group. The allocation of costs also depends on an asset smoothing method described in the assumptions section at the end of this report. Each year a determination is made of the normal cost, and the actuarially required contributions are based on the sum of this value and administrative expenses. Under the funding method used for the plan, changes in plan experience,

benefits, or assumptions increase or decrease future normal costs. In addition, excess or deficient contributions can decrease or increase future costs. The funding method used produces no unfunded actuarial accrued liability.

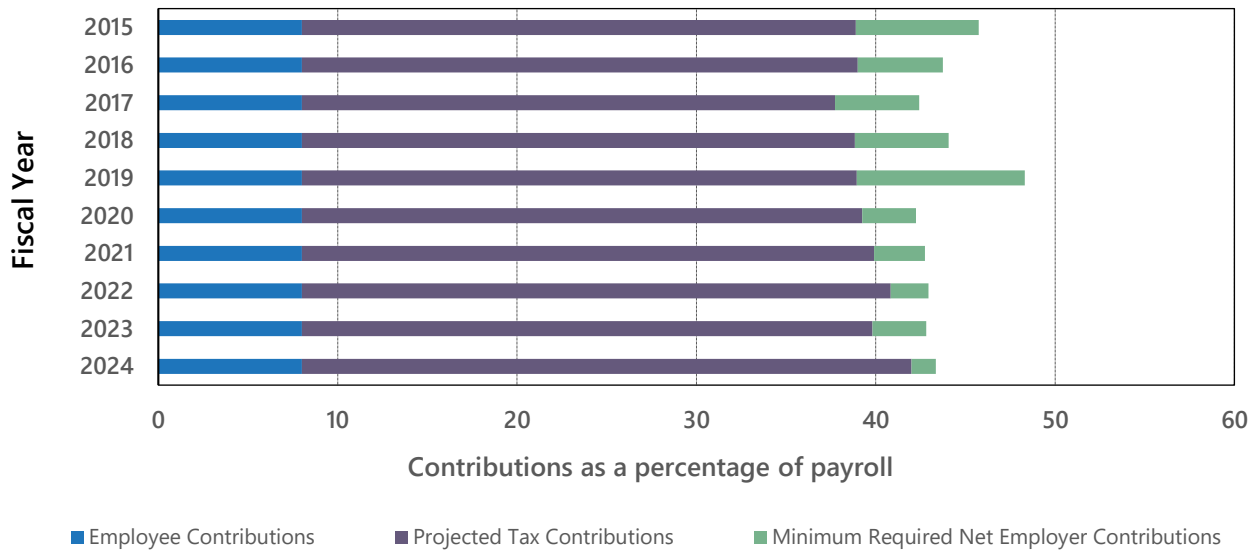
To establish the actuarially required contribution in any given year, it is necessary to define the assumptions and funding method. Thus, the determination of what contribution is actuarially required depends upon the funding method employed. Regardless of the method selected, the ultimate cost of providing 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.

R.S. 11:103 governs the calculation of the annual actuarially determined employer contribution rate for statewide retirement systems. This statute describes the components of the employer contribution rate found in Exhibit I. We believe that the minimum recommended net direct employer contribution rate developed within this report represents a Reasonable Actuarially Determined Contribution (or RADC) under the terms set forth in the actuarial standards of practice. We believe that the cost allocation procedure set forth in the statutes reasonably balances benefit security and intergenerational equity. The consistent payment of actuarially determined contributions based on Louisiana's constitutional requirements significantly improves the benefit security of plan members and retirees. The system's funding methodology seeks intergenerational equity by spreading actuarial costs over the future working lifetime of members. With the use of reasonable actuarial assumptions, the system's contribution allocation procedure should produce reasonably stable and predictable results. The system's annual valuation directly calculates the present value of future benefits for each member and former member. This measure accounts for expected future benefit payments and the expected duration of those payments. The valuation results are based on plan provisions in effect as of the valuation date. Therefore, results will be affected if plan provisions are changed in the future.

The derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for Fiscal 2024 adjusted with interest for mid-year payment is \$17,086,361. The total actuarially required contribution is determined by adding estimated administrative expenses to this amount. As given on line 12 of Exhibit I the total actuarially required contribution for Fiscal 2024 is \$17,442,694. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for Fiscal 2024 is \$664,779 or 1.35% of projected payroll.

The cost of providing benefits to current and former members is borne by employees and employers and relies in part on dedicated ad valorem taxes and revenue sharing funds. **Figure 7** shows the breakdown of annual costs as a percentage of payroll over the past ten years.

Figure 7. Components of Actuarial Funding



Liability and asset experience as well as changes in assumptions and benefits can increase or decrease plan costs. In addition to these factors, any COLA granted without an offsetting withdrawal from the system’s Funding Deposit Account in the prior fiscal year will increase required contributions. New entrants to the system can also increase or decrease costs as a percent of payroll depending upon their demographic distribution and other factors related to prior plan experience. Finally, contributions above or below requirements may reduce or increase future costs.

The effects of various factors on the fund’s cost structure are outlined below:

RECONCILIATION OF THE NORMAL COST ACCRUAL RATE	
Employer’s Normal Cost Accrual Rate – Fiscal 2023	34.6843%
Factors Increasing the Normal Cost Accrual Rate:	
Asset Experience Loss	1.5183%
Cost-of-living Increase	1.1158%
Factors Decreasing the Normal Cost Accrual Rate:	
New Members	0.7475%
Plan Liability Experience Gain	0.3346%
Withdrawal from FDA to offset COLA cost	1.1158%
Employer’s Normal Cost Accrual Rate – Fiscal 2024	35.1205%

Required net direct employer contributions are also affected by the available ad valorem taxes and revenue sharing funds which the system receives each year. When these funds change as a percentage of payroll, net direct employer contributions are adjusted accordingly. We estimate that these funds will increase by 2.18% of payroll in Fiscal 2024.

The system granted a cost-of-living adjustment to qualifying retirees and beneficiaries effective October 1, 2023. These additional benefits increased the normal cost accrual rate by 1.1158%. The Board elected to release funds from the Funding Deposit Account to offset the cost of this COLA. Thus, the withdrawal of \$6,126,086 from the Funding Deposit account lowered the normal cost accrual rate by a like amount, directly offsetting the cost of the COLA.

