



**CURRAN ACTUARIAL**  
— CONSULTING, LTD. —

**Annual Funding Valuation**  
**June 30, 2023**

**Louisiana**  
**Clerks' of Court**  
**Retirement & Relief Fund**



November 2, 2023

Board of Trustees  
Clerks' of Court Retirement and Relief Fund  
10202 Jefferson Highway, Building A  
Baton Rouge, Louisiana 70809


Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Clerks' of Court Retirement and Relief Fund for the fiscal year ending June 30, 2023. Our report is based on the actuarial assumptions specified and relies on the data supplied by the system's administrators and accountants. This report was prepared at the request of the Board of Trustees of the Clerks' of Court Retirement and Relief 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 June 30, 2024, and to recommend the net direct employer contribution rate for Fiscal 2025. This report does not contain the information necessary for accounting disclosures as required by Governmental Accounting Standards Board (GASB) Statements 67 and 68; that information is included in a separate report. This report was prepared exclusively for the Clerks' of Court Retirement and Relief 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 of the assumptions on which this valuation is based are reasonable individually and in the aggregate. Both economic and demographic assumptions are based on our expectations for future experience for the fund. This report has been prepared in accordance with generally accepted actuarial principles and practices, and to the best of our knowledge and belief, fairly reflects the actuarial present values and costs stated herein. The undersigned actuary is a member of the American Academy of Actuaries, has met the qualification standards for the American Academy of Actuaries to render the actuarial opinions incorporated in this report, and is available to provide further information or answer any questions with respect to this valuation.

Sincerely,

CURRAN ACTUARIAL CONSULTING, LTD.

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

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## SUMMARY OF VALUATION RESULTS CLERKS' OF COURT RETIREMENT AND RELIEF FUND

		June 30, 2023	June 30, 2022
Census Summary:	Active Members	2,134	2,134
	Retired Members and Survivors	1,584	1,570
	Terminated Due a Deferred Benefit	67	67
	Terminated Due a Refund	937	842
Payroll:		\$ 104,780,822	\$ 99,956,242
Benefits in Payment:		\$ 48,122,247	\$ 47,283,505
Present Value of Future Benefits		\$ 1,128,892,794	\$ 1,098,357,310
Actuarial Accrued Liability (EAN):		\$ 942,365,952	\$ 919,516,517
Frozen Unfunded Actuarial Accrued Liability:		\$ 47,921,015	\$ 54,280,054
Funding Deposit Account Credit Balance		\$ 9,929,258	\$ 7,614,046
Actuarial Value of Assets (AVA):		\$ 767,642,054	\$ 745,089,408
Market Value of Assets (MVA):		\$ 743,647,402	\$ 693,234,084
Ratio of AVA to Actuarial Accrued Liability (EAN):		81.46%	81.03%
		Fiscal 2023	Fiscal 2022
Market Rate of Return:		8.8%	-9.8%
Actuarial Rate of Return:		4.4%	4.9%
		Fiscal 2024	Fiscal 2023
Employers' Normal Cost (Mid-year):		\$ 25,532,809	\$ 24,143,822
Amortization Cost (Mid-year):		\$ 9,604,814	\$ 9,604,814
Estimated Administrative Cost		\$ 992,875	\$ 886,875
Projected Ad Valorem Tax Contributions		\$ (12,732,664)	\$ (12,088,732)
Projected Revenue Sharing Funds		\$ (320,115)	\$ (319,870)
Net Direct Employer Actuarially Required Contributions:		\$ 23,077,719	\$ 22,226,909
Projected Payroll:		\$ 107,067,481	\$ 101,999,736
Statutory Employee Contribution Rate:		8.25%	8.25%
Board Adopted Net Direct Employer Contribution Rate:		23.00% †	22.25% †
Actuarially Required Net Direct Employer Contribution Rate:		21.55%	21.79%
		Fiscal 2025	Fiscal 2024
Minimum Recommended Net Direct Employer Cont. Rate:		21.50%	21.75%

† The Board of Trustees elected to adopt a Net Direct Employer Contribution Rate in excess of the Minimum Recommended Net Direct Employer Contribution Rate.

## GENERAL COMMENTS

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

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

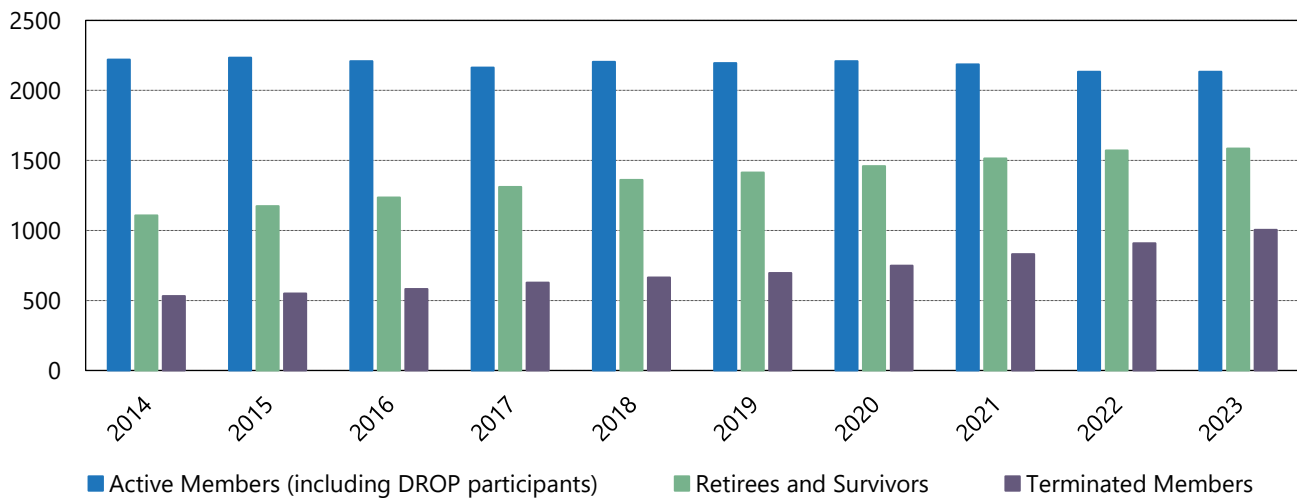
One area where an actuary has limited ability to develop accurate estimates is the projection of future investment earnings. The difficulties here are significant. First, the future is rarely like the past, and the data points available to develop stochastic trials are far fewer than the number required 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 with regard to 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 imperfect results but is nevertheless a reasonable approach to determine the contribution levels that will provide for the future benefits of plan participants.

## COMMENTS ON DATA

For the valuation, the system's administrative staff furnished census data derived from the system's master data processing file indicating each active covered employee's sex, date of birth, service credit, annual salary, and accumulated contributions. Information on retirees detailing retiree dates of birth, beneficiary dates of birth, retiree and beneficiary sex, optional form of benefit chosen, along with original and current benefit amounts, was provided. In addition, data was supplied on former employees who are vested or who have contributions remaining on deposit. As illustrated in Exhibit IX, there are 2,134 active members in the system of whom 861 members have vested retirement benefits including 112 participants in the Deferred Retirement Option Plan (DROP); 1,584 former members or their beneficiaries are receiving retirement benefits. An additional 1,004 terminated members have contributions remaining on deposit with the system; of this number 67 have vested rights for future retirement benefits. According to **Figure 1**, active membership has declined over the past few years, while retiree and survivor levels have increased.

**Figure 1. Membership Counts**



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

assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record.

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

In addition to the statistical information provided on the system's participants, the system's administrator furnished general information related to other aspects of the system's expenses, benefits and funding. Valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of Duplantier, Hrapmann, Hogan & Maher, L.L.P. As indicated in the system's audit report, the net market value of system assets was \$743,647,402 as of June 30, 2023. Net investment income for Fiscal 2023 measured on a market value basis was \$60,494,364. Contributions to the system for the fiscal year totaled \$45,196,409; benefits and expenses amounted to \$55,277,455.

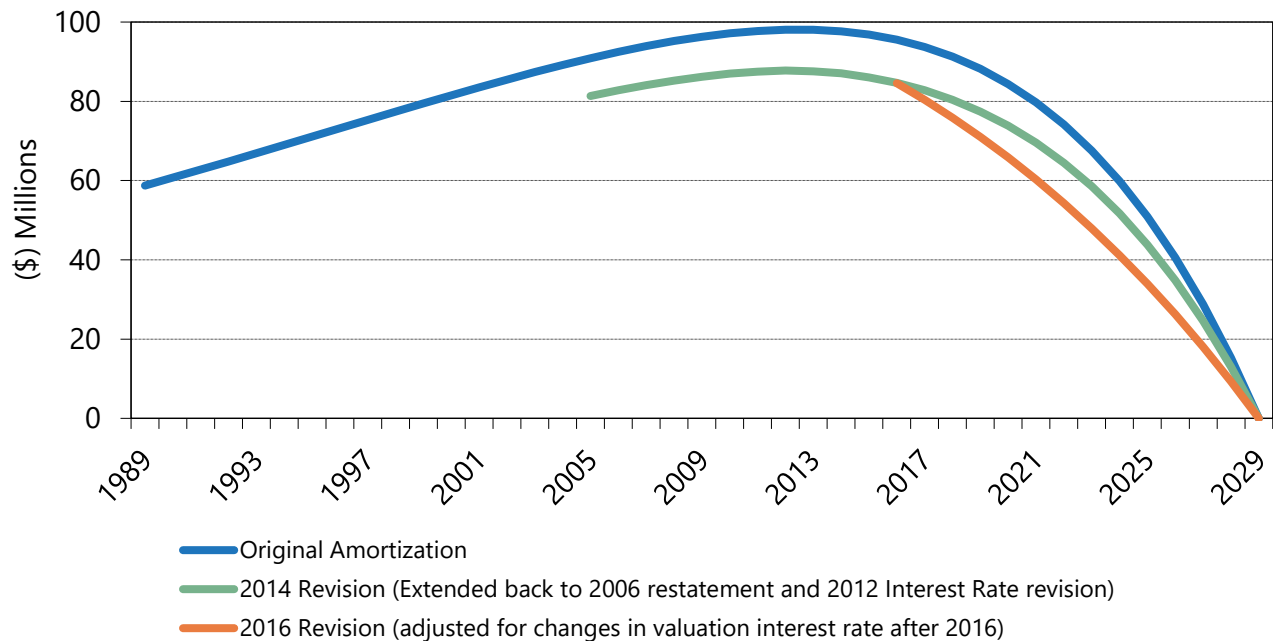
Notwithstanding our efforts to review both census and financial data for apparent errors, we must rely upon the system's administrative staff and accountants to provide accurate information. Our review of submitted information is limited to validation of reasonableness and consistency. Verification of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

## COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

This valuation is based on the Frozen Attained Age Normal actuarial cost method with the unfunded accrued liability frozen as of June 30, 1989. Under the provisions of Louisiana R.S. 11:103 the unfunded accrued liability, which was determined to be \$58,719,822 as of June 30, 1989, was frozen and amortized over forty years with payments increasing at 4.75% per year. The system's UAL followed this original schedule through 1998.

