CURRAN ACTUARIAL

CONSULTING, LTD.

Annual Funding Valuation
June 30, 2022

Municipal Employees' Retirement System

CURRAN ACTUARIAL
CONSULTING, LTD.

November 22, 2022

Board of Trustees
Municipal Employees' Retirement System
7937 Office Park Boulevard
Baton Rouge, Louisiana 70809

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Municipal Employees' Retirement System for the fiscal year ending June 30, 2022. 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 Municipal Employees' Retirement System 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, 2023, and to recommend the net direct employer contribution rate for Fiscal 2024. 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 Municipal Employees' Retirement System for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

In our opinion, all 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 system. This report has been prepared in accordance with generally accepted actuarial principles and practices, and to the best of our knowledge and belief, fairly reflects the actuarial present values and costs stated herein. The undersigned actuary is a member of the American Academy of Actuaries, has met the qualification standards for the American Academy of Actuaries to render the actuarial opinions incorporated in this report, and is available to provide further information or answer any questions with respect to this valuation.

Sincerely,

CURRAN ACTUARIAL CONSULTING, LTD.

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SUMMARY OF VALUATION RESULTS
MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM – PLAN A

Valuation Date:		June 30, 2022	June 30, 2021
Census Summary:	Active Members	4,513	4,611
	Retired Members and Survivors	3,732	3,673
	Terminated Due a Deferred Benefit	258	243
	Terminated Due a Refund	3,517	3,455
Payroll:		$ 187,377,898	$ 185,740,910
Benefits in Payment:		$ 76,362,820	$ 72,508,122
Present Value of Future Benefits:		$ 1,483,893,934	$ 1,442,696,909
Actuarial Accrued Liability (EAN):		$ 1,277,206,406	$ 1,238,502,345
Frozen Unfunded Actuarial Accrued Liability:		$ 54,014,424	$ 58,511,472
Funding Deposit Account Credit Balance:		$ 8,002,037	$ 10,695,893
Actuarial Value of Assets (AVA):		$ 946,256,046	$ 897,366,504
Market Value of Assets (MVA):		$ 877,147,955	$ 975,735,673
Ratio of AVA to Actuarial Accrued Liability (EAN):		74.09%	72.46%

	Fiscal 2022	Fiscal 2021
Market Rate of Return:	-10.1%	23.8%
Actuarial Rate of Return:	5.4%	7.9%

	Fiscal 2023	Fiscal 2022
Employers' Normal Cost (Mid-year):	$ 48,434,237	$ 49,724,456
Amortization Cost (Mid-year):	$ 8,577,632	$ 8,227,944
Estimated Administrative Cost:	$ 1,778,003	$ 1,686,436
Projected Ad Valorem Tax Contributions:	$ (7,135,592)	$ (7,299,003)
Projected Revenue Sharing Funds:	$ (112,496)	$ (113,530)
Net Direct Employer Actuarially Required Contributions:	$ 51,541,784	$ 52,226,303
Projected Payroll:	$ 185,557,555	$ 184,598,042
Board Approved Employee Contribution Rate:	10.00%	10.00%
Board Approved Net Direct Employer Contribution Rate:	29.50%	29.50%
Actuarially Required Net Direct Employer Contribution Rate:	27.78%	28.29%

	Fiscal 2024	Fiscal 2023
Minimum Recommended Net Direct Employer Contribution Rate:	27.75%	28.25%

SUMMARY OF VALUATION RESULTS
MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM – PLAN B

Valuation Date:		June 30, 2022	June 30, 2021
Census Summary:	Active Members	1,997	1,980
	Retired Members and Survivors	1,159	1,125
	Terminated Due a Deferred Benefit	104	110
	Terminated Due a Refund	1,832	1,745
Payroll:		$ 79,381,407	$ 75,792,699
Benefits in Payment:		$ 14,609,855	$ 13,509,829
Present Value of Future Benefits:		$ 338,678,422	$ 325,918,391
Actuarial Accrued Liability (EAN):		$ 284,474,338	$ 273,783,925
Funding Deposit Account Credit Balance:		$ 1,560,738	$ 1,869,690
Actuarial Value of Assets (AVA):		$ 216,737,373	$ 204,077,162
Market Value of Assets (MVA):		$ 200,590,478	$ 219,732,397
Ratio of AVA to Actuarial Accrued Liability (EAN):		76.19%	74.54%

	Fiscal 2022	Fiscal 2021
Market Rate of Return:	-9.6%	22.3%
Actuarial Rate of Return:	5.2%	7.7%

	Fiscal 2023	Fiscal 2022
Employers' Normal Cost (Mid-year):	$ 13,238,990	$ 13,340,522
Estimated Administrative Cost:	$ 753,239	$ 688,160
Projected Ad Valorem Tax Contributions:	$ (3,022,946)	$ (2,978,402)
Projected Revenue Sharing Funds:	$ (47,658)	$ (46,327)
Net Direct Employer Actuarially Required Contributions:	$ 10,921,625	$ 11,003,953
Projected Payroll:	$ 81,695,407	$ 76,475,851
Board Approved Employee Contribution Rate:	5.00%	5.00%
Board Approved Net Direct Employer Contribution Rate:	15.50%	15.50%
Actuarially Required Net Direct Employer Contribution Rate:	13.37%	14.39%

	Fiscal 2024	Fiscal 2023
Minimum Recommended Net Direct Employer Contribution Rate:	13.25%	14.50%

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 the actuary is limited in his 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, that which is available 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 results which although imperfect is nevertheless a reasonable approach to determine the contribution levels which will provide for the future benefits of plan participants.

Prior to the Fiscal 2021 valuation, the determination of projected payroll was based on the assumption of a stable population. The provisions of Act 298 of the 2020 Regular Session provides that certain employees from the Lafayette City-Parish Consolidated Government first employed on or after November 1, 2020 are to be enrolled in the Parochial Employees' Retirement System instead of Plan A of the Municipal Employees' Retirement System. Without new hires from Plan A's largest employer, this change in statute is expected to result in a consistent reduction in overall Plan A active population. For this reason and in recognition of reductions in plan membership prior to the change related to Lafayette, beginning with the Fiscal 2021 valuation we have computed Plan A projected payroll based on a recognition of an expected reduction in overall membership.

COMMENTS ON DATA

For the valuation, the administrative director of the system furnished a census on electronic media derived from the system's master data processing file indicating each active covered employee's sex, date of birth, service credit, annual salary, and accumulated contributions. Information on retirees detailing dates of birth of retirees and beneficiaries, as well as option categories and benefit amounts, was provided in like manner. In addition, data was supplied on former employees who are vested or who have contributions remaining on deposit. As illustrated in Exhibit IX, there are 4,513 active members in Plan A, of whom, 1,940 members, including 207 participants in the Deferred Retirement Option Plan (DROP), have vested retirement benefits; 3,732 former Plan A members or their beneficiaries are receiving retirement benefits. An additional 3,775 former members of Plan A have contributions remaining on deposit with the system. This includes 258 former members who have vested rights or have filed reciprocal agreements for future retirement benefits. Census data on members of Plan B may be found in Exhibit XIX. There are 1,997 active members in Plan B, of whom, 862 members, including 80 DROP participants, have vested retirement benefits; 1,159 former members of Plan B or their beneficiaries are receiving retirement benefits. An additional 1,936 former members of Plan B have contributions remaining on deposit with the system. Of this number, 104 have vested rights for future retirement benefits.

Census data submitted to our office is tested for errors. Several types of census data errors are possible; to ensure that the valuation results are as accurate as possible, a significant effort is made to identify and correct these errors. In order to minimize coverage errors (i.e., missing or duplicated individual records) the records are checked for duplicates, and a comparison of the current year's records to those submitted in prior years is made. Changes in status, new records, and previous records which have no corresponding current record are identified. This portion of the review indicates the annual flow of members from one status to another and is used to check some of the actuarial assumptions, such as retirement rates, rates of withdrawal, and mortality. In addition, the census is checked for reasonableness in several areas, such as age, service, salary, and current benefits. The records identified by this review as questionable are checked against data from prior valuations; those not recently verified are included in a detailed list of items sent to the system's administrative staff for verification and/or correction. Once the identified data has been researched and verified or corrected, it is returned to us for use in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record. For this valuation, the number of such records is de minimis.

In addition to the statistical information provided on the system's participants, the system's administrative director furnished general information related to other aspects of the system's expenses, benefits and funding. Except as stated below, 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 Hawthorn, Waymouth, and Carroll, L.L.P. As indicated in the system's audit report, the net market value of Plan A's assets was $877,147,955 as of June 30, 2022. For Plan A, the net investment income for Fiscal 2022 measured on a market value basis amounted to a loss of $98,859,893. Contributions to Plan A for the fiscal year totaled $88,361,698; benefits and expenses amounted to $88,089,523.

The net market value of Plan B's assets was $200,590,478 as of June 30, 2022. For Plan B, the net investment income for Fiscal 2022 measured on a market value basis amounted to a loss of $21,093,403. Contributions to Plan B for the fiscal year totaled $19,348,546; benefits and expenses amounted to $17,397,062.

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

Prior to Fiscal 2018 both plans' valuations were based on the Frozen Attained Age Normal actuarial cost method with the unfunded actuarial accrued liability frozen as of June 30, 1989. Under the provisions of Louisiana R.S. 11:103 the unfunded accrued liability for Plan A, which was determined to be $48,466,297 as of June 30, 1989, was amortized over forty years with payments increasing at 4.25% per year. The unfunded accrued liability for Plan B, which was determined to be $9,853,175 as of June 30, 1989, was amortized over forty years with payments decreasing at 2% per year. In Plan A, payroll growth less than 4.25% per year will increase future amortization payments as a percent of payroll. In Plan B, prior to the early payoff of the unfunded accrued liability, any payroll growth or payroll decline less than 2% per year would reduce future amortization payments as a percent of payroll. As of June 30, 2018, the remaining balance of the frozen unfunded accrued liability for Plan B was completely offset by a portion of the credit balance in the plan's Funding Deposit Account. With the unfunded accrued liability fully amortized, the actuarial funding method for Plan B has been converted to the Aggregate Funding Method in accordance with R.S. 11:22(D). Under both the Frozen Attained Age Normal Cost Method and the Aggregate Funding Method, actuarial gains and losses are spread over future normal costs. Thus, favorable plan experience will lower future normal costs; unfavorable experience will cause future normal costs to increase. In addition, changes in benefits and assumptions are also spread over future normal costs.

Prior to the June 30, 2009 valuation, in any year in which the net direct employer contribution was set above the actuarially required employer contribution rate, excess funds collected, if any, were used to reduce the frozen unfunded actuarial accrued liability. Effective with the June 30, 2009 valuation, any excess funds collected as a result of a freeze in employer contributions are credited to the Funding Deposit Account. Funds deposited into the Funding Deposit Account can be used to reduce the unfunded accrued liability, reduce future normal costs, fund cost of living increases to retirees, or offset net direct employer contributions as determined by the Board of Trustees.

The current year actuarial assumptions utilized for this report are based on the results of an actuarial experience study for the period July 1, 2013 – June 30, 2018, unless otherwise specified in this report. This study included a review of all plan decrements in addition to salary scale experience and other demographic factors which impact plan costs. Details related to the study are contained within the 2019 Municipal Employees' Retirement System Experience Study Report.

Based upon contraction in the capital market assumptions produced by investment consultants and investment market participants, a significant effort has been made since 2017 to reduce the long-term rate of return assumption. During this period, recommendations have been formed based on analysis of the system's target portfolio allocations along with expected long-term rates of return, standard deviations of return, and correlations between asset classes collected from a number of investment consulting firms in addition to the system's investment consultants, Meketa Investment Group. Based on such analyses and after discussions with the Board, the 7.5% valuation interest rate in effect for the Fiscal 2016 actuarial valuation has been lowered each year in order to maintain a valuation interest rate that is within the actuary's reasonable range. The valuation interest rate used in the Fiscal 2021 valuation was 6.85%.

In reviewing the valuation interest rate for Fiscal 2022, consideration was given to several factors. The Fund's target asset allocation was reviewed based upon the G. S. Curran & Company consultant average return study for 2022. The study found that the 6.85% assumed rate of return used in the 2021 valuation remained within the actuary's reasonable range. The reasonable range was set by developing 10,000 stochastic trials based on the expected long-term arithmetic return for the Fund's target allocation and the consultant average portfolio standard deviation. Since the valuation interest rate remains within the system's reasonable range and for the first time in years the projected capital market assumptions for many risky assets (evidenced by the Meketa mid-year update to capital market assumptions during 2022) have increased, the system's actuary recommended that the Board of Trustees make no further change in the valuation interest rate for 2022. Therefore, the valuation interest rate used in the Fiscal 2022 valuation remains 6.85%. For 2022, an assumed rate of inflation of 2.5% was implicit in the assumed rate of return for Plans A and B.

Although the Board of Trustees has authority to grant ad hoc Cost of Living Increases (COLAs) under limited circumstances, these COLAs have not been shown to have a historical pattern. This is evident in the length of time between the two most recent COLAs. The Board of Trustees was unable to provide COLAs to retirees during the period from April 1, 2009 until they approved a 1.6% of original benefit COLA effective July 1, 2022. In addition, the amounts of the COLAs granted in the past have not been relative to a defined cost-of-living or inflation index. We do not believe that there is sufficient evidence to conclude that COLAs will be granted on a predictable basis in the future. Furthermore, the Board of Trustees has the right to set aside funds in its Funding Deposit Account for a variety of purposes, including the prefunding of COLAs. In its April 2022 meeting, the Board of Trustees adopted a policy that formally states the Board's intention to limit future COLAs to years in which there are sufficient funds set aside to prefund such COLAs from the balance of the Funding Deposit Account. Therefore, for purposes of determining the present value of future benefits, we do not believe that it is appropriate to include a provision for potential future COLAs.

The Fiscal 2022 valuation utilized updated option factors (effective for retirements on or after July 1, 2022) in determining the value of automatic option 2 benefits available to the surviving spouse of certain deceased active members. Because this update causes only a minimal change in liabilities, the impact was not separated into a change in plan assumptions.

The current year actuarial assumptions utilized for the report are outlined at the end of this report. All assumptions other than those mentioned above are based on estimates of future long-term experience for the system as described in the system's 2019 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 will be required to contribution levels. Such differences will be revealed in future actuarial valuations.

RISK FACTORS

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

All pension plans are subject to the uncertainty 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 are a risk to plan members in that they reduce purchasing power of plan benefits. Should the plan attempt to offset inflation by providing cost-of-living adjustments, costs will inevitably increase unless provisions are made to prefund such adjustments. Very low inflation will generally reduce the nominal rate of return on assets; deflation can potentially reduce the capital value of trust assets. During the decade preceding 2020, inflation levels remained in a fairly narrow range. Since 2020, inflation has significantly increased. So far, Federal Reserve efforts to fight inflation have not had the desired effect. Forecasters seem to believe that although long-term average rates of future inflation may be higher than projected in recent years, the impact of near-term inflation will not be significant. There is always the possibility that persistent high inflation will become a problem in the future or that the country will experience a deflationary period; however, most expert opinion currently assesses these alternatives as unlikely in the near term.

Asset performance over the long run 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. 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 mitigating the reinvestment risk the plan currently faces.

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 will 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 in this report illustrates the noninvestment cash flow and benefit payments of the system over the last 10 years. Currently, annual contributions slightly exceed annual benefit payments in both Plan A and Plan B. Future net noninvestment cash flows for each plan will be determined based upon both the plan's 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 plan whereas reduced contribution levels resulting from positive experience could lead to negative cash flows. Recent experience includes years in which the system's benefit payments exceeded contribution income. Such negative noninvestment cash flows will likely occur again in the future given the expectation of a lower active population.

In addition to asset risk, the plan is also subject to risks related to liabilities. These risks include 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 generally are infrequent and are more of a short-term issue.

Liability risk also includes items such as data errors. 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. Even natural disasters and dislocations in the economy or other unforeseen events (such as pandemics like COVID-19) can present risks to the plan. These events can affect member payroll and plan demographics, both of which impact costs. The risk associated with either of these factors can vary depending upon the severity of the event and cannot be easily forecast.

Beyond identifying risk categories, it is possible to quantify some risk factors. One fairly well-known risk metric is the funded ratio of the plan. The rate is given as plan assets divided by plan liabilities. However, the definition of each of these terms may vary. The two typical alternatives used for assets are the market and actuarial value of assets. There are a number of 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. The ratio is 74.09% for Plan A and 76.19% for Plan B as of June 30, 2022. This value gives some indication of the financial strength of the plan; however, it does not guarantee the ability of the fund to pay benefits in the future or indicate that in the future, contributions are likely to be less than or greater than current contributions. In addition, the ratio cannot be used in isolation to compare the relative strength of different retirement systems. However, the trend of this ratio over time can give some insight into the financial health of the plan. Even in this regard, caution is warranted since market fluctuations in asset values and changes in plan assumptions can distort underlying trends in this value. Exhibits X and XX give a history of this value for the last ten years. Note that the underlying trend is somewhat disguised since the system has significantly reduced the valuation interest rate over this period. Absent the reduction in this rate, the current ratio would be significantly higher. One additional risk measure is the sensitivity of the plan's cost structure to asset gains and losses. For this plan, we have determined that based on current assets and demographics, for each percentage 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 0.70% for Plan A and 0.39% for Plan B.

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 system, we have estimated the effective liability duration as 9.79 for Plan A and 10.20 for Plan B.

The ability of a system to recover from adverse asset or liability performance is related to the maturity of the plan population. In general, plans with increasing active membership are less vulnerable to asset and liability gains and losses than mature plans since changes in plan costs can be partially allocated to new members. If the plan has a large number of active members compared to retirees, asset or liability losses can be more easily addressed. As more members retire, contributions can only be collected from a smaller segment of the overall plan population. Often, population ratios of actives to annuitants are used to measure the plan's ability to adjust or recover from adverse events since contributions are made by or on behalf of active members but not for retirees. Thus, if the plan suffers a mortality loss through increased longevity, this will affect both actives and retirees, but the system can only fund this loss by contributions related to active members. A measure of risk related to plan maturity is the ratio of total benefit payments to active payroll. For Fiscal 2022, this ratio is 41% for Plan A and 18% for Plan B. Ten years ago this ratio was 28% for Plan A and 12% for Plan B.

One other area of exposure the plan faces is the possibility that plan assumptions will need to be revised to conform to changing actual or expected plan experience. Such assumption revisions may relate to economic or demographic factors. With regard to the economic assumptions, there is always the possibility that market expectations will require an adjustment to the assumed rate of return. Current market expectations related to the assumed rate of return suggest that a decrease in the assumption is more probable than an increase. The magnitude of any potential such change will be related to future capital market expectations. 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 2023 by 10.38% of payroll for Plan A and 5.96% of payroll for Plan B. Future adjustments to the future assumed rates of return may be required; however the likelihood of such an event is difficult to gauge since it requires assigning probabilities to future capital market scenarios.

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.

CHANGES IN PLAN PROVISIONS

The following changes in plan provisions were enacted during the 2022 Regular Session of the Louisiana Legislature:

Act 248 made a number of changes relative to the Municipal Employees' Retirement System. These changes included: codifying a limit to the length of time prior to the receipt of an application for benefits that the system will pay retroactive benefits; allowing any participating employer to elect to convert unused leave into retirement benefits; removing certain heightened rules related to the Board of Trustees accepting meals during educational conferences; resetting the frequency of experience studies to once each five years; and, changes the maximum amount of cash that may be held within the investment portfolio to 10%.