Although the actuarially required net direct employer contribution rate for Fiscal 2023 was 2.99%, the Board of Trustees voted to maintain the employer contribution at 3.50%. For Fiscal 2023, this system experienced a contribution gain of \$1,059,608. In accordance with R.S. 11:107, these additional contributions were credited to the system's Funding Deposit Account as of September 30, 2023. Although the actuarially required net direct employer contribution rate for Fiscal 2024 is 1.35%; the board adopted employer contribution rate for Fiscal 2024 is 5.00% of payroll. Since the contribution rate for Fiscal 2024 was held at 5.00% by the Board, any surplus in employer contributions collected during the fiscal year will be credited to the Funding Deposit Account.

Furthermore, R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest 0.25%, hence we are recommending a minimum net direct employer contribution rate of 1.25% for Fiscal 2025. Under the provisions of R.S. 11:105, R.S. 11:106 and R.S. 11:107, the Board of Trustees may set the net direct employer contribution for Fiscal 2025 at any level between the minimum recommended employer contribution rate of 1.25% and 5.00%. If the Board sets the net direct employer contribution rate above the minimum rate, any excess funds collected will be deposited into the Funding Deposit Account. Funds in this account can be used to reduce future required contributions in a particular year, to reduce the normal cost accrual rate, or to grant a cost-of-living increase to retirees.

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 Assessors' Retirement Fund 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 generally 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. (With recent Federal Reserve actions increasing interest rates, the difference in return expectations has lessened.) 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, in most economic environments 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 is generally 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 volatility associated with high quality fixed income investments over the past year has made this measure less informative than expected.

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

- 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 LDROM calculations is the discount rate or rates to use. The standard discusses several possibilities. We have elected to base our LDROM 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 have used 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 analysis. The LDROM 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 September 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 5.60%. Interestingly, this effective single discount rate exceeds the long-term assumed rate of return being used for the system's actuarial valuation. We believe that this is likely to be a temporary phenomenon. In fact, the HQM Corporate Bond Yield Curve as of the end of 2023 would produce a measure below the 5.50% assumption.

In the following section, we will disclose an LDROM-based actuarial accrued liability, which can be compared to the entry age normal actuarial accrued liability, and an LDROM-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 5.60%. All other assumptions match those used to determine funding liabilities.

LDROM Comparison	Funding Valuation	LDROM Valuation
Discount Rate	5.50%	5.60%
Accrued Liability for Active Members	\$ 249,505,741	\$ 246,265,739
Accrued Liability for Terminated Members	\$ 6,159,725	\$ 6,081,384
Accrued Liability for Retired Members	\$ 283,209,097	\$ 280,951,464
Total Actuarial Accrued Liability (AAL)	\$ 538,874,563	\$ 533,298,587
Funded Ratio (AVA/AAL)	95.66%	96.66%

Typically, the differences in the measures shown above can be viewed within the risk/return framework. By accepting added investment risk, most systems are expected to reduce the employers' responsibility to fund system liabilities over the long run, but that decision generally results in greater variability in employer contributions over time as risky assets typically experience greater return volatility. At this point in time, the yields shown in the HQM Corporate Bond Yield Curve indicate that the system could achieve a return similar to their assumed rate of return using a portfolio simply comprised of high quality corporate bonds. Doing so would not provide the benefits of diversification among asset classes and as seen over the past couple of years, fixed income yields are subject to large swings based often on Federal Reserve policies and the overall economic outlook.

COST OF LIVING INCREASES

During Fiscal 2023 the actual cost-of-living (as measured by the US Department of Labor CPI-U) increased by 3.7%.

RELEVANT COLA STATUTES	
Statute	Description
R.S. 11:1461(A)	Allows the Board of Trustees to provide a cost-of-living increase from excess interest earnings to members who have been retired for at least one full calendar year. The increase cannot exceed the lesser of 3% of the retiree's original benefit or an increase of \$300 per year for each year of retirement.
R.S. 11:1461(B)	Special authorization to provide a single cost-of-living increase for retirees or their beneficiaries eligible in R.S. 11:1461(A) under this section. The increase shall not exceed 3% of the retiree or beneficiary's current benefit but shall not be less than \$20 per month.
R.S. 11:246	Provides supplemental cost-of-living increases to retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. Applies to those retired for at least one year. Such increase shall be payable from interest earnings on investments in excess of normal requirements of from funds deposited in the system's Funding Deposit Account.
R.S. 11:241	Provides for cost-of-living benefits payable based on a formula equal to up to \$1 times the total of the number of years of credited service accrued at retirement or at death of the member or retiree plus the number of years since retirement or since death of the member or retiree to the system's fiscal year end preceding the payment of the benefit increase. Applies to those retired for at least one year.

In order to grant a COLA, the system must meet the funded ratio criteria specified in R.S. 11:243. For purposes of COLAs payable under R.S. 11:1461(A), R.S. 11:246, or R.S. 11:241, the system must have investment earnings in excess of the valuation interest rate sufficient to offset the additional liability due to the cost of the COLA or fund the COLA out of the Funding Deposit Account.

The limitations on timing of COLAs given in R.S. 11:243 are as follows:

- The system has a funded ratio of 90% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the most recent fiscal year.
- The system has a funded ratio of 80% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the two most recent fiscal years.
- The system has a funded ratio of 70% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the three most recent fiscal years.

Since the Board granted a cost-of-living increase effective October 1, 2023 under R.S. 11:241 and R.S. 11:246, the Fund is not authorized under R.S. 11:243 to grant a cost-of-living increase in Fiscal 2024 for regular retirees.

