PARROCHIAL EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL VALUATION AS OF
DECEMBER 31, 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

June 9, 2022

Board of Trustees
Parochial Employees' Retirement System
7905 Wrenwood Blvd.
Baton Rouge, LA 70809

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Parochial Employees' Retirement System for the fiscal year ending December 31, 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 Parochial Employees' Retirement System. The primary purposes of the report are to determine the actuarially required contribution for the retirement system for the fiscal year ending December 31, 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 Parochial 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 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.
Senior Consulting Actuary

TABLE OF CONTENTS

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

		December 31, 2021	December 31, 2020
Valuation Date:		December 31, 2021	December 31, 2020
Census Summary:	Active Members	13,643	13,750
	Retired Members and Survivors	8,096	7,873
	Terminated Due a Deferred Benefit	901	849
	Terminated Due a Refund	8,731	8,351
Payroll:		$ 672,340,250	$ 666,414,649
Benefits in Payment:		$ 211,189,264	$ 201,085,695
Present Value of Future Benefits:		$ 5,531,290,870	$ 5,403,099,984
Actuarial Accrued Liability (EAN):		$ 4,426,022,763	$ 4,306,898,028
Funding Deposit Account Credit Balance:		$ 69,983,070	$ 55,177,473
Actuarial Asset Value (AVA):		$ 4,568,593,183	$ 4,218,785,899
Market Value of Assets (MVA):		$ 4,976,037,622	$ 4,561,001,343
Ratio of AVA to Actuarial Accrued Liability (EAN):		103.22%	97.95%

	Fiscal 2021	Fiscal 2020
Market Rate of Return:	11.2%	13.4%
Actuarial Rate of Return:	10.6%	9.7%

	Fiscal 2022	Fiscal 2021
Employers' Normal Cost (Mid-year):	$ 55,348,150	$ 78,066,663
Estimated Administrative Cost:	$ 1,916,833	$ 1,794,420
Projected Ad Valorem Tax Contributions:	$ 8,317,053	$ 8,740,881
Projected Revenue Sharing Funds:	$ 135,557	$ 135,578
Net Direct Employer Actuarially Required Contributions:	$ 48,812,373	$ 70,984,624
Projected Payroll:	$ 687,202,977	$ 683,736,536
Actual Employee Contribution Rate:	9.50%	9.50%
Actual Net Direct Employer Contribution Rate:	11.50%	12.25%
Actuarially Required Net Direct Employer Contribution Rate:	7.10%	10.38%

	Fiscal 2023	Fiscal 2022
Minimum Recommended Net Direct Employer Cont. Rate:	7.00%	10.50%

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

Valuation Date:		December 31, 2021	December 31, 2020
Census Summary:	Active Members	2,367	2,387
	Retired Members and Survivors	1,013	985
	Terminated Due a Deferred Benefit	174	158
	Terminated Due a Refund	1,914	1,841
Payroll:		$ 115,392,433	$ 114,185,471
Benefits in Payment:		$ 14,395,520	$ 13,557,343
Present Value of Future Benefits:		$ 500,058,032	$ 485,940,079
Actuarial Accrued Liability (EAN):		$ 388,045,808	$ 374,570,332
Funding Deposit Account Credit Balance:		$ 5,194,363	$ 4,881,920
Actuarial Asset Value (AVA):		$ 412,987,548	$ 375,316,220
Market Value of Assets (MVA):		$ 449,392,040	$ 405,656,961
Ratio of AVA to Actuarial Accrued Liability (EAN):		106.43%	100.20%

	Fiscal 2021	Fiscal 2020
Market Rate of Return:	11.2%	13.5%
Actuarial Rate of Return:	10.5%	9.7%

	Fiscal 2022	Fiscal 2021
Employers' Normal Cost (Mid-year):	$ 6,931,262	$ 9,442,057
Estimated Administrative Cost:	$ 328,982	$ 307,461
Projected Ad Valorem Tax Contributions:	$ 1,427,440	$ 1,497,689
Projected Revenue Sharing Funds:	$ 23,265	$ 23,230
Net Direct Employer Actuarially Required Contributions:	$ 5,809,539	$ 8,228,599
Projected Payroll:	$ 117,723,275	$ 116,319,523
Actual Employee Contribution Rate:	3.00%	3.00%
Actual Net Direct Employer Contribution Rate:	7.50%	7.50%
Actuarially Required Net Direct Employer Contribution Rate:	4.93%	7.07%

	Fiscal 2023	Fiscal 2022
Minimum Recommended Net Direct Employer Cont. Rate:	5.00%	7.00%

GENERAL COMMENTS

The values and calculations in this report were determined by applying statistical analysis and projections to system data and the assumptions listed. There is sometimes a tendency for readers to either dismiss results as mere "guesses" or alternatively ascribe a greater degree of certainty and accuracy to the results than warranted. In fact, neither of these descriptions 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 data used; 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 in such areas as expectation of population increase and turnover for the plan 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 process 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. Fortunately, 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 level of funding and to provide for the future benefits of plan participants.