ASSET EXPERIENCE

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

Plan A	Market Value	Actuarial Value
2013	4.3%	0.7%
2014	12.3%	5.8%
2015	-3.1%	3.7%
2016	-2.9%	0.8%
2017	4.7%	2.3%
2018	6.1%	2.8%
2019	4.9%	1.7%
2020	2.9%	2.9%
2021	23.8%	7.9%
2022	-10.1%	5.4%

Plan B	Market Value	Actuarial Value
2013	4.1%	0.9%
2014	11.7%	5.6%
2015	-3.2%	3.5%
2016	-2.9%	0.7%
2017	4.6%	2.2%
2018	6.0%	2.7%
2019	4.8%	1.9%
2020	2.8%	3.0%
2021	22.3%	7.7%
2022	-9.6%	5.2%

Geometric Average Market Rates of Return – Plan A

5-year average	(Fiscal 2018 – 2022)	5.0%
10-year average	(Fiscal 2013 – 2022)	3.9%
15-year average	(Fiscal 2008 – 2022)	2.7%
20-year average	(Fiscal 2003 – 2022)	4.4%
25-year average	(Fiscal 1998 – 2022)	4.6%
30-year average	(Fiscal 1993 – 2022)	5.4%

Geometric Average Market Rates of Return – Plan B

5-year average	(Fiscal 2018 – 2022)	4.8%
10-year average	(Fiscal 2013 – 2022)	3.7%
15-year average	(Fiscal 2008 – 2022)	2.6%
20-year average	(Fiscal 2003 – 2022)	4.2%
25-year average	(Fiscal 1998 – 2022)	4.4%
30-year average	(Fiscal 1993 – 2022)	5.2%

The market rate of return gives a measure of investment return on a total return basis and includes realized and unrealized capital gains and losses as well as interest income. 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 2022, Plan A earned $2,691,706 and Plan B earned $675,703 of dividends and interest income. In addition, Plan A had net realized and unrealized capital losses on investments (offset by non-recurring income) of $99,633,808 while the total of such losses (offset by non-recurring income) for Plan B amounted to $21,358,855. Investment expenses were $1,917,791 for Plan A and $410,251 for Plan B.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 6.85%. This rate is calculated based on the smoothed value of assets subject to constraints as given in Exhibit VI for Plan A and Exhibit XVI for Plan B. Investment income used to calculate this yield is based upon a smoothing of investment income above or below the valuation interest rate. 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 valuation interest rate assumption will reduce future costs; yields below the valuation interest rate assumption will increase future costs. For Plan A, the net actuarial investment earnings for Fiscal 2022 were $12,861,406 less than the actuarial assumed earnings rate of 6.850%, and were $3,336,290 less for Plan B. These actuarial losses increased the normal cost accrual rate by 0.9502% for Plan A and 0.6070% for Plan B.

At the end of each fiscal year, a review of the data is made to identify current members of Plan A and Plan B who have consecutive service credit in both plans that have not been addressed in previous transfers of assets and liabilities between the Plan A and Plan B trust funds pursuant to the provisions of R.S. 11:1862(F). In the course of reviewing data for the June 30, 2022 valuation we found 5 members of Plan A with Plan B service credit and 7 such members of Plan B with Plan A service for whom a transfer must be made. Based upon a valuation of the liabilities for service in the previous plan, we recommend a transfer of $246,942 with accrued interest thereon from June 30, 2022 be made from the Plan A trust to the Plan B trust for Fiscal 2022.

PLAN A – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit IX. The average active member is 48 years old with 9.31 years of service and an annual salary of $41,520. The plan's active membership, inclusive of DROP participants, decreased by 98 members during the fiscal year. The plan has experienced a decrease in the active plan population of 424 members over the last five years. A review of the active census by age indicates that over the last ten years the proportion of the population between age thirty and forty and above age sixty has increased while the proportion of active members between age forty and sixty has decreased. Over the same ten-year period the plan showed an increase in the proportion of members with less than ten years of service.

The average regular retiree is 71 years old with a monthly benefit of $1,911. The average age at retirement for regular retirees is 60. The number of retirees and beneficiaries receiving benefits from the system increased by 59 during the fiscal year; over the last five years the number of retirees has increased by 315 and benefit payments have increased by $15,699,105.

Plan liability experience for Fiscal 2022 was slightly unfavorable. Withdrawals were significantly above expected levels; disabilities were slightly below expected levels and retiree deaths were above expected levels. These factors tend to decrease costs. Retirements, DROP entries, and average salary increases above expected levels offset these savings. Overall, plan liability losses increased the normal cost accrual rate by 0.0117%.

PLAN B – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit XIX. The average active member is 50 years old with 9.17 years of service and an annual salary of $39,750. The plan's active membership, inclusive of DROP participants, increased by 17 members during the fiscal year. The plan has experienced a decrease in the active plan population of 128 members over the last five years. A review of the active census by age indicates that over the last ten years the population between age thirty and sixty has decreased while the proportion of active members over age sixty increased. Over the same ten-year period the plan showed an increase in the proportion of members with less than five years of service while the proportion of members between five and fifteen years of service has decreased.

The average regular retiree is 73 years old with a monthly benefit of $1,158. The average age at retirement for regular retirees is 64. The number of retirees and beneficiaries receiving benefits from the system increased by 34 during the fiscal year; over the last five years the number of retirees has increased by 134 and benefit payments have increased by $3,663,284.

Plan liability experience for Fiscal 2022 was slightly favorable. Retiree deaths were above expected levels, disabilities and active retirements were below expected levels. These factors tend to decrease costs. DROP entries, DROP-Return to Work Retirements, and average salary increases above projected levels partially offset these savings. Overall, plan liability gains decreased the normal cost accrual rate by 0.0665%.

FUNDING ANALYSIS AND RECOMMENDATIONS

Actuarial funding of a retirement system is a process whereby funds are accumulated over the working lifetimes of employees in such a manner as to have sufficient assets available at retirement to pay for the lifetime benefits accrued by each member of the system. The required contributions are determined by an actuarial valuation based on rates of mortality, termination, disability, and retirement, as well as investment return and other statistical measures specific to the particular group. Each year a determination is made of two cost components, 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 amortization payment on the unfunded actuarial accrued liability. The normal cost refers to the portion of annual cost based on the salary of active participants. The term unfunded accrued liability (UAL) refers to the excess of the present value of plan benefits over the sum of current assets and future normal costs. Each year the UAL grows with interest and is reduced by payments. The funding method in use for Plan A includes both normal cost and amortization of an unfunded actuarial accrued liability. The funding method in use for Plan B accounts for the fact that there is no unfunded actuarial accrued liability and therefore no need to account for an amortization payment. Neither funding method accounts for changes in plan experience, benefits, or assumptions within the 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 (if any). Thus, the determination of what contribution is actuarially required depends upon the funding method and amortization schedules employed. Regardless of the method selected, the ultimate cost of providing benefits is dependent upon the benefits, expenses, and investment earnings. Only to the extent that some methods accumulate assets more rapidly and thus produce greater investment earnings does the funding method affect the ultimate cost.

Under the provisions of R.S. 11:103, excess or deficient contributions typically decrease or increase future normal costs. However, if the minimum net direct employer contribution is scheduled to decrease, the Board may maintain the contribution rate at some level above the minimum recommended rate. Pursuant to R. S. 11:105 and R. S. 11:107, such excess contributions are credited to the Funding Deposit Account. In addition, in accordance with R.S. 11:106, the Board may set the employer contribution rate up to 3% more than the minimum required contribution rate; any additional funds collected are credited to the Funding Deposit Account.

For Plan A, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The employer normal cost for Fiscal 2023 adjusted for mid-year payment is $48,434,237. The amortization payment on the plan’s frozen unfunded actuarial accrued liability adjusted for mid-year payment is $8,577,632. The total actuarially required contribution is determined by adding estimated administrative expenses to these two values. As given on line 16 of Exhibit I the gross actuarially required employer contribution for Fiscal 2023 is $58,789,872. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' minimum net direct actuarially required contribution for Fiscal 2023 is $51,541,784. This is 27.78% of the projected Plan A payroll for Fiscal 2023.

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 would increase required contributions (unless it is offset by a withdrawal from the Funding Deposit Account). 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 cost structure for Plan A are outlined below:

Employer's Normal Cost Accrual Rate – Fiscal 2022	28.3388%
Factors Increasing the Normal Cost Accrual Rate:	
Asset Experience Loss	0.9502%
Plan Liability Experience Loss	0.0117%
Cost of Living Increase	0.7969%
Factors Decreasing the Normal Cost Accrual Rate:	
Cost of Living Increase Funded from FDA	0.7969%
New Members	2.0031%
Employer's Normal Cost Accrual Rate – Fiscal 2023	27.2976%

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 for Plan A these funds collected in Fiscal 2023 will decrease by 0.11% of payroll. We also estimate the amortization payment on the fund's UAL will increase by 0.17% of projected payroll. The net effect of the above changes in the cost structure of the system resulted in a minimum actuarially required net direct employer contribution rate for Fiscal 2023 for Plan A of 27.78%; the board approved employer contribution rate for Fiscal 2023 is 29.50% of payroll (inclusive of funds withdrawn from the Funding Deposit Account). 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 for Plan A of 27.75% for Fiscal 2024.

For Plan B, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit XI. The normal cost for Fiscal 2023 adjusted for mid-year payment is $13,238,990. Based upon the Board of Trustees' decision to use a portion of the credit balance in the plan's Funding Deposit Account to pay off the remaining balance on the frozen unfunded accrued liability in Fiscal 2018, there is no projected amortization payment in the calculation of the minimum recommended net direct employer contribution rate for Fiscal 2024. The total actuarially required contribution is determined by adding estimated administrative expenses to the normal cost accrual rate. As given on line 12 of Exhibit XI the gross actuarially required employer contribution for Fiscal 2023 is $13,992,229. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' minimum net direct actuarially required contribution for Fiscal 2023 is $10,921,625. This is 13.37% of the projected Plan B payroll for Fiscal 2023.

The effects of various factors on the cost structure for Plan B are outlined below:

Employer's Normal Cost Accrual Rate – Fiscal 2022	18.8043%
Factors Increasing the Normal Cost Accrual Rate:	
Asset Experience Loss	0.6070%
Cost of Living Increase	0.3480%
Factors Decreasing the Normal Cost Accrual Rate:	
Plan Liability Experience Gain	0.0665%
Cost of Living Increase Funded from FDA	0.3480%
New Members	1.4009%
Employer's Normal Cost Accrual Rate – Fiscal 2023	17.9439%

We estimate that for Plan B, the funds collected from ad valorem taxes and revenue sharing funds in Fiscal 2023 will decrease by 0.20% of payroll. The net effect of the above changes in the cost structure of the system resulted in a minimum actuarially required net direct employer contribution rate for Fiscal 2023 for Plan B of 13.37%; the actual employer contribution rate for Fiscal 2023 is 15.50% of payroll. 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 for Plan B of 13.25% for Fiscal 2024.

For Plan A, the Board may set the net direct employer contribution at any rate between 27.75% and 30.75%. For Plan B, the board may set the rate at any rate between 13.25% and 16.25%. Should the net direct employer contribution rate be set at a level above the minimum rate under R.S. 11:107, the resulting additional contributions paid by the employers, if they exceed any potential contribution losses, would be added to the Funding Deposit Account for both Plans A and B.

Both Plan A and Plan B have Funding Deposit Account Credit Balances. Both plans experienced a contribution gain due to a net direct employer contribution rate set above the minimum recommended employer contribution rate during Fiscal 2022. Therefore, surplus contributions were credited to the Funding Deposit Account ($7,360,583 for Plan A and $1,475,806 for Plan B) during the year. In accordance with R.S. 11:107.1(D), the balances were adjusted for the accrual of interest at the valuation interest rate. The remaining funds in these accounts may be used to reduce the outstanding unfunded accrued liability, reduce the future normal costs, fund cost of living increases to retirees, or reduce contributions for specified fiscal years.

COST OF LIVING INCREASES

During Fiscal 2022 the actual cost of living (as measured by the US Department of Labor CPI-U) increased by 9.1%. Cost of living provisions for the system are detailed in R.S. 11:1761, R.S. 11:246, and R.S. 11:241. R.S. 11:1761 allows the Board to use interest earnings in excess of the normal requirements to grant annual cost of living increases of 2% of each retiree's original benefit. R.S. 11:246 provides cost of living increases of retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. R.S. 11:241 provides for cost-of-living benefits payable based on a formula equal to up to $1 times the total of the number of years of credited service accrued at retirement or at death of the member or retiree plus the number of years since retirement or since death of the member or retiree to the system's fiscal year end preceding the payment of the benefit increase. The provisions of R.S. 11:241 do not repeal provisions relative to cost-of-living adjustments contained within the individual laws governing systems; however, they are to be controlling in cases of conflict.

In addition, Act 113 of the 2008 Regular Legislation Session provides for a COLA of 3% of the normal monthly benefit but not less than $20 per month. Although this COLA is permanent, it may only be granted once. This one-time cost of living increase may only be paid from excess interest earnings.

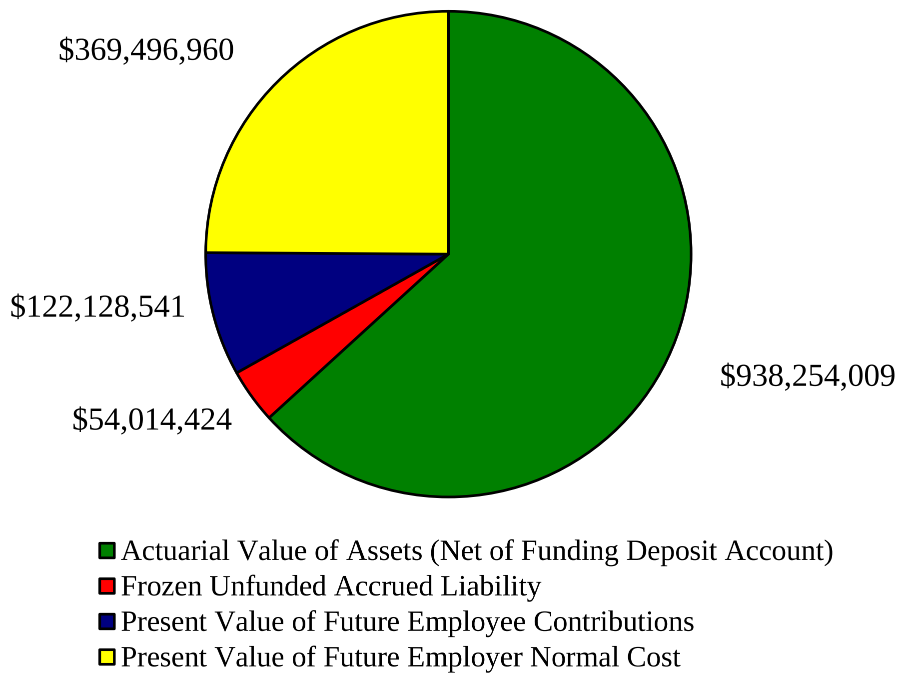
Based upon the irrevocable election of the Board of Trustees to accept the alternative method for determining eligibility to authorize cost of living increases under Act 170 of the 2013 Legislative Session, the ratio of the plan's assets to benefit obligations must meet the criteria established in R.S. 11:243. Under this section, the system would only be authorized to grant a COLA under R. S. 11:241, R.S. 11:246, or R. S. 11: 1761 in fiscal years in which the rate of return on an actuarial basis exceeds the valuation interest rate and one of the following applies:

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

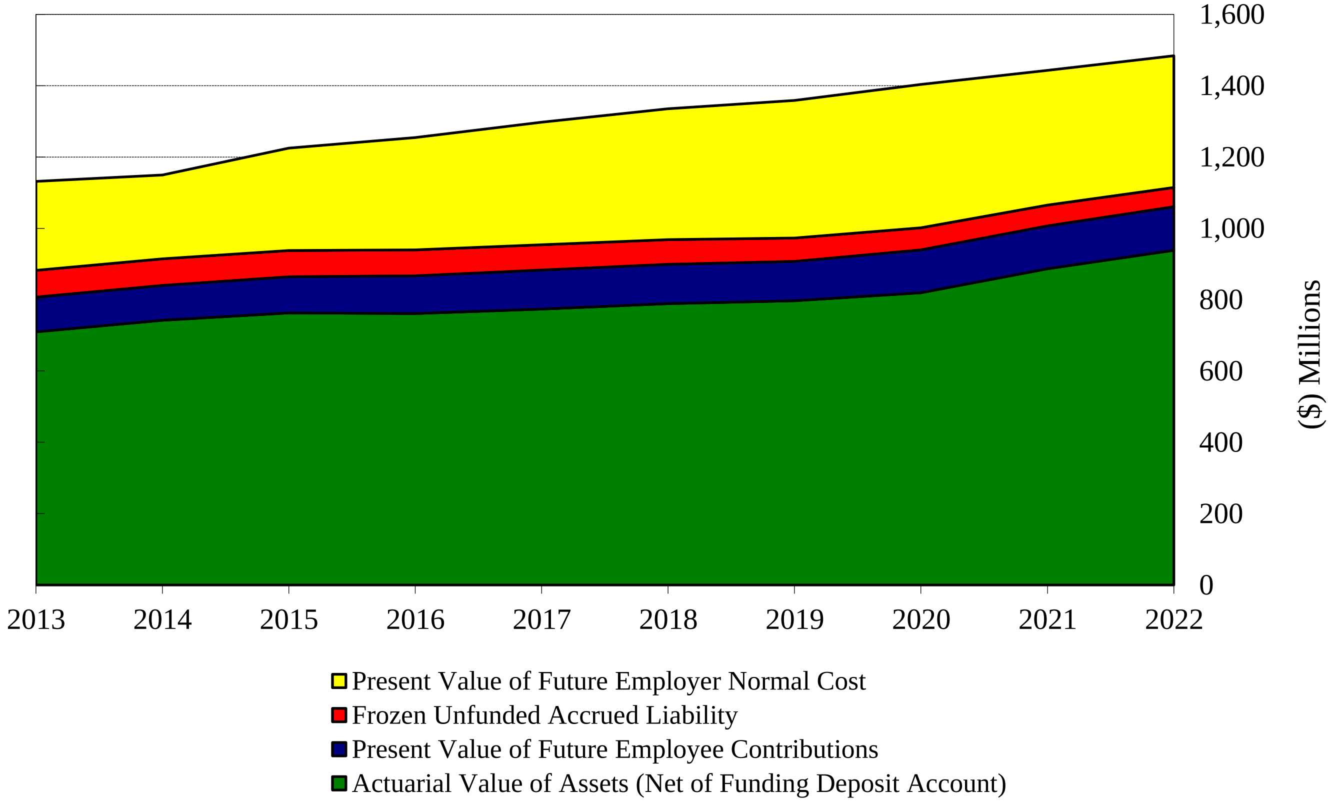
The system's Board of Trustees voted in the March 17, 2022 meeting to approve a 1.6% of original benefit cost-of-living increase to all retirees and survivors who have received benefits for at least one year. The COLA was effective July 1, 2022 and was funded through a reduction each plans' Funding Deposit Account.

Based on the frequency rules within R.S. 11:243 and since neither plan had excess interest earnings during fiscal 2022, the Board of Trustees is not authorized to grant a cost-of-living increase.