Since 1997, statutes relevant to the system have provided that the Board of Trustees could require employers to contribute at a rate higher than the minimum recommended net direct employer contribution rate under certain circumstances. For fiscal years 1999 through 2002, the Board did freeze the employer contribution rate. The additional payments of \$6,660,791 and the accrued interest thereon reduced the outstanding Unfunded Accrued Liability by \$9,536,353 through June 30, 2005 and shortened the remaining amortization period to June 30, 2026. However, in 2006 a statutory change re-amortized the then existing balance of the Frozen Unfunded Accrued Liability through June 30, 2029 in order to lower the required annual payment. With overall payroll typically growing at a level below the 4.75% increase in annual UAL payments, the Board of Trustees elected to request a legislative change. Effective July 1, 2016, the statute was changed to amortize the remaining balance using level annual payments through June 30, 2029. This significantly reduced the likelihood that UAL payments would grow as a percentage of payroll. (See **Figure 2**).

**Figure 2. Frozen Unfunded Actuarial Accrued Liability**

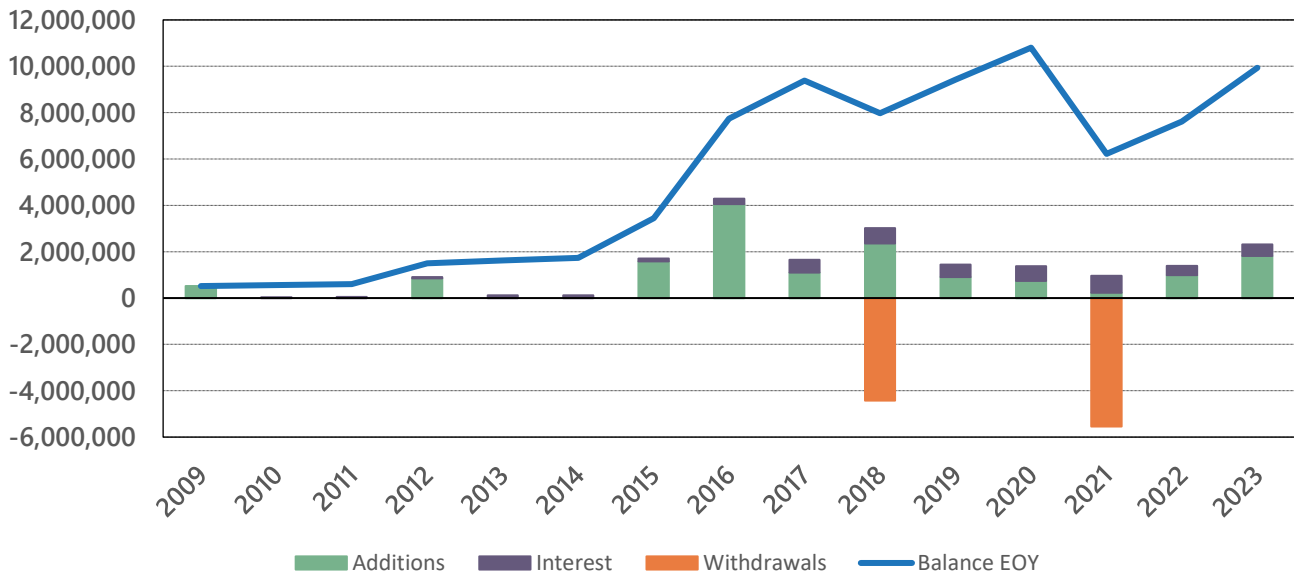


Effective with Act 347 of 1997, the Board of Trustees was given the right to maintain the net direct employer contribution rate in years where the rate decreases. Originally, such additional contributions were used solely to reduce the system’s frozen unfunded actuarial accrued liability without reamortization. Act 703 of 2001 allowed the Board to set the employer rate at a level up to 3% above the minimum actuarially recommended employer contribution rate. Act 631 of 2004 allowed the Board to set the employer contribution rate at any point between the previous year’s employer contribution rate and the current minimum actuarially recommended employer contribution rate in years where the rate declines.

The Board of Trustees held the employer contribution rate above the minimum level four times prior to Act 532 of the 2006 regular session, which authorized the Board of Trustees to reamortize the remaining balance over the remainder of the original 40 year period. Beginning in Fiscal 2009, any additional employer contributions collected due to the action of the Board of Trustees to set the employer contribution rate above the minimum recommended rate were credited to the Funding Deposit Account. Since 2009, the Board has elected to set the employer contribution rate at a level in excess of the minimum employer contribution rate on a number of occasions. In each such year, contribution gains were deposited into the Funding Deposit Account. The Funding Deposit Account may be used to pay off UAL, offset employer contributions in a particular year, lower the long-term normal cost payment required of employers, or prefund COLAs. Since its creation, the Funding Deposit Account has been solely used to prefund retiree COLAs. A history of the Funding Deposit Account that shows contributions, interest, and withdrawals is contained in **Figure 3**.



Figure 3. Funding Deposit Account History



For Fiscal 2023, the contribution rate was set at 22.25%, which exceeded the minimum recommended rate of 21.25%. The additional funds collected, amounting to \$1,816,492, were credited to the Funding Deposit Account. In addition, the account was credited with interest. The ending balance including the additional funds and interest credited at the valuation interest rate was \$9,929,258 as of June 30, 2023.

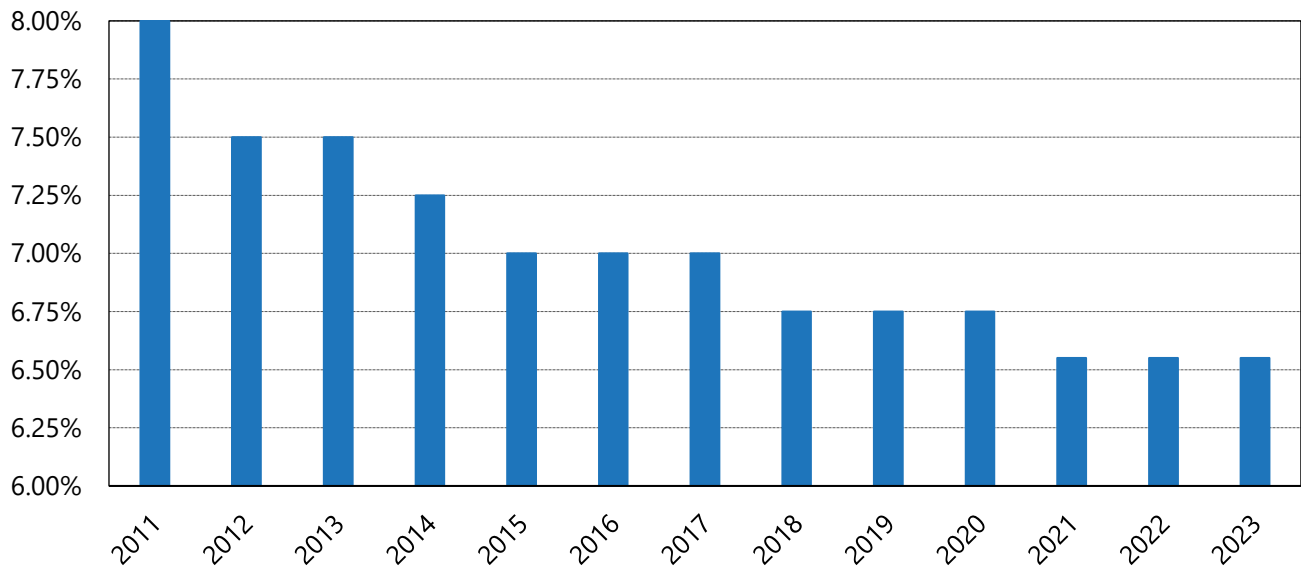
The cost method used for this valuation generally produces normal costs which are level as a percentage of payroll if assumptions are met and the composition of the active group with regard to age and service is stable. Overall costs may increase or decrease depending on payroll growth. Since payments on the Fund's frozen unfunded actuarial accrued liability are level dollar amounts, any increase in payroll will cause payments to decrease as a percentage of payroll; any contraction in payroll will cause payments to increase as a percentage of payroll. Under the Frozen Attained Age Normal Cost Method, actuarial gains and losses affect future normal costs and are spread over the system's average future working lifetime. 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 July 1, 2014 – June 30, 2019, unless otherwise specified in this report. In the June 30, 2021 actuarial valuation, the Board elected to opportunistically reduce the system's valuation interest rate from 6.75% to 6.55%. The actuary's review of the valuation interest rate prior to the 2022 and 2023 valuations found that the 6.55% return assumption remained within the reasonable range. These reviews were performed based on 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 using the firm's consultant 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 boundaries were set based on the 40<sup>th</sup> and 60<sup>th</sup> percentile expected return levels. Based upon these assumptions and the stochastic simulations, the 2023 review set a reasonable range of 6.36% to 7.57%.

The resulting percentiles suggest that there is approximately a 57.1% probability that the system will have long-term earnings at or above 6.55% and a 50% probability that the system will have long-term investment earnings at or above 6.97%.

A history of the valuation interest rate is shown in **Figure 4**. Beginning in 2011, the system’s Board of Trustees began the process of lowering the system’s valuation interest rate.

**Figure 4. Assumed Rate of Return**



Although the Board of trustees has authority to grant ad hoc Cost of Living Adjustments (COLAs) under limited circumstances, these COLAs have not been shown to have an historical pattern, the amounts of the COLAs have not been relative to a defined cost-of-living or inflation index, and there is no evidence to conclude that COLAs will be granted on a predictable basis in the future. The most recent two COLAs (granted in 2018 and 2021) were prefunded through the Funding Deposit Account. Furthermore, we believe that it is probable that the costs of future COLAs will be offset with funds from the Funding Deposit Account. Therefore, for purposes of determining the present value of benefits, these COLAs were deemed not to be substantively automatic, and the present value of benefits excludes COLAs not previously granted by the Board of Trustees.

The current year actuarial assumptions utilized for this valuation are outlined at the end of this report. With the exception of the valuation interest rate, which was last updated in the Fiscal 2021 report, all assumptions used are based on estimates of future long-term experience for the fund 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.

## RISK FACTORS

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

### Contribution Policy Risk

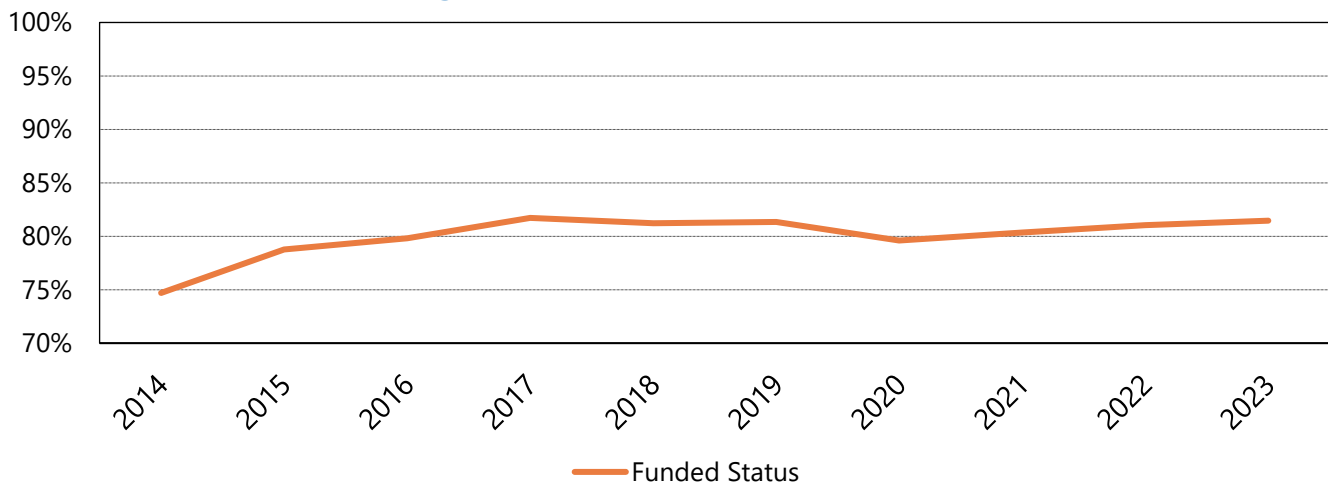
The first risk in this regard is the failure to contribute adequate funds to the plan. In some ways, this is the greatest risk since other risks can usually be addressed by adequate actuarial funding. Louisiana constitutional and statutory provisions greatly limit this risk by requiring that state and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

