ASSESSORS' RETIREMENT FUND

ACTUARIAL VALUATION AS OF
SEPTEMBER 30, 2021

G. S. CURRAN & COMPANY, LTD.
Actuarial Services
10555 N. Glenstone Place • Baton Rouge, Louisiana 70810 • (225)769-4825

Gary S. Curran, FCA, MAAA, ASA, EA
Consulting Actuary

Gregory M. Curran, FCA, MAAA, ASA, EA
Consulting Actuary

January 17, 2022

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

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Louisiana Assessors' Retirement Fund for the fiscal year ending September 30, 2021. Our report is based on the actuarial assumptions specified and relies on the data supplied by the system's administrators and accountants. This report was prepared at the request of the Board of Trustees of the Louisiana Assessors' Retirement Fund of the State of Louisiana. The primary purpose of this report is to determine the actuarially required contribution for the retirement system for the fiscal year ending 2022, and to recommend the net direct employer contribution rate for Fiscal 2023. This report does not contain the information necessary for accounting disclosures as required by Governmental Accounting Standards Board (GASB) Statements 67 and 68; that information is included in a separate report. This report was prepared exclusively for the Louisiana Assessors' Retirement Fund for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

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

Sincerely,

G. S. CURRAN & COMPANY, LTD.

By: Gregory M. C
Gregory Curran, F.C.A., M.A.A.A., A.S.A.

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SUMMARY OF VALUATION RESULTS
ASSESSORS' RETIREMENT FUND

Valuation Date:		September 30, 2021	September 30, 2020
Census Summary:	Active Members	742	749
	Retired Members and Survivors	582	564
	Terminated Due a Deferred Benefit	16	12
	Terminated Due a Refund	118	103
Payroll:		$ 46,020,108	$ 46,282,404
Benefits in Payment:		$ 24,553,313	$ 22,229,576
Present Value of Future Benefits		$ 667,989,388	$ 623,438,649
Actuarial Accrued Liability (EAN):		$ 507,071,744	$ 475,694,775
Funding Deposit Account Credit Balance		$ 45,565,433	$ 43,246,189
Actuarial Value of Assets (AVA):		$ 487,574,856	$ 448,403,309
Market Value of Assets (MVA):		$ 539,947,818	$ 460,417,168
Ratio of AVA to EAN Actuarial Accrued Liability:		96.16%	94.26%

	Fiscal 2021	Fiscal 2020
Market Rate of Return:	18.3%	9.7%
Actuarial Rate of Return:	9.7%	7.6%

	Fiscal 2022	Fiscal 2021
Employers' Normal Cost (Mid-year):	$ 16,126,325	$ 16,222,345
Estimated Administrative Cost	$ 312,709	$ 292,145
Projected Ad Valorem Tax Contributions	$ (15,093,361)	$ (14,810,809)
Projected Revenue Sharing Funds	$ (351,057)	$ (351,041)
Net Direct Employer Actuarially Required Contributions:	$ 994,616	$ 1,352,640
Projected Payroll:	$ 47,043,878	$ 47,533,477
Statutory Employee Contribution Rate:	8.00%	8.00%
Board Adopted Net Direct Employer Contribution Rate:	5.00%	8.00%
Actuarially Required Net Direct Employer Contribution Rate:	2.11%	2.85%

	Fiscal 2023	Fiscal 2022
Minimum Recommended Net Direct Employer Contribution Rate:	2.00%	2.75%

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 are nevertheless a reasonable approach to determine the contribution levels which will provide for the future benefits of plan participants.

COMMENTS ON DATA

For the valuation, the administrative staff of the system furnished a census on electronic media derived from the system's master data processing file indicating each active covered employee's sex, date of birth, service credit, annual salary, and accumulated contributions. Information on retirees detailing dates of birth of retirees and beneficiaries, as well as option categories and benefit amounts, was provided in 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 742 active members in the system of whom 341 members have vested retirement benefits; 582 former members or their beneficiaries are receiving retirement benefits. An additional 134 terminated members have contributions remaining on deposit with the system; of this number, 16 have vested rights for future retirement benefits. All participant data is as of September 30, 2021. All individuals submitted were included in the valuation.

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 administrator for verification and/or correction. Once the identified data has been researched and verified or corrected, it is returned to us for use in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record.

In addition to the statistical information provided on the system's participants, the system's administrator furnished general information related to other aspects of the system's expenses, benefits and funding. Valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of Hawthorne, Waymouth, and Carroll, L.L.P. As indicated in the system's audit report, the net market value of system's assets was $539,947,818 as of September 30, 2021. Net investment income for Fiscal 2021 measured on a market value basis was $83,697,209. Contributions to the system for the fiscal year totaled $22,841,815; benefits and expenses amounted to $27,008,374.

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

COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

This valuation is based on the Aggregate Actuarial Cost Method. This cost method generally produces normal costs which are level as a percentage of pay if assumptions are met and the composition of the active group with regard to age and service is stable. Overall costs may increase or decrease depending on payroll growth. Under the Aggregate Actuarial Cost Method, actuarial gains and losses are spread over future normal costs. Thus, favorable plan experience will lower future normal costs; unfavorable experience will cause future normal costs to increase. In addition, changes in benefits and assumptions are also spread over future normal costs.

Prior to the passage of Act 296 in the 2009 legislative session, as detailed by R. S. 11:105, in any year in which the net direct employer contribution was scheduled to decrease, the Board of Trustees could freeze the net direct employer contribution rate and use the excess funds collected, if any, to reduce the frozen unfunded actuarial accrued liability. Also, in any year in which the Board elected to increase contributions pursuant to R.S. 11:106 the excess funds, if any, were used to reduce the system's frozen unfunded actuarial accrued liability. Notwithstanding such a decrease, payments were made according to the regular amortization schedule, thereby reducing the amortization period. Such additional unfunded liability payments of $791,748; $101,831; $538,661; $1,020,879; $2,890,530; and $7,988,122 were made in Fiscal 1999, Fiscal 2000, Fiscal 2003, Fiscal 2006, Fiscal 2007, and Fiscal 2008, respectively. As a result of these additional payments, the frozen unfunded actuarial accrued liability was fully amortized as of September 30, 2019, ten years ahead of the original schedule. No future payments will be due on the frozen unfunded actuarial accrued liability and the system is now funded on the Aggregate actuarial cost method. In addition, the Board of Trustees voted to maintain the net direct employer contribution rate at 13.50% for fiscal years 2009 through 2016, 10% for 2017, and at 8.00% for fiscal years 2018 through 2021 instead of lowering the rate to the minimum recommended employer contribution rate for those years. With the exception of Fiscal 2019, these freezes resulted in additional collections which under the provisions of R.S. 11:105 were credited to the Funding Deposit Account. For Fiscal 2021, by maintaining the contribution rate at 8.00% the additional funds collected, amounting to $2,209,521, were also credited to the Funding Deposit Account.

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

In reviewing the valuation interest rate, 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 2021. The study found that although the 5.75% assumed rate of return used in the 2020 valuation remains within the reasonable range, a further reduction was warranted to reduce plan risk and to improve the probability of achieving the long-term assumption. 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. Based on the results of this interest rate assumption review and a desire to reduce the long-term risk of the retirement fund, the assumed rate of return for the valuation was reduced from 5.75% to 5.50%. The assumed long-term inflation rate remains 2.1%.

Other than a change in the system's valuation interest rate and an update to the option factors used in the valuation model to reflect changes to the factors currently in effect, there were no other changes in plan assumptions.

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 and the amounts of the COLAs have not been relative to a defined cost-of-living or inflation index. In addition, in our opinion the system's practice of using the Funding Deposit Account to pre-fund ad hoc COLAs and its consistent practice of collecting contributions in excess of the minimum set by valuation makes the inclusion of potential future COLAs in plan liabilities inappropriate. Therefore, the present value of benefits excludes COLAs not previously granted by the Board of Trustees.

The current year actuarial assumptions utilized for the report are outlined at the end of this report. All assumptions used are based on estimates of future long-term experience for the system as described in the system's 2020 Experience Study report. All calculations, recommendations, and conclusions are based on the assumptions specified. To the extent that prospective experience differs from that assumed, adjustments to contribution levels will be required. Such differences will be revealed in future actuarial valuations. All calculations, recommendations, and conclusions are based on the assumptions specified. To the extent that prospective experience differs from that assumed, adjustments to contribution levels will be required. Such differences will be revealed in future actuarial valuations. The net effect of the changes in assumptions on the normal cost accrual rate was an increase of 3.5027%.