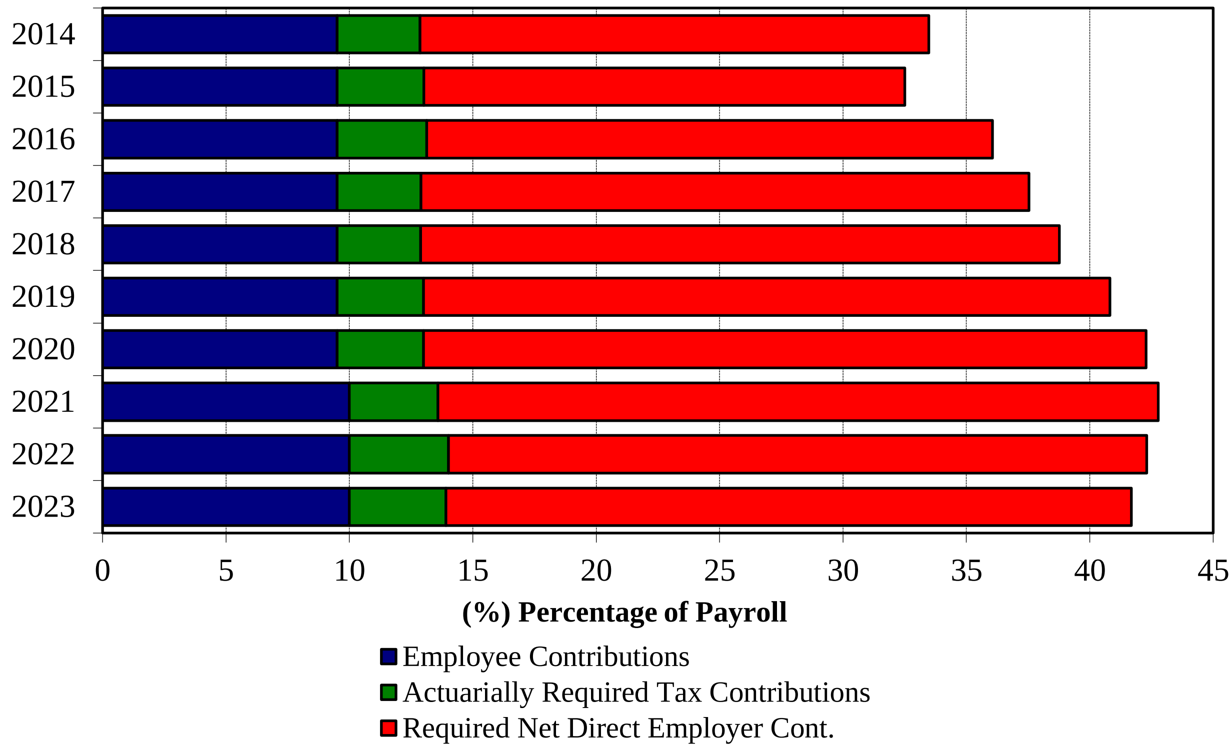
Plan A – Components of Present Value of Future Benefits
June 30, 2022



Plan A – Components of Present Value of Future Benefits

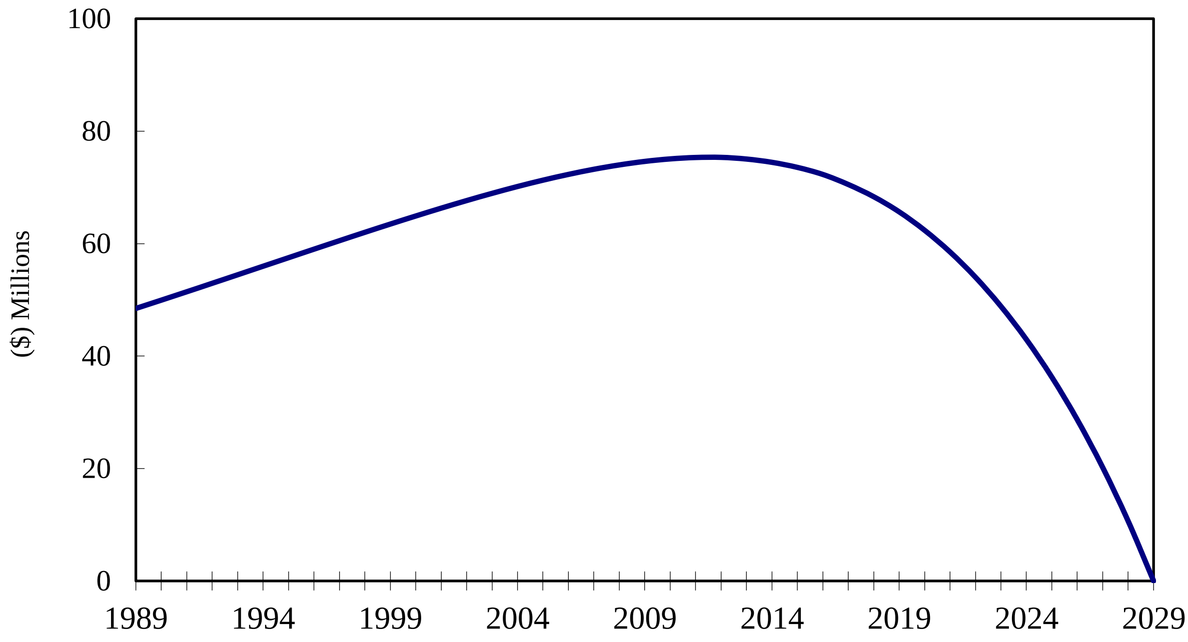


Plan A – Components of Actuarial Funding

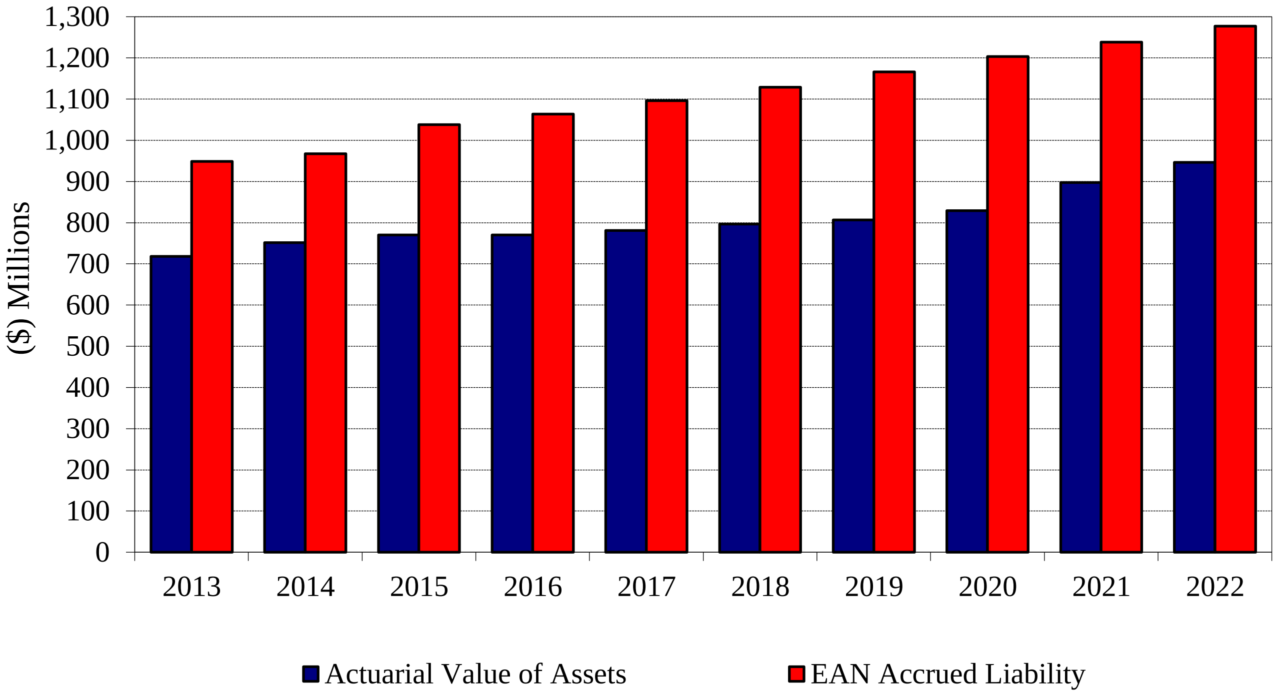


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

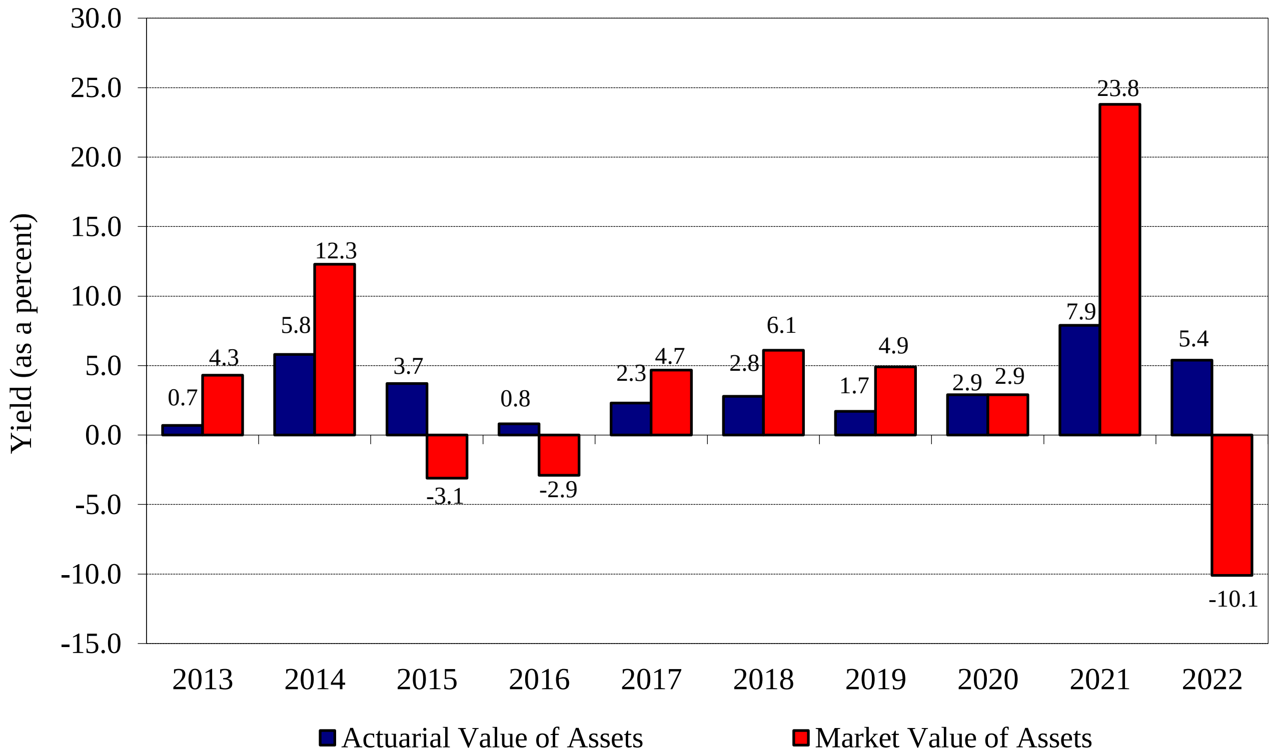
Plan A – Frozen Unfunded Accrued Liability



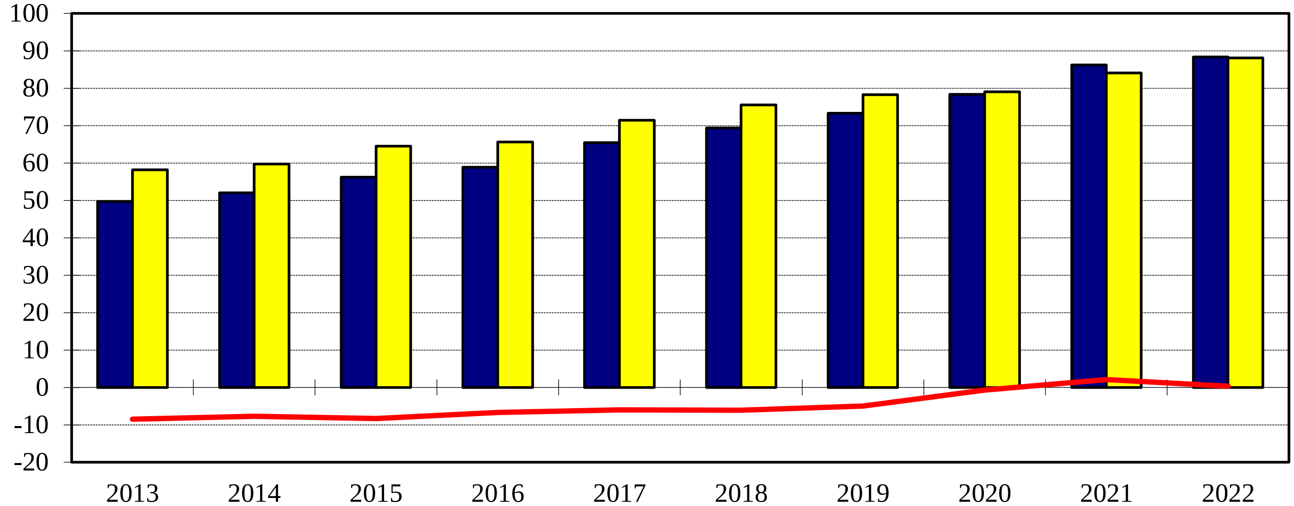
Plan A – Actuarial Value of Assets vs. EAN Accrued Liability



Plan A – Historical Asset Yield

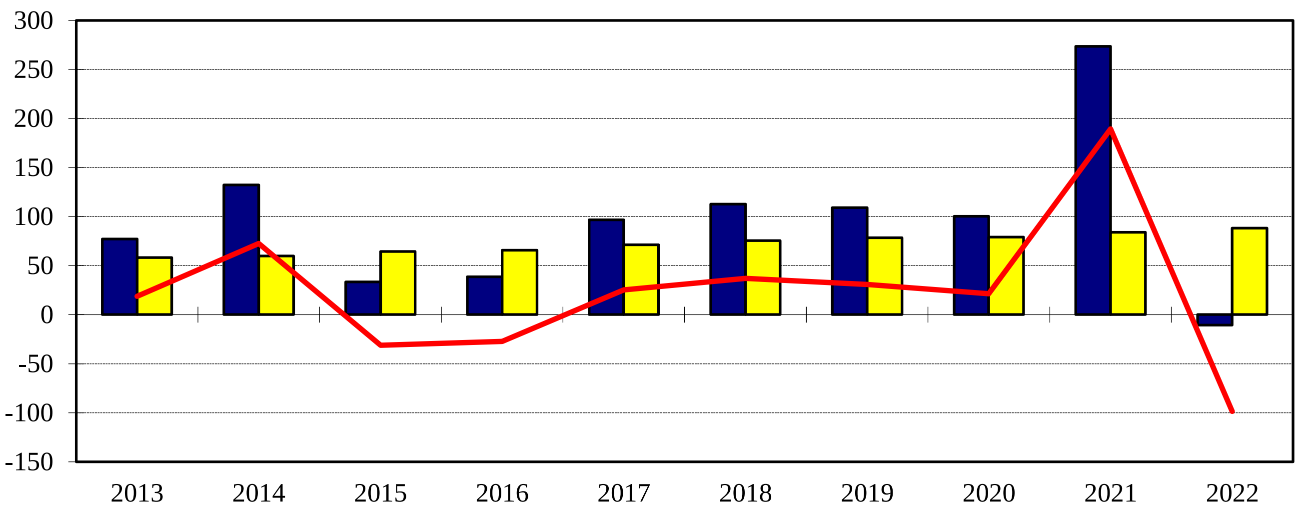


Plan A – Net Non-Investment Income



		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Non-Investment Income ($Mil)		49.7	52.0	56.2	58.9	65.4	69.4	73.3	78.3	86.2	88.4
Benefits and Expenses ($Mil)		58.2	59.7	64.5	65.6	71.4	74.5	78.3	79.0	84.1	88.1
Net Non-Investment Income ($Mil)		-8.5	-7.7	-8.3	-6.7	-6.0	-5.1	-5.0	-0.7	2.1	0.3

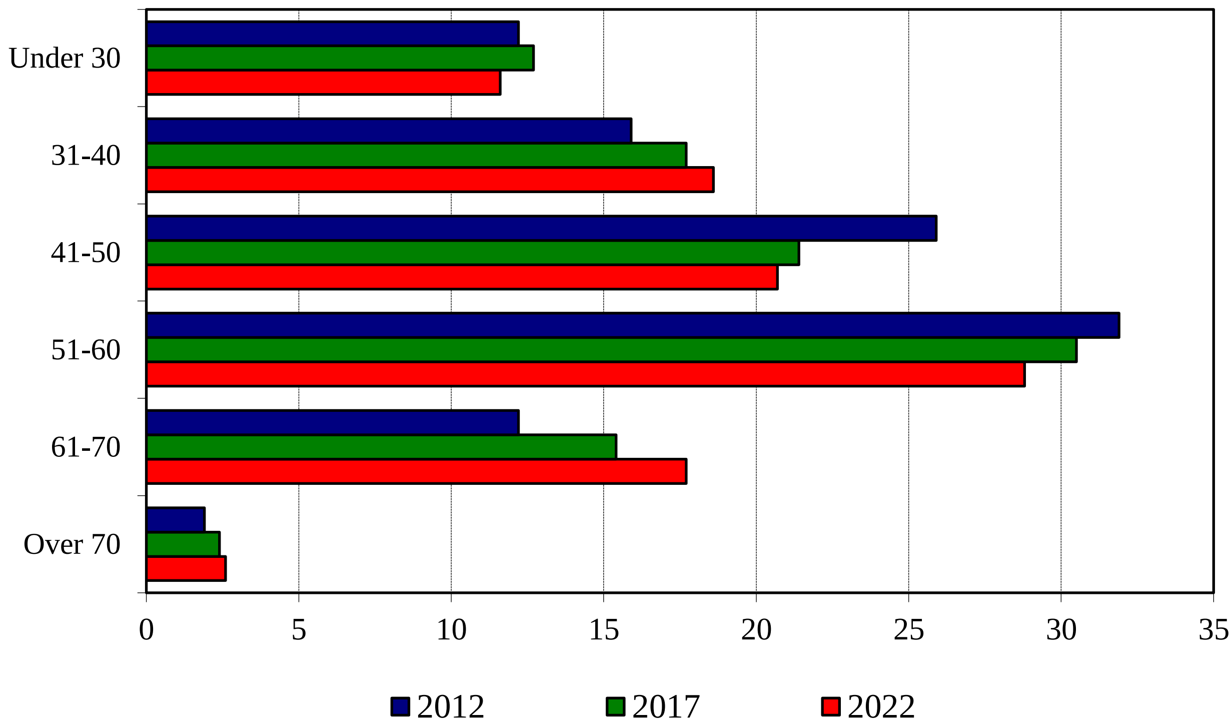
Plan A – Total Income vs. Expenses
(Based on Market Value of Assets)



		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Income ($Mil)		77.0	132.4	33.4	38.5	96.6	111.7	109.1	100.2	273.5	-10.5
Benefits and Expenses ($Mil)		58.2	59.7	64.5	65.6	71.4	74.5	78.3	79.0	84.1	88.1
Net Change in MVA ($Mil)		18.8	72.7	-31.1	-27.1	25.2	37.2	30.8	21.2	189.4	-98.6

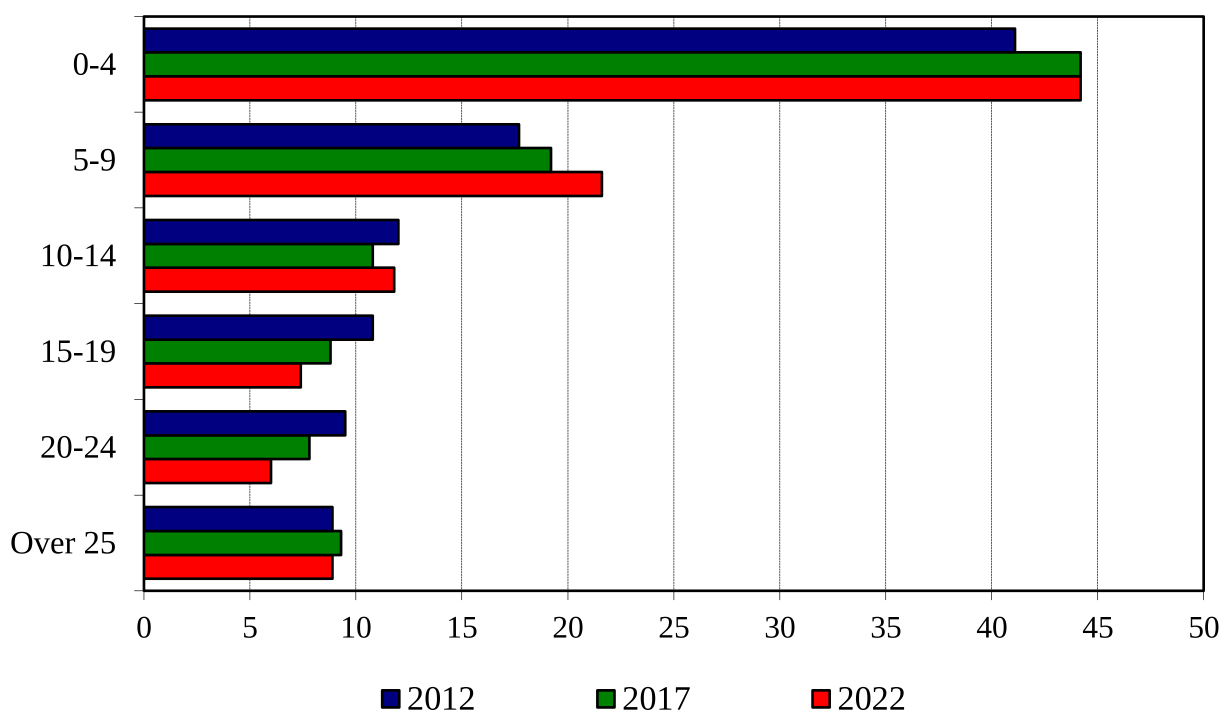
Plan A – Active – Census By Age

(as a percent)