### Funded Status

Beyond identifying risk categories, it is possible to quantify some risk factors. One fairly well-known risk metric is the funded ratio of the plan. This rate is given as a ratio of plan assets to plan liabilities. However, the definition of each of these terms may vary. The two typical alternatives used for assets are the market and actuarial value of assets. There are several alternative measures of liability depending on the funding method employed. The Governmental Accounting Standards Board (GASB) specifies that, for financial reporting purposes, the funded ratio is determined by using the market value of assets divided by the entry age normal accrued liability. This value is given in the system's financial report. Alternatively, we have calculated the ratio of the actuarial value of assets to the entry age normal accrued liability based on the funding methodology used to fund the plan. The ratio is 81.46% for the plan as of June 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. In this regard, caution is warranted since market fluctuations in asset values and changes in plan assumptions can distort underlying trends in this value. **Figure 5** gives a history of this value for the last ten years. Note that the underlying trend is somewhat disguised since the system has significantly reduced the valuation interest rate over this period. Absent the reductions in the discount rate, the current ratio would be higher and would have shown a larger increase over time. The funded ratio has shown great resiliency given such meaningful changes in the valuation interest rate from 7.25% ten years ago to 6.55% today.

**Figure 5. Historical Funded Status**



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

### **Inflation Risk**

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All pension plans are subject to the uncertainty of asset performance, and inflation is a major component of asset performance. 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. Were the plan to attempt to offset inflation by providing COLAs (often in the form of permanent benefit increases), minimum contribution rates would typically increase unless provisions are made to prefund such adjustments. Since the Board has used the Funding Deposit Account to prefund COLAs over the last five 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 below traditional levels. 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**

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

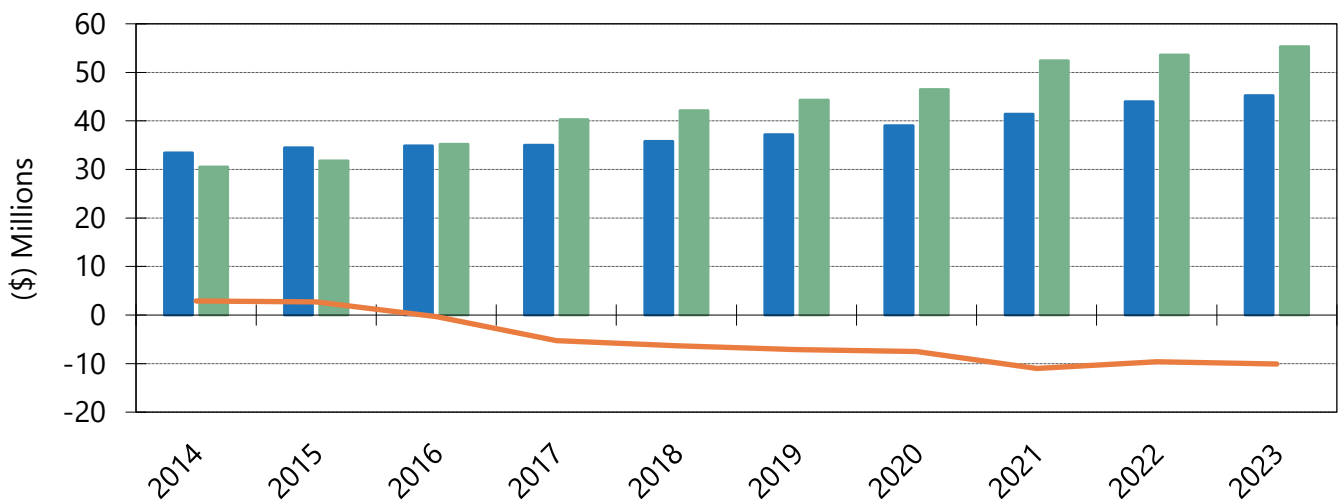
## Asset Return Volatility Risk

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

## Cash Flow Risk

The system is also exposed to risk related to cash flow. Where benefit payments exceed contributions to 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 6** compares the total contribution income to benefits and expenses to determine the noninvestment cash flow of the system over the last ten years. In the past eight years, annual benefit payments have exceeded annual contributions to the plan.

**Figure 6. Annual Net Non-Investment Cash Flows**



		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Contribution Income (\$Mil)	■	33.4	34.5	34.9	35.0	35.8	37.2	39.0	41.4	44.0	45.2
Benefits and Expenses (\$Mil)	■	30.5	31.8	35.2	40.3	42.1	44.3	46.5	52.4	53.6	55.3
Net Non-Inv. Cash Flow (\$Mil)	—	2.9	2.7	-0.3	-5.3	-6.3	-7.1	-7.5	-11.0	-9.6	-10.1

Future net noninvestment 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 noninvestment cash flows could continue in the near future.

### **Sensitivity to Investment Gains/Losses**

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Every retirement system is subject to investment return risk. When the rate of return on the actuarial value of assets does not equal the assumed rate of return, the system experiences investment gains or losses. These can cause contribution rate requirements to be more volatile. We have determined that based on the system's current assets and demographics, for each percentage the actuarial rate of return is under the assumed rate of return on the actuarial value of assets, there will be a corresponding increase in the actuarially required contribution as a percentage of projected payroll of 0.76% for the system.

### **Sensitivity to Changes in Valuation Interest Rate**

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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 12.16% of payroll. In the future, adjustments to the assumed rate 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**

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The ability of a system to recover from adverse asset or liability performance is partly 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 46%; ten years ago this ratio was 28%.

## Assumption Risk

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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

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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

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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 of the 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 10.19.

## Other Liability Risks

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In addition to asset risk, the plan is also subject to risks related to liabilities. These risks include such things as longevity risk (the risk that retirees will live longer than expected), termination risk (the risk that fewer than the anticipated number of members will terminate service prior to retirement), and other factors that may have an impact on the liability structure of the plan. In a general sense, the short-term effects of these risks on the cost structure of the plan are somewhat limited since changes in these factors tend to be gradual and follow long-term secular trends. Final average compensation plans are also vulnerable to unexpectedly large increases in salary for individual members near retirement. The effect of such events frequently relates to pay plan revisions where salaries catch up after a number of years of slow growth. Revisions of this type usually depend on general economic conditions and can result in liability losses. However, they are generally infrequent and are more of a short-term issue.

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

## CHANGES IN PLAN PROVISIONS

The Fund had no changes 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.

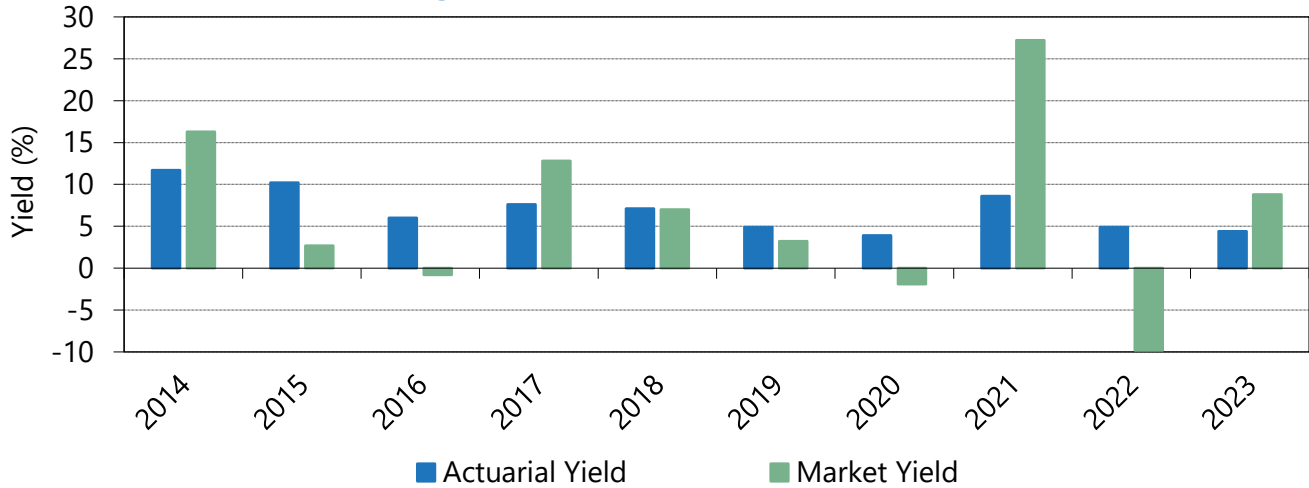


HCR 110 urges and requests that the state and statewide public retirement system boards of trustees uphold their fiduciary duty when making financial decisions and not allow Environmental, Social, and Governance policies to influence their investment decisions.

## ASSET EXPERIENCE

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

**Figure 7. Historical Asset Yields**



	Market Yield	Actuarial Yield
2014	16.3%	11.7%
2015	2.7%	10.2%
2016	-0.8%	6.0%
2017	12.8%	7.6%
2018	7.0%	7.1%
2019	3.2%	4.9%
2020	-1.9%	3.9%
2021	27.2%	8.6%
2022	-9.8%	4.9%
2023	8.8%	4.4%

Geometric Average Market Rates of Return		
5-year average	(Fiscal 2019 – 2023)	4.8%
10-year average	(Fiscal 2014 – 2023)	6.1%
15-year average	(Fiscal 2009 – 2023)	5.5%
20-year average	(Fiscal 2004 – 2023)	6.0%
25-year average	(Fiscal 1999 – 2023)	5.3%
30-year average	(Fiscal 1994 – 2023)	6.6%

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. The rate of return is calculated on assets invested in the system's portfolio. 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 \$7,085,609 of dividends, interest and other recurring income. In addition, the system's net income was increased by realized and unrealized capital gains of \$56,960,743. Investment expenses reduced income by \$3,551,988.

The Fiscal 2023 actuarial rate of return is presented for comparison to the assumed long-term rate of return of 6.55%. 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 6.55% assumption will reduce future costs; yields below 6.55% will increase future costs. For Fiscal 2023, the system experienced net actuarial investment losses of \$15,844,746 below the actuarial assumed earnings rate of 6.55% in effect for Fiscal 2023. This shortfall in earnings produced an actuarial loss, which increased the normal cost accrual rate by 1.5661%.

## **DEMOGRAPHICS AND LIABILITY EXPERIENCE**

A reconciliation of the census for the system is given in Exhibit IX. The average active member is 47 years old with 11.68 years of service and an annual salary of \$49,101. The system's active membership decreased during the fiscal year by 0 members. The plan has experienced a decrease in the active plan population of 71 members over the last five years.

The average regular retiree is 71 years old with a monthly benefit of \$2,589. The average age at retirement for regular retirees is 60. The number of retirees and beneficiaries receiving benefits from the system increased by 14 during the fiscal year. Over the last five years, the number of retirees has increased by 224. During this same period, annual benefits in payment increased by \$10,873,741.