EXHIBIT I ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits.....	\$	705,509,828
2.	Actuarial Value of Assets.....	\$	515,476,581
3.	Funding Deposit Account Credit Balance.....	\$	46,701,984
4.	Present Value of Future Employee Contributions	\$	43,920,641
5.	Present Value of Future Employer Normal Costs (1 + (2 – 3) – 4)	\$	192,814,590
6.	Present Value of Future Salaries.....	\$	549,008,008
7.	Employer Normal Cost Accrual Rate (5 ÷ 6)		35.120542%
8.	Projected Fiscal 2024 Salary for Current Membership	\$	47,365,501
9.	Employer Normal Cost as of October 1, 2023 (7 × 8).....	\$	16,635,021
10.	Employer Normal Cost Interest Adjusted for Mid-year Payment.....	\$	17,086,361
11.	Estimated Administrative Cost for Fiscal 2024.....	\$	356,333
12.	GROSS Employer Actuarially Required Contribution for Fiscal 2024 (10 + 11).....	\$	17,442,694
13.	Projected Ad Valorem Tax Contributions for Fiscal 2024.....	\$	(16,426,341)
14.	Projected Revenue Sharing Funds for Fiscal 2024	\$	(351,574)
15.	Employer’s Net Direct Employer Actuarially Required Contribution for Fiscal 2024 (12 + 13 + 14).....	\$	664,779
16.	Projected Payroll for Fiscal 2024	\$	49,344,493
17.	Employers’ Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2024 (15 ÷ 16).....		1.35%
18.	Board Adopted Employer Contribution Rate for Fiscal 2024.....		5.00%
19.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2025 (17, Rounded to nearest 0.25%).....		1.25%

EXHIBIT II PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	\$ 396,130,763
Survivor Benefits	8,177,896
Disability Benefits	3,217,423
Vested Termination Benefits	6,372,745
Refunds of Contributions	2,242,179
 TOTAL Present Value of Future Benefits for Active Members	 \$ 416,141,006

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement.....	\$ 5,067,913
Terminated Members with Reciprocals Due Benefits at Retirement	0
Terminated Members Due a Refund.....	1,091,812
 TOTAL Present Value of Future Benefits for Terminated Members.....	 \$ 6,159,725

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees	
Maximum	\$ 91,365,208
Option 1.....	26,961,504
Option 2.....	104,837,539
Option 3.....	35,467,705
Option 4.....	242,018
 TOTAL Regular Retirees.....	 \$ 258,873,974
Disability Retirees.....	0
Survivors & Widows.....	21,265,292
DROP & Back-DROP Account Balances Payable to Retirees	3,069,831
 TOTAL Present Value of Future Benefits for Retirees & Survivors	 \$ 283,209,097
 TOTAL Present Value of Future Benefits.....	 \$ 705,509,828

EXHIBIT III – SCHEDULE A MARKET VALUE OF ASSETS

CURRENT ASSETS:

Cash in Banks.....	\$ 8,619,667
Contributions and Taxes Receivable.....	624,063
Accrued Interest and Dividends	1,427,423
Investments Receivable	145,544

TOTAL CURRENT ASSETS \$ 10,816,697

Property, Plant & Equipment..... \$ 1,111,105

INVESTMENTS:

Equities	\$ 253,020,309
Fixed Income.....	167,949,747
Real Estate	51,450,663
Cash Equivalents.....	6,056,375
Other Investments	403,721

TOTAL INVESTMENTS..... \$ 478,880,815

TOTAL ASSETS \$ 490,808,617

CURRENT LIABILITIES:

Accounts Payable	\$ 273,905
Investments Payable.....	656,174

TOTAL CURRENT LIABILITIES \$ 930,079

MARKET VALUE OF ASSETS \$ 489,878,538

EXHIBIT III – SCHEDULE B ACTUARIAL VALUE OF ASSETS

Excess (Shortfall) of Invested Income For Current and Previous 4 Years:

Fiscal year 2023.....	\$ 18,027,715
Fiscal year 2022.....	(110,124,640)
Fiscal year 2021.....	57,341,336
Fiscal year 2020.....	15,590,174
Fiscal year 2019.....	(8,966,928)
Total for Five Years.....	\$ (28,132,343)

Deferral of Excess (Shortfall) of Invested Income:

Fiscal year 2023 (80%).....	\$ 14,422,172
Fiscal year 2022 (60%).....	(66,074,784)
Fiscal year 2021 (40%).....	22,936,534
Fiscal year 2020 (20%).....	3,118,035
Fiscal year 2019 (0%).....	0
Total Deferred for Year.....	\$ (25,598,043)

Market Value of Plan Net Assets, End of Year..... \$ 489,878,538

Preliminary Actuarial Value of Plan Assets, End of Year..... \$ 515,476,581

Actuarial Value of Assets Corridor

85% of Market Value, End of Year.....	\$ 416,396,757
115% of Market Value, End of Year.....	\$ 563,360,319

Final Actuarial Value of Plan Net Assets, End of Year..... \$ 515,476,581

**EXHIBIT IV
PRESENT VALUE OF FUTURE CONTRIBUTIONS**

Employee Contributions to the Annuity Savings Fund	\$	43,920,641
Employer Normal Contributions to the Pension Accumulation Fund		192,814,590
Funding Deposit Account Debit (Credit) Balance.....		(46,701,984)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	\$	190,033,247

**EXHIBIT V
RECONCILIATION OF CONTRIBUTIONS**

Direct Employer Contributions	\$	1,727,395
Interest on Employer Contributions		46,868
Ad Valorem Taxes and Revenue Sharing.....		16,101,005
Interest on Ad Valorem Taxes and Revenue Sharing Funds		436,851
TOTAL Interest Adjusted Employer Contributions	\$	18,312,119
Employer Normal Cost for Prior Year.....	\$	15,988,483
Interest on the Normal Cost.....		879,367
Administrative Expenses		374,500
Interest on Expenses.....		10,161
TOTAL Interest Adjusted Actuarially Required Contributions.....	\$	17,252,511
CONTRIBUTION SURPLUS/(SHORTFALL).....	\$	1,059,608

EXHIBIT VI ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (September 30, 2022).....	\$	502,658,527
INCOME:		
Member Contributions.....	\$	3,916,305
Employer Contributions.....		1,727,395
Ad Valorem Taxes		15,749,665
State Revenue Sharing Funds.....		351,340
Transfers from Other Systems.....		24,587
Other Income.....		2,372
Total Contributions.....	\$	21,771,664
Net Appreciation of Investments.....	\$	36,130,604
Interest & Dividends		8,417,062
Investment Expense.....		(1,754,114)
Net Investment Income.....	\$	42,793,552
TOTAL Income	\$	64,565,216
EXPENSES:		
Retirement Benefits	\$	25,335,505
DROP & Back-DROP Disbursements.....		1,940,430
Refunds of Contributions		414,063
Transfers to Other Systems.....		28,481
Administrative Expenses		374,500
TOTAL Expenses.....	\$	28,092,979
Net Market Value Income for Fiscal 2023 (Income – Expenses)	\$	36,472,237
Unadjusted Fund Balance as of September 30, 2023 (Fund Balance Previous Year + Net Income).....	\$	539,130,764
Adjustment for Actuarial Smoothing	\$	(23,654,183)
Actuarial Value of Assets: (September 30, 2023).....	\$	515,476,581