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. As the plan attempts to offset inflation by 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. For the last decade, inflation levels have remained in a fairly narrow range. Current forecasts from investment professionals call for a continuation of this trend. There is always the possibility that high inflation will become a problem in the future or that the country will experience a deflationary period; however, most expert opinion currently assess both of 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 benefit payments exceed annual contributions to the plan. Future net noninvestment cash flows for the system will be determined based upon both the system maturity and future contribution levels. Hence, increases in future contributions due to adverse actuarial experience will tend to mitigate the potential of negative cash flows arising from the natural maturation of the system whereas reduced contribution levels resulting from positive experience will tend to increase the extent of negative cash flows. Absent a significant increase in the active membership of the system, the trend of higher proportions of retired membership will continue and the current trend toward higher levels of negative noninvestment cash flows will continue in the near future.

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 96.16% for the plan as of September 30, 2021. 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. Exhibit X gives a history of this value for the last ten years. Note that the underlying trend is somewhat disguised since the system has significantly reduced the valuation interest rate over this period. Absent the 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. We have determined that based on current assets and demographics, for each percentage under (over) the assumed rate of return on the actuarial value of assets, there will be a corresponding increase (decrease) in the actuarially required contribution as a percentage of projected payroll of 0.92% for the fund.

Each pension plan has its own unique benefit structure and demographic profile. As a result, each plan will respond to changes in interest rates in a unique way. As the expected rate of return on investments changes and the interest rate used to discount plan liabilities is adjusted, the shift in plan liabilities will depend upon the duration of the liabilities (which can be understood as the plan's sensitivity to the change in the interest rate). A slightly different measure of the duration for the plan can also be understood as an indicator of the plan's maturity. When a pension plan is first established, all of the participants are active members; as members retire and the plan matures, the duration of the plan decreases. A determination of the liability duration gives some insight into the investment time horizon of the plan. Thus, the liability duration of a closed plan can be thought of as the weighted "center of gravity" of plan benefit cash flows with expected cash flows occurring both before and after the duration value. For open plans with a continuous flow of new entrants this measure is somewhat less informative since the duration horizon keeps changing as new members enter the plan. For this plan we have estimated the effective liability duration as 10.59.

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 2021 this ratio is 53%; ten years ago, this ratio was 37%.

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 2022 by 16.8% of payroll. Future adjustments to the future assumed rates of return may be required; however, the likelihood of such an event is difficult to gauge since it requires assigning probabilities to future capital market scenarios.

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

There were no statutes affecting the retirement system that were enacted during the 2021 Regular Session of the Louisiana Legislature.

ASSET EXPERIENCE

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

	Market Value	Actuarial Value
2012	18.4%	3.5%
2013	13.4%	9.2%
2014	9.1%	9.8%
2015	-1.7%	7.4%
2016	8.8%	8.2%
2017	12.1%	7.6%
2018	7.7%	7.0%
2019	4.0%	5.8%
2020	9.7%	7.6%
2021	18.3%	9.7%

Geometric Average Market Rates of Return

5-year average	(Fiscal 2017 – 2021)	10.3%
10-year average	(Fiscal 2012 – 2021)	9.8%
15-year average	(Fiscal 2007 – 2021)	7.3%
20-year average	(Fiscal 2002 – 2021)	7.5%
25-year average	(Fiscal 1997 – 2021)	7.2%
30-year average	(Fiscal 1992 – 2021)	7.5%

The market rate of return gives a measure of investment return on a total return basis and includes realized and unrealized capital gains and losses as well as interest income and dividends. This rate of return gives an indication of performance for an actively managed portfolio where securities are bought and sold with the objective of producing the highest total rate of return. During 2021, the fund earned $7,923,774 of dividends, interest and other recurring income. Net income was increased by realized and unrealized capital gains of $77,859,778. Investment expenses reduced income by $2,086,343.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 5.75% in effect for Fiscal 2021 (5.50% for Fiscal 2022). This rate is calculated based on the actuarial value of assets and the market value income adjusted for actuarial smoothing as given in Exhibit VI. Investment income used to calculate this yield is based upon a smoothing of investment income above or below the valuation interest rate over a five-year period subject to limits as described in the section detailing actuarial assumptions. The difference between rates of return on an actuarial and market value basis results from the smoothing utilized. In the future, yields in excess of the 5.50% assumption will reduce future costs; yields below 5.50% will increase future costs. For Fiscal 2021, the system experienced net actuarial investment earnings of $17,673,030 more than the actuarial assumed earnings rate of 5.75% in effect for Fiscal 2021. Beginning with Fiscal 2022, actuarial investment gains and losses will be measured against the 5.50% valuation interest rate. This surplus in earnings produced an actuarial gain, which decreased the normal cost accrual rate by 3.3417%.

DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the system is given in Exhibit IX. The average active member is 50 years old with 12.31 years of service and an annual salary of $62,022. The system's active membership decreased during the fiscal year by 7 members. The plan has experienced a decrease in the active plan population of 30 members over the last five years. A review of the active census by age indicates that over the last ten years the population has changed in several age subgroups but no overall trend is observable. Within the active census by service, the fund has shown an increase in the number of members with greater than five years and less than 25 years. There was a decrease in the population with less than 5 years and greater than 25 years of service.

The average regular retiree is 72 years old with a monthly benefit of $3,608. The number of retirees and beneficiaries receiving benefits from the system increased by 18 during the fiscal year. Over the last five years, the number of retirees has increased by 26; during this same period, annual benefits in payment increased by $4,991,859.

Plan liability experience for Fiscal 2021 was unfavorable. Withdrawals and retiree deaths were above projected levels. Salary increases were below projected levels. These factors tend to decrease costs. Retirements significantly above projected levels offset these savings. All other factors were close to neutral in their effect. In aggregate, liability losses increased the normal cost accrual rate by 0.6340%.

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 the normal cost, and the actuarially required contributions are based on the sum of this value and administrative expenses. Under the funding method used for the plan, changes in plan experience, benefits, or assumptions increase or decrease future normal costs. In addition, excess or deficient contributions can decrease or increase future costs.

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

The derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for Fiscal 2022 adjusted with interest for mid-year payment is $16,126,325. The total actuarially required contribution is determined by adding estimated administrative expenses to this amount. As given on line 12 of Exhibit I the total actuarially required contribution for Fiscal 2022 is $16,439,034. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for Fiscal 2022 is $994,616 or 2.11% of projected payroll.

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

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

Employer's Normal Cost Accrual Rate – Fiscal 2021	34.8676%
Factors Increasing the Normal Cost Accrual Rate:	
Assumption Changes	3.5027%
Plan Liability Experience Loss	0.6340%
Cost-of-Living Increase	0.4494%
Factors Decreasing the Normal Cost Accrual Rate:	
Asset Experience Gain	3.3417%
New Members	0.9328%
Offset for use of FDA to fund COLA	0.4494%
Employer's Normal Cost Accrual Rate – Fiscal 2022	34.7298%

In addition to the above factors, payroll growth affects plan costs to the extent that payments on the system's unfunded liability are on a schedule that varies from actual trends in payroll growth or decline. If payroll changes at rates not consistent with the amortization schedule the result will be costs that change as a percentage of payroll. Required net direct employer contributions are also affected by the available ad valorem taxes and revenue sharing funds which the system receives each year. When these funds change as a percentage of payroll, net direct employer contributions are adjusted accordingly. We estimate that these funds will increase by 0.93% of payroll in Fiscal 2022.

The system granted a cost-of-living adjustment to all retirees and beneficiaries effective October 1, 2021. These additional benefits increased the normal cost accrual rate by 0.4494%. The Board elected to release funds from the Funding Deposit Account to offset the cost of this COLA. Thus, the withdrawal of $2,376,933 from the Funding Deposit account lowered the normal cost accrual rate by a like amount, directly offsetting the cost of the COLA.

Although the actuarially required net direct employer contribution rate for Fiscal 2021 was 2.85%, the Board of Trustees voted to maintain the employer contribution at 8.00%. For Fiscal 2021, this system experienced a contribution gain of $2,209,521. In accordance with R. S. 11:107, these additional contributions were credited to the system's Funding Deposit Account as of September 30, 2021. Although the actuarially required net direct employer contribution rate for Fiscal 2022 is 2.11%; the board adopted employer contribution rate for Fiscal 2022 is 5.00% of payroll. Since the contribution rate for Fiscal 2022 was held at 5.00% by the Board, any surplus in employer contributions collected during the fiscal year will be credited to the Funding Deposit Account.