Plan liability experience for Fiscal 2023 was slightly positive. Fewer members retiring and entering DROP during the past year have reduced costs. Withdrawals and retiree deaths in excess of projected levels also decreased costs. Salary increases above expected levels partially offset these savings. In aggregate, plan liability gains decreased the normal cost accrual rate by 0.3111%.

## FUNDING ANALYSIS AND RECOMMENDATIONS

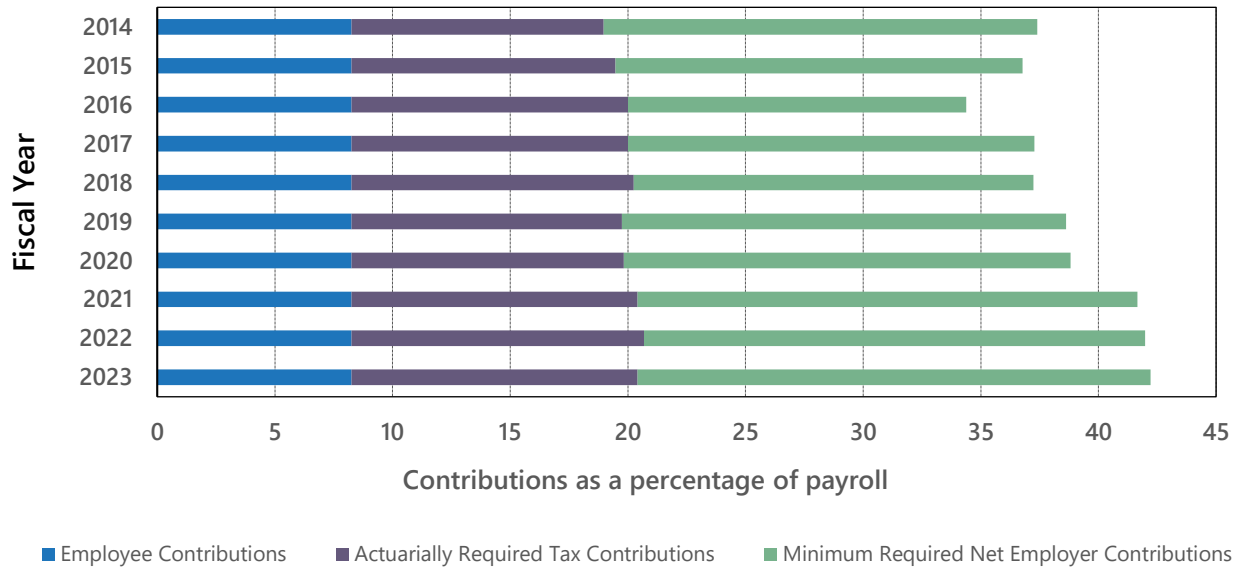
Actuarial funding of a retirement system is a process whereby funds are accumulated over the working lifetimes of employees in such a manner as to have sufficient assets available at retirement to pay for the lifetime benefits accrued by each member of the system. The required contributions are determined by an actuarial valuation based on rates of mortality, termination, disability, and retirement, as well as investment return and other statistical measures specific to the particular group. Under the Frozen Attained Age Normal Actuarial Method, the system's normal cost incorporates the cost of additional annual accruals, changes in salary, changes in assumptions, and gains and losses. This funding method does not produce new unfunded accrued liability each year. Instead, the unfunded accrued liability represents a measure of the system's level of funding at the time the State of Louisiana moved to actuarial funding. This Frozen Unfunded Accrued Liability was created in 1989 and is set to be paid off in 2029. Each year a determination is made of the two primary cost components, and the actuarially required contributions are based on the sum of these two components plus administrative expenses. These two components are the normal cost and the scheduled amortization payment on the system's frozen unfunded actuarial accrued liability. Each year the Frozen UAL grows with interest and is reduced by payments. Under the funding method used for the plan, changes in plan experience, benefits, or assumptions do not affect the frozen unfunded actuarial accrued liability. These items increase or decrease future normal costs.

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

The derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The interest adjusted employer normal cost for Fiscal 2024 is \$25,532,809. The interest adjusted amortization payment on the fund's frozen unfunded actuarial accrued liability is \$9,604,814. This annual payment currently represents a 8.97% of projected payroll cost to employers. Upon its final payment for Fiscal 2029, the employer contribution rate will no longer incorporate this added cost. The gross employer actuarially required contribution is determined by adding estimated administrative expenses to these values. As given on line 16 of Exhibit I the gross employer actuarially required contribution for Fiscal 2024 is \$36,130,498. 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 \$23,077,719 or 21.55% 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 8** shows the breakdown of annual costs as a percentage of payroll over the past ten years.

**Figure 8. 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 in the prior fiscal year will increase required future contributions. However, to the extent that COLA's are funded by withdrawals from the Funding Deposit Account, there is no increase in future normal cost since an amount equal to the present value of the additional benefits is released from the Funding Deposit Account to offset the increase in liability. 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	24.5044%
Factors Increasing the Normal Cost Accrual Rate:	
Asset Experience Loss	1.5661%
Factors Decreasing the Normal Cost Accrual Rate:	
New Members	1.0810%
Plan Liability Experience Gain	0.3111%
Employer's Normal Cost Accrual Rate – Fiscal 2024	24.6786%

In addition to the above factors, payroll growth affects plan costs to the extent that payments on the system's unfunded liability are on a schedule that varies from actual trends in payroll growth or decline. If payroll changes at rates not consistent with the amortization schedule the result will be costs that change as a percentage of payroll. For Fiscal 2024, the net effect of the change in payroll on amortization costs was to decrease such costs by 0.45% of payroll. 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 0.02% of payroll in Fiscal 2024.

Although the minimum recommended net direct employer contribution rate for Fiscal 2023 was 21.25%, the Board of Trustees voted to set the employer contribution rate for Fiscal 2023 at 22.25%. During Fiscal 2023, the system experienced a contribution gain of \$1,816,492. In accordance with R. S. 11:107.1, these additional contributions were credited to the system's Funding Deposit Account as of June 30, 2023. For Fiscal 2024 the minimum recommended net direct employer contribution rate set by the Fiscal 2022 valuation is 21.75%; however, the board-adopted employer contribution rate set previously for Fiscal 2024 is 23.00% of payroll. Since the board adopted employer contribution rate for Fiscal 2024 is greater than the minimum recommended net direct employer contribution rate, should the system experience a contribution gain any additional contributions will be credited to the Funding Deposit Account. Since the employers' net direct actuarially required contribution rate for Fiscal 2024 of 21.55% is less than the board-adopted employer contribution rate, we do expect the fund to generate a contribution gain during Fiscal 2024 unless payroll during Fiscal 2024 is less than projected payroll or taxes collected are less than projected levels by a sufficient amount.

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 21.50% 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 at any level between the minimum recommended employer contribution rate of 21.50% and 24.50%. If the Board sets the net direct employer contribution rate above the minimum rate, any excess funds collected will be deposited in the Funding Deposit Account. Funds in this account can be used to reduce either future required contributions in a particular year, the normal cost accrual rate of the fund, or to reduce the fund's frozen unfunded accrued liability. In addition, the Board of Trustees may grant a cost of living adjustment to retirees using funds in the Funding Deposit Account, subject to certain limits.

## **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 Clerks' of Court Retirement and Relief 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 found that a portfolio composed of a combination of asset classes (including risky assets such as equities, fixed income assets, real estate

investments, and other alternative investments) earns a larger return than risk-free or low-default-risk fixed income assets provide. The larger expected return is often referred to as a risk premium as investors generally require a larger return to accept the added risk. It is precisely this exchange of return for added risk that is at the heart of the low-default-risk obligation measure (LDRM) defined within Actuarial Standard of Practice #4. Were the system to simply invest in low-default-risk fixed income securities, the system would be expected to earn less from investment markets but would also expect less portfolio return volatility and less chance of investment default. Since investment income directly offsets the contributions owed by the system's employers, building a portfolio that includes risky assets can be a strategy to lower the long-term requirement for employer contributions, but in doing so, employers accept certain investment risks.

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

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

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

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

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

In the following section, we will disclose an LDRM-based actuarial accrued liability, which can be compared to the entry age normal actuarial accrued liability, and an LDRM-based funded ratio, which can be compared to the system's funded ratio determined based on the entry age normal actuarial accrued liability. Our calculations are based on the effective single discount rate derived from the U.S. Treasury HQM Corporate Bond Yield Curve of 5.19%. All other assumptions match those used to determine funding liabilities.

LDROM Comparison	Funding Valuation	LDROM Valuation
Discount Rate	6.55%	5.19%
Accrued Liability for Active Members	\$ 409,884,148	\$ 490,392,347
Accrued Liability for Terminated Members	\$ 19,634,435	\$ 22,918,897
Accrued Liability for Retired Members	\$ 512,847,369	\$ 570,902,236
Total Actuarial Accrued Liability (AAL)	\$ 942,365,952	\$ 1,084,213,480
Funded Ratio (AVA/AAL)	81.46%	70.80%

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

## COST OF LIVING INCREASES

During Fiscal 2023, the actual cost-of-living (as measured by the US Department of Labor CPI-U) increased by 3.0%. The actual cost-of-living since the most recent COLA (effective January 1, 2021) as measured by CPI-U from December 2020 through June 2023 is 18.5%.

RELEVANT COLA STATUTES	
Statute	Description
R.S. 11:1549	Allows the Board to grant cost-of-living increases of 2.5% of each retiree's current benefit subject to a limit of \$40 per month. Applies to those retired for at least one year. Only authorized where there has been a CPI-U increase of at least 3% since the fiscal year in which the last COLA was granted.
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. May only be granted if the system's earnings exceed those which would be realized based on the valuation interest rate as applied to the actuarial value of assets in sufficient amount to offset the present value of the increase or by funding the lifetime cost of the increase through a withdrawal from the Funding Deposit Account balance.
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.

R.S. 11:243 sets forth the funding criteria necessary to grant cost of living adjustments to retirees, beneficiaries, and survivors of retired members. The criteria for the fund to qualify as eligible to grant any such increase is as follows: a funded ratio of at least 70% if the system has not granted a benefit increase to retirees, survivors, or beneficiaries in any of the three most recent fiscal years; a funded ratio of at least 80% if the system has not granted such an increase in any of the two most recent fiscal years; or a funded ratio of at least 90% if the system has not granted such an increase in the most recent fiscal year. The funded ratio at any fiscal year end is the ratio of the actuarial value of assets to the actuarial accrued liability under the funding method prescribed by the legislative auditor (currently the Projected Unit Credit Method for this system.)

The fund qualifies under the requirements of R.S. 11:243 since the fund’s funded ratio for COLA purposes is 82.13% (i.e. the actuarial value of assets divided by the pension benefit obligation) and the fund has not granted a benefit increase to retirees, survivors, and beneficiaries of the fund within the prior two fiscal years. Since the fund experienced net actuarial investment losses of \$15,844,746, the Board may only authorize the payment of a COLA out of the Funding Deposit Account. Further, since the CPI-U has grown by more than 3% since the end of the fiscal year of the last COLA, the Board is authorized to provide a COLA based upon the provisions of R.S. 11:1549 during Fiscal 2024. Therefore, we have quoted the estimated actuarial cost of each possible form of COLA.

The estimated impact of granting the COLA’s described above are as follows:

	Increase in Annual Benefits	Increase in Present Value	Equivalent Increase in Normal Cost Accrual Rate
R.S. 11:1549	\$ 660,989	\$ 6,200,869	0.61%
R.S. 11:246 2% of base to over age 65	\$ 670,012	\$ 5,898,547	0.58%
R.S. 11:241 - Up to \$1 × the sum of years of service plus the years retired	\$ 661,289	\$ 5,841,052	0.58%

Note: Should any of the above COLA’s be granted there will be no increase in the system’s normal cost accrual rate since funds equivalent to the present value of additional benefits will be withdrawn from the Funding Deposit Account. The Equivalent Increase in Normal Cost Accrual Rate is provided for informational purposes only.