EXHIBIT VII FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of September 30, 2022	\$ 49,069,632
Interest on Opening Balance at 5.50%	2,698,830
Contributions to the Funding Deposit Account.....	1,059,608
Withdrawals from the Funding Deposit Account.....	(6,126,086)
Funding Deposit Account Balance as of September 30, 2023	\$ 46,701,984

EXHIBIT VIII – Schedule A PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees.....	\$ 244,249,259
Present Value of Benefits Payable to Terminated Employees	6,159,725
Present Value of Benefits Payable to Current Retirees and Beneficiaries	283,209,097
TOTAL PENSION BENEFIT OBLIGATION	\$ 533,618,081
NET ACTUARIAL VALUE OF ASSETS	\$ 515,476,581
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation	96.60%

EXHIBIT VIII – Schedule B ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees	\$ 249,505,741
Accrued Liability for Terminated Employees.....	6,159,725
Accrued Liability for Current Retirees and Beneficiaries.....	283,209,097
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	\$ 538,874,563
NET ACTUARIAL VALUE OF ASSETS	\$ 515,476,581
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability.....	95.66%

EXHIBIT IX CENSUS DATA

	Active	Terminated with Funds on Deposit	Retired	Total
Number of members as of September 30, 2022	742	139	582	1,463
Additions to Census				
Initial membership	42			42
Omitted in error last year			9	9
Death of another member				
Adjustment for multiple records				
Change in Status during Year				
Actives terminating service	(16)	16		
Actives who retired	(20)		20	
Actives entering DROP				
Term. members rehired	1	(1)		
Term. members who retire		(1)	1	
Retirees who are rehired				
Refunded who are rehired				
DROP participants retiring				
DROP returned to work				
Omitted in error last year				
Eliminated from Census				
Refund of contributions	(9)	(18)		(27)
Deaths	(2)	(2)	(27)	(31)
Included in error last year				
Adjustment for multiple records				
Number of members as of September 30, 2023	738	133	585	1,456

Actives Census by Age:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	1	1	2	32,340	64,680
21 - 25	6	12	18	37,312	671,622
26 - 30	11	19	30	40,523	1,215,703
31 - 35	22	39	61	48,035	2,930,162
36 - 40	24	54	78	55,201	4,305,667
41 - 45	33	62	95	63,568	6,038,940
46 - 50	35	57	92	63,787	5,868,408
51 - 55	26	56	82	71,909	5,896,499
56 - 60	40	75	115	76,541	8,802,188
61 - 65	34	54	88	73,093	6,432,173
66 - 70	22	26	48	79,252	3,804,117
71 - 75	11	10	21	92,387	1,940,124
76 - 80	6	2	8	71,764	574,113
Total	271	467	738	65,778	48,544,396

Includes 347 actives with vested benefits, including 1 active former DROP participant.

Terminated Members Due a Deferred Retirement Benefit:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	1	3	4	24,206	96,824
46 - 50	4	1	5	32,325	161,625
51 - 55	3	4	7	32,180	225,263
Total	8	8	16	30,232	483,712

Terminated Members Due a Refund of Contributions:

Contributions Ranging		Number	Total Contributions
From	To		
0	- 99	2	89
100	- 499	9	2,636
500	- 999	16	12,045
1,000	- 1,999	11	16,490
2,000	- 4,999	20	67,058
5,000	- 9,999	21	142,828
10,000	- 19,999	18	250,430
20,000	- 99,999	20	572,426
Total		117	1,064,002

Excludes \$27,810 for deceased members whose estates are due lump sums.

Regular Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
46 - 50	1	0	1	73,664	73,664
51 - 55	1	2	3	70,016	210,048
56 - 60	6	24	30	52,127	1,563,795
61 - 65	23	59	82	56,780	4,655,967
66 - 70	25	78	103	42,902	4,418,879
71 - 75	40	70	110	49,503	5,445,360
76 - 80	37	51	88	48,432	4,261,988
81 - 85	15	38	53	31,635	1,676,653
86 - 90	12	17	29	31,234	905,789
91 - 95	4	10	14	25,884	362,377
96 - 100	0	2	2	19,254	38,507
Total	164	351	515	45,851	23,613,027

Survivors:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
56 - 60	0	2	2	30,299	60,597
61 - 65	1	1	2	91,994	183,988
66 - 70	2	9	11	51,549	567,038
71 - 75	4	4	8	28,596	228,769
76 - 80	1	14	15	48,742	731,132
81 - 85	0	13	13	23,493	305,411
86 - 90	0	13	13	19,899	258,687
91 - 95	0	5	5	18,581	92,905
96 - 100	0	1	1	10,434	10,434
Total	8	62	70	34,842	2,438,961

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	1	1	-	-	-	-	-	-	2
21 - 25	8	9	1	-	-	-	-	-	18
26 - 30	8	14	8	-	-	-	-	-	30
31 - 35	5	19	24	12	1	-	-	-	61
36 - 40	7	22	13	23	13	-	-	-	78
41 - 45	2	17	21	21	28	5	1	-	95
46 - 50	4	12	18	21	20	12	4	1	92
51 - 55	-	9	12	23	16	8	11	3	82
56 - 60	5	15	18	21	16	18	13	9	115
61 - 65	2	9	9	21	19	14	5	9	88
66 - 70	-	3	6	9	12	5	8	5	48
71 & Over	-	1	5	4	8	3	3	5	29
Total	42	131	135	155	133	65	45	32	738