Furthermore, R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest 0.25%, hence we are recommending a minimum net direct employer contribution rate of 2.00% for Fiscal 2023. Under the provisions of R.S. 11:105, R.S. 11:106 and R.S. 11:107, the Board of Trustees may set the net direct employer contribution for Fiscal 2023 at any level between the minimum recommended employer contribution rate of 2.00% and 5.00%. If the Board sets the net direct employer contribution rate above the minimum rate, any excess funds collected will be deposited into the Funding Deposit Account. Funds in this account can be used to reduce future required contributions in a particular year, to reduce the normal cost accrual rate, or to grant a cost-of-living increase to retirees.

COST OF LIVING INCREASES

During Fiscal 2021 the actual cost-of-living (as measured by the US Department of Labor CPI-U) increased by 5.4%. Cost-of-living provisions for the system are detailed in R.S. 11: 1461, R.S. 11:246, R.S. 11:241, and R.S. 11:243. R.S. 11:1461 allows the Board of Trustees to provide a cost-of-living increase from excess interest earnings to members who have been retired for at least one full calendar year. The increase cannot exceed the lesser of 3% of the retiree's original benefit or an increase of $300 per year for each year of retirement. R.S. 11:246 provides cost-of-living increases to retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. R.S. 11:241 provides for cost-of-living benefits payable based on a formula equal to up to $1 times the total of the number of years of credited service accrued at retirement or at death of the member or retiree plus the number of years since retirement or since death of the member or retiree to the system's fiscal year end preceding the payment of the benefit increase. The provisions of R.S. 11:241 do not repeal provisions relative to cost-of-living adjustments contained within the individual laws governing systems; however, they are to be controlling in cases of conflict. In addition, Act 113 of the 2008 Regular Legislation Session provides for a COLA of 3% of the normal monthly benefit but not less than $20 per month. Although this COLA is permanent, it may only be granted once.

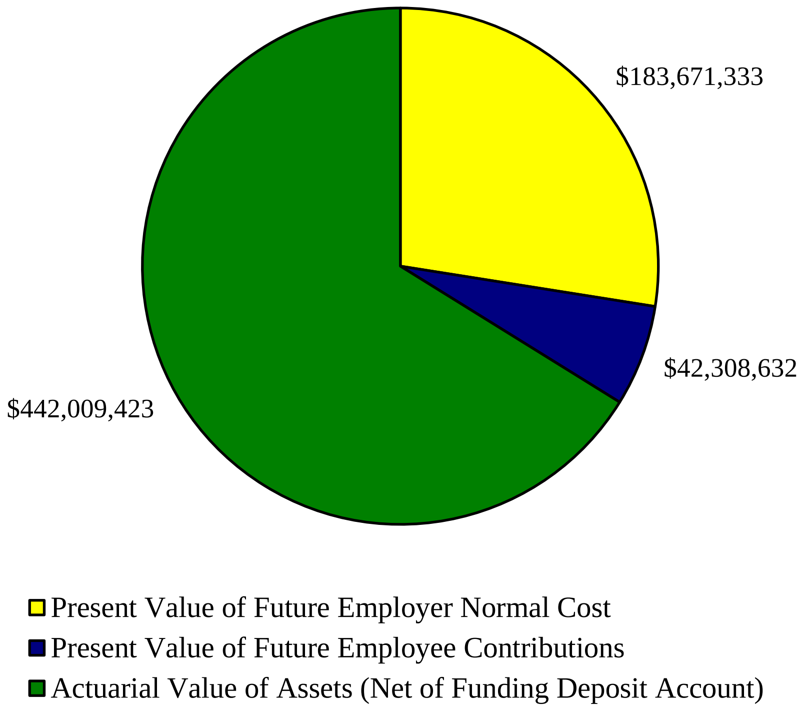
In order to grant a COLA, the system must meet the funded ratio criteria specified in R.S. 11:243. For purposes of COLAs payable under R.S. 11:1461(A), R.S. 11:246, or R.S. 11:241, the system must have investment earnings in excess of the valuation interest rate sufficient to offset the additional liability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

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

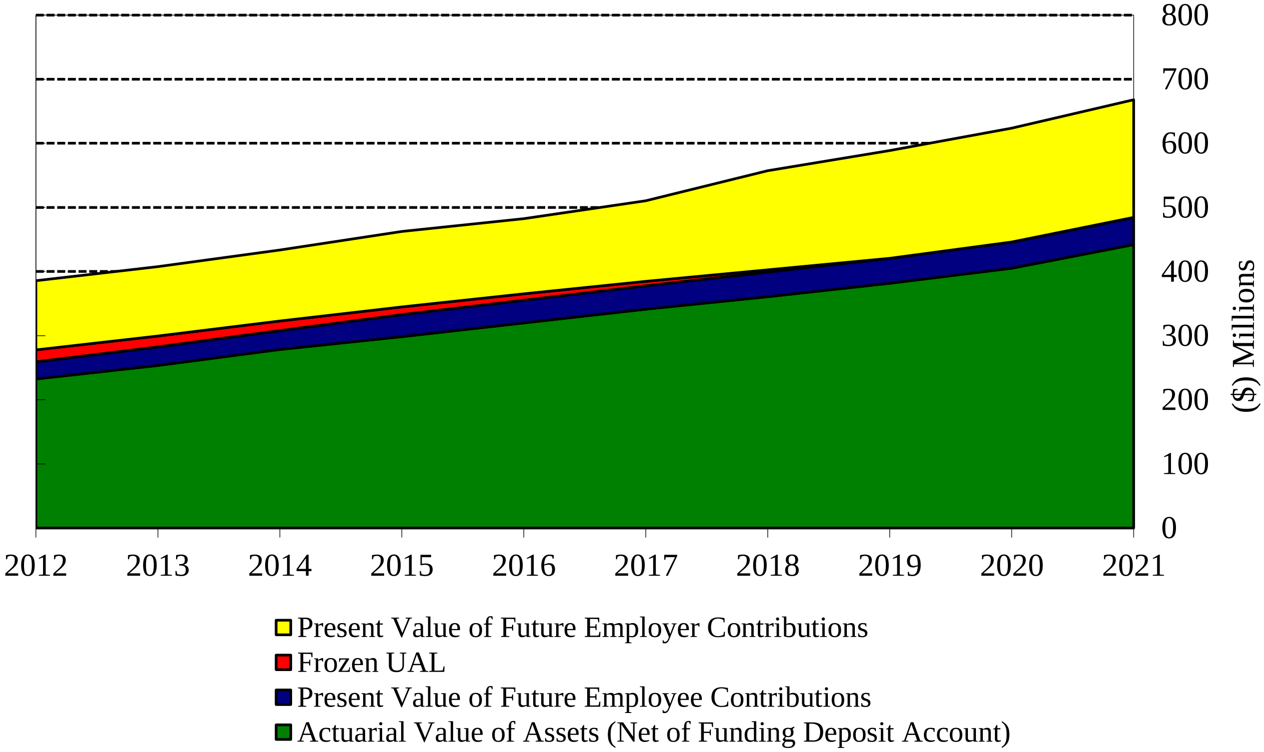
1. The system has a funded ratio of 90% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the most recent fiscal year.
2. The system has a funded ratio of 80% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the two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

Since the Board granted a cost-of-living increase effective October 1, 2021 under R.S. 11:241, the Fund is not authorized under R.S. 11:243 to grant a cost-of-living increase in Fiscal 2022 for regular retirees.