The following is a history of COLAs provided since January 1, 2000:

<b>COLA HISTORY SINCE 2000</b>	
January 1, 2021	COLA paying \$1 times the number of years of credited service at retirement plus the number of years since retirement; for those retired at least 1 year.
January 1, 2018	COLA paying \$1 times the number of years of credited service at retirement plus the number of years since retirement; for those retired at least 1 year.
January 1, 2014	COLA paying \$1 times the number of years of credited service at retirement plus the number of years since retirement; for those retired at least 1 year.
January 1, 2008	2% of benefit in payment on October 1, 1997 or the date the benefit originally received if commenced subsequently; for retirees and survivors over age 65
January 1, 2007	2.5% of current benefit not to exceed \$40 per month; plus, 2% of benefit in payment on October 1, 1997 or the date the benefit originally received if commenced subsequently; for retirees and survivors over age 65
January 1, 2003	COLA paying \$1 times the number of years of credited service at retirement plus the number of years since retirement; for those retired at least 1 year.
April 1, 2000	2% of benefit in payment on October 1, 1997 or the date the benefit originally received if commenced subsequently; for retirees and survivors over age 65

## EXHIBIT I

### ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits.....	\$ 1,128,892,794
2. Frozen Unfunded Actuarial Accrued Liability.....	\$ 47,921,015
3. Actuarial Value of Assets .....	\$ 767,642,054
4. Funding Deposit Account Credit Balance.....	\$ 9,929,258
5. Present Value of Future Employee Contributions.....	\$ 73,585,375
6. Present Value of Future Employer Normal Costs (1 - 2 - (3 - 4) - 5).....	\$ 249,673,608
7. Present Value of Future Salaries .....	\$ 1,011,701,317
8. Employer Normal Cost Accrual Rate (6 ÷ 7).....	24.678589%
9. Projected Fiscal 2024 Salary for Current Membership .....	\$ 100,230,881
10. Employer Normal Cost as of July 1, 2023 (8 × 9).....	\$ 24,735,567
11. Employer Normal Cost Interest Adjusted for Mid-year Payment .....	\$ 25,532,809
12. Amortization Payment on Remaining Frozen Unfunded Accrued Liability with Level Annual Payments.....	\$ 9,304,911
13. Amortization Payment Interest Adjusted for Mid-year Payment.....	\$ 9,604,814
14. TOTAL Employer Normal Cost and Amortization Payment (11 + 13).....	\$ 35,137,623
15. Estimated Administrative Cost for Fiscal 2024 .....	\$ 992,875
16. GROSS Employer Actuarially Required Contribution for Fiscal 2024 (14 + 15).....	\$ 36,130,498
17. Projected Ad Valorem Tax Contributions for Fiscal 2024.....	\$ (\$12,732,664)
18. Projected Revenue Sharing Funds for Fiscal 2024 .....	\$ (\$320,115)
19. Net Direct Employer Actuarially Required Contribution for Fiscal 2024 (16 + 17 + 18).....	\$ 23,077,719
20. Projected Payroll for Fiscal 2024.....	\$ 107,067,481
21. Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2024 (19 ÷ 20).....	21.55%
22. Board Adopted Employer Contribution Rate for Fiscal 2024.....	23.00%
23. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2025 (21, Rounded to nearest 0.25%).....	21.50%

## EXHIBIT II PRESENT VALUE OF FUTURE BENEFITS

### PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits.....	\$ 546,900,199
Survivor Benefits.....	5,619,888
Disability Benefits.....	8,560,077
Vested Termination Benefits.....	26,800,880
Refunds of Contributions .....	8,529,946
 TOTAL Present Value of Future Benefits for Active Members.....	 \$ 596,410,990

### PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement .....	\$ 14,333,851
Terminated Members with Reciprocal Due Benefits at Retirement .....	0
Terminated Members Due a Refund .....	5,300,584
 TOTAL Present Value of Future Benefits for Terminated Members .....	 \$ 19,634,435

### PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees	
Maximum.....	\$ 233,537,311
Option 1 .....	0
Option 2 .....	148,220,624
Option 3 .....	59,246,669
Option 4 .....	14,404,994
Option 5 .....	3,062,782
 TOTAL Regular Retirees .....	 \$ 458,472,380
 Disability Retirees.....	 1,753,940
 Survivors & Widows .....	 26,560,146
 DROP Annuities.....	 45,011
 DROP Account Balances Payable to Retirees .....	 26,015,892
 TOTAL Present Value of Future Benefits for Retirees & Survivors.....	 \$ 512,847,369
 TOTAL Present Value of Future Benefits .....	 \$ 1,128,892,794

## EXHIBIT III – SCHEDULE A MARKET VALUE OF ASSETS

### CURRENT ASSETS:

Cash in Banks .....	\$ 1,154,829
Contributions and Taxes Receivable .....	2,238,688
Accrued Interest and Dividends.....	387,462
Investments Receivable.....	650,532
Other Income.....	51,645

TOTAL CURRENT ASSETS..... \$ 4,483,156

Property Plant & Equipment..... \$ 711,299

### INVESTMENTS:

Equities .....	\$ 427,437,984
Alternative Investments .....	58,942
Fixed Income .....	160,255,091
Real Estate .....	107,072,852
Cash Equivalents.....	10,757,908
DROP Account Assets.....	35,125,174

TOTAL INVESTMENTS..... \$ 740,707,951

TOTAL ASSETS..... \$ 745,902,406

### CURRENT LIABILITIES:

Accounts Payable .....	\$ 1,295,368
Investments Payable.....	959,636

TOTAL CURRENT LIABILITIES..... \$ 2,255,004

MARKET VALUE OF ASSETS..... \$ 743,647,402

## EXHIBIT III – SCHEDULE B ACTUARIAL VALUE OF ASSETS

Excess (Shortfall) of invested income for current and previous 4 years:

Fiscal year 2023 .....	\$ 15,412,450
Fiscal year 2022 .....	(126,269,439)
Fiscal year 2021 .....	126,233,412
Fiscal year 2020 .....	(55,281,570)
Fiscal year 2019 .....	<u>(22,335,962)</u>
Total for five years .....	\$ (62,241,109)

Deferral of excess (shortfall) of invested income:

Fiscal year 2023 (80%).....	\$ 12,329,960
Fiscal year 2022 (60%).....	(75,761,663)
Fiscal year 2021 (40%).....	50,493,365
Fiscal year 2020 (20%).....	(11,056,314)
Fiscal year 2019 ( 0%) .....	<u>0</u>
Total deferred for year .....	\$ (23,994,652)

Market value of plan net assets, end of year..... \$ 743,647,402

Preliminary actuarial value of plan assets, end of year..... \$ 767,642,054

Actuarial value of assets corridor

85% of market value, end of year.....	\$ 632,100,292
115% of market value, end of year .....	\$ 855,194,512

Final actuarial value of plan net assets, end of year..... \$ 767,642,054

**EXHIBIT IV  
PRESENT VALUE OF FUTURE CONTRIBUTIONS**

Employee Contributions to the Annuity Savings Fund.....	\$	73,585,375
Employer Normal Contributions to the Pension Accumulation Fund.....		249,673,608
Employer Amortization Payments to the Pension Accumulation Fund .....		47,921,015
Funding Deposit Account Credit Balance .....		(9,929,258)
<b>TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS.....</b>	<b>\$</b>	<b>361,250,740</b>

**EXHIBIT V – SCHEDULE A  
CHANGE IN FROZEN UNFUNDED ACTUARIAL ACCRUED LIABILITY**

Prior Year Frozen Unfunded Accrued Liability .....	\$	54,280,054
Interest on Frozen Unfunded Accrued Liability .....	\$	3,555,344
<b>TOTAL Increase in Unfunded Accrued Liability.....</b>	<b>\$</b>	<b>3,555,344</b>
Amortization Payment on Unfunded Accrued Liability .....	\$	9,304,911
Interest on Amortization Payment .....		609,472
Withdrawals From Funding Deposit Account .....		0
<b>TOTAL Decrease in Unfunded Accrued Liability.....</b>	<b>\$</b>	<b>9,914,383</b>
<b>NET Change in Frozen Unfunded Accrued Liability .....</b>	<b>\$</b>	<b>(6,359,039)</b>
<b>CURRENT YEAR FROZEN UNFUNDED ACCRUED LIABILITY.....</b>	<b>\$</b>	<b>47,921,015</b>

**EXHIBIT V – SCHEDULE B  
RECONCILIATION OF CONTRIBUTIONS**

Interest Adjusted Prior Year Employer Normal Cost .....	\$	24,921,992
Interest Adjusted Amortization Payment on Remaining UAL.....		9,914,383
Interest Adjusted Administrative Expenses.....		826,326
<b>TOTAL Interest Adjusted Actuarially Required Contributions.....</b>	<b>\$</b>	<b>35,662,701</b>
Interest Adjusted Direct Employer Contributions.....	\$	24,416,049
Interest Adjusted Ad Valorem Taxes and Revenue Sharing.....		13,063,144
<b>TOTAL Interest Adjusted Employer Contributions.....</b>	<b>\$</b>	<b>37,479,193</b>
<b>CONTRIBUTION SHORTFALL (SURPLUS).....</b>	<b>\$</b>	<b>(1,816,492)</b>

## EXHIBIT VI ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (June 30, 2022) .....	\$	745,089,408
INCOME:		
Member Contributions .....	\$	8,020,266
Employer Contributions .....		23,653,676
Tax Revenue .....		12,655,258
Transfers from Other Systems .....		763,639
Other Income .....		103,570
Total Contributions.....	\$	45,196,409
Net Appreciation of Investments .....	\$	56,854,413
Interest & Dividends .....		7,085,609
Class Action Settlement .....		106,330
Investment Expense .....		(3,551,988)
Net Investment Income .....	\$	60,494,364
TOTAL Income.....	\$	105,690,773
EXPENSES:		
Retirement Benefits.....	\$	47,763,567
DROP Disbursements .....		4,930,354
Refunds of Contributions.....		1,227,996
Transfers to Other Systems .....		555,013
Administrative Expenses.....		800,525
TOTAL Expenses.....	\$	55,277,455
Net Market Value Income for Fiscal 2023 (Income – Expenses) .....	\$	50,413,318
Unadjusted Fund Balance as of June 30, 2023 (Fund Balance Previous Year + Net Income) .....	\$	795,502,726
Adjustment for Actuarial Smoothing.....	\$	(27,860,672)
Actuarial Value of Assets: (June 30, 2023) .....	\$	767,642,054

## EXHIBIT VII FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of June 30, 2022.....	\$ 7,614,046
Interest on Opening Balance at 6.55%.....	498,720
Contributions to the Funding Deposit Account.....	1,816,492
Withdrawals from the Funding Deposit Account .....	0
Funding Deposit Account Balance as of June 30, 2023.....	\$ 9,929,258

## EXHIBIT VIII – SCHEDULE A PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees.....	\$ 402,206,795
Present Value of Benefits Payable to Terminated Employees.....	19,634,435
Present Value of Benefits Payable to Current Retirees and Beneficiaries.....	512,847,369
TOTAL PENSION BENEFIT OBLIGATION.....	\$ 934,688,599
NET ACTUARIAL VALUE OF ASSETS.....	\$ 767,642,054
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.....	82.13%