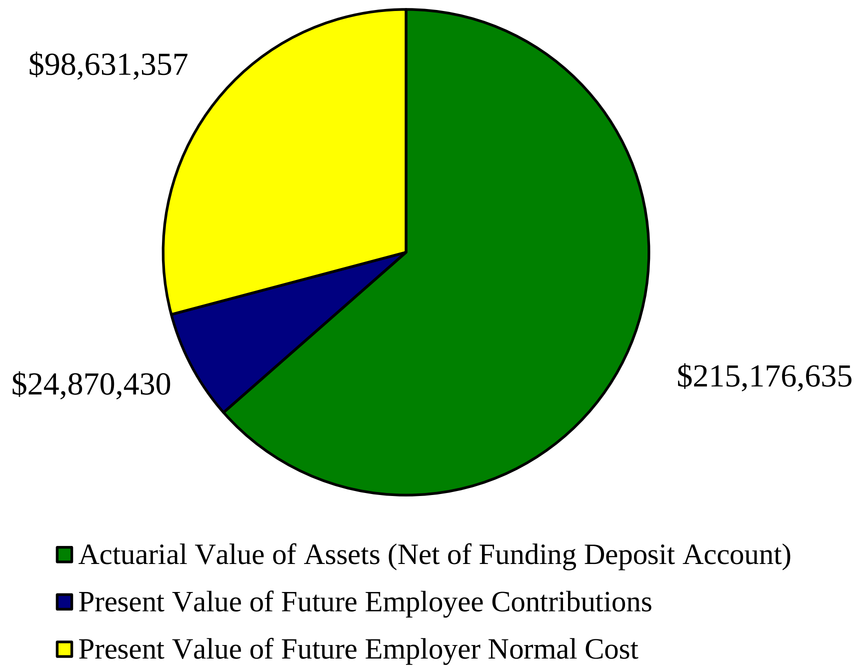


Plan A – Active – Census By Service

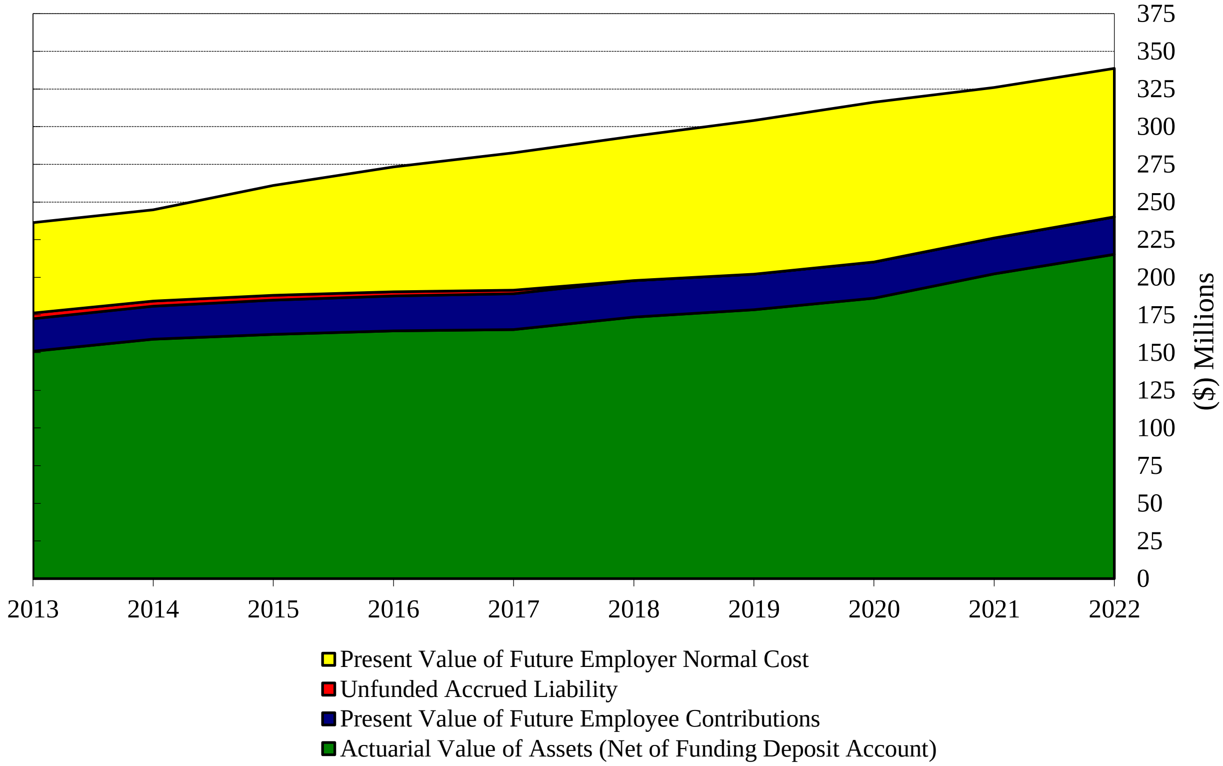
(as a percent)



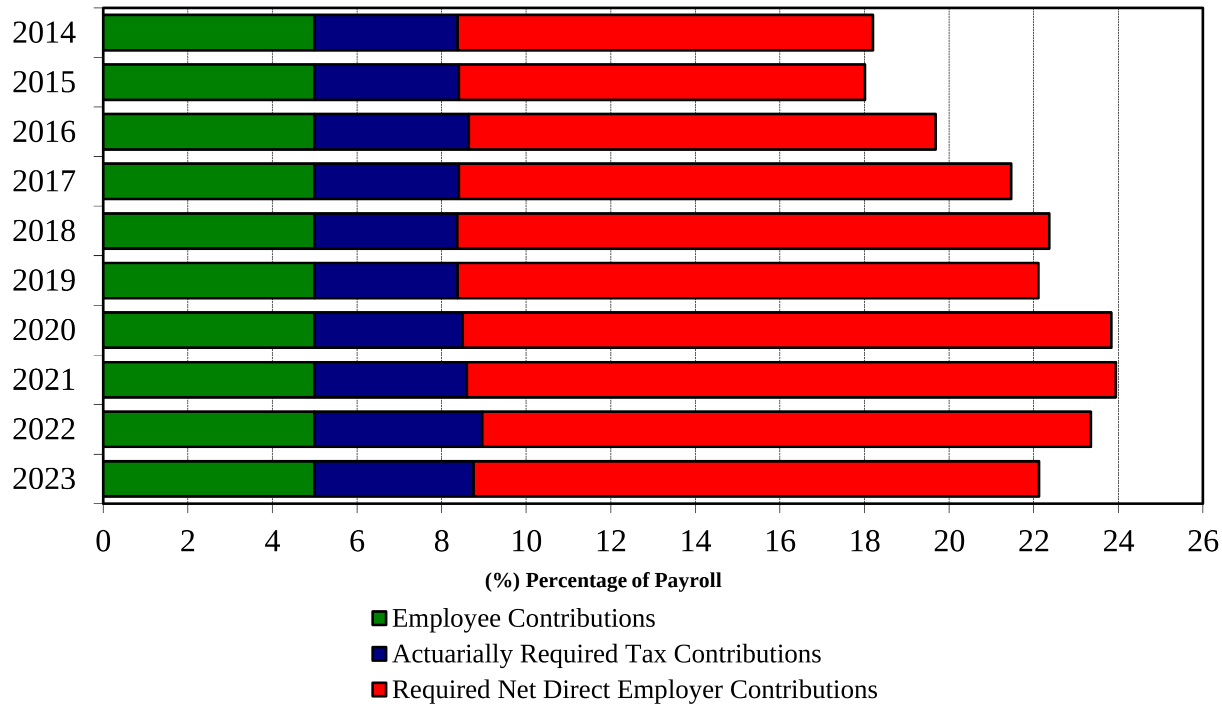
Plan B – Components of Present Value of Future Benefits
June 30, 2022



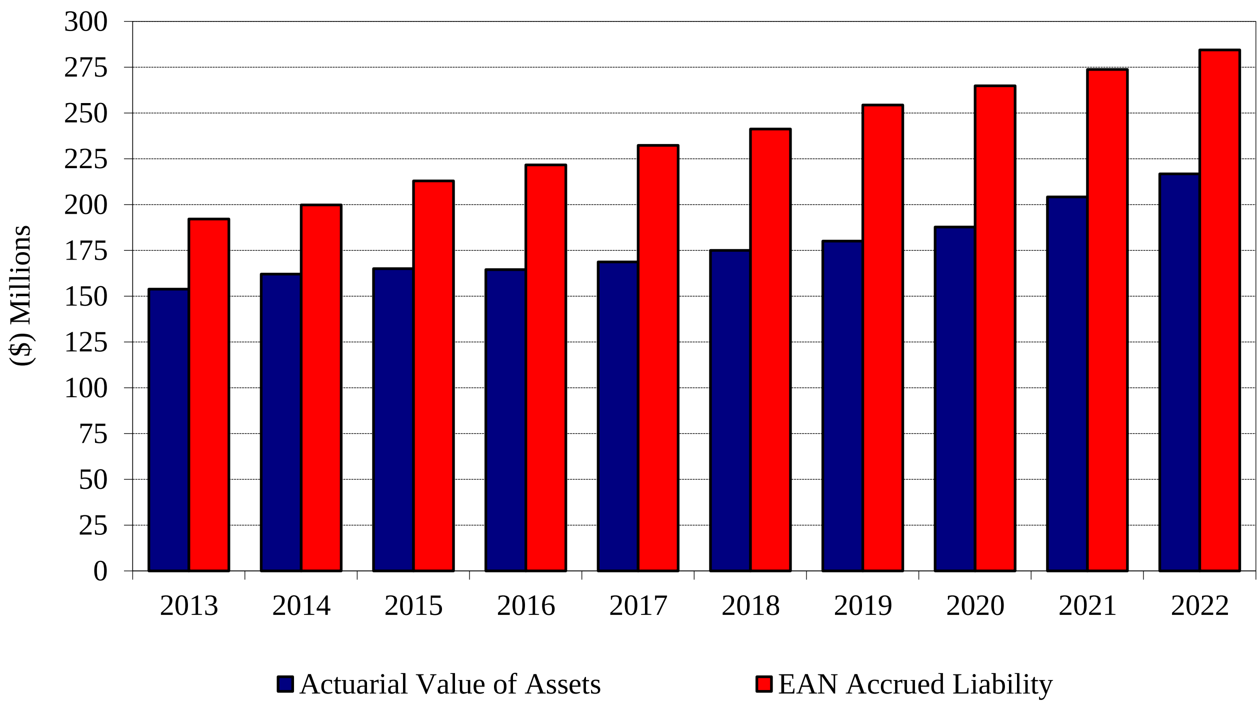
Plan B – Components of Present Value of Future Benefits



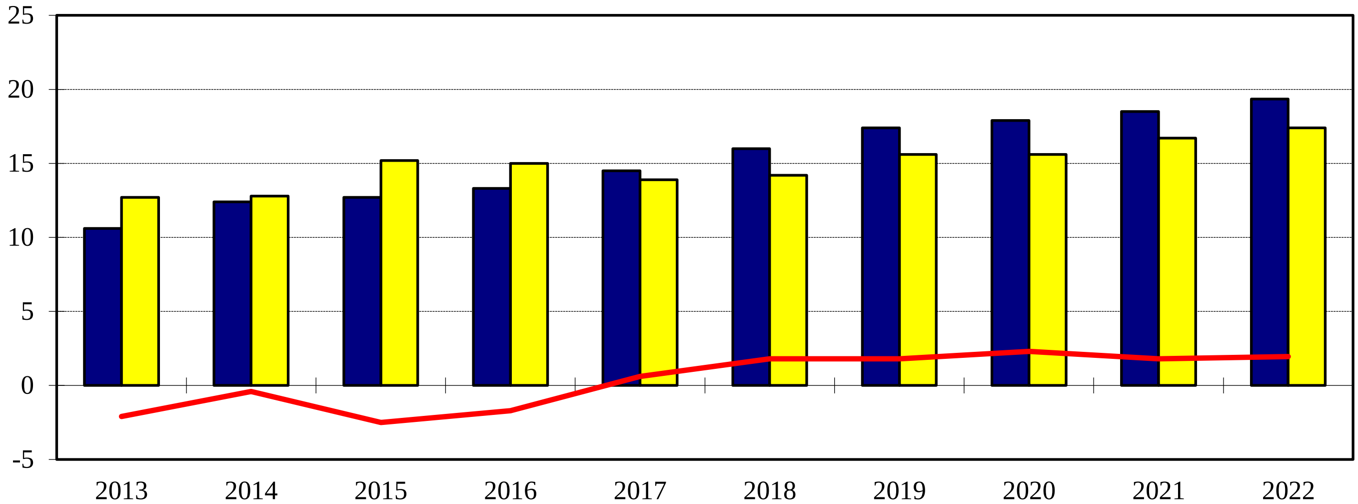
Plan B – Components of Actuarial Funding



Plan B – Actuarial Value of Assets vs. EAN Accrued Liability

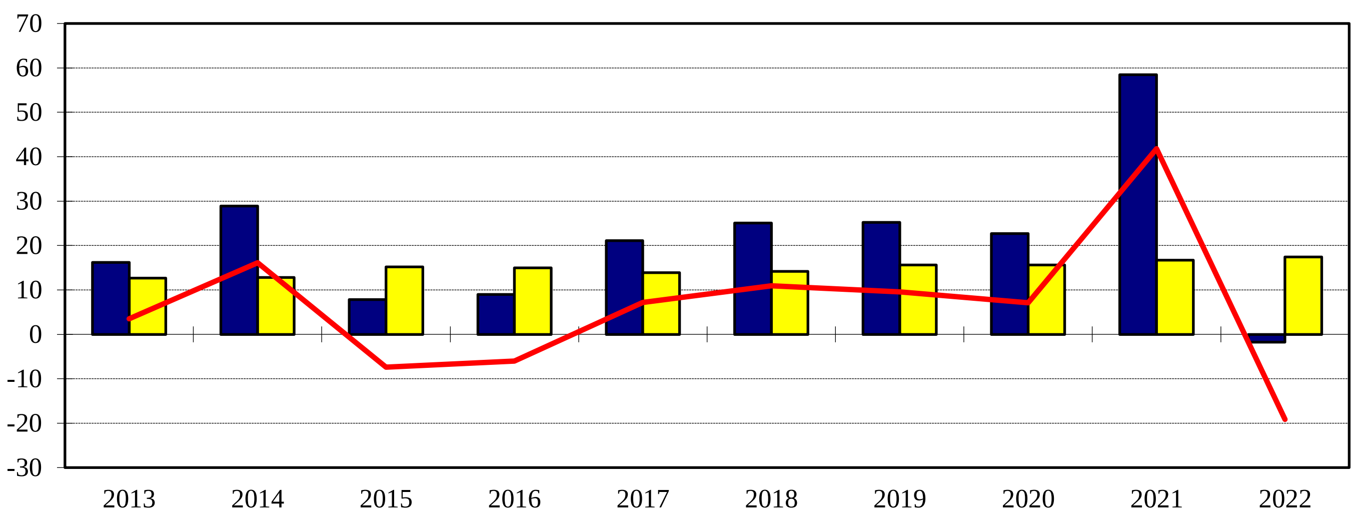


Plan B – Net Non-Investment Income



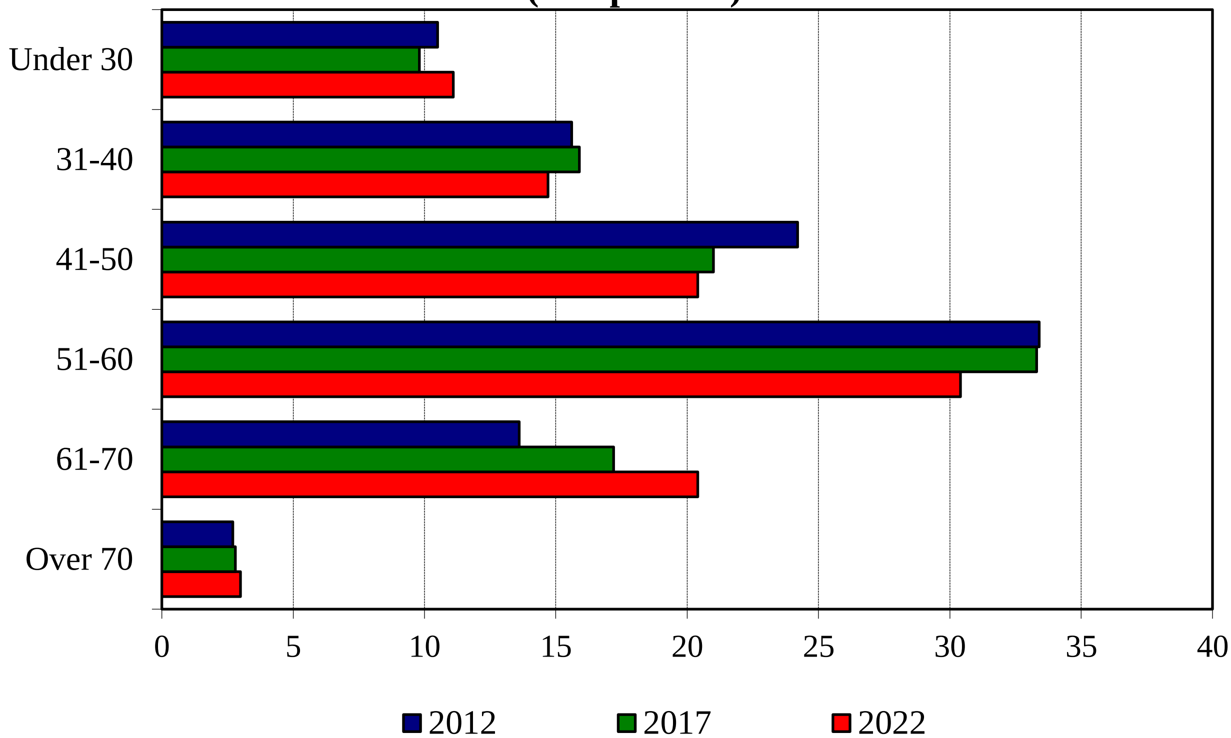
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Non-Investment Income ($Mil)		10.6	12.4	12.7	13.3	14.5	16.0	17.4	17.9	18.5	19.3
Benefits and Expenses ($Mil)		12.7	12.8	15.2	15.0	13.9	14.2	15.6	15.6	16.7	17.4
Net Non-Investment Income ($Mil)		-2.1	-0.4	-2.5	-1.7	0.6	1.8	1.8	2.3	1.8	1.9

Plan B – Total Income vs. Expenses
(Based on Market Value of Assets)

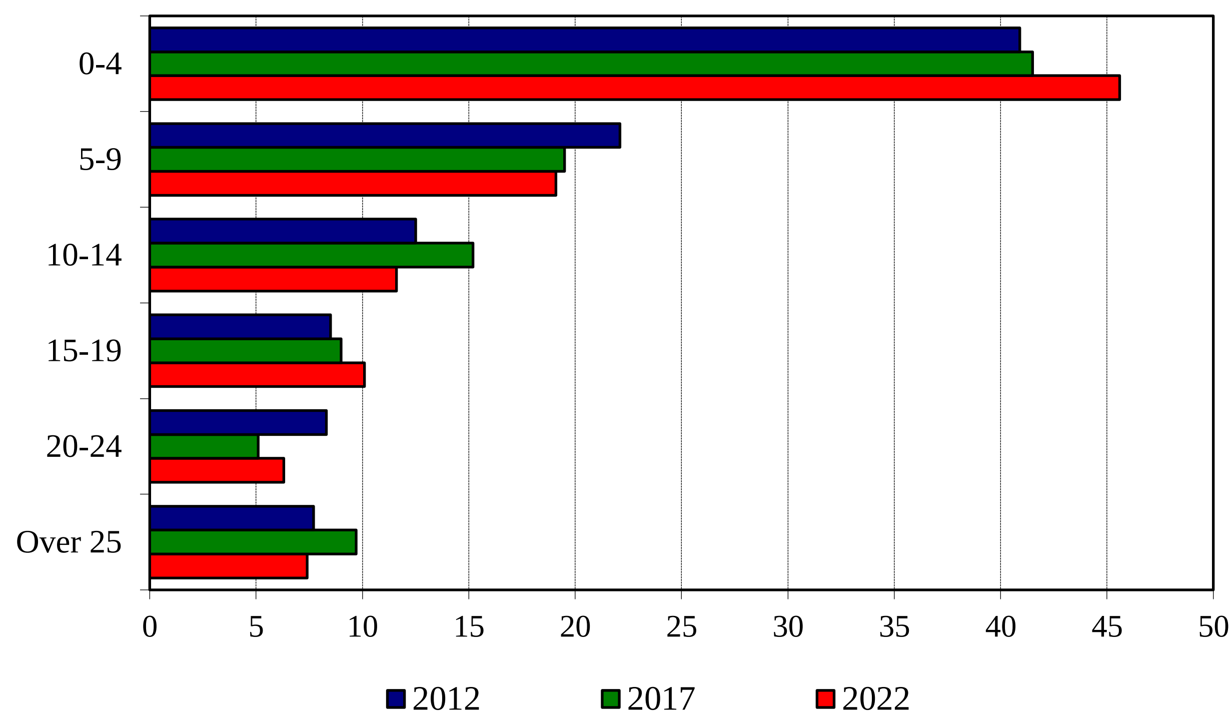


		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Income ($Mil)		16.2	28.9	7.8	9.0	21.1	25.1	25.2	22.7	58.5	-1.7
Benefits and Expenses ($Mil)		12.7	12.8	15.2	15.0	13.9	14.2	15.6	15.6	16.7	17.4
Net Change in MVA ($Mil)		3.5	16.1	-7.4	-6.0	7.2	10.9	9.6	7.1	41.8	-19.1