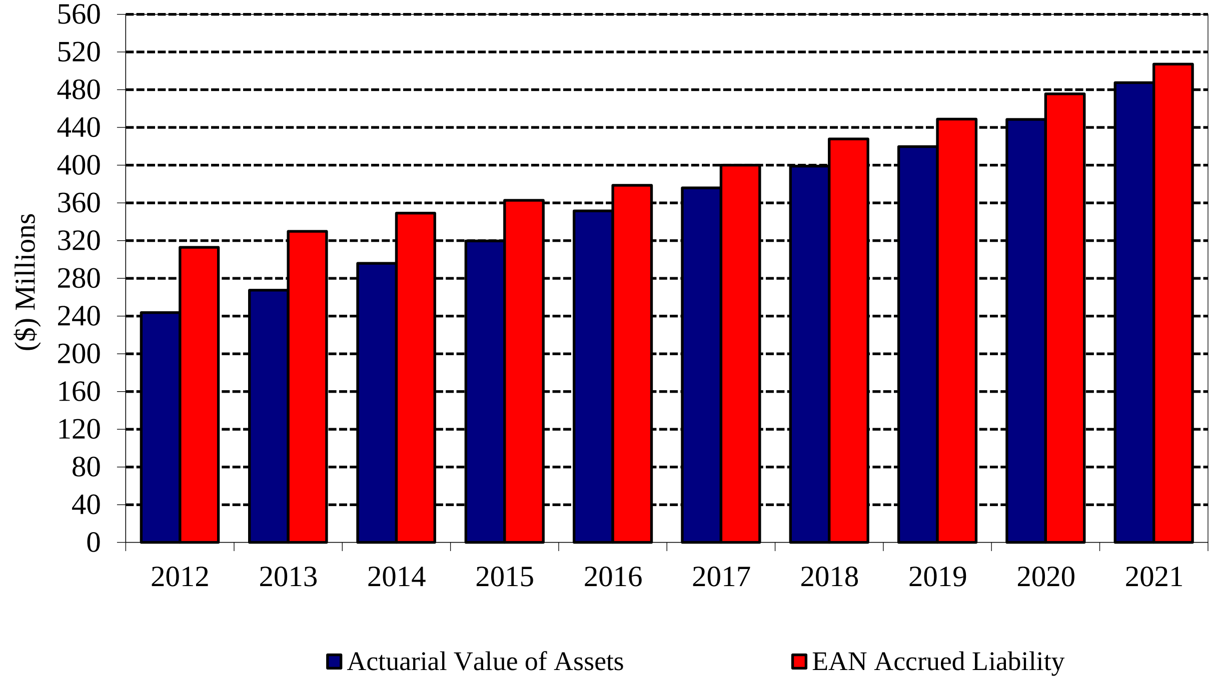
Components of Present Value of Future Benefits
September 30, 2021



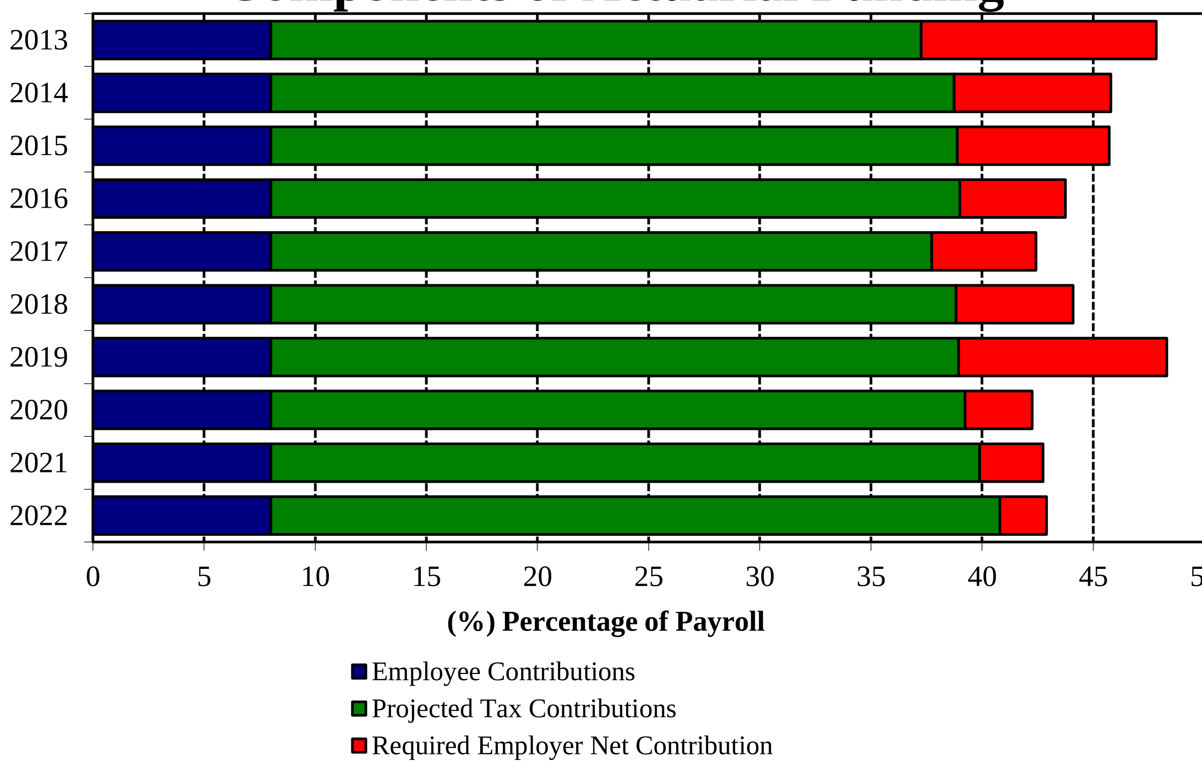
Components of Present Value of Future Benefits



Actuarial Value of Assets vs. EAN Accrued Liability

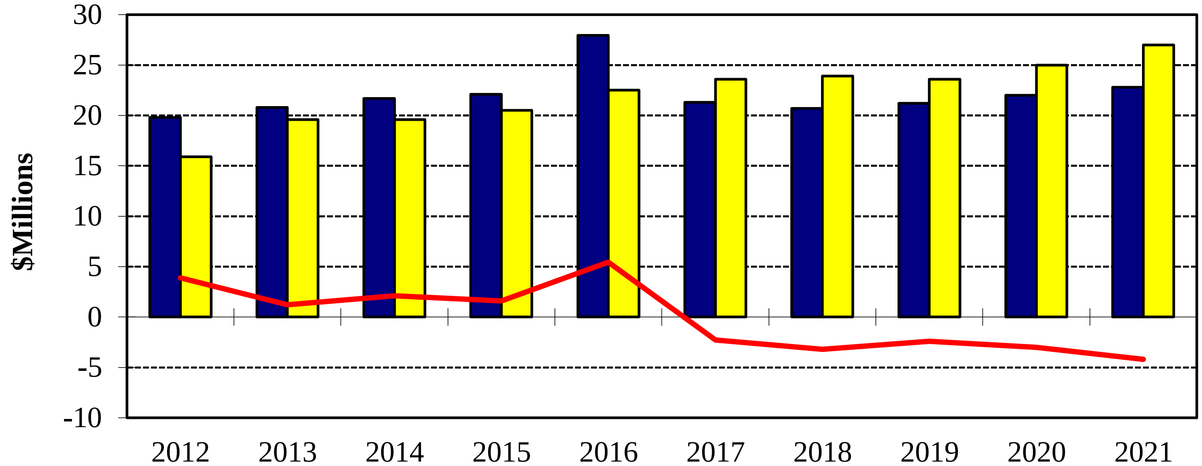


Components of Actuarial Funding



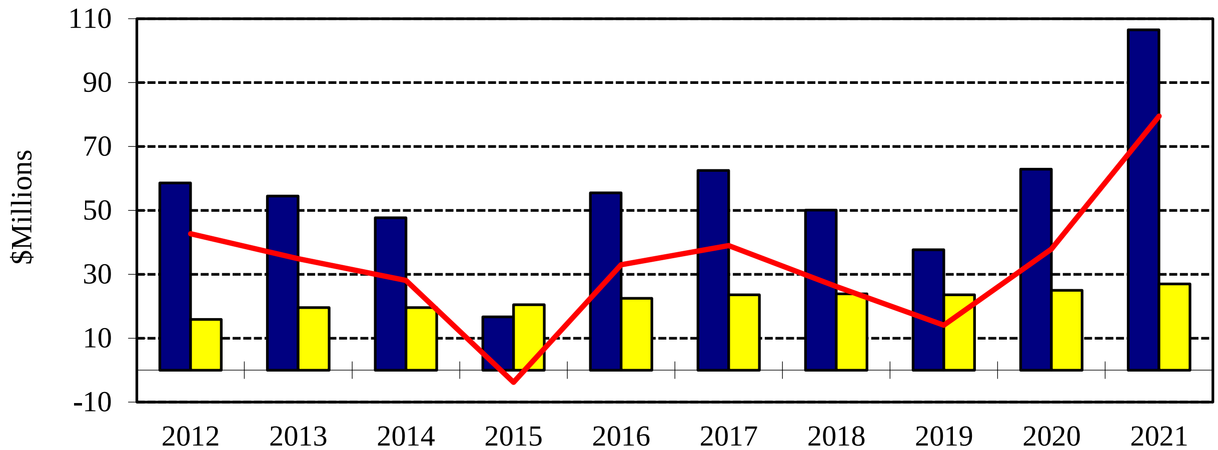
Actuarially Required Tax Contributions consist of the lesser of Actuarially Required Contributions and amount of taxes divided by the projected valuation payroll.