## EXHIBIT VIII – SCHEDULE B ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees .....	\$ 409,884,148
Accrued Liability for Terminated Employees .....	19,634,435
Accrued Liability for Current Retirees and Beneficiaries .....	512,847,369
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY .....	\$ 942,365,952
ACTUARIAL VALUE OF ASSETS .....	\$ 767,642,054
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability .....	81.46%



## EXHIBIT IX CENSUS DATA

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2022	2,011	909	123	1,570	4,613
Additions to Census					
Initial membership	220	25			245
Omitted in error last year					
Death of another member				8	8
Adjustment for multiple records					
Change in Status during Year					
Actives terminating service	(117)	117			
Actives who retired	(26)			26	
Actives entering DROP	(32)		32		
Term. members rehired	9	(9)			
Term. members who retire		(5)		5	
Retirees who are rehired					
Refunded who are rehired	1	11			12
DROP participants retiring			(28)	28	
DROP returned to work	14		(14)		
Eliminated from Census					
Refund of contributions	(57)	(44)			(101)
Deaths	(1)		(1)	(52)	(54)
Included in error last year					
Adjustment for multiple records				(1)	(1)
Number of members as of June 30, 2023	2,022	1,004	112	1,584	4,722

### Actives Census by Age:

Age		Number Male	Number Female	Total Number	Average Salary	Total Salary
16	- 20	0	5	5	30,041	150,204
21	- 25	20	83	103	31,910	3,286,747
26	- 30	23	141	164	34,820	5,710,486
31	- 35	30	183	213	39,568	8,428,083
36	- 40	29	228	257	43,234	11,111,093
41	- 45	32	219	251	48,434	12,156,849
46	- 50	32	196	228	53,646	12,231,219
51	- 55	39	217	256	54,190	13,872,550
56	- 60	46	236	282	58,427	16,476,335
61	- 65	32	186	218	54,821	11,951,023
66	- 70	23	67	90	60,698	5,462,844
71	- 75	12	35	47	54,616	2,566,955
76	- 80	13	6	19	70,013	1,330,253
81	- 85	0	1	1	46,181	46,181
<b>Total</b>		<b>314</b>	<b>331</b>	<b>1,803</b>	<b>2,134</b>	<b>49,101</b>

\* The active census includes 861 actives with vested benefits, including 78 active former DROP participants and 112 current DROP participants.

### DROP Participants by Age:

Age		Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51	- 55	0	4	4	69,844	279,377
56	- 60	6	38	44	52,201	2,296,823
61	- 65	8	31	39	41,668	1,625,069
66	- 70	7	11	18	41,259	742,662
71	- 75	3	3	6	41,878	251,270
76	- 80	1	0	1	23,258	23,258
<b>Total</b>		<b>25</b>	<b>87</b>	<b>112</b>	<b>46,593</b>	<b>5,218,459</b>

### Terminated Members Due a Deferred Retirement Benefit:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	0	1	1	10,143	10,143
36 - 40	0	8	8	18,634	149,071
41 - 45	2	7	9	22,098	198,886
46 - 50	1	16	17	21,289	361,918
51 - 55	5	27	32	25,201	806,419
<b>Total</b>	<b>8</b>	<b>59</b>	<b>67</b>	<b>22,783</b>	<b>1,526,437</b>

### Terminated Members Due a Refund of Contributions:

Contributions Ranging		Number	Total Contributions
From	To		
0	- 99	61	2,439
100	- 499	140	41,208
500	- 999	116	86,473
1,000	- 1,999	113	163,265
2,000	- 4,999	182	609,703
5,000	- 9,999	147	1,093,744
10,000	- 19,999	122	1,699,839
20,000	99,999	56	1,602,015
<b>Total</b>		<b>937</b>	<b>5,298,686</b>

Excludes deceased members whose beneficiaries are due a refund of \$1,898.

### Regular Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51 - 55	1	1	2	23,127	46,253
56 - 60	17	114	131	34,852	4,565,573
61 - 65	30	245	275	36,617	10,069,608
66 - 70	33	293	326	34,825	11,353,085
71 - 75	38	243	281	28,263	7,941,774
76 - 80	42	156	198	26,243	5,196,037
81 - 85	18	103	121	26,872	3,251,550
86 - 90	9	53	62	22,811	1,414,304
91 - 95	6	21	27	17,330	467,906
96 - 100	0	6	6	16,368	98,208
<b>Total</b>	<b>194</b>	<b>1,235</b>	<b>1,429</b>	<b>31,074</b>	<b>44,404,298</b>

### Disability Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51 - 55	0	3	3	15,590	46,770
56 - 60	1	1	1	19,457	19,457
61 - 65	0	2	2	11,494	22,988
66 - 70	0	3	3	11,904	35,713
71 - 75	0	1	1	12,347	12,347
76 - 80	0	1	1	8,419	8,419
81 - 85	0	2	2	11,957	23,913
<b>Total</b>	<b>1</b>	<b>12</b>	<b>13</b>	<b>13,047</b>	<b>169,607</b>

### Survivors:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 20	1	1	2	1,330	2,660
26 - 30	1	1	2	33,551	67,101
31 - 35	1	0	1	4,657	4,657
36 - 40	0	1	1	18,951	18,951
41 - 45	0	1	1	10,842	10,842
46 - 50	1	0	1	6,941	6,941
51 - 55	3	2	5	16,347	81,737
56 - 60	1	4	5	17,224	86,121
61 - 65	6	4	10	23,682	236,819
66 - 70	10	6	16	24,348	389,570
71 - 75	12	7	19	30,377	577,167
76 - 80	9	4	13	28,461	369,994
81 - 85	8	19	27	30,503	823,593
86 - 90	5	14	19	19,771	375,646
91 - 95	5	12	17	25,998	441,969
96 - 100	1	1	2	19,795	39,590
101 - 105	0	1	1	14,984	14,984
<b>Total</b>	<b>64</b>	<b>78</b>	<b>142</b>	<b>24,988</b>	<b>3,548,342</b>

### 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	5	-	-	-	-	-	-	-	5
21 - 25	41	57	5	-	-	-	-	-	103
26 - 30	37	86	40	1	-	-	-	-	164
31 - 35	26	72	70	40	5	-	-	-	213
36 - 40	28	80	56	48	42	3	-	-	257
41 - 45	18	54	48	37	54	35	5	-	251
46 - 50	17	32	49	23	31	40	32	4	228
51 - 55	18	34	39	24	46	40	37	18	256
56 - 60	13	36	45	45	35	38	28	42	282
61 - 65	10	36	27	32	37	26	23	27	218
66 - 70	3	9	18	18	16	9	5	12	90
71 & Over	8	4	10	14	9	7	3	12	67
<b>Total</b>	<b>224</b>	<b>500</b>	<b>407</b>	<b>282</b>	<b>275</b>	<b>198</b>	<b>133</b>	<b>115</b>	<b>2,134</b>

### 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	30,041	-	-	-	-	-	-	-	30,041
21 - 25	30,489	32,605	35,641	-	-	-	-	-	31,910
26 - 30	30,499	34,206	40,154	34,200	-	-	-	-	34,820
31 - 35	33,711	36,979	40,360	45,298	50,403	-	-	-	39,568
36 - 40	31,707	39,650	42,783	48,384	51,641	54,711	-	-	43,234
41 - 45	33,281	37,959	42,665	56,722	56,383	57,158	63,235	-	48,434
46 - 50	32,678	38,320	49,658	47,872	59,755	65,210	66,880	78,542	53,646
51 - 55	37,562	41,693	45,077	41,700	59,771	64,253	64,901	72,175	54,190
56 - 60	50,109	42,450	47,451	57,926	50,703	59,046	80,117	78,409	58,427
61 - 65	32,841	42,537	48,491	52,958	56,664	55,768	64,643	76,076	54,821
66 - 70	34,116	44,768	45,364	50,453	62,168	74,693	55,747	107,268	60,698
71 & Over	36,146	46,765	38,930	50,608	56,190	65,364	46,747	105,488	58,857
<b>Total</b>	<b>33,460</b>	<b>37,955</b>	<b>43,968</b>	<b>50,663</b>	<b>56,142</b>	<b>61,448</b>	<b>67,719</b>	<b>82,727</b>	<b>49,101</b>

### 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	-	-	-	-	-	-	-	-	1
36 - 40	-	-	-	-	-	2	6	-	8
41 - 45	-	-	-	-	1	7	1	-	9
46 - 50	-	-	-	4	13	-	-	-	17
51 - 55	7	12	9	4	-	-	-	-	32
56 - 60	-	-	-	-	-	-	-	-	-
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>7</b>	<b>12</b>	<b>9</b>	<b>8</b>	<b>14</b>	<b>9</b>	<b>7</b>	<b>1</b>	<b>67</b>

### 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	-	-	-	-	-	-	-	-	10,143
36 - 40	-	-	-	-	-	20,352	18,061	-	18,634
41 - 45	-	-	-	-	13,607	23,040	24,000	-	22,098
46 - 50	-	-	-	26,514	19,682	-	-	-	21,289
51 - 55	24,554	21,574	23,798	40,369	-	-	-	-	25,201
56 - 60	-	-	-	-	-	-	-	-	-
61 - 65	-	-	-	-	-	-	-	-	-
66 - 70	-	-	-	-	-	-	-	-	-
71 & Over	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>24,554</b>	<b>21,574</b>	<b>23,798</b>	<b>33,441</b>	<b>19,248</b>	<b>22,442</b>	<b>18,910</b>	<b>10,143</b>	<b>22,783</b>

### 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	-	-	-	-	-	-	-	-	-
51 - 55	2	-	-	-	-	-	-	-	2
56 - 60	23	37	26	36	9	-	-	-	131
61 - 65	12	27	31	55	141	9	-	-	275
66 - 70	14	12	15	23	130	128	4	-	326
71 - 75	6	7	9	27	65	75	86	6	281
76 - 80	1	4	4	10	36	49	43	51	198
81 - 85	1	-	2	1	13	19	15	70	121
86 - 90	-	-	1	-	2	5	10	44	62
91 & Over	-	1	-	-	1	2	1	28	33
<b>Total</b>	<b>59</b>	<b>88</b>	<b>88</b>	<b>152</b>	<b>397</b>	<b>287</b>	<b>159</b>	<b>199</b>	<b>1,429</b>

### 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	-	-	-	-	-	-	-	-	-
51 - 55	23,127	-	-	-	-	-	-	-	23,127
56 - 60	35,804	32,438	39,812	34,326	30,109	-	-	-	34,852
61 - 65	36,340	32,281	37,686	45,233	34,611	25,070	-	-	36,617
66 - 70	29,621	32,121	49,665	41,924	37,854	30,082	18,061	-	34,825
71 - 75	26,121	28,290	26,534	26,158	30,690	29,478	26,690	23,473	28,263
76 - 80	14,511	28,863	18,030	27,199	32,150	28,112	26,285	20,722	26,243
81 - 85	30,126	-	79,255	22,723	39,160	43,012	20,744	20,039	26,872
86 - 90	-	-	132,343	-	15,805	30,301	25,477	19,184	22,811
91 & Over	-	47,118	-	-	15,662	28,865	6,836	15,670	17,155
<b>Total</b>	<b>32,574</b>	<b>32,021</b>	<b>40,342</b>	<b>37,426</b>	<b>34,712</b>	<b>30,282</b>	<b>25,601</b>	<b>19,514</b>	<b>31,074</b>