COMMENTS ON DATA

For the valuation, the administrative director of the system furnished a census 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 13,643 active members in Plan A, of whom, 7,005 members, including 528 participants in the Deferred Retirement Option Plan (DROP), have vested retirement benefits; 8,096 former members of Plan A or their beneficiaries are receiving retirement benefits. An additional 9,632 former members of Plan A have contributions remaining on deposit with the system. This includes 901 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 2,367 active members in Plan B, of whom, 1,197 members, including 57 DROP participants, have vested retirement benefits; 1,013 former members of Plan B or their beneficiaries are receiving retirement benefits. An additional 2,088 former members of Plan B have contributions remaining on deposit with the system. Of this number, 174 have vested rights or have filed reciprocal agreements for future retirement benefits. 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. As a part of the 2021 actuarial valuation, we received salaries by calendar month to improve our review of member status. The status for records with a sufficient number of months at the end of 2021 without salary was changed to either terminated due a refund or terminated vested, depending on service credit. Due to limitations with the system's database program, we continue to make significant changes to the tier assignment of members based on their dates of entry and service credit.

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. Valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of Duplantier, Hrapmann, Hogan & Maher, L.L.P. As indicated in the system's audit report, the net market value of Plan A's assets was $4,976,037,622 as of December 31, 2021. For Plan A, the net investment income for Fiscal 2021 measured on a market value basis was $507,357,899. Contributions to Plan A for the fiscal year totaled $155,930,262; benefits and expenses amounted to $248,251,882.

The net market value of Plan B's assets was $449,392,040 as of December 31, 2021. For Plan B, the net investment income for Fiscal 2021 measured on a market value basis was $45,442,074. Contributions to Plan B for the fiscal year totaled $15,077,009; benefits and expenses amounted to $16,784,004.

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

Plan A was previously funded under the Frozen Attained Age Normal Cost Method. The Frozen Unfunded Accrued Liability was fully amortized in Fiscal 2012. Hence, for the Fiscal 2013 valuation, the system's funding method was changed to the Aggregate Actuarial Cost Method. Plan B is funded utilizing the Aggregate Actuarial Cost Method. This method does not develop an unfunded actuarial liability. Under the Aggregate Cost Method, actuarial gains and losses are spread over future normal costs. Thus, favorable plan experience will lower future normal costs; unfavorable experience will cause future normal costs to increase. In both plans, benefit and assumption changes are also spread over future normal costs. Effective with Fiscal 2008, for both Plans A and B, any excess funds collected pursuant to R. S. 11:105 or R. S. 11:107 are allocated to the Funding Deposit Account. The Funding Deposit Account credit balance as of the end of the prior fiscal year for Plans A and B was $55,177,473 and $4,881,920, respectively. Both accounts were increased with interest at the 6.40% valuation interest rate in effect during fiscal 2020. A freeze in the employer contribution rate in Plan A for Fiscal 2021 resulted in a contribution gain of $11,274,241 as of December 31, 2021. Because the employer rate for Plan B was set at 7.5% which was the minimum recommended employer contribution rate for Fiscal 2021, the contribution gain of $336,637 as of December 31, 2021 was not added to the Funding Deposit Account. No funds were withdrawn from the Funding Deposit Account during Fiscal 2021 for either plan. After accounting for the addition of funds to the Plan A funding deposit account and adjusting the balances for interest, the resulting balances as of December 31, 2021 for Plans A and B were $69,983,070 and $5,194,363, respectively.

The current year actuarial assumptions utilized for this report are based on the results of an actuarial experience study for the period January 1, 2013 – December 31, 2017, 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. In determining the valuation interest rate, consideration was given to several factors. First, consensus estimates of rates of return, standard deviations, and correlation coefficients for asset classes derived from various asset consulting firms were developed. Secondly, projected long-term inflation estimates from a number of sources were reviewed. These factors were used to derive forward estimates of the Fund's portfolio earnings rate. Segal Marco Advisors submitted capital market assumptions for use in developing our consultant average assumptions which were used in our ongoing review of the Fund's valuation interest rate. The actuary's reasonable range for the assumption related to the assumed long-term expected rate of return was reviewed by developing 10,000 stochastic trials over the coming 30 years. These trials were developed based upon the average arithmetic portfolio rate of return and an estimate of the portfolio's long-term standard deviation. The reasonable range was set based upon the 40th through 60th percentile of the geometric 30-year average rates of return taken from these trials. Our study performed in 2022 based upon the system's target asset allocation resulted in a reasonable range of 5.58% through 6.63% with a 50th percentile value of 6.11%. Therefore, the current assumed rate of return of 6.4% remains within the system's reasonable range and no change is required.

Although the board of trustees has authority to grant ad hoc Cost of Living Adjustments (COLAs) under limited circumstances, these COLAs have not been shown to have a historical pattern, the amounts of the COLAs have not been relative to a defined cost-of-living or inflation index, and there is no evidence to conclude that COLAs will be granted on a predictable basis in the future. In addition, COLAs paid out of the Funding Deposit Account do not affect the actuarially required contributions to the system. Therefore, for purposes of determining the present value of benefits, these COLAs were deemed not to be substantively automatic and the present value of benefits excludes COLAs not previously granted by the board of trustees.

The current year actuarial assumptions utilized for the report are outlined on pages sixty-six through seventy-one. With the exception of an update in the option factors used to estimate benefits due spouses of members who die prior to retirement, all assumptions used are the same as those used in the 2020 valuation. Since the impact of this change is not material to the answer, the change is not shown separately as a change in plan assumptions. The impact will be contained within plan experience. All calculations, recommendations, and conclusions are based on the assumptions specified. To the extent that prospective experience differs from that assumed, adjustments to contribution levels will be required. Such differences will be revealed in future actuarial valuations.

RISK FACTORS

Defined benefit pension plans are subject to a number of risks. These 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 Board attempt to offset inflation with cost-of-living adjustments not funded through the Funding Deposit Accounts, costs would increase. 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 ten years prior to 2021, inflation levels remained in a fairly narrow range. Currently, economic forecasters view inflation as the greatest concern for future returns.