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	33,780	30,900	-	-	-	-	-	-	32,340
21 - 25	37,999	37,637	28,892	-	-	-	-	-	37,312
26 - 30	38,655	38,660	45,653	-	-	-	-	-	40,523
31 - 35	36,973	44,092	52,141	51,270	40,926	-	-	-	48,035
36 - 40	41,955	46,422	50,008	63,587	67,546	-	-	-	55,201
41 - 45	36,664	52,083	55,172	64,897	77,230	68,709	52,750	-	63,568
46 - 50	37,606	52,030	56,782	69,507	68,600	78,345	62,653	49,150	63,787
51 - 55	-	60,611	55,612	65,549	68,838	88,456	96,626	101,363	71,909
56 - 60	52,015	60,941	72,448	75,559	68,770	77,556	93,276	114,254	76,541
61 - 65	43,306	51,139	50,135	76,835	63,608	94,764	69,233	104,348	73,093
66 - 70	-	85,403	49,095	76,500	89,588	81,780	83,969	81,827	79,252
71 & Over	-	51,724	53,422	87,301	78,994	58,574	150,413	117,458	86,698
Average	40,381	49,675	55,264	68,683	71,961	81,518	89,955	103,659	65,778

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	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	4	-	4
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	-	-	-	-	5	-	-	-	5
51 - 55	2	-	2	3	-	-	-	-	7
56 - 60	-	-	-	-	-	-	-	-	-
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
Total	2	-	2	3	5	-	4	-	16

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	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	24,206	-	24,206
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	-	-	-	-	32,325	-	-	-	32,325
51 - 55	54,154	-	15,724	28,503	-	-	-	-	32,180
56 - 60	-	-	-	-	-	-	-	-	-
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
Average	54,154	-	15,724	28,503	32,325	-	24,206	-	30,232

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	-	-	-	-	-	-	-	1
51 - 55	1	2	-	-	-	-	-	-	3
56 - 60	3	5	6	6	9	1	-	-	30
61 - 65	9	3	11	9	38	11	1	-	82
66 - 70	6	5	9	9	28	39	7	-	103
71 - 75	1	3	8	10	25	32	29	2	110
76 - 80	-	-	2	2	17	34	20	13	88
81 - 85	-	-	-	1	5	11	11	25	53
86 - 90	-	-	1	-	-	4	7	17	29
91 & Over	-	-	-	-	-	1	-	15	16
Total	21	18	37	37	122	133	75	72	515

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	73,664	-	-	-	-	-	-	-	73,664
51 - 55	24,781	92,634	-	-	-	-	-	-	70,016
56 - 60	42,143	42,380	55,516	62,770	51,962	48,094	-	-	52,127
61 - 65	48,593	38,056	84,961	43,560	47,653	82,938	54,715	-	56,780
66 - 70	34,736	32,741	35,676	40,610	45,885	44,723	47,315	-	42,902
71 - 75	42,844	80,123	52,637	37,322	58,375	56,810	35,317	33,163	49,503
76 - 80	-	-	121,850	27,291	44,744	60,100	40,934	26,230	48,432
81 - 85	-	-	-	41,671	28,796	46,549	34,740	23,873	31,635
86 - 90	-	-	160,223	-	-	37,712	25,297	24,567	31,234
91 & Over	-	-	-	-	-	77,878	-	21,534	25,055
Average	43,498	50,856	65,237	43,341	48,584	54,937	37,174	24,233	45,851

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	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	-	-	-	-	-	-	-	-	-
51 - 55	-	-	-	-	-	-	-	-	-
56 - 60	-	1	1	-	-	-	-	-	2
61 - 65	-	2	-	-	-	-	-	-	2
66 - 70	-	1	4	2	-	4	-	-	11
71 - 75	-	-	1	3	2	1	1	-	8
76 - 80	-	-	1	5	5	1	3	-	15
81 & Over	-	-	-	4	3	10	6	9	32
Total	-	4	7	14	10	16	10	9	70

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	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	-	-	-	-	-	-	-	-	-
51 - 55	-	-	-	-	-	-	-	-	-
56 - 60	-	16,302	44,295	-	-	-	-	-	30,299
61 - 65	-	91,994	-	-	-	-	-	-	91,994
66 - 70	-	48,015	45,347	87,561	-	40,629	-	-	51,549
71 - 75	-	-	40,372	29,297	27,520	34,971	10,497	-	28,596
76 - 80	-	-	54,756	80,482	35,428	22,666	24,720	-	48,742
81 & Over	-	-	-	26,336	29,077	21,249	16,371	18,239	20,857
Average	-	62,076	45,830	55,055	31,941	27,040	18,288	18,239	34,842

EXHIBIT X YEAR-TO-YEAR COMPARISON

	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Number of Active Members	738	742	742	749
Number of Retirees & Survivors	585	582	582	564
Number of Terminated Due Deferred Benefits	16	17	16	12
Number Terminated Due Refunds	117	122	118	103
Active Lives Payroll	\$ 48,544,396	\$ 47,050,664	\$ 46,020,108	\$ 46,282,404
Retiree Benefits in Payment	\$ 26,051,988	\$ 25,080,912	\$ 24,553,313	\$ 22,229,576
Market Value of Assets	\$ 489,878,538	\$ 453,406,301	\$ 539,947,818	\$ 460,417,168
Entry Age Normal Accrued Liability	\$ 538,874,563	\$ 519,649,573	\$ 507,071,744	\$ 475,694,775
Ratio of AVA to EAN Accrued Liability	95.66%	96.73%	96.16%	94.26%
Actuarial Value of Assets	\$ 515,476,581	\$ 502,658,527	\$ 487,574,856	\$ 448,403,309
Frozen Unfunded Actuarial Accrued Liability	\$ 0	\$ 0	\$ 0	\$ 0
Present Value of Future Employer Normal Cost	\$ 192,814,590	\$ 186,144,749	\$ 183,671,333	\$ 177,545,550
Present Value of Future Employee Contrib.	\$ 43,920,641	\$ 42,934,677	\$ 42,308,632	\$ 40,735,979
Funding Deposit Account Balance	\$ 46,701,984	\$ 49,069,632	\$ 45,565,433	\$ 43,246,189
Present Value of Future Benefits	\$ 705,509,828	\$ 682,668,321	\$ 667,989,388	\$ 623,438,649
	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021
Employee Contribution Rate	8.00%	8.00%	8.00%	8.00%
Estimated Tax Contribution as a % of Payroll	34.00%	31.82%	32.83%	31.90%
Actuarially Required Net Direct Employer Contribution Rate	1.35%	2.99%	2.11%	2.85%
Actual Employer Contribution Rate	5.00%	3.50%	5.00%	8.00%

Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
740	747	751	772	757	757
563	572	570	556	544	535
17	16	13	10	13	14
102	94	90	84	79	74
\$ 44,362,164	\$ 43,686,762	\$ 42,948,488	\$ 43,573,217	\$ 41,689,719	\$ 40,498,685
\$ 21,785,575	\$ 21,566,139	\$ 21,114,760	\$ 19,561,454	\$ 18,432,197	\$ 17,346,092
\$ 422,565,188	\$ 408,441,921	\$ 382,197,366	\$ 343,233,124	\$ 310,262,528	\$ 314,045,097
\$ 448,943,386	\$ 427,882,294	\$ 399,744,486	\$ 378,520,063	\$ 362,594,812	\$ 349,004,741
93.48%	93.22%	94.03%	92.87%	88.15%	84.80%
\$ 419,658,788	\$ 398,857,013	\$ 375,876,564	\$ 351,549,680	\$ 319,630,048	\$ 295,965,881
\$ 0	\$ 3,429,455	\$ 6,658,938	\$ 9,593,206	\$ 12,221,554	\$ 14,585,158
\$ 167,763,619	\$ 154,438,730	\$ 125,942,737	\$ 117,204,572	\$ 117,637,907	\$ 110,250,598
\$ 39,242,505	\$ 38,389,814	\$ 36,486,315	\$ 35,833,133	\$ 34,266,075	\$ 29,803,451
\$ 38,100,032	\$ 37,949,749	\$ 34,439,283	\$ 31,866,114	\$ 21,170,541	\$ 17,024,774
\$ 588,564,880	\$ 557,165,263	\$ 510,525,271	\$ 482,314,477	\$ 462,585,043	\$ 433,580,314
Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
31.24%	30.94%	30.83%	29.74%	31.00%	30.90%
3.01%	9.38%	5.24%	4.69%	4.75%	6.84%
8.00%	8.00%	8.00%	10.00%	13.50%	13.50%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

The Louisiana Assessors' Retirement Fund is a defined benefit pension plan that provides retirement allowances and other benefits for the assessors and their permanent, full-time employees. The plan was established by Act 91 of the 1950 Louisiana Legislative Session. Provisions of the plan are set forth in the Louisiana Revised Statutes (R.S. 11:1401 through R.S. 11:1483). The following summary of plan provisions is for general informational purposes only and does not constitute a guarantee of benefits.

MEMBERSHIP

Membership in the fund is allowed only to assessors, full-time permanent employees of assessors, the secretary and regular employees of the Assessors' Retirement Fund, and permanent employees of the Louisiana Assessors' Association and Louisiana Assessors' Insurance Fund. Full-time, permanent employees as used herein, means those employed on a full twelve-month basis within each calendar year; provided, however, that members may be granted leaves of absence, with no creditable service to be allowed for time on leave. Membership is not allowed on a part-time, temporary, or intermittent basis.

CONTRIBUTION RATES

Under the provisions of R.S. 11:62 and 11:103, the fund is financed by employee contributions of 8% of earnable compensation as determined by the Board of Trustees. Each assessor has the option of electing to pay all or a portion of their employees' contribution into the retirement fund. This election remains in effect for 1 year and can be rescinded only upon written notice to the retirement system. In addition, the fund receives revenue sharing funds as appropriated each year by the legislature. Also, under R.S. 11:82, each sheriff and ex-officio tax collector remits the employers' share of the actuarially required contribution to fund the system up to a maximum of 0.25% of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish, including that shown on the tax rolls to be exempted by virtue of homestead exemptions. Should employee contributions and tax funds collected from ad valorem taxes and revenue sharing funds be insufficient to provide for the gross employer actuarially required contribution, the employer is required to make direct contributions as determined by the Public Retirement Systems' Actuarial Committee. Under R.S. 11:106, the Board of Trustees is authorized to require a net direct contribution rate of up to three percent more than the rate determined under R.S. 11:103. Under R.S. 11:105 and R.S. 11:107, in any fiscal year during which the net direct employer contribution rates would otherwise be decreased, the Board of Trustees is authorized to set the employer contribution rate at any point between the previous year's employer contribution rate and the decreased rate that would otherwise occur. Any excess funds resulting from the additional contributions will be credited to the Funding Deposit Account defined in R.S. 11:107.1.

FUNDING DEPOSIT ACCOUNT

If the contribution rate is set above the minimum recommended rate pursuant to R.S. 11:105, 11:106 or 11:107, the surplus contributions collected, if any, are credited to the Funding Deposit Account defined in R.S. 11:107.1. The funds in the account earn interest annually at the Board-approved actuarial valuation interest rate, and such interest is credited to the account at least once a year. The Board of Trustees may, in any fiscal year, direct that funds from the account be charged for the following purposes: (1) to reduce

the unfunded accrued liability; (2) to reduce the present value of future normal costs for systems using an aggregate funding method; (3) to pay all or a portion of any future net direct employer contributions; or (4) to provide for cost-of-living increases, in accordance with applicable law. In no event will the funds charged from the account exceed the outstanding account balance. If the Board of Trustees of the system elects to utilize funds from the funding deposit account to pay all or a portion of any future net direct employer contributions, the percent reduction in the minimum recommended employer contribution rate otherwise applicable is determined by dividing the interest-adjusted value of the charges from the funding deposit account by the projected payroll for the fiscal year for which the contribution rate is to be reduced. For funding purposes, any asset value utilized in the calculation of the actuarial value of assets of a system excludes the funding deposit account balance as of the asset determination date for such calculation. For all purposes other than funding, the funds in the account are considered assets of the system.