### Disability Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 & Over	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	-	-	-	-	-	-	-	-	-
51 - 55	-	-	2	-	1	-	-	-	3
56 - 60	-	-	1	-	-	-	-	-	1
61 - 65	-	-	-	1	-	1	-	-	2
66 - 70	-	-	1	1	-	-	1	-	3
71 - 75	1	-	-	-	-	-	-	-	1
76 - 80	-	-	-	-	-	-	1	-	1
81 & Over	-	1	-	-	-	1	-	-	2
<b>Total</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>13</b>

### Average Annual Benefits Payable to Disability Retirees:

Attained Ages	Completed Years Since Retirement								Total
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 & Over	
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	-	-	-	-	-	-	-	-
46 - 50	-	-	-	-	-	-	-	-	-
51 - 55	-	-	16,634	-	13,503	-	-	-	15,590
56 - 60	-	-	19,457	-	-	-	-	-	19,457
61 - 65	-	-	-	10,241	-	12,747	-	-	11,494
66 - 70	-	-	15,540	11,383	-	-	8,790	-	11,904
71 - 75	12,347	-	-	-	-	-	-	-	12,347
76 - 80	-	-	-	-	-	-	8,419	-	8,419
81 & Over	-	14,090	-	-	-	9,823	-	-	11,957
<b>Total</b>	<b>12,347</b>	<b>14,090</b>	<b>17,066</b>	<b>10,812</b>	<b>13,503</b>	<b>11,285</b>	<b>8,605</b>	<b>-</b>	<b>13,047</b>



## 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	-	-	3	-	1	-	-	-	4
31 - 35	-	-	-	-	1	-	-	-	1
36 - 40	-	-	-	-	1	-	-	-	1
41 - 45	-	-	-	-	1	-	-	-	1
46 - 50	-	-	1	-	-	-	-	-	1
51 - 55	-	1	1	2	-	1	-	-	5
56 - 60	1	-	1	-	-	3	-	-	5
61 - 65	-	1	6	2	-	-	1	-	10
66 - 70	-	2	3	5	2	3	-	1	16
71 - 75	-	-	7	4	7	-	-	1	19
76 - 80	-	1	2	4	3	3	-	-	13
81 & Over	-	1	3	8	9	14	10	21	66
<b>Total</b>	<b>1</b>	<b>6</b>	<b>27</b>	<b>25</b>	<b>25</b>	<b>24</b>	<b>11</b>	<b>23</b>	<b>142</b>

## 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	-	-	21,701	-	4,657	-	-	-	17,440
31 - 35	-	-	-	-	4,657	-	-	-	4,657
36 - 40	-	-	-	-	18,951	-	-	-	18,951
41 - 45	-	-	-	-	10,842	-	-	-	10,842
46 - 50	-	-	6,941	-	-	-	-	-	6,941
51 - 55	-	19,239	29,872	12,686	-	7,255	-	-	16,347
56 - 60	28,394	-	43,092	-	-	4,878	-	-	17,224
61 - 65	-	34,060	26,436	19,564	-	-	5,016	-	23,682
66 - 70	-	15,400	30,437	28,587	19,980	26,734	-	4,363	24,348
71 - 75	-	-	36,483	29,692	25,052	-	-	27,652	30,377
76 - 80	-	18,885	26,226	34,380	33,648	20,065	-	-	28,461
81 & Over	-	94,734	81,751	45,586	22,771	14,996	23,214	16,385	25,694
<b>Total</b>	<b>28,394</b>	<b>32,953</b>	<b>35,112</b>	<b>33,136</b>	<b>22,413</b>	<b>15,510</b>	<b>21,560</b>	<b>16,352</b>	<b>24,988</b>

## EXHIBIT X

## YEAR-TO-YEAR COMPARISON

	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Number of Active Members	2,134	2,134	2,186	2,209
Number of Retirees & Survivors	1,584	1,570	1,513	1,459
Number of Terminated Due Deferred Benefits	67	67	73	70
Number Terminated Due Refunds	937	842	758	679
Active Lives Payroll	\$ 104,780,822	\$ 99,956,242	\$ 99,168,314	\$ 97,551,861
Retiree Benefits in Payment	\$ 48,122,247	\$ 47,283,505	\$ 45,056,002	\$ 41,681,173
Market Value of Assets	\$ 743,647,402	\$ 693,234,084	\$ 778,388,343	\$ 621,541,786
Entry Age Normal Accrued Liability	\$ 942,365,952	\$ 919,516,517	\$ 895,507,526	\$ 845,767,564
Ratio of AVA to EAN Accrued Liability	81.46%	81.03%	80.35%	79.59%
Actuarial Value of Assets	\$ 767,642,054	\$ 745,089,408	\$ 719,550,211	\$ 673,105,546
Frozen Unfunded Actuarial Accrued Liability	\$ 47,921,015	\$ 54,280,054	\$ 60,248,181	\$ 65,798,853
Present Value of Future Employer Normal Cost	\$ 249,673,608	\$ 236,558,903	\$ 230,116,485	\$ 213,871,483
Present Value of Future Employee Contrib.	\$ 73,585,375	\$ 70,042,991	\$ 69,109,669	\$ 65,395,769
Funding Deposit Account Balance	\$ 9,929,258	\$ 7,614,046	\$ 6,218,667	\$ 10,803,791
Present Value of Future Benefits	\$ 1,128,892,794	\$ 1,098,357,310	\$ 1,072,805,879	\$ 1,007,367,860
	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021
Employee Contribution Rate	8.25%	8.25%	8.25%	8.25%
Estimated Tax Contribution as a % of Payroll	12.19%	12.17%	12.44%	12.17%
Actuarially Required Net Direct Employer Contribution Rate	21.55%	21.79%	21.28%	21.24%
Actual Employer Contribution Rate	23.00%	22.25%	22.25%	21.00%

† Exceeds minimum recommended employer contribution rate in years where Board elected to hold the rate higher.

Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
2,196	2,205	2,164	2,208	2,234	2,219
1,414	1,360	1,311	1,235	1,173	1,108
78	78	78	81	78	88
618	585	550	500	471	444
\$ 95,247,068	\$ 92,738,643	\$ 89,180,971	\$ 90,323,689	\$ 89,814,463	\$ 88,522,141
\$ 39,475,815	\$ 37,248,506	\$ 34,679,675	\$ 30,727,570	\$ 28,162,472	\$ 26,301,025
\$ 641,204,758	\$ 628,437,651	\$ 593,677,582	\$ 531,220,994	\$ 535,853,689	\$ 518,993,448
\$ 805,671,731	\$ 777,615,742	\$ 729,009,277	\$ 700,260,558	\$ 669,774,954	\$ 637,131,442
81.33%	81.22%	81.72%	79.81%	78.76%	74.70%
\$ 655,273,733	\$ 631,612,601	\$ 595,749,559	\$ 558,910,784	\$ 527,535,949	\$ 475,945,220
\$ 70,998,546	\$ 75,869,452	\$ 80,361,839	\$ 84,560,331	\$ 86,060,294	\$ 87,052,600
\$ 180,972,019	\$ 168,433,783	\$ 141,532,146	\$ 144,555,899	\$ 141,097,058	\$ 162,356,479
\$ 63,205,970	\$ 60,449,719	\$ 56,483,625	\$ 56,237,290	\$ 55,853,464	\$ 55,197,088
\$ 9,429,752	\$ 7,981,218	\$ 9,388,977	\$ 7,741,426	\$ 3,449,340	\$ 1,739,546
\$ 961,020,516	\$ 928,384,337	\$ 864,738,192	\$ 836,522,878	\$ 807,097,425	\$ 778,811,841
Fiscal 2020	Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
8.25%	8.25%	8.25%	8.25%	8.25%	8.25%
11.58%	11.50%	12.00%	11.76%	11.76%	11.22%
18.99%	18.87%	16.99%	17.27%	14.37%	17.30%
19.00%	19.00%	19.00%	19.00%	19.00%	19.00%

## SUMMARY OF PRINCIPAL PLAN PROVISIONS

The Clerks' of Court Retirement and Relief Fund is a defined benefit pension plan which provides retirement allowances and other benefits. The following summary of plan provisions is for general informational purposes only and does not constitute a guarantee of benefits.

### MEMBERSHIP

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Members include the clerk of the supreme court, the clerks of each of the courts of appeal, each of the district courts, and each of the city and traffic courts in cities having a population in excess of four hundred thousand, and the employees of such clerks, who work an average of more than twenty hours per week, and the employees of the Louisiana Clerks of Court Association, the Louisiana Clerks' of Court Retirement and Relief Fund, and the Louisiana Clerks of Court Insurance Fund.

### CONTRIBUTION RATES

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Under the provisions of R.S. 11:62 and 11:103, the fund is financed by statutory employee contributions of 8.25% of earnable compensation. (Under R.S. 11:1562(C), the employer may elect to pay all or a portion of the employee contributions). 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's defined benefit plan 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. 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. 11:207, 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.

### CONTRIBUTION REFUNDS

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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 rights in the system.

### RETIREMENT BENEFITS

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Members with twelve or more years of creditable service may retire at age fifty-five (age sixty if they are hired on or after January 1, 2011). The retirement allowance is equal to three percent of the member's monthly average final compensation multiplied by the number of years of creditable service, not to exceed one hundred percent of monthly average final compensation. The retirement benefit accrual rate is increased to 3 1/3% for all service credit accrued after June 30, 1999 (for members hired prior to

January 1, 2011). For members whose first employment making them eligible for system membership began before July 1, 2006 and who retire prior to January 1, 2011, monthly average final compensation is based on the highest thirty-six consecutive months, with a limit of increase of 10% in each of the last three years of measurement. For members whose first employment making them eligible for system membership began on or after July 1, 2006, monthly average final compensation is based on the highest compensated sixty consecutive months or successive joined months if service was interrupted, with a limit increase of 10% in each of the last five years of measurement. For members who were employed prior to July 1, 2006 and who retire after December 31, 2010, the period of final average compensation is thirty-six months plus the number of whole months elapsed since January 1, 2011, not to exceed sixty months.

## **OPTIONAL ALLOWANCES**

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

Option 1 – If the 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 designated beneficiary will continue to receive the same reduced benefit.

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

Option 4 – Upon retirement, the member elects to receive a Board approved benefit which is actuarially equivalent to the maximum benefit.

Option 5 – Upon retirement, the member receives 90% of the maximum benefit. Upon the death of the member, the spouse receives one-half of the reduced benefit.

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

## **DISABILITY BENEFITS**

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Disability benefits are awarded to active members who are totally and permanently disabled as a result of injuries sustained in the line of duty or to active members with ten or more years of creditable service who are totally disabled due to any cause. A member who is officially certified as totally and permanently disabled by the State Medical Disability Board will be paid monthly disability retirement benefits equal to the greater of forty percent of their monthly average final compensation or seventy-five percent of their monthly regular retirement benefit computed as per R.S. 11:1521(C).

## **SURVIVOR BENEFITS**

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Upon the death of any active contributing member with less than five years of creditable service, his accumulated contributions are paid to his designated beneficiary. Upon the death of any active contributing member with five or more years of service, automatic option 2 benefits are payable to the surviving spouse. These benefits are based on the retirement benefits accrued at the member's date of death with option factors used as if the member had continued in service to earliest normal retirement age. Benefit payments commence on the date a member would have first become eligible for normal retirement assuming continued service until that time. In lieu of a deferred survivor benefit, the surviving spouse may elect benefits payable immediately with benefits reduced one-quarter of 1% for each month by which payments commence in advance of member's earliest normal retirement age. If a member has no surviving spouse, the surviving minor children under eighteen or disabled children are paid one-half of the member's accrued retirement benefit in equal shares. Upon the death of any former member with less than twelve years of service, the designated beneficiary may receive his accumulated contributions. Upon the death of any former member with twelve or more years of service, automatic option 2 benefits are payable to the surviving spouse with payments to commence on the member's retirement eligibility date. In lieu of periodic payments, the surviving spouse or children may receive a refund of the member's accumulated contributions.