Net Non-Investment Income



		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Non-Investment Income ($Mil)		19.8	20.8	21.7	22.1	28.0	21.3	20.7	21.2	22.0	22.8
Benefits and Expenses ($Mil)		15.9	19.6	19.6	20.5	22.5	23.6	23.9	23.6	25.0	27.0
Net Non-Investment Income ($Mil)		3.9	1.2	2.1	1.6	5.5	-2.3	-3.2	-2.4	-3.0	-4.2

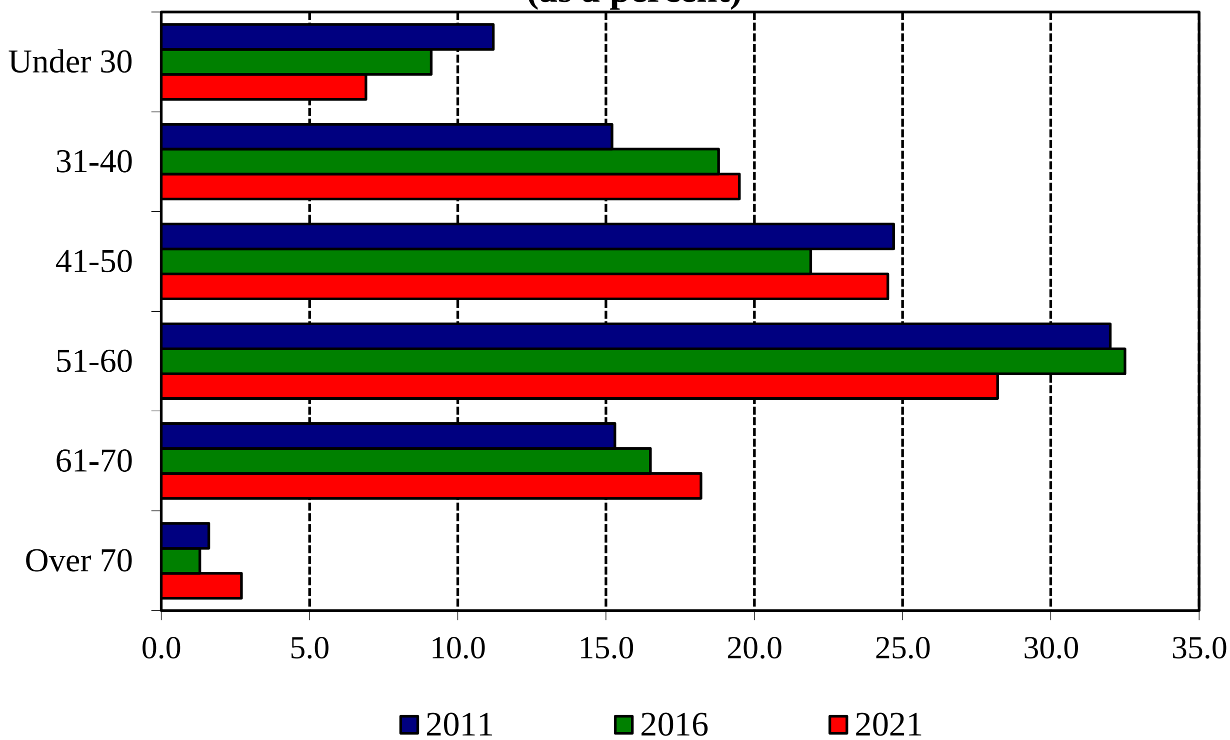
Total Income vs. Expenses
(Based on Market Value of Assets)



		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Income ($Mil)		58.6	54.5	47.7	16.7	55.5	62.5	50.1	37.7	62.9	106.5
Benefits and Expenses ($Mil)		15.9	19.6	19.6	20.5	22.5	23.6	23.9	23.6	25.0	27.0
Net Change in MVA ($Mil)		42.7	34.9	28.1	-3.8	33.0	38.9	26.2	14.1	37.9	79.5

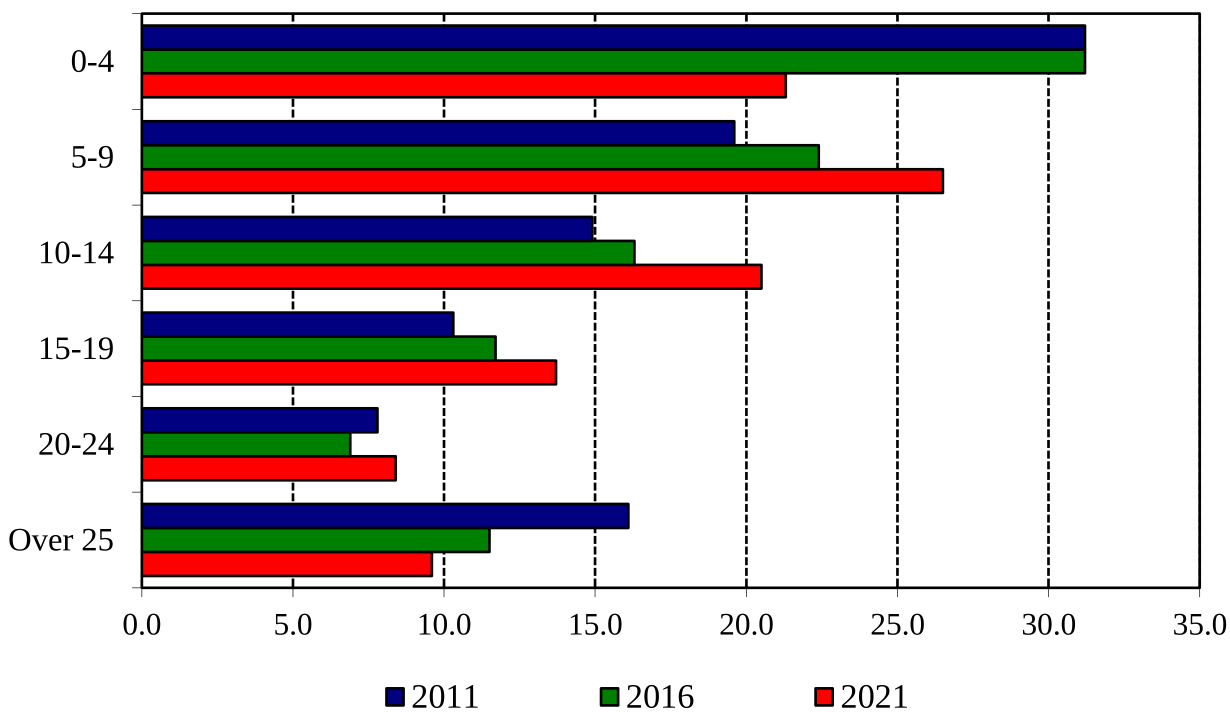
Active – Census by Age

(as a percent)