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 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 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 slightly exceed annual contributions to the plan for both Plans A and B. This is a result of the plan's maturity level and the reduction in required contributions. Future net noninvestment cash flows for the system will be determined based upon both the system'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 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 proportion of retired membership will continue and the current trend toward a higher level of negative noninvestment cash flows will continue.

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 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 dependent upon the severity of the event and cannot be easily forecasted.

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 based on the funding methodology used to fund the plan. The ratio is 103.22% for Plan A and 106.43% for Plan B as of December 31, 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. Exhibits X and XX give a history of this value for the last ten years. However, 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 Plan A, 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 (reduction) in the actuarially required contribution as a percentage of projected payroll of 0.76% for the fund. Similarly for Plan B, we have determined that the corresponding increase (reduction) in the actuarially required contribution as a percentage of projected payroll will be 0.41% 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 14.43 for Plan A and 14.38 for Plan B, when measured based on the interest sensitivity of each plan's entry-age normal accrued liability.

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 31.41% for Plan A and 12.48% for Plan B; ten years ago this ratio was 18.95% for Plan A and 6.82% 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 are that in this area a decrease in the assumptions is more probable than an increase. The magnitude of any potential such change will be related to future capital market expectations. 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 2022 by 12.00% of payroll for Plan A and 7.08% 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 effect 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 2021 Regular Session of the Louisiana Legislature:

Act 138 allows certain employees of the Louisiana School Board Association to enroll in the Teacher's Retirement System of Louisiana.

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
2012	15.6%	4.2%
2013	18.1%	13.0%
2014	4.9%	10.5%
2015	-0.6%	7.3%
2016	7.7%	7.8%
2017	17.3%	8.6%
2018	-5.6%	4.7%
2019	17.8%	6.4%
2020	13.4%	9.7%
2021	11.2%	10.6%

Plan B	Market Value	Actuarial Value
2012	15.8%	4.8%
2013	17.6%	12.8%
2014	4.9%	10.3%
2015	-0.7%	7.1%
2016	7.7%	7.5%
2017	17.4%	8.5%
2018	-5.7%	4.8%
2019	17.7%	6.4%
2020	13.5%	9.7%
2021	11.2%	10.5%

Geometric Average Market Rates of Return – Plan A

5-year average	(Fiscal 2017 – 2021)	10.5%
10-year average	(Fiscal 2012 – 2021)	9.7%
15-year average	(Fiscal 2007 – 2021)	7.1%
20-year average	(Fiscal 2002 – 2021)	7.4%
25-year average	(Fiscal 1997 – 2021)	7.5%
30-year average	(Fiscal 1992 – 2021)	8.0%

Geometric Average Market Rates of Return – Plan B

5-year average	(Fiscal 2017 – 2021)	10.5%
10-year average	(Fiscal 2012 – 2021)	9.7%
15-year average	(Fiscal 2007 – 2021)	7.1%
20-year average	(Fiscal 2002 – 2021)	7.4%
25-year average	(Fiscal 1997 – 2021)	7.6%
30-year average	(Fiscal 1992 – 2021)	7.8%

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 2021, Plan A earned $82,410,084 and Plan B earned $7,396,320 of dividends, interest and other recurring income. In addition, Plan A had net realized and unrealized capital gains and other non-recurring income on investments of $448,900,285 while the total of such gains for Plan B amounted to $40,239,734. Investment expenses were $23,952,470 for Plan A and $2,193,980 for Plan B.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 6.40% for Fiscal 2021. This rate is calculated based on the smoothed value of assets subject to constraints as given in Exhibit III-B for Plan A and Exhibit XIII-B 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. Yields in excess of the 6.40% assumption will reduce future costs; yields below 6.40% will increase future costs. Net actuarial investment earnings exceeded the actuarial assumed earnings rate of 6.40%, used for Fiscal 2021, by $175,035,084 for Plan A and exceeded the actuarial assumed earnings rate of 6.40%, used for Fiscal 2021, by $15,411,862 for Plan B. These earnings surpluses for Plan A produced actuarial gains, which decreased the normal cost accrual rate by 2.8932% and the earnings surpluses for Plan B produced actuarial gains, which decreased the normal cost accrual rate by 1.5130% 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. 11:2012. In the course of reviewing data for the December 31, 2021 valuation we found members of Plan A and Plan B with such service and recommend a liability transfer of $334,999 be made from the Plan A trust to the Plan B trust for Fiscal 2021.

PLAN A – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit IX. The average active member (including DROP participants) is 47 years old with 10.0 years of service and an annual salary of $49,281. The plan’s active membership, inclusive of DROP participants, decreased by 107 members during the fiscal year. The plan has experienced a decrease in the active plan population of 687 members over the last five years. A review of the active census by age indicates that over the last ten years the population in the forty-one to fifty age group has declined while the population in the sixty-one to seventy age group has increased. Over the same ten-year period the population with less than five years of service credit declined.

The average regular retiree is 71 years old with an annual benefit of $28,173. The average age at retirement for regular retirees was 61. The number of retirees and beneficiaries receiving benefits from the system increased by 223 during the fiscal year; over the last five years the number of retirees has increased by 1,046 and benefit payments have increased by $54,048,696.

Plan liability experience for Fiscal 2021 was favorable. Withdrawals and retiree deaths were above projected levels and disabilities and salary increases were below projected levels. All of these factors tend to decrease costs. Retirements and DROP entries above projected levels partially offset the cost savings. In aggregate, plan liability gains decreased the normal cost accrual rate by 0.4748%.