Plan B – Active – Census By Age
(as a percent)



Plan B – Active – Census By Service
(as a percent)



Plan B – Historical Asset Yield

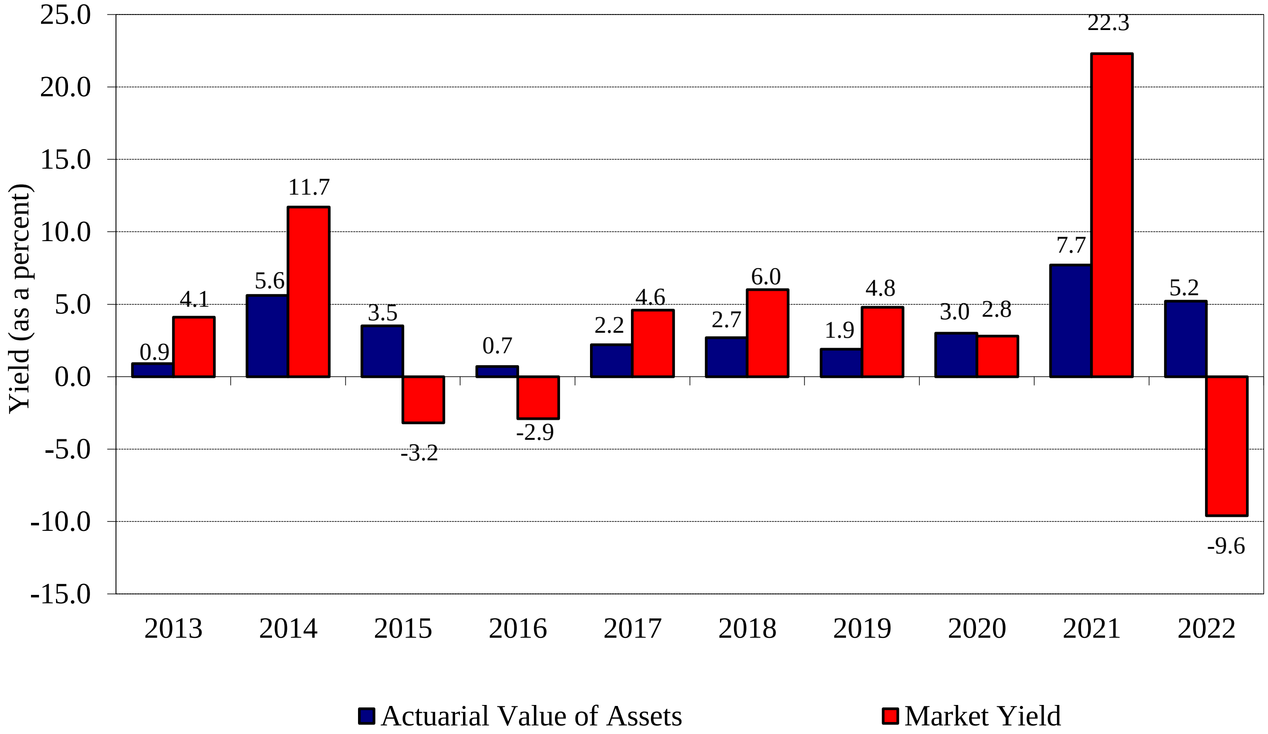


EXHIBIT I
PLAN A: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	$	1,483,893,934
2.	Funding Deposit Account Credit Balance	$	8,002,037
3.	Frozen Unfunded Actuarial Accrued Liability	$	54,014,424
4.	Actuarial Value of Assets	$	946,256,046
5.	Present Value of Future Employee Contributions	$	122,128,541
6.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4 – 5)	$	369,496,960
7.	Present Value of Future Salaries	$	1,353,585,736
8.	Employer Normal Cost Accrual Rate (6 ÷ 7)		27.297640%
9.	Projected Fiscal 2023 Salary for Current Membership	$	171,648,535
10.	Employer Normal Cost as of July 1, 2022 (8 × 9)	$	46,855,999
11.	Employer Normal Cost Interest Adjusted for Mid-year Payment	$	48,434,237
12.	Amortization Payment on Frozen Unfunded Accrued Liability with Payments Increasing at 4.25% per year	$	8,298,128
13.	Amortization Payment Interest Adjust for Mid-year Payment	$	8,577,632
14.	TOTAL Employer Normal Cost & Amortization Payment (11 + 13)	$	57,011,869
15.	Estimated Administrative Cost for Fiscal 2023	$	1,778,003
16.	Gross Employer Actuarially Required Contribution for Fiscal 2023 (14 + 15)	$	58,789,872
17.	Projected Ad Valorem Tax Contributions for Fiscal 2023	$	(7,135,592)
18.	Projected Revenue Sharing Funds for Fiscal 2023	$	(112,496)
19.	Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2023 (16 + 17 + 18)	$	51,541,784
20.	Projected Payroll for Fiscal 2023	$	185,557,555
21.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2023 (19 ÷ 20)		27.78%
22.	Board Approved Employer Contribution Rate for 2023		29.50%
23.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2024 (21, Rounded to the nearest 0.25%)		27.75%

EXHIBIT II
PLAN A: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$ 583,310,473		
Survivor Benefits	13,397,320		
Disability Benefits	13,528,274		
Vested Termination Benefits	51,153,183		
Refunds of Contributions	24,731,814		
TOTAL Present Value of Future Benefits for Active Members		$ 686,121,064	

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$ 29,688,352		
Terminated Members with Reciprocals Due Benefits at Retirement	788,588		
Terminated Members Due a Refund	6,876,533		
TOTAL Present Value of Future Benefits for Terminated Members		$ 37,353,473	

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees			
Maximum	$ 271,085,894		
Option 2	293,969,500		
Option 3	91,080,154		
Option 4	3,024,079		
TOTAL Regular Retirees		$ 659,159,627	
Disability Retirees		13,506,784	
Survivors		75,957,897	
Reserve for Accrued Retiree DROP Account Balances		11,795,089	
TOTAL Present Value of Future Benefits for Retirees & Survivors			$ 760,419,397

TOTAL Present Value of Future Benefits	$ 1,483,893,934

EXHIBIT III – SCHEDULE A
PLAN A: MARKET VALUE OF ASSETS

CURRENT ASSETS:				
Cash in Banks	$	11,958,036		
Contributions and Taxes Receivable		7,488,295		
Accrued Interest and Dividends		8,696		
Investments Receivable		6,936,310		
Due (to) from Other Funds		5,857,884		
Other Current Assets		158,644		
TOTAL CURRENT ASSETS			$	32,407,865
Property, Plant & Equipment			$	1,801,174
INVESTMENTS:				
Cash Equivalents	$	2,165,931		
Equities		453,942,188		
Fixed Income		282,933,511		
Real Estate		75,540,241		
Alternative Investments		4,088,218		
Self-Directed Investments		25,631,512		
TOTAL INVESTMENTS			$	844,301,601
TOTAL ASSETS			$	878,510,640
CURRENT LIABILITIES:				
Accounts Payable	$	140,627		
Benefits Payable		11,119		
Refunds Payable		536,058		
Investments Payable		207,426		
Due to/(from) Plan B		246,942		
Other Post-Employment Benefits		159,402		
Other Current Liabilities		61,111		
TOTAL CURRENT LIABILITIES			$	1,362,685
MARKET VALUE OF ASSETS			$	877,147,955

EXHIBIT III – SCHEDULE B
PLAN A – ACTUARIAL VALUE OF ASSETS

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

Fiscal year 2022	$	(165,706,954)
Fiscal year 2021		132,640,795
Fiscal year 2020		(31,619,883)
Fiscal year 2019		(17,395,262)
Fiscal year 2018		(9,067,158)
Total for Five Years	$	(91,148,462)

Deferral of Excess (Shortfall) of Invested Income:

Fiscal year 2022 (80%)	$	(132,565,563)
Fiscal year 2021 (60%)		79,584,477
Fiscal year 2020 (40%)		(12,647,953)
Fiscal year 2019 (20%)		(3,479,052)
Fiscal year 2018 (0%)		0
Total Deferred for Year	$	(69,108,091)

Market Value of Plan Net Assets, End of Year	$	877,147,955
Preliminary Actuarial Value of Plan Assets, End of Year	$	946,256,046

Actuarial Value of Assets Corridor

85% of Market Value, End of Year	$	745,575,762
115% of Market Value, End of Year	$	1,008,720,148

Final Actuarial Value of Plan Net Assets, End of Year	$	946,256,046

EXHIBIT IV
PLAN A: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	122,128,541
Employer Normal Contributions to the Pension Accumulation Fund		369,496,960
Employer Amortization Payments to the Pension Accumulation Fund		54,014,424
Funding Deposit Account Credit Balance		(8,002,037)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	537,637,888

EXHIBIT V
PLAN A: CHANGE IN FROZEN UNFUNDED ACTUARIAL ACCRUED LIABILITY

Prior Year Frozen Unfunded Accrued Liability			$	58,511,472
Interest on Frozen Unfunded Accrued Liability	$	4,008,036		
TOTAL Interest Adjusted Cost Elements			$	4,008,036
Amortization Payment on the Unfunded Accrued Liability	$	7,959,835		
Interest on Amortization Payment		545,249		
Credited Withdrawals from Funding Deposit Account		0		
TOTAL Interest Adjusted Employer Contributions			$	8,505,084
NET Change in Frozen Unfunded Accrued Liability			$	(4,497,048)
CURRENT YEAR FROZEN UNFUNDED ACCRUED LIABILITY			$	54,014,424

EXHIBIT VI
PLAN A: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (June 30, 2021)			$	897,366,504
INCOME:				
Member Contributions	$	18,397,014		
Employer Contributions		59,490,126		
Ad Valorem Taxes and Revenue Sharing		7,121,442		
Transfers from Other Plan/Systems		3,353,116		
Total Contributions			$	88,361,698
Net Depreciation in Fair Value of Investments	$	(99,633,808)		
Interest & Dividend Income		2,691,706		
Investment Expense		(1,917,791)		
Net Investment Income			$	(98,859,893)
TOTAL Income			$	(10,498,195)
EXPENSES:				
Retirement Benefits	$	73,592,300		
DROP Disbursements		4,981,778		
Refunds of Contributions		5,591,630		
Funds Transferred to another System		2,138,443		
Transfer to/(from) Plan B		246,942		
Administrative Expenses		1,538,430		
TOTAL Expenses			$	88,089,523
Net Market Value Income for Fiscal 2022 (Income – Expenses)			$	(98,587,718)
Unadjusted Fund Balance as of June 30, 2022 (Fund Balance Previous Year + Net Income)			$	798,778,786
Adjustment for Actuarial Smoothing			$	147,477,260
Actuarial Value of Assets: (June 30, 2022)			$	946,256,046

EXHIBIT VII
PLAN A: FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of June 30, 2021	$	10,695,893
Interest on Opening Balance at 6.850%		732,669
Contributions to the Funding Deposit Account		7,360,583
Withdrawals from the Funding Deposit Account		(10,787,108)
Funding Deposit Account Balance as of June 30, 2022	$	8,002,037

EXHIBIT VIII – SCHEDULE A
PLAN A: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees	$	459,130,120
Present Value of Benefits Payable to Terminated Employees		37,353,473
Present Value of Benefits Payable to Current Retirees and Beneficiaries		760,419,397
TOTAL PENSION BENEFIT OBLIGATION	$	1,256,902,990
NET ACTUARIAL VALUE OF ASSETS	$	946,256,046
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation		75.28%

EXHIBIT VIII – SCHEDULE B
PLAN A: ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees	$	479,433,536
Accrued Liability for Terminated Employees		37,353,473
Accrued Liability for Current Retirees and Beneficiaries		760,419,397
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	$	1,277,206,406
ACTUARIAL VALUE OF ASSETS	$	946,256,046
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability		74.09%

EXHIBIT IX
CENSUS DATA – PLAN A

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2021	4,399	3,698	212	3,673	11,982
Additions to Census					
Initial membership	626	131			757
Omitted in error last year					
Death of another member				51	51
Adjustment for multiple records		5		1	6
Change in Status during Year					
Actives terminating service	(322)	322			
Actives who retired	(98)			98	
Actives entering DROP	(73)		73		
Term. members rehired	43	(43)			
Term. members who retire		(38)		38	
Retirees who are rehired	3	11		(14)	
Refunded who are rehired	12				12
DROP participants retiring			(42)	42	
DROP returned to work	34		(34)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(306)	(298)			(604)
Deaths	(12)	(13)	(2)	(157)	(184)
Included in error last year					
Adjustment for multiple records					
Number of members as of June 30, 2022	4,306	3,775	207	3,732	12,020

Plan A Actives Census By Age:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	30	5	35	23,945	838,086
21 - 25	164	37	201	28,131	5,654,316
26 - 30	196	91	287	33,857	9,717,077
31 - 35	251	157	408	37,804	15,423,971
36 - 40	269	161	430	42,399	18,231,589
41 - 45	289	192	481	41,947	20,176,352
46 - 50	280	174	454	41,484	18,833,904
51 - 55	400	224	624	45,193	28,200,501
56 - 60	456	219	675	43,896	29,630,105
61 - 65	366	184	550	44,314	24,372,592
66 - 70	152	98	250	45,087	11,271,874
71 - 75	56	22	78	45,547	3,552,651
76 - 80	22	10	32	40,126	1,284,034
81 - 85	7	1	8	23,856	190,846
Total	2,938	1,575	4,513	41,520	187,377,898

Includes 1,940 actives with vested benefits, including 207 DROP participants and 173 active former DROP participants.

Plan A Drop Participants:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
46 - 50	4	1	5	35,256	176,282
51 - 55	28	8	36	44,919	1,617,076
56 - 60	29	12	41	43,768	1,794,497
61 - 65	47	40	87	24,655	2,145,006
66 - 70	18	16	34	20,154	685,222
71 - 75	4	0	4	26,687	106,748
Total	130	77	207	31,521	6,524,831

Plan A Terminated Members Due a Deferred Retirement Benefit:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	5	6	11	11,122	122,338
36 - 40	12	6	18	12,924	232,630
41 - 45	17	7	24	17,718	425,237
46 - 50	11	14	25	15,386	384,658
51 - 55	37	19	56	17,691	990,682
56 - 60	42	36	78	16,716	1,303,815
61 - 65	16	11	27	17,912	483,635
66 - 70	7	8	15	9,698	145,470
71 - 75	1	1	2	16,511	33,021
76 - 80	1	1	2	14,328	28,656
Total	149	109	258	16,086	4,150,142

Plan A Terminated Members Due a Refund of Contributions:

Contributions Ranging From	To	Number	Total Contributions
0	99	1,892*	100,946*
100	499	520	136,309
500	999	235	167,094
1,000	1,999	226	324,476
2,000	4,999	289	937,520
5,000	9,999	164	1,176,667
10,000	19,999	133	1,900,961
20,000	99,999	58	1,784,519
Total		3,517	6,545,512

* Includes 1,539 members due a refund who were not included in the data. Excludes $ 348,041 due to deceased members.

Plan A Regular Retirees:

Age			Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41	-	45	2	0	2	22,579	45,157
46	-	50	15	9	24	31,077	745,855
51	-	55	43	16	59	32,271	1,904,018
56	-	60	129	67	196	32,337	6,338,060
61	-	65	291	194	485	28,535	13,839,403
66	-	70	468	198	666	24,578	16,369,101
71	-	75	377	193	570	21,440	12,220,668
76	-	80	285	120	405	17,316	7,013,155
81	-	85	176	81	257	17,318	4,450,746
86	-	90	86	50	136	14,768	2,008,384
91	-	95	39	20	59	14,342	846,178
96	-	100	5	9	14	9,975	139,649
101	-	105	1	2	3	6,818	20,454
Total			1,917	959	2,876	22,928	65,940,828

Plan A Disability Retirees:

Age			Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41	-	45	1	2	3	14,735	44,204
46	-	50	5	0	5	17,643	88,217
51	-	55	13	2	15	15,071	226,071
56	-	60	14	5	19	14,912	283,329
61	-	65	19	9	28	12,471	349,189
66	-	70	8	4	12	8,220	98,644
71	-	75	10	4	14	8,137	113,922
76	-	80	2	3	5	6,604	33,018
81	-	85	5	1	6	7,799	46,792
86	-	90	1	0	1	9,837	9,837
91	-	95	1	0	1	6,069	6,069
Total			79	30	109	11,920	1,299,292

Plan A Survivors:

Age			Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0	-	20	3	4	7	7,706	53,942
31	-	35	1	2	3	10,186	30,559
36	-	40	0	6	6	10,469	62,811
41	-	45	3	5	8	11,750	93,997
46	-	50	5	5	10	14,755	147,547
51	-	55	2	18	20	12,124	242,484
56	-	60	6	40	46	10,682	491,377
61	-	65	8	69	77	15,444	1,189,166
66	-	70	6	82	88	13,992	1,231,255
71	-	75	8	90	98	14,597	1,430,487
76	-	80	9	117	126	11,456	1,443,415
81	-	85	8	113	121	11,536	1,395,832
86	-	90	3	76	79	9,455	746,952
91	-	95	0	47	47	10,520	494,461
96	-	100	0	7	7	5,730	40,111
101	-	105	0	4	4	7,076	28,304
Total			62	685	747	12,212	9,122,700

Plan A Active Members:

Attained Ages	Completed Years of Service 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 20	32	3	-	-	-	-	-	-	35
21 - 25	103	94	4	-	-	-	-	-	201
26 - 30	87	142	56	2	-	-	-	-	287
31 - 35	81	158	120	46	3	-	-	-	408
36 - 40	76	134	117	76	25	2	-	-	430
41 - 45	65	161	105	70	44	35	1	-	481
46 - 50	46	138	92	56	49	51	21	1	454
51 - 55	56	167	126	64	47	50	71	43	624
56 - 60	64	157	166	76	62	49	49	52	675
61 - 65	25	116	118	85	66	48	47	45	550
66 - 70	10	49	51	38	31	24	17	30	250
71 & Over	6	25	23	17	11	10	13	13	118
Total	651	1,344	978	530	338	269	219	184	4,513

Plan A Average Annual Salary of Active Members:

Attained Ages	Completed Years of Service 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 20	24,103	22,259	-	-	-	-	-	-	23,945
21 - 25	25,657	30,072	46,204	-	-	-	-	-	28,131
26 - 30	27,290	36,040	38,131	44,905	-	-	-	-	33,857
31 - 35	30,482	36,999	42,095	41,620	47,735	-	-	-	37,804
36 - 40	33,497	39,471	43,425	53,501	47,347	33,124	-	-	42,399
41 - 45	30,898	38,502	43,601	47,926	50,019	50,972	51,303	-	41,947
46 - 50	31,099	37,787	40,540	43,812	47,258	48,521	54,804	64,502	41,484
51 - 55	29,462	39,675	38,721	44,084	47,693	51,305	64,699	65,682	45,193
56 - 60	32,699	39,039	42,265	44,312	44,835	50,877	52,434	61,205	43,896
61 - 65	27,668	42,666	39,743	46,367	46,151	51,352	50,554	49,197	44,314
66 - 70	35,688	35,012	42,842	47,514	48,116	40,445	47,546	64,612	45,087
71 & Over	28,563	36,055	42,401	43,383	49,973	43,650	48,964	47,639	42,606
Total	29,500	37,858	41,416	46,325	47,195	49,275	55,644	58,930	41,520