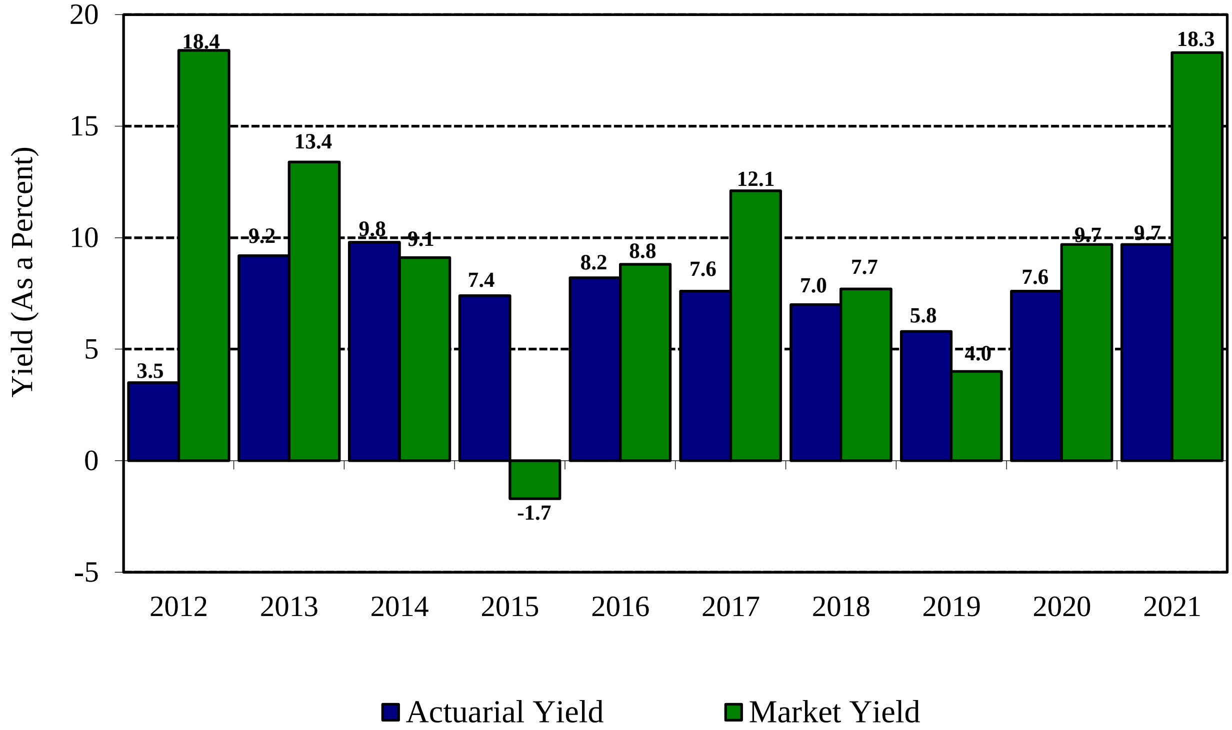


Active – Census by Service

(as a percent)



Historical Asset Yields



EXHIBITS

EXHIBIT I
ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	$	667,989,388
2.	Funding Deposit Account Credit Balance	$	45,565,433
3.	Actuarial Value of Assets	$	487,574,856
4.	Present Value of Future Employee Contributions	$	42,308,632
5.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4)	$	183,671,333
6.	Present Value of Future Salaries	$	528,857,897
7.	Employer Normal Cost Accrual Rate (5 ÷ 6)		34.729808%
8.	Projected Fiscal 2022 Salary for Current Membership	$	45,207,113
9.	Employer Normal Cost as of October 1, 2021 (7 × 8)	$	15,700,344
10.	Employer Normal Cost Interest Adjusted for Mid-year Payment	$	16,126,325
11.	Estimated Administrative Cost for Fiscal 2022	$	312,709
12.	GROSS Employer Actuarially Required Contribution for Fiscal 2022 (10 + 11)	$	16,439,034
13.	Projected Ad Valorem Tax Contributions for Fiscal 2022	$	(15,093,361)
14.	Projected Revenue Sharing Funds for Fiscal 2022	$	(351,057)
15.	Employer's Net Direct Employer Actuarially Required Contribution for Fiscal 2022 (12 + 13 + 14)	$	994,616
16.	Projected Payroll for Fiscal 2022	$	47,043,878
17.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2022 (15 ÷ 16)		2.11%
18.	Board Adopted Employer Contribution Rate for Fiscal 2022		5.00%
19.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2023 (17, Rounded to nearest 0.25%)		2.00%

EXHIBIT II
PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$ 370,753,372	
Survivor Benefits	7,787,968	
Disability Benefits	2,890,481	
Vested Termination Benefits	6,097,723	
Refunds of Contributions	2,225,406	
TOTAL Present Value of Future Benefits for Active Members		$ 389,754,950

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$ 4,774,517	
Terminated Members with Reciprocals Due Benefits at Retirement	0	
Terminated Members Due a Refund	1,030,229	
TOTAL Present Value of Future Benefits for Terminated Members		$ 5,804,746

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees			
Maximum	$ 86,293,065		
Option 1	25,545,562		
Option 2	103,711,472		
Option 3	33,831,031		
Option 4	237,361		
TOTAL Regular Retirees		$ 249,618,491	
Disability Retirees		0	
Survivors & Widows		18,650,290	
DROP & Back-DROP Account Balances Payable to Retirees		4,160,911	
TOTAL Present Value of Future Benefits for Retirees & Survivors			$ 272,429,692
TOTAL Present Value of Future Benefits			$ 667,989,388

EXHIBIT III – SCHEDULE A
MARKET VALUE OF ASSETS

CURRENT ASSETS:			
Cash in Banks	$ 1,370,295		
Contributions and Taxes Receivable	445,259		
Accrued Interest and Dividends	897,894		
Other Current Assets	119,983		
TOTAL CURRENT ASSETS		$	2,833,431
INVESTMENTS:			
Equities	$ 326,158,637		
Fixed Income	150,794,183		
Real Estate	48,559,471		
Cash Equivalents	11,586,160		
Other Investments	263,480		
TOTAL INVESTMENTS		$	537,361,931
TOTAL ASSETS		$	540,195,362
CURRENT LIABILITIES:			
Accounts Payable	$ 247,544		
TOTAL CURRENT LIABILITIES		$	247,544
MARKET VALUE OF ASSETS		$	539,947,818

EXHIBIT III – SCHEDULE B
ACTUARIAL VALUE OF ASSETS

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

Fiscal year 2021	$	57,341,336
Fiscal year 2020		15,590,174
Fiscal year 2019		(8,966,928)
Fiscal year 2018		3,662,801
Fiscal year 2017		17,283,787
Total for Five Years	$	84,911,170

Deferral of Excess (Shortfall) of Invested Income:

Fiscal year 2021 (80%)	$	45,873,069
Fiscal year 2020 (60%)		9,354,104
Fiscal year 2019 (40%)		(3,586,771)
Fiscal year 2018 (20%)		732,560
Fiscal year 2017 (0%)		0
Total Deferred for Year	$	52,372,962

Market Value of Plan Net Assets, End of Year	$	539,947,818
Preliminary Actuarial Value of Plan Assets, End of Year	$	487,574,856

Actuarial Value of Assets Corridor

85% of Market Value, End of Year	$	458,955,645
115% of Market Value, End of Year	$	620,939,991

Final Actuarial Value of Plan Net Assets, End of Year	$	487,574,856

EXHIBIT IV
PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	42,308,632
Employer Normal Contributions to the Pension Accumulation Fund		183,671,333
Funding Deposit Account Debit (Credit) Balance		(45,565,433)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	180,414,532

EXHIBIT V
RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year	$	15,775,148		
Interest on the Normal Cost		907,071		
Administrative Expenses		291,482		
Interest on Expenses		8,263		
TOTAL Interest Adjusted Actuarially Required Contributions			$	16,981,964
Direct Employer Contributions	$	3,725,505		
Interest on Employer Contributions		105,611		
Ad Valorem Taxes and Revenue Sharing		14,936,934		
Interest on Ad Valorem Taxes and Revenue Sharing Funds		423,435		
TOTAL Interest Adjusted Employer Contributions			$	19,191,485
CONTRIBUTION SURPLUS/(SHORTFALL)			$	2,209,521

EXHIBIT VI
ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (September 30, 2020)			$	448,403,309
INCOME:				
Member Contributions	$	3,747,974		
Employer Contributions		3,725,505		
Tax Revenue		14,936,934		
Transfers from Other Systems		388,694		
Other Income		42,708		
Total Contributions			$	22,841,815
Net Appreciation of Investments	$	77,859,778		
Interest & Dividends		7,923,774		
Investment Expense		(2,086,343)		
Net Investment Income			$	83,697,209
TOTAL Income			$	106,539,024
EXPENSES:				
Retirement Benefits	$	23,761,404		
DROP & Back-DROP Disbursements		2,776,790		
Refunds of Contributions		178,698		
Administrative Expenses		291,482		
TOTAL Expenses			$	27,008,374
Net Market Value Income for Fiscal 2021 (Income – Expenses)			$	79,530,650
Unadjusted Fund Balance as of September 30, 2021 (Fund Balance Previous Year + Net Income)			$	527,933,959
Adjustment for Actuarial Smoothing			$	(40,359,103)
Actuarial Value of Assets: (September 30, 2021)			$	487,574,856

EXHIBIT VII
FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of September 30, 2020	$	43,246,189
Interest on Opening Balance at 5.75%		2,486,656
Contributions to the Funding Deposit Account		2,209,521
Withdrawals from the Funding Deposit Account		(2,376,933)
Funding Deposit Account Balance as of September 30, 2021	$	45,565,433