RETIREMENT BENEFITS

For members hired before October 1, 2013 – Members with thirty years of creditable service may retire at any age and members with at least twelve years of service may retire at age fifty-five. The benefit accrual rate is three and one-third percent for all years of service. The normal retirement benefit for individuals hired prior to October 1, 2006, will be equal to three and one-third percent of the highest monthly average final compensation received during any thirty-six consecutive months while employed in an assessor's office or other creditable employment times the number of years of the member's creditable service not to exceed one hundred percent of the member's monthly average final compensation after taking into account the reduction arising from any optional retirement selected. The normal retirement benefit for individuals hired on or after October 1, 2006, will be equal to three and one-third percent of the highest monthly average final compensation received during any sixty consecutive months while employed in an assessor's office or other creditable employment times the number of years of the member's creditable service not to exceed one hundred percent of the member's monthly average final compensation after taking into account the reduction arising from any optional retirement selected.

For members hired on or after October 1, 2013 – Members with twelve or more years of creditable service may retire at age sixty and members with thirty or more years of creditable service may retire at age fifty-five. The normal retirement benefit for members with less than thirty years of creditable service will be equal to three percent of the highest monthly average final compensation times the number of years of creditable service. The normal retirement benefit for members with at least thirty years of creditable service will be equal to three and one-third percent of the highest monthly average final compensation times the number of years of creditable service. Only transferred service with an accrual rate of at least three and one-third percent will be used to meet the thirty-year requirement. Benefits are calculated using the highest sixty-month average compensation. Monthly benefits may not exceed 100% of the monthly average final compensation.

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 that is the actuarial equivalent of the maximum benefit. If, upon retirement, a member selects their spouse as their beneficiary under Option 2 or Option 3 or Option 4, the option

reduction factor will be based on the ages of the member and his or her beneficiary as of the member's sixtieth birthday. If a participant selects an option 4 for someone other than their spouse, the option reduction factor is based on the ages of the member and beneficiary as of the later of the date of the member's retirement or the member's sixtieth birthday.

Option 1 – If the member dies before he has received in annuity payments the present value of his member's 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 member's death, the surviving spouse will continue to receive the same reduced benefit.

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

Option 4 – Upon retirement, the member may elect to receive a Board-approved benefit that is actuarially equivalent to the maximum benefit.

EXCESS BENEFIT PLAN

Under the provisions of this excess benefit plan a member may receive a benefit equal to the amount by which the member's monthly benefit from the fund has been reduced because of the limitations of Section 415 of the Internal Revenue Code.

DISABILITY BENEFITS

Disability benefits are awarded to active members who are totally disabled with twelve or more years of creditable service. In addition, any member with twenty years of service who withdraws from service prior to reaching retirement age is eligible for disability benefits. The disability benefit is equal to the lesser of the member's applicable retirement accrual rate times the final average compensation multiplied by the number of years of creditable service (but not less than forty-five percent) or the retirement benefit which would be payable assuming accrued creditable service plus additional accrued service, if any, to the earliest normal retirement age.

SURVIVOR BENEFITS

If a member dies in service with less than twelve years of service credit, his accumulated contributions are paid to the surviving spouse. If a member dies with twelve or more years of creditable service and is not eligible for retirement, the surviving spouse receives an automatic option 2 benefit that ceases on remarriage. If a member dies who is eligible for retirement, the surviving spouse receives an automatic option 2 benefit that does not terminate on remarriage. The minor children or handicapped children of a member with no spouse who dies in the line of duty or with four years of creditable service receives \$50 per month for the first child and \$10 per month for each additional child.

Back-DROP

In lieu of receiving a service retirement allowance any member of the fund who has more than sufficient service for a regular service retirement may elect to receive a "Back-DROP" benefit. The Back-DROP benefit is based upon the Back-DROP period selected and the final average compensation prior to the period selected. The Back-DROP period is the lesser of three years or the service accrued between the time a member first becomes eligible for retirement and his actual date of retirement. At retirement the member's maximum monthly retirement benefit is based upon his service, final average compensation, and plan provisions in effect on the last day of creditable service immediately prior to the commencement of the Back-DROP period. In addition to the monthly benefit at retirement, the member receives a lump-sum payment equal to the maximum monthly benefit as calculated above multiplied by the number of months in the Back-DROP period.

CONTRIBUTION REFUNDS

Upon withdrawal from service, members not entitled to a retirement allowance are paid a refund of accumulated contributions upon request. Receipt of such a refund cancels all accrued benefits in the system. If the total of all benefits paid to a retiree and all benefits paid on the retiree's account after their death is less than the retiree's accumulated employee contributions, the remaining accumulated employee contributions shall be paid to the retiree's beneficiary or to their estate if they do not have a designated beneficiary. Upon the death of a member or former member who has not been paid any benefits from the fund and who is not survived by any person eligible for any benefits from the fund, the accumulated employee contributions of the member or former member shall be paid to their designated beneficiary or to their estate if they do not have a designated beneficiary.

COST OF LIVING INCREASES

Cost-of-living provisions for the system are detailed in R.S.11:1461, R.S. 11:246, R.S. 11:241, and R.S. 11:243. R.S. 11:1461 allows the Board of Trustees to provide a cost-of-living increase from excess interest earnings to members who have been retired for at least one full calendar year. The increase cannot exceed the lesser of 3% of the retiree's original benefit or an increase of \$300 per year for each year of retirement. R.S. 11:246 provides cost-of-living increases to retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. R.S. 11:241 provides for cost-of-living benefits payable based on a formula equal to up to \$1 times the total of the number of years of credited service accrued at retirement or at death of the member or retiree plus the number of years since retirement or since death of the member or retiree to the system's fiscal year end preceding the payment of the benefit increase. The provisions of R.S. 11:241 do not repeal provisions relative to cost-of-living adjustments contained within the individual laws governing systems; however, they are to be controlling in cases of conflict. In addition, Act 113 of the 2008 Regular Legislation Session provides for a COLA of 3% of the normal monthly benefit but not less than \$20 per month. Although this COLA is permanent, it may only be granted once.

In order to grant a COLA, the system must meet the funded ratio criteria specified in R.S. 11:243. For purposes of COLAs payable under R.S. 11:1461(A), R.S. 11:246, or R.S. 11:241, the system must have investment earnings in excess of the valuation interest rate sufficient to offset the additional liability due to the cost of the COLA or fund the COLA out of the Funding Deposit Account.