PLAN B – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit XIX. The average active member (including DROP participants) is 47 years old with 10.0 years of service and an annual salary of $48,750. The plan's active membership, inclusive of DROP participants, decreased by 20 members during the fiscal year. The plan has experienced a decrease in the active plan population of 48 members over the last five years. A review of the active census by age indicates that over the last ten years the population in the forty-one to fifty age group has declined while the population in the sixty-one to seventy age group has increased. Over the same ten-year period the population with less than five years of service credit declined. Other categories increased slightly.

The average regular retiree is 72 years old with an annual benefit of $15,135. The average age at retirement for regular retirees was 63. The number of retirees and beneficiaries receiving benefits from the system increased by 28 during the fiscal year; over the last five years the number of retirees has increased by 221 and benefit payments have increased by $5,324,846.

Plan liability experience for Fiscal 2021 was favorable. Withdrawals and retiree deaths were above projected levels and disabilities and salary increases were below projected levels. All of these factors tend to decrease costs. Retirements and DROP entries above projected levels partially offset the cost savings. In aggregate, plan liability gains decreased the normal cost accrual rate by 0.7463%.

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. The funding method used for both plans produce no unfunded actuarial accrued liability.

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.

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.

For Plan A, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for Fiscal 2022 as of January 1, 2022 is $53,657,730. The total actuarially required contribution is determined by adjusting the value for interest (since payments are made throughout the fiscal year) and adding estimated administrative expenses. As given on line 12 of Exhibit I the total actuarially required contribution for Fiscal 2022 is $57,264,983. 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 $48,812,373. This is 7.10% of the projected Plan A payroll for Fiscal 2022.

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 funding from the Funding Deposit Account in the prior fiscal year would 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 cost structure for Plan A are outlined below:

Employer's Normal Cost Accrual Rate – Fiscal 2021	12.1038%
Factors Increasing the Normal Cost Accrual Rate:	
None	
Factors Decreasing the Normal Cost Accrual Rate:	
Asset Experience Gain	2.8932%
Plan Liability Experience Gain	0.4748%
New Members	0.2367%
Employer's Normal Cost Accrual Rate – Fiscal 2022	8.4991%

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 2022 will decrease by 0.07% 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 2022 for Plan A of 7.10%; the actual employer contribution rate for Fiscal 2022 is 11.50% 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 A of 7.00% for Fiscal 2023.

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 2022 as of January 1, 2022 is $6,719,570. The total actuarially required contribution is determined by adjusting the value for interest (since payments are made throughout the fiscal year) and adding estimated administrative expenses. As given on line 12 of Exhibit XI the total actuarially required contribution for Fiscal 2022 is $7,260,244. 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 $5,809,539. This is 4.93% of the projected Plan B payroll for Fiscal 2022.

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

Employer's Normal Cost Accrual Rate – Fiscal 2021	8.5995%
Factors Increasing the Normal Cost Accrual Rate:	
None	
Factors Decreasing the Normal Cost Accrual Rate:	
Asset Experience Gain	1.5130%
Plan Liability Experience Gain	0.7463%
Contribution Gain	0.0330%
New Members	0.0394%
Employer's Normal Cost Accrual Rate – Fiscal 2022	6.2678%

We estimate that for Plan B the funds collected from ad valorem taxes and revenue sharing funds in Fiscal 2022 will decrease by 0.08% 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 2022 for Plan B of 4.93%; the actual employer contribution rate for Fiscal 2022 is 7.50% 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 5.00% for Fiscal 2023.

For Plan A, the Board may set the net direct employer contribution at any rate between 7.00% and 11.50%. For Plan B, the board may set the rate at any rate between 5.00% and 7.50%. 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.

COST OF LIVING INCREASES

During calendar 2021 the actual cost of living (as measured by the U.S. Department of Labor CPI-U) increased by 7.04%. Cost of living provisions for the system are detailed in R.S. 11:1937 and R.S. 11:246. The former statute allows the board to use interest earnings in excess of the normal requirements to grant annual cost of living increases of up to 2.50% of the current benefit to retirees aged 62 or over, who have been retired at least one year. 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.

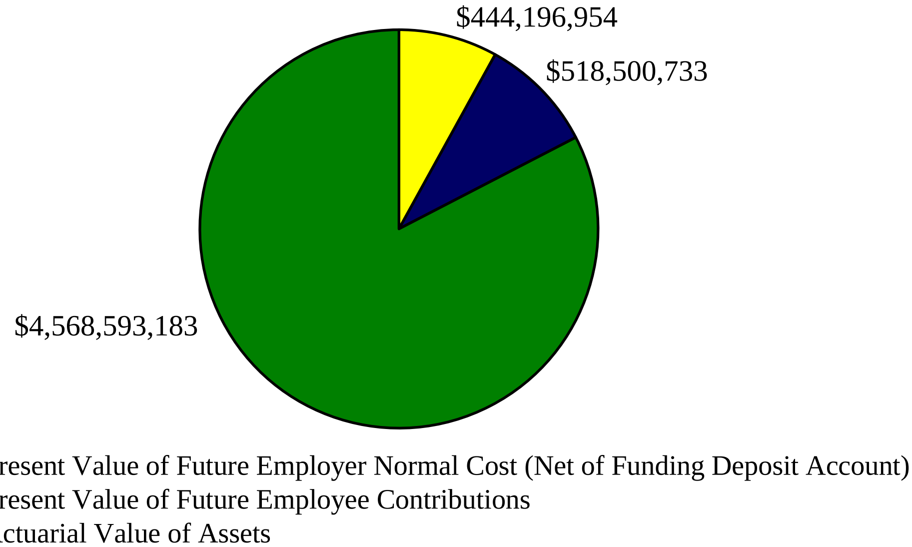
All of the above provisions require that the system earn sufficient excess interest earnings to fund the increases unless the Board funds a cost-of-living increase out of the Funding Deposit Account credit balance. For Fiscal 2021, Plan A earned $175,035,084 and Plan B earned $15,411,862 in excess interest earnings. R.S. 11:243 permits payment of a cost-of-living adjustment (out of excess interest earnings or from the plans' Funding Deposit Accounts) if the plan 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. This limits COLA frequency to a maximum of every other year based on each plan's funded ratio. If COLAs are paid from the Funding Deposit Account, there will be no increase in the Normal Cost Accrual Rate for the plans.