Plan A Terminated Members Due A Deferred Retirement Benefit:

Attained Ages	Years until Retirement Eligibility 0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	11	11
36 - 40	-	-	-	-	-	-	1	17	18
41 - 45	-	-	-	-	-	2	18	4	24
46 - 50	-	-	-	-	1	21	2	1	25
51 - 55	1	-	-	6	46	-	3	-	56
56 - 60	24	17	17	17	1	2	-	-	78
61 - 65	22	2	1	1	1	-	-	-	27
66 - 70	13	2	-	-	-	-	-	-	15
71 &	4	-	-	-	-	-	-	-	4
Total	64	21	18	24	49	25	24	33	258

Plan A Average Annual Benefits of Terminated Members Due A Deferred Retirement Benefit:

Attained Ages	Years until Retirement Eligibility 0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	11,122	11,122
36 - 40	-	-	-	-	-	-	22,204	12,378	12,924
41 - 45	-	-	-	-	-	14,182	19,362	12,090	17,718
46 - 50	-	-	-	-	23,557	15,457	15,342	5,813	15,386
51 - 55	11,723	-	-	20,261	18,019	-	9,502	-	17,691
56 - 60	16,652	17,844	15,925	17,678	9,747	9,907	-	-	16,716
61 - 65	18,607	19,872	4,537	19,916	10,083	-	-	-	17,912
66 - 70	9,372	11,816	-	-	-	-	-	-	9,698
71 &	15,419	-	-	-	-	-	-	-	15,419
Total	15,691	17,463	15,292	18,417	17,802	14,911	17,913	11,725	16,086

Plan A Service Retirees:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	Total
0 - 50	7	6	2	6	5	-	-	-	26
51 - 55	14	7	9	17	9	3	-	-	59
56 - 60	29	17	11	31	73	27	6	2	196
61 - 65	47	62	51	77	116	78	46	8	485
66 - 70	43	49	39	102	232	94	81	26	666
71 - 75	15	27	19	44	166	180	69	50	570
76 - 80	4	6	10	18	58	118	135	56	405
81 - 85	3	4	2	4	16	41	69	118	257
86 - 90	1	1	-	2	6	13	22	91	136
91 & Over	-	-	1	-	2	1	7	65	76
Total	163	179	144	301	683	555	435	416	2,876

Plan A Average Annual Benefits Payable To Service Retirees:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	Total
0 - 50	37,693	32,102	37,243	29,105	17,087	-	-	-	30,424
51 - 55	32,561	30,365	33,906	31,392	35,265	26,471	-	-	32,271
56 - 60	38,314	40,412	41,337	30,576	32,258	24,383	15,725	14,941	32,337
61 - 65	21,621	28,614	28,815	32,183	33,502	27,737	20,681	12,558	28,535
66 - 70	20,677	26,602	20,534	23,841	25,612	28,562	23,787	15,011	24,578
71 - 75	14,700	29,636	17,295	21,791	21,247	21,041	22,932	20,318	21,440
76 - 80	14,948	18,698	24,863	23,926	19,211	14,346	15,418	22,739	17,316
81 - 85	26,084	23,527	16,093	16,782	14,266	15,871	14,889	19,261	17,318
86 - 90	40,239	21,964	-	21,600	25,473	12,058	12,402	14,511	14,768
91 & Over	-	-	33,825	-	28,389	14,705	13,103	12,450	13,241
Total	25,367	29,040	26,028	26,797	25,864	21,421	18,455	17,338	22,928

Plan A Disability Retirees:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	3	-	-	-	-	-	-	3
46 - 50	1	1	2	-	-	1	-	-	5
51 - 55	1	8	2	2	1	-	1	-	15
56 - 60	4	3	6	3	-	2	1	-	19
61 - 65	1	8	5	5	3	5	1	-	28
66 - 70	-	2	2	2	2	3	1	-	12
71 - 75	-	-	2	3	3	3	2	1	14
76 - 80	-	-	-	-	-	3	1	1	5
81 & Over	-	-	1	1	2	-	3	1	8
Total	7	25	20	16	11	17	10	3	109

Plan A Average Annual Benefits Payable To Disability Retirees:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	14,735	-	-	-	-	-	-	14,735
46 - 50	25,919	28,014	12,894	-	-	8,496	-	-	17,643
51 - 55	13,692	15,068	18,748	14,299	13,082	-	12,660	-	15,071
56 - 60	18,473	15,699	13,106	18,238	-	10,361	8,271	-	14,912
61 - 65	13,588	10,802	11,451	16,199	17,925	9,511	9,608	-	12,471
66 - 70	-	8,201	6,708	12,991	7,938	6,938	6,154	-	8,220
71 - 75	-	-	7,182	9,879	5,823	6,681	14,803	2,804	8,137
76 - 80	-	-	-	-	-	7,768	6,126	3,588	6,604
81 & Over	-	-	8,502	5,406	7,394	-	8,243	9,274	7,837
Total	18,156	13,707	11,773	14,083	10,454	8,290	9,715	5,222	11,920

Plan A Surviving Beneficiaries of Former Members:

Attained Ages	Completed Years Since Retirement								
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	5	-	2	-	-	-	-	7
31 - 35	-	2	-	1	-	-	-	-	3
36 - 40	-	3	2	-	1	-	-	-	6
41 - 45	-	2	2	4	-	-	-	-	8
46 - 50	-	5	-	2	1	1	-	1	10
51 - 55	1	4	6	2	4	2	-	1	20
56 - 60	1	12	5	5	8	7	4	4	46
61 - 65	2	15	17	13	17	4	4	5	77
66 - 70	2	17	13	12	16	13	7	8	88
71 - 75	-	20	10	14	22	15	8	9	98
76 - 80	1	21	7	12	32	25	20	8	126
81 & Over	-	15	4	15	25	60	46	93	258
Total	7	121	66	82	126	127	89	129	747

Plan A Average Annual Benefits Payable To Survivors of Former Members:

Attained Ages	Completed Years Since Retirement								
	0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	7,286	-	8,756	-	-	-	-	7,706
31 - 35	-	11,431	-	7,698	-	-	-	-	10,186
36 - 40	-	13,524	6,143	-	9,954	-	-	-	10,469
41 - 45	-	15,754	18,199	6,523	-	-	-	-	11,750
46 - 50	-	21,304	-	13,318	5,105	1,932	-	7,353	14,755
51 - 55	5,057	11,944	10,748	5,942	26,105	4,014	-	832	12,124
56 - 60	14,340	16,410	13,248	10,285	11,392	4,678	7,291	2,352	10,682
61 - 65	13,810	22,626	19,906	15,524	11,669	7,559	7,537	4,638	15,444
66 - 70	11,827	16,137	21,617	19,589	12,118	10,831	6,727	4,426	13,992
71 - 75	-	17,088	26,151	17,035	11,335	12,786	13,677	4,240	14,597
76 - 80	16,436	12,578	12,930	11,673	12,052	12,354	9,260	6,570	11,456
81 & Over	-	15,511	18,768	8,278	10,055	10,469	10,942	9,580	10,487
Total	12,444	15,991	18,575	13,181	11,820	10,571	10,161	8,200	12,212

EXHIBIT X
PLAN A: YEAR-TO-YEAR COMPARISON

	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019
Number of Active Members	4,513	4,611	4,783	4,795
Number of Retirees & Survivors	3,732	3,673	3,618	3,552
Number of Terminated Due Deferred Benefits	258	243	213	199
Number Terminated Due Refunds	3,517	3,455	3,322	3,191
Active Lives Payroll	$ 187,377,898	$ 185,740,910	$ 188,745,713	$ 183,483,655
Retiree Benefits in Payment	$ 76,362,820	$ 72,508,122	$ 69,264,254	$ 66,516,731
Market Value of Assets (MVA)	$ 877,147,955	$ 975,735,673	$ 786,276,078	$ 765,059,686
Actuarial Value of Assets (AVA)	$ 946,256,046	$ 897,366,504	$ 829,419,184	$ 806,503,031
Entry Age Normal Accrued Liability	$ 1,277,206,406	$ 1,238,502,345	$ 1,203,027,922	$ 1,165,954,887
Ratio of AVA to EAN Accrued Liability	74.09%	72.46%	68.94%	69.17%
Frozen Unfunded Actuarial Accrued Liability	$ 54,014,424	$ 58,511,472	$ 62,368,613	$ 65,648,756
Present Value of Future Employer Normal Cost	$ 369,496,960	$ 377,569,940	$ 401,841,036	$ 385,947,438
Present Value of Future Employee Contrib.	$ 122,128,541	$ 119,944,886	$ 119,736,262	$ 109,888,429
Funding Deposit Account Balance	$ 8,002,037	$ 10,695,893	$ 10,000,835	$ 9,346,575
Present Value of Future Benefits	$ 1,483,893,934	$ 1,442,696,909	$ 1,403,364,260	$ 1,358,641,079

	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Employee Contribution Rate	10.00%	10.00%	10.00%	9.50%
Estimated Tax Contribution as a % of Payroll	3.91%	4.02%	3.59%	3.50%
Actuarially Required Net Direct Employer Contribution Rate	27.78%	28.29%	29.18%	29.28%
Actual Employer Contribution Rate	29.50%	29.50%	29.50%	27.75%

Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
4,888	4,937	4,912	4,926	4,894	4,939
3,468	3,417	3,345	3,262	3,177	3,106
185	184	186	182	184	193
2,994	2,885	2,826	2,731	2,667	2,672
$ 181,786,660	$ 182,044,919	$ 177,777,678	$ 172,033,158	$ 167,852,836	$ 167,422,222
$ 63,184,393	$ 60,663,715	$ 57,895,282	$ 54,791,332	$ 51,636,071	$ 48,994,132
$ 734,226,194	$ 697,057,939	$ 671,876,210	$ 698,984,365	$ 730,072,543	$ 657,723,192
$ 797,679,469	$ 781,417,434	$ 769,849,744	$ 770,402,847	$ 751,235,484	$ 717,816,409
$ 1,129,080,666	$ 1,096,616,918	$ 1,063,558,257	$ 1,038,155,304	$ 967,584,136	$ 948,970,683
70.65%	71.26%	72.38%	74.21%	77.64%	75.64%
$ 68,334,864	$ 70,511,316	$ 72,227,730	$ 73,553,869	$ 74,454,702	$ 75,038,341
$ 367,352,092	$ 344,034,117	$ 315,256,488	$ 287,312,026	$ 235,357,990	$ 249,506,497
$ 110,664,765	$ 109,901,879	$ 105,774,692	$ 101,854,569	$ 97,716,362	$ 97,624,041
$ 8,712,724	$ 8,112,406	$ 8,421,235	$ 7,833,707	$ 8,930,139	$ 8,287,832
$ 1,335,318,466	$ 1,297,752,340	$ 1,254,687,419	$ 1,225,289,604	$ 1,149,834,399	$ 1,131,697,456

Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
9.50%	9.50%	9.50%	9.50%	9.50%	9.50%
3.50%	3.39%	3.40%	3.64%	3.52%	3.36%
27.53%	25.88%	24.64%	22.92%	19.48%	20.62%
26.00%	24.75%	23.25% *	19.75%	20.75% †	18.75%

* Includes 0.5% from the Funding Deposit Account
† Includes 1.0% from the Funding Deposit Account

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EXHIBIT XI
PLAN B: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	$	338,678,422
2.	Funding Deposit Account Credit Balance	$	1,560,738
3.	Actuarial Value of Assets	$	216,737,373
4.	Present Value of Future Employee Contributions	$	24,870,430
5.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4)	$	98,631,357
6.	Present Value of Future Salaries	$	549,665,090
7.	Employer Normal Cost Accrual Rate (5 ÷ 6)		17.943901%
8.	Projected Fiscal 2023 Salary for Current Membership	$	71,375,757
9.	Employer Normal Cost as of July 1, 2022 (7 × 8)	$	12,807,595
10.	Employer Normal Cost Interest Adjusted for Mid-year Payment	$	13,238,990
11.	Estimated Administrative Cost for Fiscal 2023	$	753,239
12.	Gross Employer Actuarially Required Contribution for Fiscal 2023 (10 + 11)	$	13,992,229
13.	Projected Ad Valorem Tax Contributions for Fiscal 2023	$	(3,022,946)
14.	Projected Revenue Sharing Funds for Fiscal 2023	$	(47,658)
15.	Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2023 (12 + 13 + 14)	$	10,921,625
16.	Projected Payroll for Fiscal 2023	$	81,695,407
17.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2023 (15 ÷ 16)		13.37%
18.	Board Approved Employer Contribution Rate for 2023		15.50%
19.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2024 (17, Rounded to the nearest 0.25%)		13.25%

EXHIBIT XII
PLAN B: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$	159,991,834		
Survivor Benefits		3,490,599		
Disability Benefits		6,997,778		
Vested Termination Benefits		11,873,381		
Refunds of Contributions		4,699,569		
TOTAL Present Value of Future Benefits for Active Members			$	187,053,161

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$	8,703,758		
Terminated Members with Reciprocals Due Benefits at Retirement		752,240		
Terminated Members Due a Refund		1,671,921		
TOTAL Present Value of Future Benefits for Terminated Members			$	11,127,919

PRESENT VALUE OF FUTURE BENEFITS FOR PENSIONERS:

Regular Retirees by Option Selected:						
Maximum	$	50,519,825				
Option 2		48,397,054				
Option 3		15,184,246				
TOTAL Regular Retirees			$	114,101,125		
TOTAL Disability Retirees			$	4,174,972		
TOTAL Survivors			$	19,274,318		
Reserve for Accrued Retiree DROP Account Balances			$	2,946,927		
TOTAL Present Value of Future Benefits for Retirees & Survivors					$	140,497,342

TOTAL Present Value of Future Benefits	$	338,678,422

EXHIBIT XIII – SCHEDULE A
PLAN B: MARKET VALUE OF ASSETS

CURRENT ASSETS:				
Cash in Banks	$	15,699,127		
Contributions and Taxes Receivable		1,288,940		
Accrued Interest and Dividends		7,615		
Investments Receivable		1,471,339		
Due (to) from Other Funds		(5,857,884)		
Other Current Assets		141		
TOTAL CURRENT ASSETS			$	12,609,278
Property Plant & Equipment			$	734,977
INVESTMENTS:				
Cash Equivalents	$	7,626,769		
Equities		96,290,766		
Fixed Income		60,016,199		
Real Estate		16,023,687		
Alternative Investments		870,602		
Self-Directed Investments		6,462,731		
TOTAL INVESTMENTS			$	187,290,754
TOTAL ASSETS			$	200,635,009
CURRENT LIABILITIES:				
Accounts Payable	$	30,898		
Benefits Payable		24,103		
Refunds Payable		97,057		
Investments Payable		43,999		
Due to/(from) Plan A		(246,942)		
Other Post-Employment Benefits		65,045		
Other Current Liabilities		30,371		
TOTAL CURRENT LIABILITIES			$	44,531
MARKET VALUE OF ASSETS			$	200,590,478

EXHIBIT XIII – SCHEDULE B
PLAN B – ACTUARIAL VALUE OF ASSETS

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

Fiscal year 2022	$	(36,210,804)
Fiscal year 2021		27,507,064
Fiscal year 2020		(7,205,168)
Fiscal year 2019		(4,002,113)
Fiscal year 2018		(2,132,350)
Total for Five Years	$	(22,043,371)

Deferral of Excess (Shortfall) of Invested Income:

Fiscal year 2022 (80%)	$	(28,968,643)
Fiscal year 2021 (60%)		16,504,238
Fiscal year 2020 (40%)		(2,882,067)
Fiscal year 2019 (20%)		(800,423)
Fiscal year 2018 (0%)		0
Total Deferred for Year	$	(16,146,895)

Market Value of Plan Net Assets, End of Year	$	200,590,478
Preliminary Actuarial Value of Plan Assets, End of Year	$	216,737,373

Actuarial Value of Assets Corridor

85% of Market Value, End of Year	$	170,501,906
115% of Market Value, End of Year	$	230,679,050

Final Actuarial Value of Plan Net Assets, End of Year	$	216,737,373

EXHIBIT XIV
PLAN B: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	24,870,430
Employer Normal Contributions to the Pension Accumulation Fund		98,631,357
Employer Amortization Payments to the Pension Accumulation Fund		0
Funding Deposit Account Credit Balance		(1,560,738)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	121,941,049

EXHIBIT XV
PLAN B: RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year	$ 12,905,819		
Interest on Normal Cost	884,049		
Administrative Expenses	627,766		
Interest on Expenses	21,146		
TOTAL Interest Adjusted Actuarially Required Employer Contributions		$	14,438,780
Direct Employer Contributions	$ 12,490,060		
Interest on Employer Contributions	420,700		
Ad Valorem Taxes and Revenue Sharing Funds	2,905,945		
Interest on Taxes and Revenue Sharing Funds	97,881		
TOTAL Interest Adjusted Employer Contributions		$	15,914,586
CONTRIBUTION SURPLUS (DEFICIENCY)		$	1,475,806

EXHIBIT XVI
PLAN B: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (June 30, 2021)			$	204,077,162
INCOME:				
Member Contributions	$	3,819,604		
Employer Contributions		12,490,060		
Ad Valorem Taxes and Revenue Sharing		2,905,945		
Transfers from Other Plan/Systems		132,937		
Total Contributions			$	19,348,546
Net Depreciation in Fair Value of Investments	$	(21,358,855)		
Interest & Dividend Income		675,703		
Investment Expense		(410,251)		
Net Investment Income			$	(21,093,403)
TOTAL Income			$	(1,744,857)
EXPENSES:				
Retirement Benefits	$	14,064,433		
DROP Disbursements		1,009,491		
Refunds of Contributions		1,070,883		
Funds Transferred to another System		871,431		
Transfer to/(from) Plan A		(246,942)		
Administrative Expenses		627,766		
TOTAL Expenses			$	17,397,062
Net Market Value Income for Fiscal 2022 (Income – Expenses)			$	(19,141,919)
Unadjusted Fund Balance as of June 30, 2022 (Fund Balance Previous Year + Net Income)			$	184,935,243
Adjustment for Actuarial Smoothing			$	31,802,130
Actuarial Value of Assets: (June 30, 2022)			$	216,737,373

EXHIBIT XVII
PLAN B: FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of June 30, 2021	$	1,869,690
Interest on Opening Balance at 6.850%		128,074
Contributions to the Funding Deposit Account		1,475,806
Withdrawals from the Funding Deposit Account		(1,912,832)
Funding Deposit Account Balance as of June 30, 2022	$	1,560,738

EXHIBIT XVIII – SCHEDULE A
PLAN B: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees	$	124,800,219
Present Value of Benefits Payable to Terminated Employees		11,127,919
Present Value of Benefits Payable to Current Retirees and Beneficiaries		140,497,342
TOTAL PENSION BENEFIT OBLIGATION	$	276,425,480
NET ACTUARIAL VALUE OF ASSETS	$	216,737,373
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation		78.41%

EXHIBIT XVIII – SCHEDULE B
PLAN B: ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees	$	132,849,077
Accrued Liability for Terminated Employees		11,127,919
Accrued Liability for Current Retirees and Beneficiaries		140,497,342
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	$	284,474,338
ACTUARIAL VALUE OF ASSETS	$	216,737,373
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability		76.19%

EXHIBIT XIX
CENSUS DATA – PLAN B

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2021	1,898	1,855	82	1,125	4,960
Additions to Census					
Initial membership	324	86			410
Omitted in error last year					
Death of another member				21	21
Adjustment for multiple records		7		2	9
Change in Status during Year					
Actives terminating service	(151)	151			
Actives who retired	(38)			38	
Actives entering DROP	(30)		30		
Term. members rehired	22	(22)			
Term. members who retire		(21)		21	
Retirees who are rehired					
Refunded who are rehired	8	1			9
DROP participants retiring			(15)	15	
DROP returned to work	15		(15)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(129)	(118)			(247)
Deaths	(2)	(3)	(2)	(63)	(70)
Included in error last year					
Adjustment for multiple records					
Number of members as of June 30, 2022	1,917	1,936	80	1,159	5,092

Plan B Actives Census By Age:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	16	1	17	26,569	451,666
21 - 25	75	17	92	29,305	2,696,034
26 - 30	76	37	113	32,652	3,689,674
31 - 35	95	42	137	34,768	4,763,188
36 - 40	110	47	157	39,225	6,158,302
41 - 45	126	67	193	41,973	8,100,885
46 - 50	135	79	214	40,235	8,610,190
51 - 55	183	111	294	41,060	12,071,675
56 - 60	220	94	314	42,877	13,463,235
61 - 65	189	110	299	40,775	12,191,857
66 - 70	72	35	107	42,741	4,573,312
71 - 75	29	11	40	44,164	1,766,566
76 - 80	12	6	18	44,744	805,394
81 - 85	2	0	2	19,715	39,429
Total	1,340	657	1,997	39,750	79,381,407

Includes 862 actives with vested benefits, including 80 DROP participants and 68 active former DROP participants.