## **DEFERRED RETIREMENT OPTION PLAN**

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In lieu of terminating employment and accepting a service retirement allowance, any member of the system who is eligible for a service retirement allowance may elect to participate in the Deferred Retirement Option Plan for up to thirty-six months and defer the receipt of benefits. Upon commencement of participation in the plan, active membership in the system terminates and the participant's contributions cease; however, employer contributions continue. Compensation and creditable service remain as they existed on the effective date of commencement of participation in the plan. The monthly retirement benefits that would have been payable, had the member elected to cease employment and receive a service retirement allowance, are paid into the Deferred Retirement Option Plan account. Upon termination of employment at the end of the specified period of participation, a participant in the program may receive, at his option, a lump sum payment from the account equal to the payments to the account, or a true annuity based upon his account (subject to approval by the Board of Trustees); in addition, the member receives the monthly benefits that were paid into the fund during the period of participation. If employment is not terminated at the end of the participation period, payments into the account cease and the member resumes active contributing membership in the system. Interest is paid on DROP account balances for members who complete their DROP participation but do not terminate employment. The interest earnings are based on the actual rate of return on funds in such accounts. These interest accruals cease upon termination of employment. Upon termination, the member receives a lump sum payment from the DROP fund equal to the payments made to that fund on his behalf, or a true annuity based on his account (subject to approval by the Board of Trustees). The monthly benefit payments that were being paid into the DROP fund are paid to the retiree and an additional benefit based on his additional service rendered since termination of DROP participation is calculated using the normal method of benefit computation. Prior to January 1, 2011, the average compensation used to calculate the additional benefit is that used to calculate the original benefit unless his period of additional service is at least thirty-six months; effective January 1, 2011 the average compensation for members whose additional service is less than thirty-six months is equal to

the lesser of the amount used to calculate his original benefit or the compensation earned in the period of additional service divided by the number of months of additional service. For former DROP participants who retire after December 31, 2010, the period used to determine final average compensation for post-DROP service is thirty-six months plus the number of whole months elapsed from January 1, 2011 to the date of DROP entry. In no event can the entire monthly benefit amount paid to the retiree exceed 100% of the average compensation used to compute the additional benefit. If a participant dies during the period of participation in the program, a lump sum payment equal to his account balance is paid to his named beneficiary or, if none, to his estate.

## **COST OF LIVING ADJUSTMENTS**

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The Board of Trustees is authorized to grant retired members and widows of members who have been retired for at least one full calendar year an annual cost of living increase of 2.50% of their benefit (not to exceed forty dollars per month), and all retired members and widows who are sixty-five years of age and older a 2% increase in their original benefit (or their benefit as of October 1, 1977, if they retired prior to that time). In order to grant the 2.50% COLA the increase in the Consumer Price Index must have exceeded 3% since the last COLA granted. In order for the Board to grant either of these increases, the system must meet certain other criteria detailed in the statute related to funding status. In lieu of the prior provisions, 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. In order for the board to grant any of these increases, the system must meet certain criteria detailed in the statutes related to funding status and interest earnings.

## 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

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Frozen Attained Age Normal Actuarial Method with allocation based on earnings. The actuarial accrued liabilities utilized to calculate the frozen unfunded accrued liability were calculated on the Projected Unit Credit Cost Method. Changes in assumptions and plan benefits are funded through adjustments to future normal costs.

### VALUATION INTEREST RATE

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6.55% (net of investment expense)

### ACTUARIAL ASSET VALUES

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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

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Salary increases include 2.4% inflation and merit increases. The gross rates including inflation and merit increases are as follows:



Years of Service (less than or equal to)	Salary Increase (in the following year)
1 – 5	6.2%
Above 5	5.0%

### **ACTIVE MEMBER MORTALITY**

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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 MP2019 scale.

### **ANNUITANT AND BENEFICIARY MORTALITY:**

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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 MP2019 scale.

### **DISABLED LIVES MORTALITY**

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

### **RETIREE COST OF LIVING INCREASE**

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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**

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The table of these rates is included later in the report. These rates apply only to those individuals eligible to retire. For Tiers 1 and 2, the rates shown are not adjusted for members at first eligibility. For Tier 3 only, the assumed rate of retirement for members at first eligibility is multiplied by 1.5 times the relevant rate listed in the table of these rates.

### **RETIREMENT LIMITATIONS**

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

### **RATES OF DROP ENTRY**

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The table of these rates is included later in the report. These rates apply only to those individuals eligible to retire. For Tiers 1 and 2, the rates shown are not adjusted for members at first eligibility. For Tier 3 only, the assumed rate of retirement for members at first eligibility is multiplied by 2.8 times the relevant rate listed in the table of these rates.

## **DROP PARTICIPATION**

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All persons who enter the DROP are assumed to participate for the full 3 year period and 2/3 are assumed to retire at the end of DROP participation with 1/3 assumed to work 4 years post DROP and then retire.

## **RATES OF WITHDRAWAL**

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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	0.180	11	0.040
2	0.130	12	0.030
3	0.100	13	0.030
4	0.080	14	0.030
5	0.070	15	0.030
6	0.070	16	0.030
7	0.070	17	0.030
8	0.060	18	0.030
9	0.050	19 – 23	0.020
10	0.050	>23	0.010

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

## **RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS**

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The rates of retirement for active former DROP participants are included later in this report.

## **MARRIAGE STATISTICS**

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

## **FAMILY STATISTICS**

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Assumptions utilized in determining the costs of various survivor benefits as listed below, are derived from the information provided in 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

## **DISABILITY RATES**

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55% of the disability rates used for the 27<sup>th</sup> 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.

## **SERVICE-RELATED DISABILITIES**

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10% of total disabilities

## **VESTING ELECTING PERCENTAGE**

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80% of those vested elect deferred benefits in lieu of contribution refunds.

## ACTUARIAL TABLES AND RATES

Age	Tier 1 and 2 Retirement Rates	Tier 3 Retirement Rates	Tier 1 and 2 DROP Entry Rates	Tier 3 DROP Entry Rates	Disability Rates	Tier 1 and 2 Post-DROP Retirement Rates	Tier 3 Post-DROP Retirement Rates
18	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
19	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
20	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
21	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
22	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
23	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
24	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
25	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
26	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
27	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
28	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
29	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
30	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
31	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
32	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
33	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
34	0.00000	0.00000	0.00000	0.00000	0.00066	0.00000	0.00000
35	0.00000	0.00000	0.00000	0.00000	0.00072	0.00000	0.00000
36	0.00000	0.00000	0.00000	0.00000	0.00072	0.00000	0.00000
37	0.00000	0.00000	0.00000	0.00000	0.00072	0.00000	0.00000
38	0.00000	0.00000	0.00000	0.00000	0.00077	0.00000	0.00000
39	0.00000	0.00000	0.00000	0.00000	0.00083	0.00000	0.00000
40	0.00000	0.00000	0.00000	0.00000	0.00088	0.00000	0.00000
41	0.00000	0.00000	0.00000	0.00000	0.00094	0.00000	0.00000
42	0.00000	0.00000	0.00000	0.00000	0.00099	0.00000	0.00000
43	0.00000	0.00000	0.00000	0.00000	0.00110	0.00000	0.00000
44	0.00000	0.00000	0.00000	0.00000	0.00116	0.00000	0.00000
45	0.00000	0.00000	0.00000	0.00000	0.00132	0.00000	0.00000
46	0.00000	0.00000	0.00000	0.00000	0.00143	0.00000	0.00000
47	0.00000	0.00000	0.00000	0.00000	0.00160	0.00000	0.00000
48	0.00000	0.00000	0.00000	0.00000	0.00182	0.00000	0.00000
49	0.00000	0.00000	0.00000	0.00000	0.00209	0.00000	0.00000
50	0.00000	0.00000	0.00000	0.00000	0.00237	0.00000	0.00000
51	0.00000	0.00000	0.00000	0.00000	0.00270	0.00000	0.00000
52	0.00000	0.00000	0.00000	0.00000	0.00314	0.00000	0.00000
53	0.00000	0.00000	0.00000	0.00000	0.00363	0.00000	0.00000
54	0.00000	0.00000	0.00000	0.00000	0.00424	0.00000	0.00000
55	0.12000	0.00000	0.34000	0.00000	0.00495	0.21000	0.00000
56	0.02000	0.00000	0.23000	0.00000	0.00583	0.21000	0.00000
57	0.06000	0.00000	0.17000	0.00000	0.00688	0.21000	0.00000
58	0.08000	0.00000	0.14000	0.00000	0.00814	0.21000	0.00000
59	0.08000	0.00000	0.12000	0.00000	0.00963	0.21000	0.00000
60	0.08000	0.08000	0.12000	0.12000	0.01315	0.23000	0.23000
61	0.07000	0.07000	0.13000	0.13000	0.01601	0.25000	0.25000
62	0.07000	0.07000	0.15000	0.15000	0.01771	0.26000	0.26000
63	0.07000	0.07000	0.17000	0.17000	0.01859	0.26000	0.26000
64	0.08000	0.08000	0.18000	0.18000	0.01414	0.26000	0.26000
65	0.09000	0.09000	0.20000	0.20000	0.01139	0.25000	0.25000
66	0.11000	0.11000	0.22000	0.22000	0.00286	0.24000	0.24000
67	0.13000	0.13000	0.23000	0.23000	0.00286	0.24000	0.24000
68	0.15000	0.15000	0.24000	0.24000	0.00286	0.23000	0.23000
69	0.16000	0.16000	0.25000	0.25000	0.00286	0.23000	0.23000
70	0.17000	0.17000	0.25000	0.25000	0.00286	0.23000	0.23000
71	0.17000	0.17000	0.25000	0.25000	0.00286	0.23000	0.23000
72	0.16000	0.16000	0.24000	0.24000	0.00286	0.24000	0.24000
73	0.15000	0.15000	0.23000	0.23000	0.00286	0.26000	0.26000
74	0.14000	0.14000	0.20000	0.20000	0.00286	0.27000	0.27000
75	0.14000	0.14000	0.17000	0.17000	0.00286	0.27000	0.27000

## GLOSSARY

### **ACCRUED BENEFIT**

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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**

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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**

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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**

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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**

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

### **ACTUARIAL GAIN (LOSS)**

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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**

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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**

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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)**

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

### **AMORTIZATION PAYMENT**

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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)**

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

### **DECREMENTS**

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

### **EMPLOYER NORMAL COST**

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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**

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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**

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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**

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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**

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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.

## **TIER 1**

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Members whose first employment making them eligible for membership in the system began on or before June 30, 2006.

## **TIER 2**

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Members whose first employment making them eligible for membership in the system began on or after July 1, 2006 and on or before December 31, 2010.

## **TIER 3**

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Members whose first employment making them eligible for membership in the system began on or after January 1, 2011.

## **FROZEN UNFUNDED ACTUARIAL ACCRUED LIABILITY**

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The excess of the entry age normal actuarial accrued liability over the actuarial value of assets as of the date the Unfunded Actuarial Accrued Liability was frozen in 1989. Each year's required payment pays interest and a portion of principal.

## **VESTED BENEFITS**

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