The following cost estimates are as of January 1, 2023:

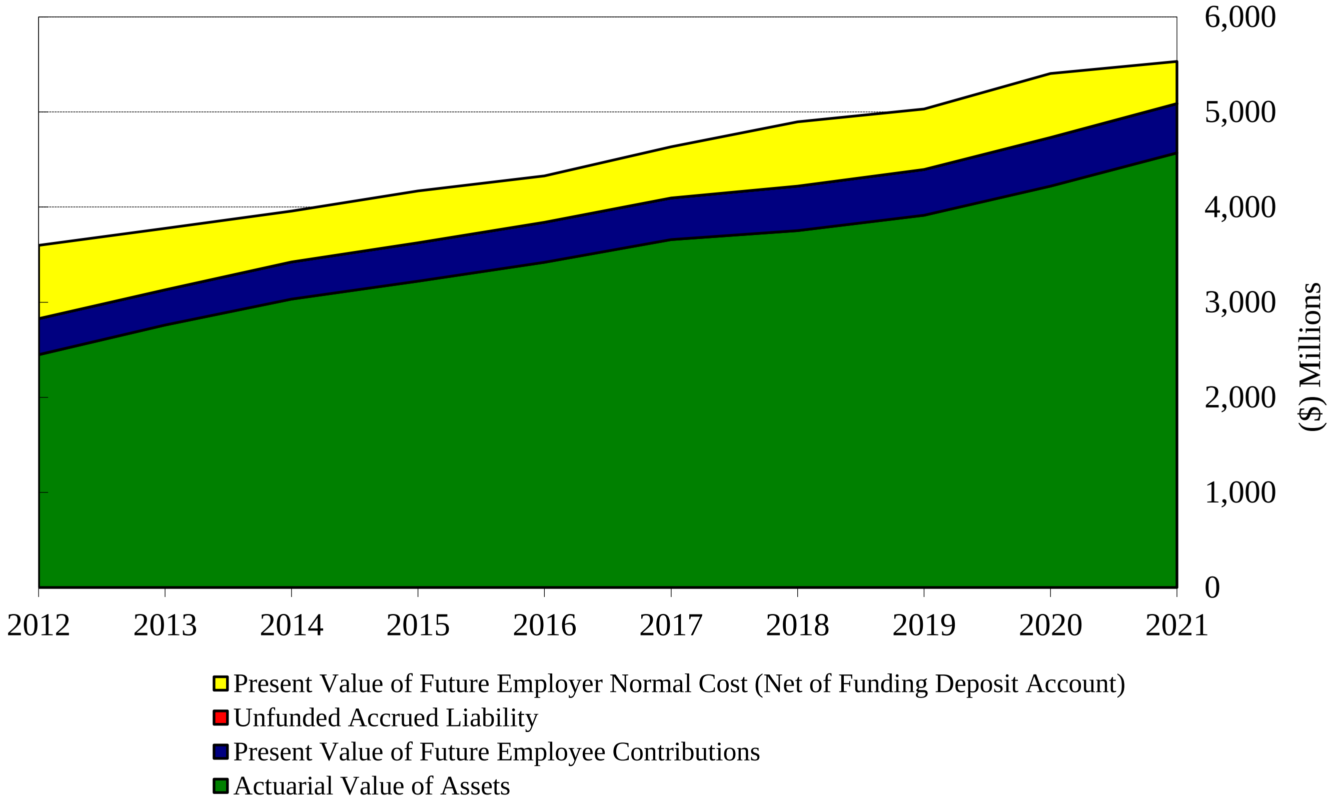
Plan A COLA Descriptions	Annual Increase in Benefits	Present Value of Increase
R.S. 11:1937 – 2 1/2% of current benefit to pensioners over age 62	$ 4,326,746	$ 38,042,323
R.S. 11:246 - 2% of original benefit to pensioners over age 65	$ 2,745,230	$ 23,305,281

Plan B COLA Descriptions	Annual Increase in Benefits	Present Value of Increase
R.S. 11:1937 – 2 1/2% of current benefit to pensioners over age 62	$ 318,612	$ 2,824,892
R.S. 11:246 - 2% of original benefit to pensioners over age 65	$ 212,011	$ 1,831,733