Plan B Drop Participants:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51 - 55	4	1	5	27,617	138,087
56 - 60	10	4	14	31,874	446,242
61 - 65	30	13	43	17,176	738,553
66 - 70	11	4	15	9,932	148,977
71 - 75	1	1	2	16,387	32,774
76 - 80	0	1	1	23,356	23,356
Total	56	24	80	19,100	1,527,989

Plan B Terminated Members Due a Deferred Retirement Benefit:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	3	1	4	7,858	31,432
36 - 40	4	2	6	7,228	43,368
41 - 45	6	5	11	15,178	166,957
46 - 50	7	4	11	13,058	143,638
51 - 55	17	6	23	13,656	314,089
56 - 60	24	10	34	12,227	415,726
61 - 65	7	3	10	17,847	178,466
66 - 70	2	1	3	5,445	16,334
76 - 80	1	0	1	494	494
86 - 90	1	0	1	630	630
Total	72	32	104	12,607	1,311,134

Plan B Terminated Members Due a Refund of Contributions:

Contributions Ranging From		To	Number	Total Contributions
0	-	99	856*	27,362*
100	-	499	441	109,027
500	-	999	193	139,518
1,000	-	1,999	133	183,239
2,000	-	4,999	132	416,487
5,000	-	9,999	48	347,642
10,000	-	19,999	25	310,398
20,000	-	99,999	4	91,412
Total			1,832	1,625,085

* Includes 525 members due a refund who were not included in the data. Excludes $ 46,836 due to deceased members.

Plan B Regular Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51 - 55	1	0	1	32,632	32,632
56 - 60	10	3	13	25,950	337,356
61 - 65	88	56	144	16,969	2,443,467
66 - 70	156	67	223	15,096	3,366,381
71 - 75	126	63	189	13,725	2,594,003
76 - 80	90	34	124	11,382	1,411,311
81 - 85	66	27	93	10,325	960,269
86 - 90	34	19	53	12,042	638,249
91 - 95	10	8	18	8,530	153,540
96 - 100	3	0	3	9,135	27,404
Total	584	277	861	13,896	11,964,612

Plan B Disability Retirees:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	1	0	1	7,046	7,046
46 - 50	2	0	2	10,512	21,023
51 - 55	2	0	2	8,858	17,715
56 - 60	10	2	12	11,811	141,728
61 - 65	11	5	16	12,194	195,109
71 - 75	1	0	1	12,377	12,377
Total	27	7	34	11,618	394,998

Plan B Survivors:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	0	3	3	3,889	11,668
41 - 45	1	2	3	5,656	16,967
46 - 50	0	6	6	12,017	72,100
51 - 55	0	3	3	4,599	13,796
56 - 60	3	16	19	7,010	133,191
61 - 65	2	22	24	13,461	323,056
66 - 70	6	40	46	10,779	495,845
71 - 75	3	35	38	8,199	311,559
76 - 80	0	35	35	6,879	240,781
81 - 85	3	38	41	6,485	265,901
86 - 90	0	25	25	9,373	234,319
91 - 95	1	15	16	6,883	110,130
96 - 100	0	4	4	4,692	18,769
101 - 105	0	1	1	2,163	2,163
Total	19	245	264	8,524	2,250,245

Plan B Active Members:

Attained Ages	Completed Years of Service 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 20	16	1	-	-	-	-	-	-	17
21 - 25	49	42	1	-	-	-	-	-	92
26 - 30	32	63	18	-	-	-	-	-	113
31 - 35	36	60	25	15	1	-	-	-	137
36 - 40	28	49	40	27	11	2	-	-	157
41 - 45	38	61	31	22	25	16	-	-	193
46 - 50	46	52	41	20	28	17	9	1	214
51 - 55	44	73	45	34	36	27	22	13	294
56 - 60	30	77	69	46	41	25	9	17	314
61 - 65	17	62	69	38	34	26	13	40	299
66 - 70	2	22	23	24	13	10	3	10	107
71 & Over	4	7	18	6	12	4	2	7	60
Total	342	569	380	232	201	127	58	88	1,997

Plan B Average Annual Salary of Active Members:

Attained Ages	Completed Years of Service 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 20	26,550	26,873	-	-	-	-	-	-	26,569
21 - 25	27,914	30,860	32,162	-	-	-	-	-	29,305
26 - 30	28,837	33,742	35,618	-	-	-	-	-	32,652
31 - 35	30,459	35,140	39,926	34,475	42,981	-	-	-	34,768
36 - 40	33,416	39,042	37,948	44,976	43,164	51,262	-	-	39,225
41 - 45	37,654	36,515	39,779	45,992	56,651	48,833	-	-	41,973
46 - 50	30,343	35,461	39,240	48,256	48,994	55,684	48,107	45,080	40,235
51 - 55	30,984	36,272	41,265	43,629	43,526	51,068	46,704	57,461	41,060
56 - 60	36,494	35,712	41,025	40,653	57,365	44,385	49,240	59,592	42,877
61 - 65	32,563	32,710	40,363	38,891	43,697	51,387	39,109	50,430	40,775
66 - 70	24,013	31,947	42,611	39,447	51,458	39,411	67,740	62,939	42,741
71 & Over	39,980	41,603	40,391	43,944	51,635	51,102	59,067	32,485	43,523
Total	31,561	35,081	40,029	42,026	49,747	49,240	47,127	53,172	39,750

Plan B Terminated Members Due A Deferred Retirement Benefit:

	Years until Retirement Eligibility								
Attained Ages	**0 - 1**	**1 - 2**	**2 - 3**	**3 - 5**	**5 - 10**	**10 - 15**	**15 - 20**	**Over 20**	**Total**
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	4	4
36 - 40	-	-	-	-	-	-	1	5	6
41 - 45	-	-	-	-	-	2	8	1	11
46 - 50	-	-	-	-	1	10	-	-	11
51 - 55	1	-	-	-	21	1	-	-	23
56 - 60	11	9	6	5	2	1	-	-	34
61 - 65	8	-	-	1	1	-	-	-	10
66 - 70	2	1	-	-	-	-	-	-	3
71 & Over	2	-	-	-	-	-	-	-	2
Total	24	10	6	6	25	14	9	10	104

Plan B Average Annual Benefits of Terminated Members Due A Deferred Retirement Benefit:

	Years until Retirement Eligibility								
Attained Ages	**0 - 1**	**1 - 2**	**2 - 3**	**3 - 5**	**5 - 10**	**10 - 15**	**15 - 20**	**Over 20**	**Total**
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	7,858	7,858
36 - 40	-	-	-	-	-	-	4,925	7,689	7,228
41 - 45	-	-	-	-	-	12,657	16,909	6,371	15,178
46 - 50	-	-	-	-	4,732	13,891	-	-	13,058
51 - 55	5,982	-	-	-	13,613	22,226	-	-	13,656
56 - 60	13,506	13,881	10,945	11,909	6,052	4,915	-	-	12,227
61 - 65	20,890	-	-	4,558	6,790	-	-	-	17,847
66 - 70	5,376	5,582	-	-	-	-	-	-	5,445
71 & Over	562	-	-	-	-	-	-	-	562
Total	13,897	13,051	10,945	10,684	12,380	13,669	15,577	7,625	12,607

Plan B Service Retirees:

Attained Ages	Completed Years Since Retirement								
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	Total
0 - 50	-	-	-	-	-	-	-	-	-
51 - 55	1	-	-	-	-	-	-	-	1
56 - 60	3	2	1	2	4	1	-	-	13
61 - 65	37	33	19	25	19	9	1	1	144
66 - 70	16	22	26	52	71	23	9	4	223
71 - 75	7	9	12	21	77	52	5	6	189
76 - 80	1	1	4	10	27	41	35	5	124
81 - 85	1	1	2	5	10	13	30	31	93
86 - 90	1	1	1	3	1	6	8	32	53
91 & Over	-	-	-	-	-	1	1	19	21
Total	67	69	65	118	209	146	89	98	861

Plan B Average Annual Benefits Payable To Service Retirees:

Attained Ages	Completed Years Since Retirement								
	0 - 1	1 - 2	2 - 3	3 - 5	5 - 10	10 - 15	15 - 20	Over 20	Total
0 - 50	-	-	-	-	-	-	-	-	-
51 - 55	32,632	-	-	-	-	-	-	-	32,632
56 - 60	21,630	26,988	23,297	32,233	27,638	20,176	-	-	25,950
61 - 65	18,333	17,297	13,950	14,932	18,287	21,580	9,182	5,139	16,969
66 - 70	17,349	18,247	15,263	14,419	13,492	17,998	14,948	8,592	15,096
71 - 75	12,728	11,483	13,583	13,810	14,910	11,883	21,034	12,897	13,725
76 - 80	25,887	6,732	11,286	8,865	10,096	12,767	10,638	15,307	11,382
81 - 85	5,890	6,663	6,355	6,987	17,658	9,421	10,256	9,463	10,325
86 - 90	52,252	6,359	29,373	11,065	17,727	7,911	12,713	10,943	12,042
91 & Over	-	-	-	-	-	3,218	1,502	9,275	8,616
Total	18,307	16,657	14,391	13,850	14,502	13,307	11,596	10,338	13,896

Plan B Disability Retirees:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	1	-	-	-	-	-	-	1
46 - 50	1	-	-	1	-	-	-	-	2
51 - 55	-	1	-	-	1	-	-	-	2
56 - 60	3	2	5	-	2	-	-	-	12
61 - 65	-	1	8	4	2	-	1	-	16
66 - 70	-	-	-	-	-	-	-	-	-
71 - 75	-	-	-	-	-	-	-	1	1
76 - 80	-	-	-	-	-	-	-	-	-
81 & Over	-	-	-	-	-	-	-	-	-
Total	4	5	13	5	5	-	1	1	34

Plan B Average Annual Benefits Payable To Disability Retirees:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	-	-	-	-	-	-	-	-
41 - 45	-	7,046	-	-	-	-	-	-	7,046
46 - 50	14,597	-	-	6,426	-	-	-	-	10,512
51 - 55	-	10,734	-	-	6,981	-	-	-	8,858
56 - 60	15,907	9,280	11,240	-	9,623	-	-	-	11,811
61 - 65	-	14,980	12,270	14,649	9,269	-	4,834	-	12,194
66 - 70	-	-	-	-	-	-	-	-	-
71 - 75	-	-	-	-	-	-	-	12,377	12,377
76 - 80	-	-	-	-	-	-	-	-	-
81 & Over	-	-	-	-	-	-	-	-	-
Total	15,580	10,264	11,874	13,004	8,953	-	4,834	12,377	11,618

Plan B Surviving Beneficiaries of Former Members:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	1	-	-	-	2	-	-	3
41 - 45	-	-	-	2	-	1	-	-	3
46 - 50	1	4	-	-	-	-	1	-	6
51 - 55	2	-	1	-	-	-	-	-	3
56 - 60	-	3	6	2	4	1	1	2	19
61 - 65	1	9	4	4	3	1	2	-	24
66 - 70	-	7	7	15	8	4	3	2	46
71 - 75	-	11	4	7	9	3	1	3	38
76 - 80	-	5	3	3	12	6	6	-	35
81 & Over	-	6	2	4	12	22	17	24	87
Total	4	46	27	37	48	40	31	31	264

Plan B Average Annual Benefits Payable To Survivors of Former Members:

Attained Ages	Completed Years Since Retirement 0 - 1	1 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	Over 30	Total
0 - 30	-	-	-	-	-	-	-	-	-
31 - 35	-	-	-	-	-	-	-	-	-
36 - 40	-	3,877	-	-	-	3,896	-	-	3,889
41 - 45	-	-	-	6,661	-	3,646	-	-	5,656
46 - 50	13,890	13,467	-	-	-	-	4,342	-	12,017
51 - 55	3,389	-	7,019	-	-	-	-	-	4,599
56 - 60	-	7,056	8,972	12,197	6,874	2,277	1,704	1,160	7,010
61 - 65	16,847	21,883	8,487	5,490	8,909	4,642	10,995	-	13,461
66 - 70	-	13,645	13,516	12,061	9,607	6,563	3,949	4,927	10,779
71 - 75	-	7,083	7,463	8,927	8,821	13,850	5,097	5,092	8,199
76 - 80	-	5,634	5,034	6,873	8,479	6,168	6,356	-	6,879
81 & Over	-	9,502	17,366	7,730	7,403	6,870	6,077	6,889	7,256
Total	9,379	11,619	9,966	9,584	8,355	6,858	6,014	6,219	8,524

EXHIBIT XX
PLAN B: YEAR-TO-YEAR COMPARISON

	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019
Number of Active Members	1,997	1,980	2,037	2,063
Number of Retirees & Survivors	1,159	1,125	1,107	1,076
Number of Terminated Due Deferred Benefits	104	110	103	97
Number Terminated Due Refunds	1,832	1,745	1,629	1,556
Active Lives Payroll	$ 79,381,407	$ 75,792,699	$ 76,799,634	$ 75,213,353
Retiree Benefits in Payment	$ 14,609,855	$ 13,509,829	$ 12,823,215	$ 12,223,991
Market Value of Assets (MVA)	$ 200,590,478	$ 219,732,397	$ 177,974,097	$ 170,871,104
Actuarial Value of Assets (AVA)	$ 216,737,373	$ 204,077,162	$ 187,812,515	$ 180,085,046
Entry Age Normal Accrued Liability	$ 284,474,338	$ 273,783,925	$ 264,774,249	$ 254,292,446
Ratio of AVA to EAN Accrued Liability	76.19%	74.54%	70.93%	70.82%
Frozen Unfunded Actuarial Accrued Liability	$ 0	$ 0	$ 0	$ 0
Present Value of Future Employer Normal Cost	$ 98,631,357	$ 99,767,305	$ 105,929,550	$ 102,003,203
Present Value of Future Employee Contrib.	$ 24,870,430	$ 23,943,614	$ 24,180,096	$ 23,628,322
Funding Deposit Account Balance	$ 1,560,738	$ 1,869,690	$ 1,748,191	$ 1,633,823
Present Value of Future Benefits	$ 338,678,422	$ 325,918,391	$ 316,173,970	$ 304,082,748

	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Employee Contribution Rate	5.00%	5.00%	5.00%	5.00%
Estimated Tax Contribution as a % of Payroll	3.76%	3.96%	3.60%	3.50%
Actuarially Required Net Direct Employer Contribution Rate	13.37%	14.39%	15.34%	15.34%
Actual Employer Contribution Rate	15.50%	15.50%	15.50%	14.00%

Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
2,128	2,125	2,142	2,200	2,168	2,128
1,050	1,025	975	959	916	900
92	82	71	71	74	61
1,419	1,331	1,258	1,218	1,170	1,155
$ 74,696,846	$ 73,275,324	$ 71,918,938	$ 69,909,530	$ 67,939,158	$ 65,928,929
$ 11,522,493	$ 10,946,571	$ 10,254,964	$ 9,917,688	$ 9,141,803	$ 8,793,050
$ 161,284,802	$ 150,467,958	$ 143,201,586	$ 149,268,995	$ 156,659,396	$ 140,744,063
$ 175,032,415	$ 168,698,012	$ 164,516,476	$ 165,154,609	$ 161,992,280	$ 153,851,774
$ 241,302,909	$ 232,425,916	$ 221,633,353	$ 212,961,895	$ 199,762,726	$ 192,160,973
72.54%	72.58%	74.23%	77.55%	81.09%	80.06%
$ 0	$ 2,382,456	$ 2,742,698	$ 3,088,551	$ 3,421,001	$ 3,740,857
$ 95,920,724	$ 91,249,645	$ 82,911,008	$ 72,948,195	$ 60,613,662	$ 60,012,141
$ 24,253,572	$ 23,664,481	$ 23,119,585	$ 22,770,216	$ 21,982,912	$ 21,589,199
$ 1,523,023	$ 3,286,730	$ 3,233,725	$ 3,008,116	$ 3,126,521	$ 2,901,644
$ 293,683,688	$ 282,707,864	$ 270,056,042	$ 260,953,455	$ 244,883,334	$ 236,292,327

Fiscal 2019	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
3.38%	3.37%	3.41%	3.64%	3.41%	3.38%
13.73%	14.00%	13.06%	11.04%	9.60%	9.82%
14.00%	13.25%	11.25% *	9.50%	10.00% †	8.75%

* Includes 0.25% from the Funding Deposit Account
† Includes 0.50% from the Funding Deposit Account

SUMMARY OF PRINCIPAL PLAN PROVISIONS

All members of the Municipal Employees' Retirement System are participants in either Plan A or B according to the provisions of the agreement entered into by their employer. All employees of a participating employer must participate in the same plan. The principal provisions of each plan are given below. The following summary of plan provisions is for general informational purposes only and does not constitute a guarantee of benefits.

MEMBERSHIP – All persons who are actively employed by a participating employer on a permanent, regularly scheduled basis of at least an average of thirty-five hours per week are members of this system. Excluded from membership are members of city councils, alderman, town councilmen, and constables; the exclusion does not apply to persons serving in excluded positions on January 1, 1997.

PLAN A PROVISIONS:

CONTRIBUTION RATES – The Board of Trustees may set the employee contribution rate not less than 9.25% nor more than 10.00%. In addition, each sheriff and ex officio tax collector deducts one-fourth of one percent of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish, excepting Orleans Parish, and remits the money to the system on an annual basis. Taxes are apportioned between Plan A and Plan B in proportion to salaries of plan participants. Taxes received from East Baton Rouge Parish are apportioned between the Municipal Employees' Retirement System and the Employees' Retirement System of the City of Baton Rouge. The system also receives revenue sharing funds each year as appropriated by the legislature. The remaining employer contributions are determined according to actuarial requirements and are set annually.

RETIREMENT BENEFITS (Tier 1) – Members with ten years of creditable service may retire at age sixty; members with twenty-five years of service may retire regardless of age. The monthly retirement allowance is equal to three percent of the member's final compensation multiplied by his years of creditable service; elected officials receive an additional one-half percent of final compensation for each year of such elected service. However, the accrued retirement benefits for those employees who were members of only the supplemental plan prior to October 1, 1978, are based on one percent of final compensation plus two dollars per month for each year of service credited prior to October 1, 1978. The retirement allowance may not exceed the greater of final annual salary or one hundred percent of the member's final average compensation. Members with twenty years of service credit, not otherwise eligible for normal retirement, are eligible for a modified actuarially reduced early retirement.

RETIREMENT BENEFITS (Tier 2) – Employees whose first employment making them eligible for membership occurs on or after January 1, 2013 become members of Tier 2. Normal retirement eligibility in Tier 2 is at age 67 with seven years of service credit, at age 62 with ten years of service credit, or age 55 with thirty years of service credit. Members are eligible for an actuarially reduced early retirement at twenty-five years of service credit. Retirement benefits are based on a 3% accrual rate. Employee contributions are set by the Board of Trustees within a range of 8% to 10%.

DISABILITY BENEFITS – Five years of creditable service are required in order to be eligible for disability benefits. Twenty years of creditable service are required in order for a member to have a vested disability benefit. A disabled member receives a normal retirement allowance if eligible under regular retirement provisions; if he is not eligible for a normal retirement, he receives a disability benefit equal to the lesser of:

1) Forty-five percent of his final average compensation or three percent of his final average compensation multiplied by his years of creditable service, whichever is greater; or
2) Three percent of his final average compensation multiplied by his years of creditable service projected to his earliest normal retirement age.