EXHIBIT VIII – Schedule A
PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees	$	223,722,815
Present Value of Benefits Payable to Terminated Employees		5,804,746
Present Value of Benefits Payable to Current Retirees and Beneficiaries		272,429,692
TOTAL PENSION BENEFIT OBLIGATION	$	501,957,253
NET ACTUARIAL VALUE OF ASSETS	$	487,574,856
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation		97.13%

EXHIBIT VIII – Schedule B
ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees	$	228,837,306
Accrued Liability for Terminated Employees		5,804,746
Accrued Liability for Current Retirees and Beneficiaries		272,429,692
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	$	507,071,744
NET ACTUARIAL VALUE OF ASSETS	$	487,574,856
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability		96.16%

EXHIBIT IX
CENSUS DATA

	Active	Terminated with Funds on Deposit	Retired	Total
Number of members as of September 30, 2020	749	115	564	1,428
Additions to Census				
Initial membership	55			55
Omitted in error last year				
Death of another member			6	6
Adjustment for multiple records				
Change in Status during Year				
Actives terminating service	(20)	20		
Actives who retired	(38)		38	
Term. members rehired				
Term. members who retire		(1)	1	
Retirees who are rehired				
Refunded who are rehired				
Omitted in error last year				
Eliminated from Census				
Refund of contributions	(3)			(3)
Deaths	(1)		(27)	(28)
Included in error last year				
Adjustment for multiple records				
Number of members as of September 30, 2021	742	134	582	1,458

ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	1	0	1	32,700	32,700
21 - 25	7	9	16	34,619	553,902
26 - 30	14	20	34	41,813	1,421,634
31 - 35	19	41	60	47,471	2,848,253
36 - 40	27	58	85	51,408	4,369,704
41 - 45	34	50	84	59,687	5,013,668
46 - 50	37	61	98	64,035	6,275,449
51 - 55	23	60	83	64,411	5,346,091
56 - 60	40	86	126	69,688	8,780,713
61 - 65	36	46	82	71,691	5,878,692
66 - 70	28	25	53	76,227	4,040,026
71 - 75	10	7	17	77,233	1,312,965
76 - 80	2	1	3	48,770	146,311
TOTAL	278	464	742	62,022	46,020,108

THE ACTIVE CENSUS INCLUDES 341 ACTIVES WITH VESTED BENEFITS, INCLUDING 0 DROP PARTICIPANTS AND 1 ACTIVE FORMER DROP PARTICIPANTS.

TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	0	2	2	20,622	41,244
41 - 45	1	0	1	34,320	34,320
46 - 50	4	2	6	29,602	177,612
51 - 55	2	5	7	28,771	201,396
TOTAL	7	9	16	28,411	454,572

TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From		To	Number	Total Contributions
0	-	99	2	89
100	-	499	8	2,641
500	-	999	15	10,957
1,000	-	1,999	11	16,419
2,000	-	4,999	22	74,274
5,000	-	9,999	24	158,138
10,000	-	19,999	21	305,008
20,000	-	99,999	15	462,703
		TOTAL	118	1,030,229

REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51 - 55	1	1	2	38,345	76,689
56 - 60	8	33	41	62,400	2,558,411
61 - 65	22	58	80	49,570	3,965,580
66 - 70	33	76	109	47,055	5,128,960
71 - 75	37	73	110	45,250	4,977,469
76 - 80	32	46	78	39,171	3,055,342
81 - 85	17	27	44	29,509	1,298,383
86 - 90	13	18	31	28,702	889,773
91 - 99	6	15	21	18,617	390,949
TOTAL	169	347	516	43,298	22,341,556

SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
56 - 60	0	1	1	43,915	43,915
61 - 65	0	4	4	49,023	196,093
66 - 70	2	7	9	46,382	417,440
71 - 75	3	6	9	33,278	299,499
76 - 80	1	10	11	38,698	425,674
81 - 85	1	12	13	23,136	300,765
86 - 90	0	12	12	32,042	384,498
91 - 99	0	7	7	20,553	143,873
TOTAL	7	59	66	33,511	2,211,757

ACTIVE MEMBERS:

Attained Ages	Completed Years of Service: 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 20	1											1
21 - 25	9	2	2	3								16
26 - 30	4	2	4	6	2	16						34
31 - 35	5	2	7	4	1	30	9	2				60
36 - 40	12	5	2	4	3	19	32	8				85
41 - 45	2	4	1	1	6	23	19	23	5			84
46 - 50	6	5	2	6	1	29	16	14	8	10	1	98
51 - 55	3	3	1	2	5	14	20	12	10	8	5	83
56 - 60	5	4	3	1	2	30	25	19	17	10	10	126
61 - 65	3	3	1		1	18	20	10	14	4	8	82
66 - 70	1			1	2	13	8	9	6	7	6	53
71 & Over	1		1	1		5	3	5	2		2	20
Totals	52	30	24	29	23	197	152	102	62	39	32	742

AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service: 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Salary
0 - 20	32,700											32,700
21 - 25	34,938	36,680	34,798	32,169								34,619
26 - 30	35,651	32,913	40,251	36,981	49,453	45,713						41,813
31 - 35	34,560	40,505	41,080	50,430	39,000	49,268	53,327	54,083				47,471
36 - 40	43,183	42,569	43,029	37,239	45,716	47,755	55,420	73,214				51,408
41 - 45	32,700	39,842	70,326	36,900	43,108	51,822	60,747	78,557	54,027			59,687
46 - 50	40,393	83,367	37,820	50,168	39,418	56,106	71,412	60,785	92,595	77,560	63,177	64,035
51 - 55	34,214	77,135	37,346	52,219	48,320	53,220	58,837	65,359	82,324	79,645	92,427	64,411
56 - 60	57,627	44,959	52,075	66,082	35,563	63,576	67,308	55,230	88,981	78,722	108,006	69,688
61 - 65	37,594	75,870	60,757		37,800	60,342	75,636	69,494	86,274	61,489	86,516	71,691
66 - 70	50,215			54,600	38,628	62,844	85,046	68,247	70,864	101,343	101,968	76,227
71 & Over	36,577		36,389	55,994		50,045	55,840	85,073	120,825		122,777	72,964
Average	39,978	54,936	43,371	44,417	43,517	54,525	64,278	67,842	84,217	80,906	98,590	62,022

TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

	Years Until Retirement Eligibility											
Attained Ages	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 35												0
36 - 40								2				2
41 - 45							1					1
46 - 50						6						6
51 - 55	1		3	1	2							7
56 & Over												0
Totals	1	0	3	1	2	6	1	2	0	0	0	16

AVERAGE ANNUAL BENEFITS OF TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

	Years Until Retirement Eligibility											
Attained Ages	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 35												0
36 - 40								20,622				20,622
41 - 45							34,320					34,320
46 - 50						29,602						29,602
51 - 55	16,918		21,549	88,383	15,724							28,771
56 & Over												0
Average	16,918	0	21,549	88,383	15,724	29,602	34,320	20,622	0	0	0	28,411

SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 50												0
51 - 55	1			1								2
56 - 60	10	6	2	7	3	13						41
61 - 65	9	5	5	4	6	36	15					80
66 - 70	12	5	5	7	3	31	38	8				109
71 - 75	6	4	3		11	27	30	28	1			110
76 - 80		1	1	1	2	21	18	18	15	1		78
81 - 85	1					2	8	11	7	10	5	44
86 - 90							5	4	9	3	10	31
91 & Over								1	5	2	13	21
Totals	39	21	16	20	25	130	114	70	37	16	28	516

AVERAGE ANNUAL BENEFITS PAYABLE TO SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 50												0
51 - 55	29,930			46,759								38,345
56 - 60	82,818	62,472	37,485	55,866	69,837	52,297						62,400
61 - 65	62,425	30,909	56,818	52,451	41,573	45,989	56,685					49,570
66 - 70	49,100	32,611	37,427	46,633	47,445	57,855	42,757	37,814				47,055
71 - 75	59,954	50,342	19,592		62,783	47,720	47,739	32,410	38,898			45,250
76 - 80		34,485	40,543	38,362	67,751	51,504	41,198	33,862	23,222	25,449		39,171
81 - 85	156,626					42,812	41,438	26,756	24,338	15,673	20,644	29,509
86 - 90							54,796	17,797	21,797	37,464	23,604	28,702
91 & Over								16,756	27,402	21,373	14,957	18,617
Average	64,756	44,204	40,345	50,621	57,096	50,651	46,090	31,454	24,075	21,082	19,061	43,298

SURVIVING BENEFICIARIES OF FORMER MEMBERS:

ATTAINED AGES	COMPLETED YEARS SINCE RETIREMENT 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&OVER	TOTAL
0 - 55												0
56 - 60						1						1
61 - 65					1	1	1	1				4
66 - 70	1				1	3		2	2			9
71 - 75					1	2	2	1	1	2		9
76 - 80							5	3		2	1	11
81 - 85							3	3	5	1	1	13
86 - 90						1	2	1	4	1	3	12
91 & OVER									1	3	3	7
TOTALS	1	0	0	0	3	8	13	11	13	9	8	66

AVERAGE ANNUAL BENEFITS PAYABLE TO SURVIVORS OF FORMER MEMBERS:

ATTAINED AGES	COMPLETED YEARS SINCE RETIREMENT 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&OVER	AVERAGE BENEFIT
0 - 55												0
56 - 60						43,915						43,915
61 - 65					32,246	68,703	17,794	77,350				49,023
66 - 70	46,688				35,864	75,173		23,674	31,011			46,382
71 - 75					39,368	35,057	48,973	29,459	33,692	14,461		33,278
76 - 80							42,407	41,406		25,939	37,544	38,698
81 - 85							26,235	26,260	23,685	21,606	3,249	23,136
86 - 90						114,648	17,397	15,283	37,389	30,258	13,320	32,042
91 & OVER									62,321	15,226	11,958	20,553
AVERAGE	46,688	0	0	0	35,826	65,362	33,944	33,858	32,770	19,816	14,579	33,511

EXHIBIT X
YEAR-TO-YEAR COMPARISON

	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Number of Active Members	742	749	740	747
Number of Retirees & Survivors	582	564	563	572
Number of Terminated Due Deferred Benefits	16	12	17	16
Number Terminated Due Refunds	118	103	102	94
Active Lives Payroll	$ 46,020,108	$ 46,282,404	$ 44,362,164	$ 43,686,762
Retiree Benefits in Payment	$ 24,553,313	$ 22,229,576	$ 21,785,575	$ 21,566,139
Market Value of Assets	$ 539,947,818	$ 460,417,168	$ 422,565,188	$ 408,441,921
Entry Age Normal Accrued Liability	$ 507,071,744	$ 475,694,775	$ 448,943,386	$ 427,882,294
Ratio of AVA to EAN Accrued Liability	96.16%	94.26%	93.48%	93.22%
Actuarial Value of Assets	$ 487,574,856	$ 448,403,309	$ 419,658,788	$ 398,857,013
Frozen Unfunded Actuarial Accrued Liability	$ 0	$ 0	$ 0	$ 3,429,455
Present Value of Future Employer Normal Cost	$ 183,671,333	$ 177,545,550	$ 167,763,619	$ 154,438,730
Present Value of Future Employee Contrib.	$ 42,308,632	$ 40,735,979	$ 39,242,505	$ 38,389,814
Funding Deposit Account Balance	$ 45,565,433	$ 43,246,189	$ 38,100,032	$ 37,949,749
Present Value of Future Benefits	$ 667,989,388	$ 623,438,649	$ 588,564,880	$ 557,165,263

	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019
Employee Contribution Rate	8.00%	8.00%	8.00%	8.00%
Estimated Tax Contribution as a % of Payroll	32.83%	31.90%	31.24%	30.94%
Actuarially Required Net Direct Employer Contribution Rate	2.11%	2.85%	3.01%	9.38%
Actual Employer Contribution Rate	5.00%	8.00%	8.00%	8.00%

	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013	Fiscal 2012
	751	772	757	757	747	758
	570	556	544	535	519	489
	13	10	13	14	17	18
	90	84	79	74	75	70
	$ 42,948,488	$ 43,573,217	$ 41,689,719	$ 40,498,685	$ 39,962,471	$ 39,098,798
	$ 21,114,760	$ 19,561,454	$ 18,432,197	$ 17,346,092	$ 16,681,535	$ 14,191,340
	$ 382,197,366	$ 343,233,124	$ 310,262,528	$ 314,045,097	$ 285,977,787	$ 251,096,489
	$ 399,744,486	$ 378,520,063	$ 362,594,812	$ 349,004,741	$ 329,768,390	$ 312,848,872
	94.03%	92.87%	88.15%	84.80%	81.11%	77.93%
	$ 375,876,564	$ 351,549,680	$ 319,630,048	$ 295,965,881	$ 267,473,843	$ 243,797,375
	$ 6,658,938	$ 9,593,206	$ 12,221,554	$ 14,585,158	$ 16,695,158	$ 18,552,185
	$ 125,942,737	$ 117,204,572	$ 117,637,907	$ 110,250,598	$ 108,615,730	$ 108,058,007
	$ 36,486,315	$ 35,833,133	$ 34,266,075	$ 29,803,451	$ 28,814,590	$ 26,841,544
	$ 34,439,283	$ 31,866,114	$ 21,170,541	$ 17,024,774	$ 13,720,700	$ 11,421,183
	$ 510,525,271	$ 482,314,477	$ 462,585,043	$ 433,580,314	$ 407,878,621	$ 385,827,928

	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
	30.83%	29.74%	31.00%	30.90%	30.75%	29.26%
	5.24%	4.69%	4.75%	6.84%	7.05%	10.58%
	8.00%	10.00%	13.50%	13.50%	13.50%	13.50%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

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

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

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

FUNDING DEPOSIT ACCOUNT – If the contribution rate is set above the minimum recommended rate pursuant to R.S. 11:105, 11:106 or 11:107, the surplus contributions collected, if any, are credited to the Funding Deposit Account defined in R.S. 11:107.1. The funds in the account earn interest annually at the Board-approved actuarial valuation interest rate, and such interest is credited to the account at least once a year. The Board of Trustees may, in any fiscal year, direct that funds from the account be charged for the following purposes: (1) to reduce the unfunded accrued liability; (2) to reduce the present value of future normal costs for systems using an aggregate funding method; (3) to pay all or a portion of any future net direct employer contributions; or (4) to provide for cost-of-living increases, in accordance with applicable law. In no event will the funds charged from the account exceed the outstanding account balance. If the Board of Trustees of the system elects to utilize funds from the funding deposit account to pay all or a portion of any future net direct employer contributions, the percent reduction in the minimum recommended employer contribution rate otherwise applicable is determined by dividing the interest-adjusted value of the charges from the funding deposit account by the projected payroll for the fiscal year for which the contribution rate is to be reduced. For funding purposes, any asset value utilized in the calculation of the actuarial value of assets of a system excludes the funding deposit account balance as of the asset determination date for such calculation. For all purposes other than funding, the funds in the account are considered assets of the system.

RETIREMENT BENEFITS –

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

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

OPTIONAL ALLOWANCES – Members may receive their benefits as a life annuity, or in lieu of such receive a reduced benefit according to the option selected that is the actuarial equivalent of the maximum benefit. If, upon retirement, a member selects their spouse as their beneficiary under Option 2 or Option 3 or Option 4, the option reduction factor will be based on the ages of the member and his or her beneficiary as of the member's sixtieth birthday. If a participant selects an option 4 for someone other than their spouse, the option reduction factor is based on the ages of the member and beneficiary as of the later of the date of the member's retirement or the member's sixtieth birthday.

Option 1 – If the member dies before he has received in annuity payments the present value of his member's annuity, as it was at the time of retirement the balance is paid to his beneficiary.

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

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

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

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

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

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

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

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

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

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

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

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

ACTUARIAL ASSUMPTIONS

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

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

ACTUARIAL COST METHOD: Aggregate Actuarial Cost Method with allocation based on earnings.

VALUATION INTEREST RATE: 5.50% (Net of Investment Expense)

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

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

ANNUAL SALARY INCREASE RATE: 5.25% (2.10% inflation /3.15% merit)

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

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

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

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

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

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

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

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

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS: The rate for all ages is assumed to be 33%.

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

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

VESTING ELECTING PERCENTAGE: 60% of those vested elect deferred benefits in lieu of contribution refunds.

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

FAMILY STATISTICS: Assumptions utilized in determining the costs of various survivor benefits as listed below, are derived from the information provided in the 2019 Table F1: Family Households, by Type, Age of Own Children, Age of Family Members, and Age of Householder provided by the U.S. Census Bureau:

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

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

ACTUARIAL TABLES AND RATES

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

PRIOR YEAR ASSUMPTIONS

VALUATION INTEREST RATE: 5.75% (Net of Investment Expense)

GLOSSARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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