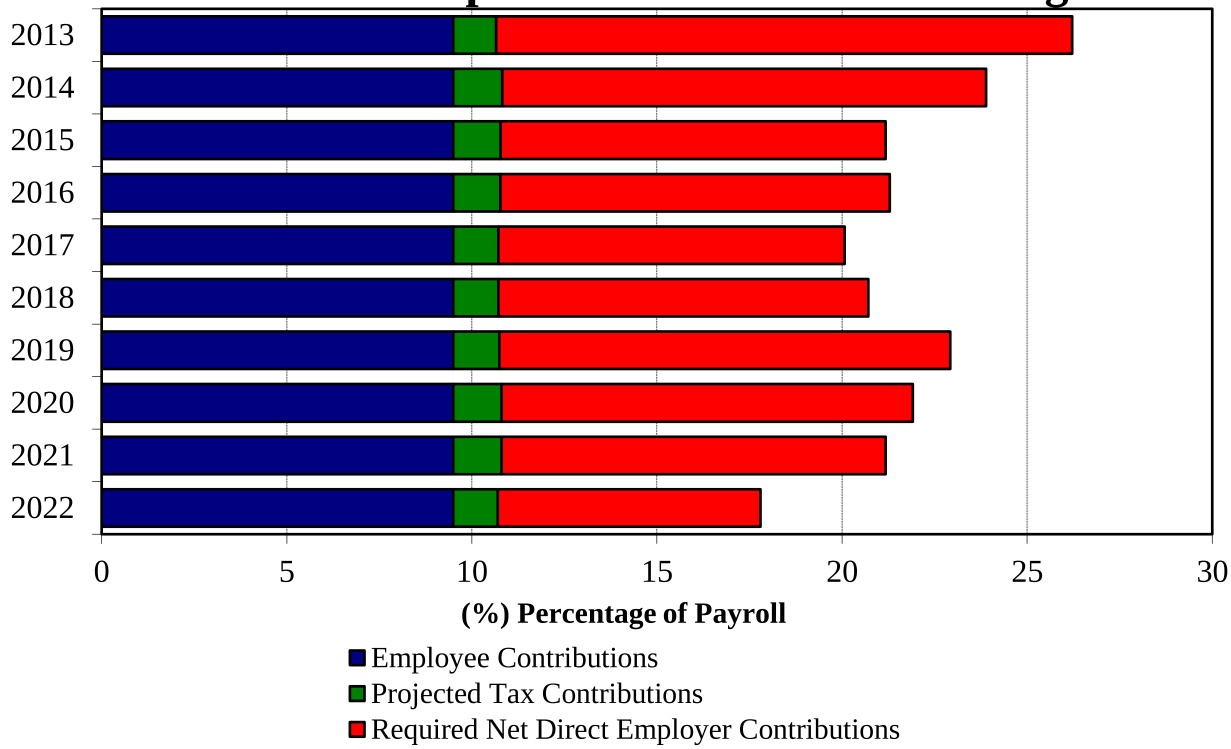
Plan A – Components of Present Value of Future Benefits
December 31, 2021