SURVIVOR BENEFITS – Five years of creditable service are required in order to be eligible for survivor benefits. If the member is eligible for normal retirement at the time of death, the surviving spouse receives an automatic option two benefit. If the member is not eligible for a normal retirement, the surviving spouse with minor children receives sixty percent of final compensation payable until no child in her care satisfies the definition of minor child. The surviving spouse with no minor children receives forty percent of final compensation payable upon attainment of age sixty by the spouse, or the actuarial equivalent of this amount payable immediately (such equivalent not to be less than 20% of final compensation). Minor children with no surviving unmarried parent receive thirty percent of final compensation each not to exceed a total of sixty percent of final compensation. Survivor benefits are also payable to the surviving spouses of former members who have not withdrawn their accumulated contributions and who have at least twenty years of creditable service. The benefits payable are the actuarial equivalent of the Option 2 benefits that would have become payable to the surviving spouse at the time the former member would have begun receiving deferred normal retirement benefits, had the member survived until that date, elected Option 2, and died at that time.

PLAN B PROVISIONS:

CONTRIBUTION RATES – The Board of Trustees may set the employee contribution rate not less than 5.00% nor more than 6.00%. In addition, each sheriff and ex officio tax collector deducts one-fourth of one percent of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish, excepting Orleans Parish, and remits the money to the system on an annual basis. Taxes are apportioned between Plan A and Plan B in proportion to salaries of plan participants. Taxes received from East Baton Rouge Parish are apportioned between the Municipal Employees' Retirement System and the Employees' Retirement System of the City of Baton Rouge. The system also receives revenue sharing funds each year as appropriated by the legislature. The remaining employer contributions are determined according to actuarial requirements and are set annually.

RETIREMENT BENEFITS (Tier 1) – Members with ten years of creditable service may retire at age sixty; members with thirty years of service may retire at any age. The monthly retirement allowance is equal to two percent of the member's final compensation multiplied by his years of creditable service; elected officials receive an additional one-half percent of final compensation for each year of such elected service.

RETIREMENT BENEFITS (Tier 2) – Employees whose first employment making them eligible for membership occurs on or after January 1, 2013 will become members of Tier 2. Normal retirement eligibility in Tier 2 is at age 67 with seven years of service credit, at age 62 with ten years of service credit, or age 55 with thirty years of service credit. Members are eligible for an actuarially reduced early retirement at twenty-five years of service credit. Retirement benefits are based on a 2% accrual rate. Employee contributions are set by the Board of Trustees within a range of 4% to 6%.

DISABILITY BENEFITS – Ten years of creditable service are required in order to be eligible for disability benefits. Twenty years of creditable service are required in order for a member to have a vested disability benefit. A disabled member receives a normal retirement allowance if eligible under regular retirement provisions; if he is not eligible for a normal retirement allowance, he receives a disability benefit equal to the lesser of:

1) Thirty percent of his final average compensation or two percent of his final average compensation multiplied by his years of creditable service, whichever is greater; and
2) Two percent of his final average compensation multiplied by his years of creditable service projected to his earliest normal retirement age.

SURVIVOR BENEFITS – The surviving spouse of a member who was eligible for normal retirement at the time of death receives an automatic option two benefit. The surviving spouse of a member with five or more years of creditable service and not eligible for normal retirement at the time of death receives either 30% of the member's final compensation payable to the spouse when they attain age 60 or an actuarial equivalent of 30% of the deceased member's final compensation, but not less than 15% of such final compensation. Survivor benefits are also payable to the surviving spouses of former members who have not withdrawn their accumulated contributions and who have at least twenty years of creditable service. The benefits payable are the actuarial equivalent of the Option 2 benefits that would have become payable to the surviving spouse at the time the former member would have begun receiving deferred normal retirement benefits, had the member survived until that date, elected Option 2, and died at that time.

PROVISIONS APPLICABLE TO BOTH PLAN A AND B:

FINAL AVERAGE COMPENSATION –For a member whose first employment making him eligible for membership in the system began after June 30, 2006, final average compensation is based on the average monthly earnings during the highest sixty consecutive months or joined months if service was interrupted. The earnings to be considered for each twelve-month period within the sixty-month period may not exceed 115% of the preceding twelve month period.

Effective January 1, 2013, for a member whose first employment making him eligible for membership in the system began before July 1, 2006, final average compensation was redefined to be thirty-six months plus the number of whole months since January 1, 2013 not to exceed sixty months. However, the actual monthly final average compensation used to determine the member's benefit cannot be less than the thirty-six-month final average compensation as of January 1, 2013. The earnings to be considered for each twelve-month period within the final average compensation period may not exceed 115% of the preceding twelve-month period.

UNUSED SICK & ANNUAL LEAVE – All unused sick and annual leave is credited at the time of retirement to the member if the employer so elects for his employees. The actuarial cost of providing this conversion is borne solely by the employer and must be paid to the Board within thirty days of the member's retirement date.

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

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.

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.

DEFERRED RETIREMENT OPTION PLAN – In lieu of terminating employment and accepting a service retirement allowance, any member of Plan A or B who is eligible for a normal retirement may elect to participate in the Deferred Retirement Option Plan (DROP) for up to three years and defer the receipt of benefits. Upon commencement of participation in the plan, membership in the system terminates. During participation in the plan, employer contributions are payable, but employee contributions cease. The monthly retirement benefits that would have been payable, had the person elected to cease employment and receive a service retirement allowance, are paid into the DROP account. After a member terminates his participation in DROP his account will earn interest at the actual rate of return earned on the funds left on deposit as certified by the custodian of the system's assets. This interest will be credited to the individual member's account balance on a daily basis beginning July 1, 2006. In addition, no cost-of-living increases are payable to participants until employment which made them eligible to become members of the system has been terminated for at least one full year.

Upon termination of employment prior to, or at the end of, the specified period of participation, a participant in the plan may receive, at his option, a lump sum payment from the account equal to the payments into the account, a true annuity based upon his account balance in that fund, or any other method of payment if approved by the Board of Trustees. The monthly benefits that were being paid into the DROP account will begin to be paid to the retiree. If a participant dies during the participation in the plan, a lump sum equal to his account balance in the plan fund shall be paid to his named beneficiary or, if none, to his estate. If employment is not terminated at the end of the three years, payments into the plan fund cease and the person resumes active contributing membership in the system. For any member hired prior to July 1, 2006, additional accrued benefits are based on final average compensation used to calculate the member's original benefit unless the additional period of service is at least thirty-six months. For any member hired on or after July 1, 2006, whose period of additional service after their DROP participation period ends is less than sixty months, the final compensation figure used to calculate the additional benefit will be that used to calculate the original benefit. If their period of additional service is sixty months or more, the final compensation figure used to calculate the additional benefit will be based on their compensation during the period of additional service.

COST OF LIVING INCREASES – The Board of Trustees is authorized to grant retired members, and widows of members, who have been retired for at least one full year an annual cost of living increase of two percent of their original benefit and all retired members and widows who are sixty-five years of age and older a two percent increase in their original benefit (or their benefit as of October 1, 1977, if they retired prior to that time). In order for the Board to grant either of these increases the system must meet certain criteria detailed in the statute related to funding status and interest earnings on investments. 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 that have an impact on the cost of the plan. To the extent that future experience varies from the assumptions selected for valuation, future costs will be either higher or lower than anticipated. The effect of emerging experience on the fund is illustrated by the following chart.

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: Plan A: Frozen Attained Age Normal Actuarial Cost Method with allocation based on earnings. The frozen actuarial accrued liabilities were calculated on the projected unit credit cost method.

Plan B: The Aggregate Actuarial Cost Method with allocation based on earnings. The normal cost is interest adjusted for midyear payment.

ACTUARIAL ASSET VALUES: Invested 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.

VALUATION INTEREST RATE: 6.85% (Net of Investment Expense)

ANNUAL SALARY INCREASE RATE:	Salary increases include 2.5% inflation. The gross rates including inflation and merit increases are as follows:

PLAN A

Years of Service (less than or equal to)	Salary Increase (in the following year)
1-4	6.4%
Above 4	4.5%

PLAN B

Years of Service (less than or equal to)	Salary Increase (in the following year)
1-4	7.4%
Above 4	4.9%

ACTIVE MEMBER MORTALITY:	120% of the PubG-2010(B) Employee Tables for males and females, each with each with the full generational MP2018 scale
ANNUITANT, AND BENEFICIARY MORTALITY:	120% of the PubG-2010(B) Healthy Retiree Tables for males and females, each with the full generational MP2018 scale
RETIREE COST OF LIVING INCREASES:	The present value of future retirement benefits is based on benefits currently being paid by the system and includes previously granted cost of living increases. The present values do not include provisions for potential future increases not yet authorized by the Board of Trustees.
RATES OF RETIREMENT:	The table of these rates is included later in the report. These rates apply only to those individuals eligible to retire. Members are assumed to retire no earlier than normal retirement age.
RETIREMENT LIMITATIONS:	Projected retirement benefits are not subjected to IRS Section 415 limits.
DROP ENTRY RATES:	The table of these rates is included later in the report. These rates apply only to those individuals eligible to participate in DROP.
DROP PARTICIPATION PERIOD:	DROP participants are assumed to participate for 3 years. At the end of the DROP participation period, one half of participants are assumed to retire; the other half are assumed to work three additional years.

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS: The table of these rates is included later in the report. These rates apply only to those active participants who were previously in DROP.

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

Service Duration (≤)	Plan A (Tier 1)	Plan A (Tier 2)	Plan B (Tiers 1 & 2)
1	23.00%	23.00%	29.00%
2	20.00%	20.00%	24.00%
3	17.00%	17.00%	19.00%
4	14.00%	14.00%	15.00%
5	12.00%	12.00%	12.00%
6	10.00%	10.00%	10.00%
7	9.00%	9.00%	9.00%
8	9.00%	9.00%	8.00%
9	8.00%	8.00%	7.00%
10	7.00%	7.00%	7.00%
11	6.00%	6.00%	6.00%
12	5.00%	5.00%	6.00%
13	4.00%	4.00%	5.00%
14	4.00%	4.00%	5.00%
15	3.00%	3.00%	4.00%
16	3.00%	3.00%	4.00%
17	3.00%	3.00%	4.00%
18	3.00%	3.00%	4.00%
19	3.00%	3.00%	4.00%
20	3.00%	3.00%	4.00%
21	3.00%	3.00%	4.00%
22	3.00%	3.00%	4.00%
23	4.00%	3.00%	3.00%
24	5.00%	3.00%	3.00%
25	8.00%	3.00%	2.00%
26	0.00%	3.00%	2.00%
27	0.00%	3.00%	1.00%
28	0.00%	3.00%	1.00%
29	0.00%	4.00%	1.00%
30	0.00%	5.00%	1.00%
31 and Over	0.00%	8.00%	1.00%

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

RATES OF DISABILITY – Plan A: 25% of the disability rates used for the 21st valuation of the Railroad Retirement System for individuals with 10 – 19 years of service.

RATES OF DISABILITY – Plan B: 50% of the disability rates used for the 21st valuation of the Railroad Retirement System for individuals with 10 – 19 years of service.

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

FAMILY STATISTICS: Assumptions utilized in determining the costs of various survivor benefits as listed below, are derived from the information provided in the 2010 U. S. Census:

Member's Age	% With Children	Number of Children	Average Age
25	70%	1.84	5
35	86%	2.13	9
45	75%	1.70	12
55	22%	1.42	14
65	4%	1.45	15

DISABLED LIVES MORTALITY: 120% of the PubNS-2010(B) Disabled Retiree Tables for males and females, each with each with the full generational MP2018 scale

VESTING ELECTING PERCENTAGE – Plan A: 50% of members with less than 20 years of service are assumed to elect a deferred benefit in lieu of a refund of contributions. 85% of members with 20 or more years of service are assumed to elect the deferred benefit.

VESTING ELECTING PERCENTAGE – Plan B: 66% of members with less than 25 years of service are assumed to elect a deferred benefit in lieu of a refund of contributions. 85% of members with 25 or more years of service are assumed to elect the deferred benefit.

PLAN A – ACTUARIAL TABLES AND RATES

Age	Retirement Rates Tier 1	Retirement Rates Tier 2	DROP Entry Rates Tier 1	DROP Entry Rates Tier 2	Post-DROP Retirement Tier 1	Post-DROP Retirement Tier 2	Disability Rates	Remarriage Rates
18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.06124
19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.06124
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.06124
21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.05818
22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.05524
23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.05242
24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.04971
25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.04566
26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.04335
27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.04114
28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.03902
29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.03698
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.03502
31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.03314
32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.03134
33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.02961
34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00038	0.02795
35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00043	0.02636
36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00048	0.02483
37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00053	0.02336
38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00060	0.02195
39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00068	0.02060
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00078	0.01930
41	0.20000	0.00000	0.17000	0.00000	0.04000	0.00000	0.00088	0.01805
42	0.20000	0.00000	0.17000	0.00000	0.04000	0.00000	0.00098	0.01686
43	0.20000	0.00000	0.17000	0.00000	0.04000	0.00000	0.00110	0.01571
44	0.13000	0.00000	0.17000	0.00000	0.04000	0.00000	0.00125	0.01461
45	0.08000	0.00000	0.17000	0.00000	0.04000	0.00000	0.00143	0.01355
46	0.05000	0.00000	0.16000	0.00000	0.04000	0.00000	0.00163	0.01253
47	0.04000	0.00000	0.15000	0.00000	0.04000	0.00000	0.00183	0.01156
48	0.04000	0.00000	0.14000	0.00000	0.04000	0.00000	0.00208	0.01063
49	0.05000	0.00000	0.14000	0.00000	0.04000	0.00000	0.00235	0.00973
50	0.06000	0.00000	0.14000	0.00000	0.07000	0.00000	0.00268	0.00887
51	0.07000	0.00000	0.14000	0.00000	0.10000	0.00000	0.00305	0.00804
52	0.07000	0.00000	0.16000	0.00000	0.12000	0.00000	0.00345	0.00725
53	0.08000	0.00000	0.18000	0.00000	0.14000	0.00000	0.00392	0.00649
54	0.07000	0.00000	0.20000	0.00000	0.16000	0.00000	0.00445	0.00576
55	0.07000	0.07000	0.23000	0.23000	0.18000	0.18000	0.00505	0.00000
56	0.07000	0.07000	0.24000	0.24000	0.19000	0.19000	0.00575	0.00000
57	0.06000	0.06000	0.25000	0.25000	0.19000	0.19000	0.00653	0.00000
58	0.06000	0.06000	0.24000	0.24000	0.20000	0.20000	0.00740	0.00000
59	0.07000	0.07000	0.23000	0.23000	0.21000	0.21000	0.00843	0.00000
60	0.07000	0.07000	0.21000	0.21000	0.21000	0.21000	0.01220	0.00000
61	0.08000	0.08000	0.19000	0.19000	0.22000	0.22000	0.01220	0.00000
62	0.09000	0.09000	0.17000	0.17000	0.22000	0.22000	0.01220	0.00000
63	0.10000	0.10000	0.15000	0.15000	0.22000	0.22000	0.01220	0.00000
64	0.12000	0.12000	0.13000	0.13000	0.22000	0.22000	0.01220	0.00000
65	0.14000	0.14000	0.13000	0.13000	0.21000	0.21000	0.01220	0.00000
66	0.16000	0.16000	0.12000	0.12000	0.20000	0.20000	0.01220	0.00000
67	0.18000	0.18000	0.12000	0.12000	0.18000	0.18000	0.01220	0.00000
68	0.19000	0.19000	0.12000	0.12000	0.17000	0.17000	0.01220	0.00000
69	0.20000	0.20000	0.12000	0.12000	0.15000	0.15000	0.01220	0.00000
70	0.21000	0.21000	0.12000	0.12000	0.14000	0.14000	0.01220	0.00000
71	0.21000	0.21000	0.12000	0.12000	0.13000	0.13000	0.01220	0.00000
72	0.20000	0.20000	0.12000	0.12000	0.13000	0.13000	0.01220	0.00000
73	0.19000	0.19000	0.11000	0.11000	0.13000	0.13000	0.01220	0.00000
74	0.17000	0.17000	0.11000	0.11000	0.13000	0.13000	0.01220	0.00000
75	0.16000	0.16000	0.09000	0.09000	0.13000	0.13000	0.01220	0.00000

PLAN B – ACTUARIAL TABLES AND RATES

Age	Retirement Rates Tier 1	Retirement Rates Tier 2	DROP Entry Rates Tier 1	DROP Entry Rates Tier 2	Post-DROP Retirement Tier 1	Post-DROP Retirement Tier 2	Disability Rates	Remarriage Rates
18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.06124
19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.06124
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.06124
21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.05818
22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.05524
23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.05242
24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.04971
25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.04566
26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.04335
27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.04114
28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.03902
29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.03698
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.03502
31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.03314
32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.03134
33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.02961
34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00075	0.02795
35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00085	0.02636
36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00095	0.02483
37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00105	0.02336
38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00120	0.02195
39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00135	0.02060
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00155	0.01930
41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00175	0.01805
42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00195	0.01686
43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00220	0.01571
44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00250	0.01461
45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00285	0.01355
46	0.01000	0.00000	0.10000	0.00000	0.15000	0.00000	0.00325	0.01253
47	0.01000	0.00000	0.10000	0.00000	0.15000	0.00000	0.00365	0.01156
48	0.01000	0.00000	0.10000	0.00000	0.15000	0.00000	0.00415	0.01063
49	0.01000	0.00000	0.22000	0.00000	0.15000	0.00000	0.00470	0.00973
50	0.01000	0.00000	0.32000	0.00000	0.15000	0.00000	0.00535	0.00887
51	0.02000	0.00000	0.35000	0.00000	0.15000	0.00000	0.00610	0.00804
52	0.02000	0.00000	0.36000	0.00000	0.15000	0.00000	0.00690	0.00725
53	0.03000	0.00000	0.36000	0.00000	0.15000	0.00000	0.00785	0.00649
54	0.03000	0.00000	0.36000	0.00000	0.14000	0.00000	0.00890	0.00576
55	0.03000	0.03000	0.37000	0.37000	0.12000	0.12000	0.01010	0.00000
56	0.03000	0.03000	0.38000	0.38000	0.10000	0.10000	0.01150	0.00000
57	0.03000	0.03000	0.39000	0.39000	0.08000	0.08000	0.01305	0.00000
58	0.04000	0.04000	0.37000	0.37000	0.07000	0.07000	0.01480	0.00000
59	0.05000	0.05000	0.34000	0.34000	0.06000	0.06000	0.01685	0.00000
60	0.06000	0.06000	0.28000	0.28000	0.06000	0.06000	0.02440	0.00000
61	0.08000	0.08000	0.22000	0.22000	0.07000	0.07000	0.02440	0.00000
62	0.11000	0.11000	0.17000	0.17000	0.09000	0.09000	0.02440	0.00000
63	0.13000	0.13000	0.12000	0.12000	0.12000	0.12000	0.02440	0.00000
64	0.16000	0.16000	0.10000	0.10000	0.15000	0.15000	0.02440	0.00000
65	0.18000	0.18000	0.08000	0.08000	0.18000	0.18000	0.02440	0.00000
66	0.20000	0.20000	0.07000	0.07000	0.20000	0.20000	0.02440	0.00000
67	0.22000	0.22000	0.06000	0.06000	0.22000	0.22000	0.02440	0.00000
68	0.23000	0.23000	0.06000	0.06000	0.24000	0.24000	0.02440	0.00000
69	0.23000	0.23000	0.06000	0.06000	0.25000	0.25000	0.02440	0.00000
70	0.23000	0.23000	0.06000	0.06000	0.25000	0.25000	0.02440	0.00000
71	0.23000	0.23000	0.07000	0.07000	0.25000	0.25000	0.02440	0.00000
72	0.21000	0.21000	0.08000	0.08000	0.24000	0.24000	0.02440	0.00000
73	0.20000	0.20000	0.09000	0.09000	0.24000	0.24000	0.02440	0.00000
74	0.19000	0.19000	0.09000	0.09000	0.23000	0.23000	0.02440	0.00000
75	0.18000	0.18000	0.09000	0.09000	0.21000	0.21000	0.02440	0.00000

GLOSSARY

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

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

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

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

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

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

Actuarial Present Value – The value, as of a specified date, of an amount or series of amounts payable or receivable thereafter, with each amount adjusted to reflect the time value of money (through accrual of interest) and the probability of payments. For example: if $600 invested today will be worth $1,000 in 10 years and there is a 50% probability that a person will live 10 years, then the actuarial present value of $1,000 payable to that person if he should survive 10 years is $300.

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

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

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

Contribution Shortfall (Excess) – The difference between contributions recommended in the prior valuation and the actual amount received.

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

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

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

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

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

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

Unfunded Actuarial Accrued Liability – The excess of the actuarial accrued liability over the actuarial value of assets.

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