The limitations on timing of COLAs given in R.S. 11:243 are as follows:

1. The system has a funded ratio of 90% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the most recent fiscal year.
2. The system has a funded ratio of 80% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the two most recent fiscal years.
3. The system has a funded ratio of 70% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the three most recent fiscal years.

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 which 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

Aggregate Actuarial Cost Method with allocation based on earnings.

VALUATION INTEREST RATE

5.50% (Net of Investment Expense)

ACTUARIAL ASSET VALUES

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.

Note: All deferrals are based on the valuation interest rate in effect as of the beginning of the fiscal year for each individual year.

ANNUAL SALARY INCREASE RATE

5.25% (2.10% inflation /3.15% merit)

ACTIVE MEMBER MORTALITY

Pub-2010 Public Retirement Plans Mortality Table for General Employees multiplied by 120% for males and 120% for females, each with full generational projection using the appropriate MP2019 scale.

ANNUITANT AND BENEFICIARY MORTALITY

Pub-2010 Public Retirement Plans Mortality Table for General Healthy Retirees multiplied by 120% for males and 120% for females, each with full generational projection using the appropriate MP2019 scale.

DISABLED LIVES MORTALITY

Pub-2010 Public Retirement Plans Mortality Table for Non-safety Disabled Retirees multiplied by 120% for males and 120% for females, each with full generational projection using the appropriate MP2019 scale.

RETIREE COST OF LIVING INCREASE

The present value of future retirement benefits is based on benefits currently being paid by the system and includes previously granted cost-of-living increases. The present values do not include provisions for potential future increases not yet authorized by the Board of Trustees.

RATES OF RETIREMENT

The table of these rates is included later in the report. These rates apply only to those individuals eligible to retire. All such persons not previously retired or deceased are assumed to retire at age 81.

RETIREMENT LIMITATIONS

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

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS

The rate for all ages is assumed to be 33%.

Back-DROP BENEFITS

Members eligible for Back-DROP benefits are assumed to elect the benefit form with the greatest present value.

DISABILITY RATES

40% of the disability rates used for the 27th valuation of the Railroad Retirement System for individuals with 10-19 years of service. The table of these rates is included later in the report.

RATES OF WITHDRAWAL

The rates of withdrawal are applied based upon completed years of service according to the following table:

Service Duration (\leq)	Factor	Service Duration (\leq)	Factor
1	0.060	6	0.040
2	0.060	7	0.030
3	0.050	8 - 17	0.020
4	0.050	18 - 22	0.010
5	0.040	>22	0.005

Note: Withdrawal rates for members eligible to retire are assumed to be zero.

VESTING ELECTING PERCENTAGE

60% of those vested elect deferred benefits in lieu of contribution refunds.

MARRIAGE AND OPTION SELECTION

70% of members are assumed to be married. Wives are assumed to be 3 years younger than their husbands. Fifty-five percent of married members who retire with less than 30 years of service are assumed to select a Joint and 100% Survivor Annuity form of optional benefits and forty-five percent are assumed to select the Maximum. All members with more than 30 years of service are assumed to select a Joint and 100% Survivor Annuity form of option benefits.

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:

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

ACTUARIAL TABLES AND RATES

Age	Pre 9/30/2013 Retirement Rates	Post 10/1/2013 Retirement Rates	Disability Rates
18	0.00	0.00	0.00048
19	0.00	0.00	0.00048
20	0.00	0.00	0.00048
21	0.00	0.00	0.00048
22	0.00	0.00	0.00048
23	0.00	0.00	0.00048
24	0.00	0.00	0.00048
25	0.00	0.00	0.00048
26	0.00	0.00	0.00048
27	0.00	0.00	0.00048
28	0.00	0.00	0.00048
29	0.00	0.00	0.00048
30	0.00	0.00	0.00048
31	0.00	0.00	0.00048
32	0.00	0.00	0.00048
33	0.00	0.00	0.00048
34	0.00	0.00	0.00048
35	0.00	0.00	0.00052
36	0.00	0.00	0.00052
37	0.00	0.00	0.00052
38	0.00	0.00	0.00056
39	0.00	0.00	0.00060
40	0.00	0.00	0.00064
41	0.00	0.00	0.00068
42	0.00	0.00	0.00072
43	0.00	0.00	0.00080
44	0.00	0.00	0.00084
45	0.00	0.00	0.00096
46	0.18	0.00	0.00104
47	0.18	0.00	0.00116
48	0.18	0.00	0.00132
49	0.20	0.00	0.00152
50	0.21	0.00	0.00172
51	0.20	0.00	0.00196
52	0.18	0.00	0.00228
53	0.15	0.00	0.00264
54	0.13	0.00	0.00308
55	0.11	0.11	0.00360
56	0.10	0.10	0.00424
57	0.10	0.10	0.00500
58	0.10	0.10	0.00592
59	0.10	0.10	0.00700
60	0.11	0.11	0.00956
61	0.12	0.12	0.01164
62	0.12	0.12	0.01288
63	0.12	0.12	0.01352
64	0.13	0.13	0.01028
65	0.13	0.13	0.00828
66	0.14	0.14	0.00208
67	0.15	0.15	0.00208
68	0.17	0.17	0.00208
69	0.19	0.19	0.00208
70	0.21	0.21	0.00208
71	0.25	0.25	0.00208
72	0.30	0.30	0.00208
73	0.34	0.34	0.00208
74	0.39	0.39	0.00208
75	0.42	0.42	0.00208

GLOSSARY

ACCRUED BENEFIT

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

ACTUARIAL ACCRUED LIABILITY

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

ACTUARIAL ASSUMPTIONS

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

ACTUARIAL COST METHOD

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

ACTUARIAL EQUIVALENCE

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

ACTUARIAL GAIN (LOSS)

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

ACTUARIAL PRESENT VALUE

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

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

ACTUARIAL VALUE OF ASSETS

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

ASSET GAIN (LOSS)

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

AMORTIZATION PAYMENT

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

CONTRIBUTION SHORTFALL (EXCESS)

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

DECREMENTS

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

EMPLOYER NORMAL COST

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

FUNDED RATIO

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

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 members expected final average compensation at retirement. For current retirees or terminated members this is equivalent to the actuarial present value of their accrued benefit.

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.