Plan A – Components of Present Value of Future Benefits

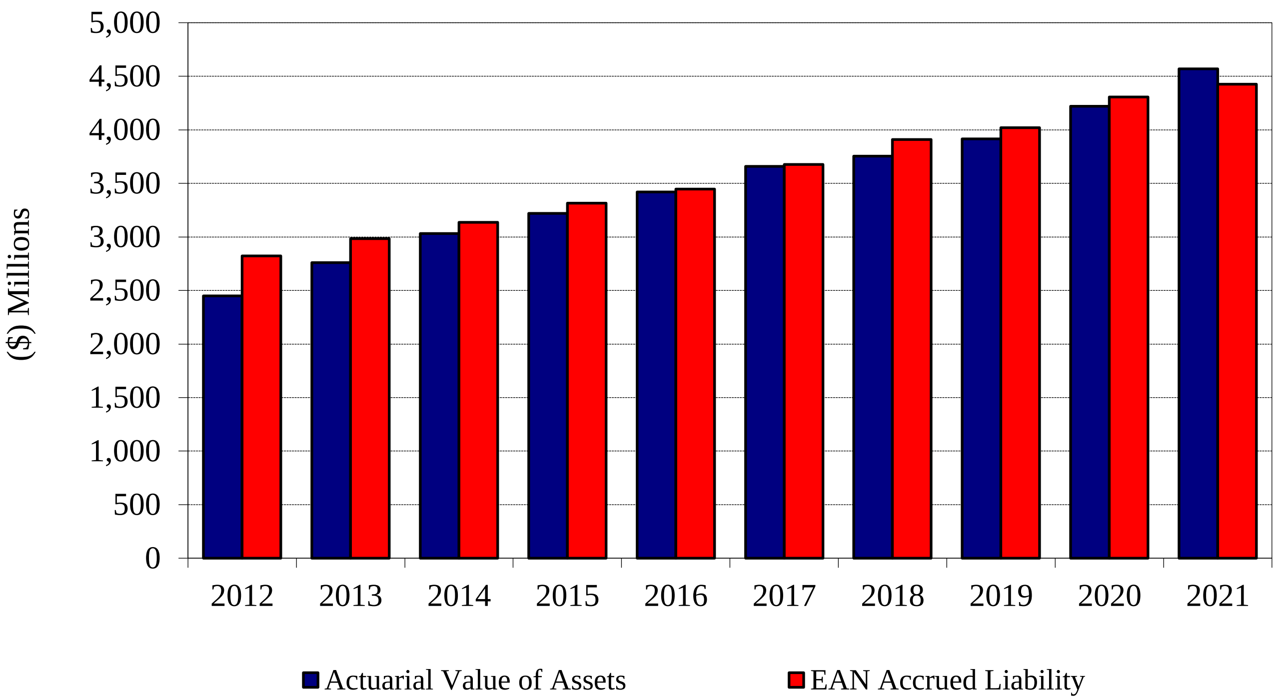


Plan A – Components of Actuarial Funding

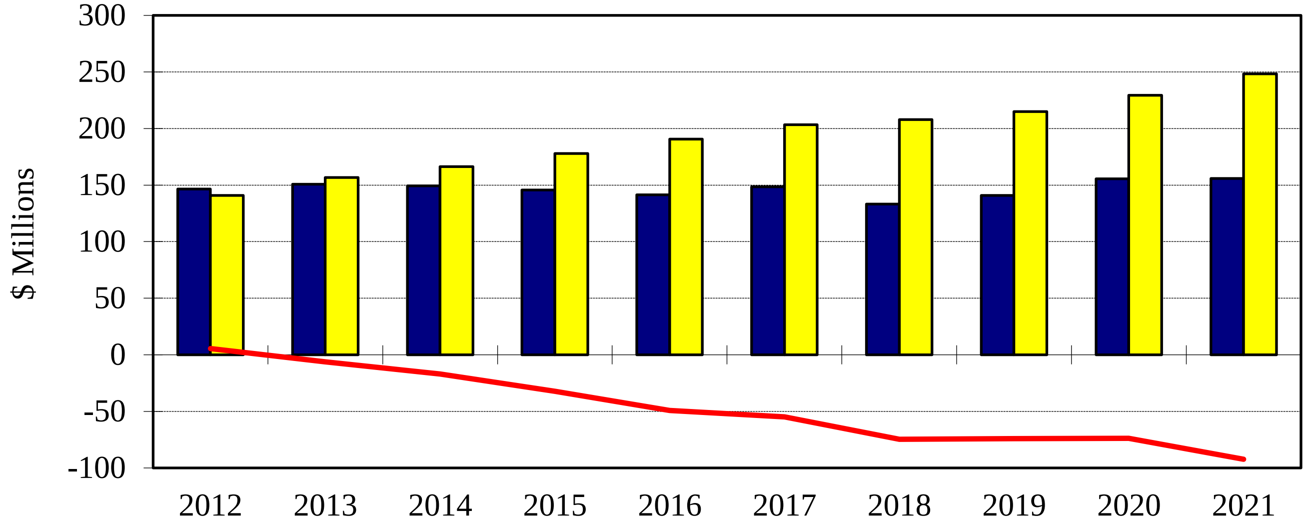


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

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

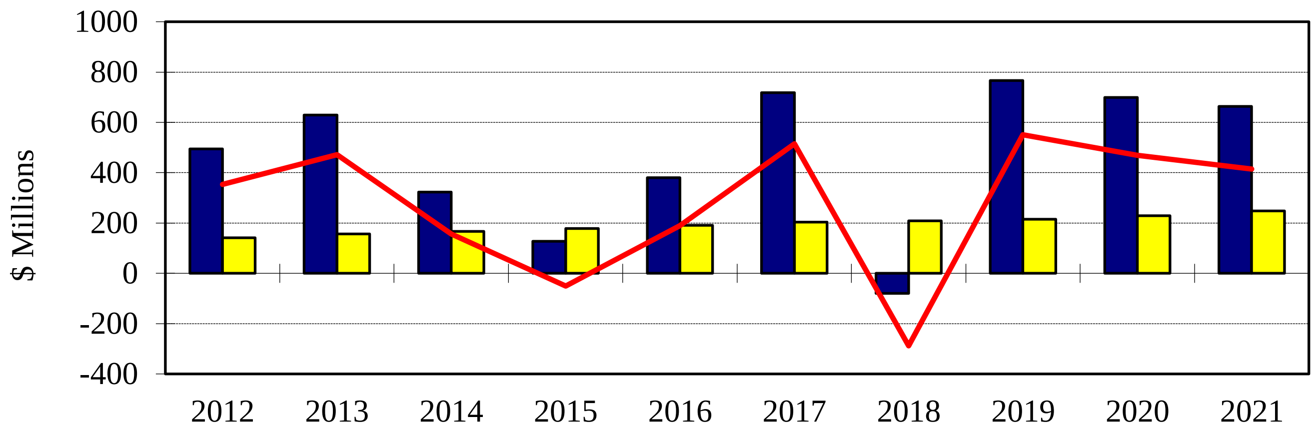


Plan A – Net Non-Investment Income



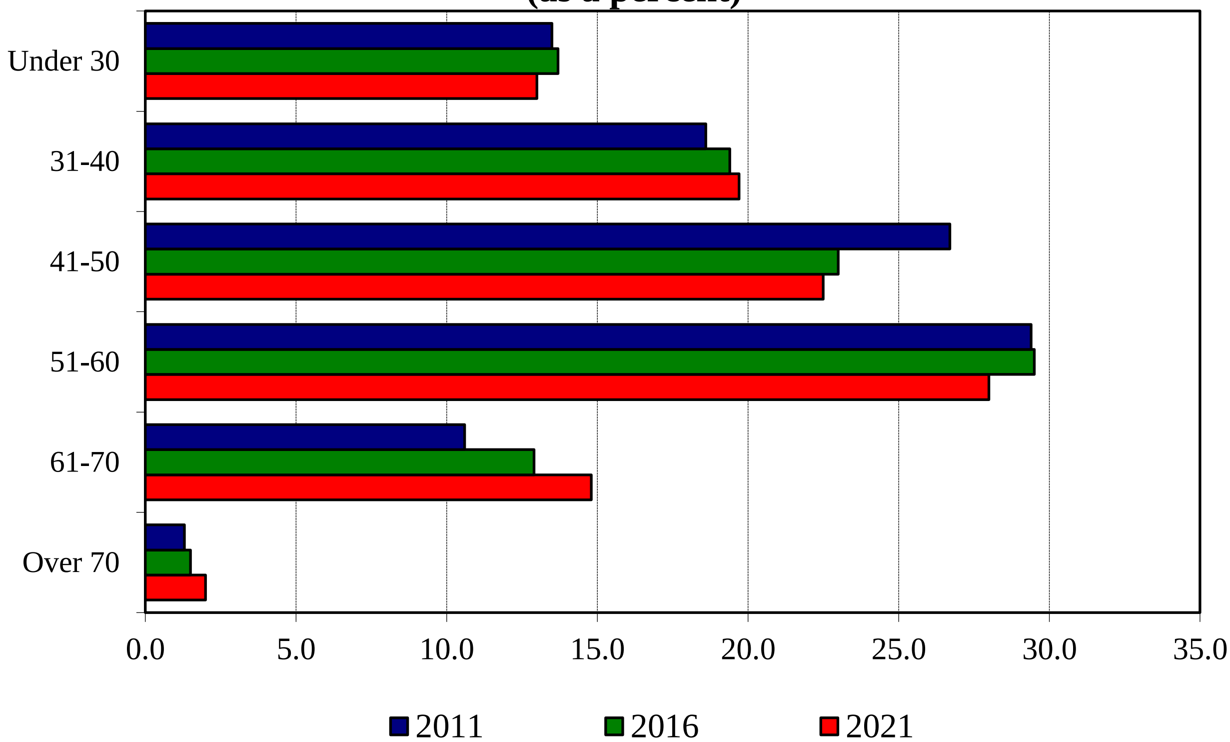
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Non-Investment Income ($Mil)	146.4	149.8	149.4	145.6	141.4	148.4	133.2	140.9	155.6	155.9
Benefits and Expenses ($Mil)	140.9	156.8	166.4	177.9	190.7	203.3	208.0	215.0	229.5	248.3
Net Non-Investment Income ($Mil)	5.5	-7.0	-17.0	-32.3	-49.3	-54.9	-74.8	-74.1	-73.9	-92.4

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

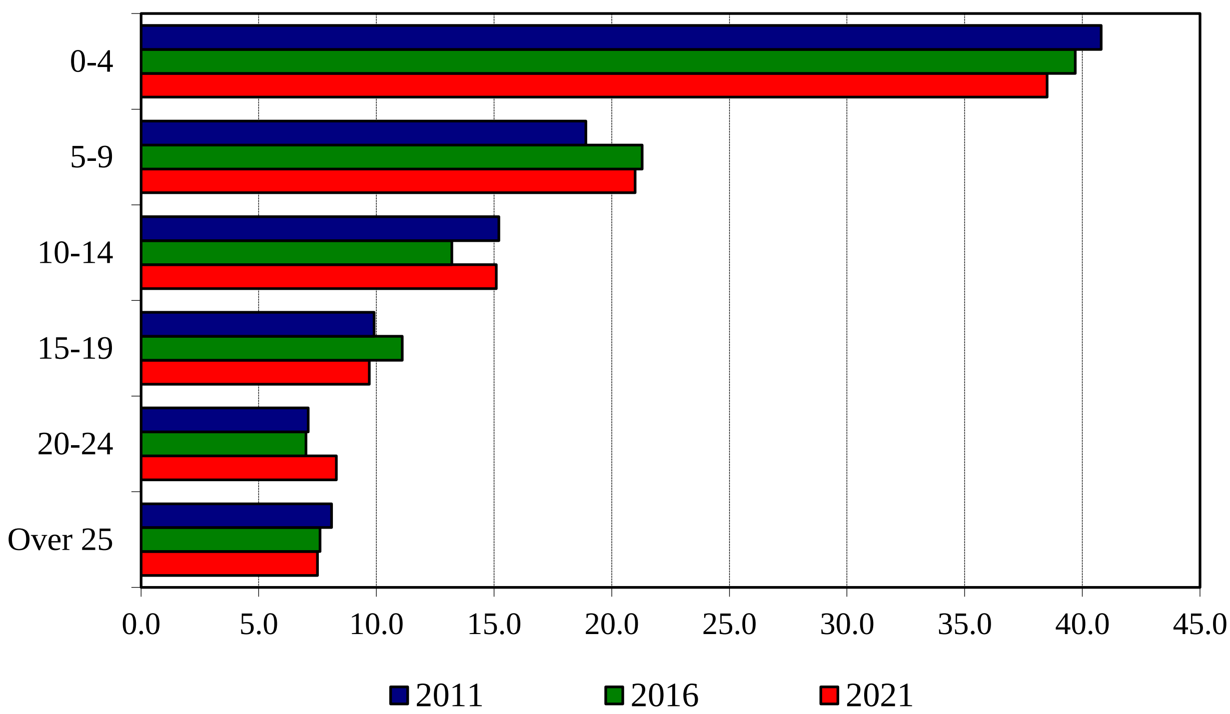


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Income ($Mil)	494.4	616.3	298.5	126.8	380.0	718.4	-80.1	765.9	698.7	663.3
Benefits and Expenses ($Mil)	140.9	156.8	166.4	177.9	190.7	203.3	208.0	215.0	229.5	248.3
Net Change in MVA ($Mil)	353.5	459.5	132.1	-51.1	189.3	515.1	-288.1	550.9	469.2	415.0

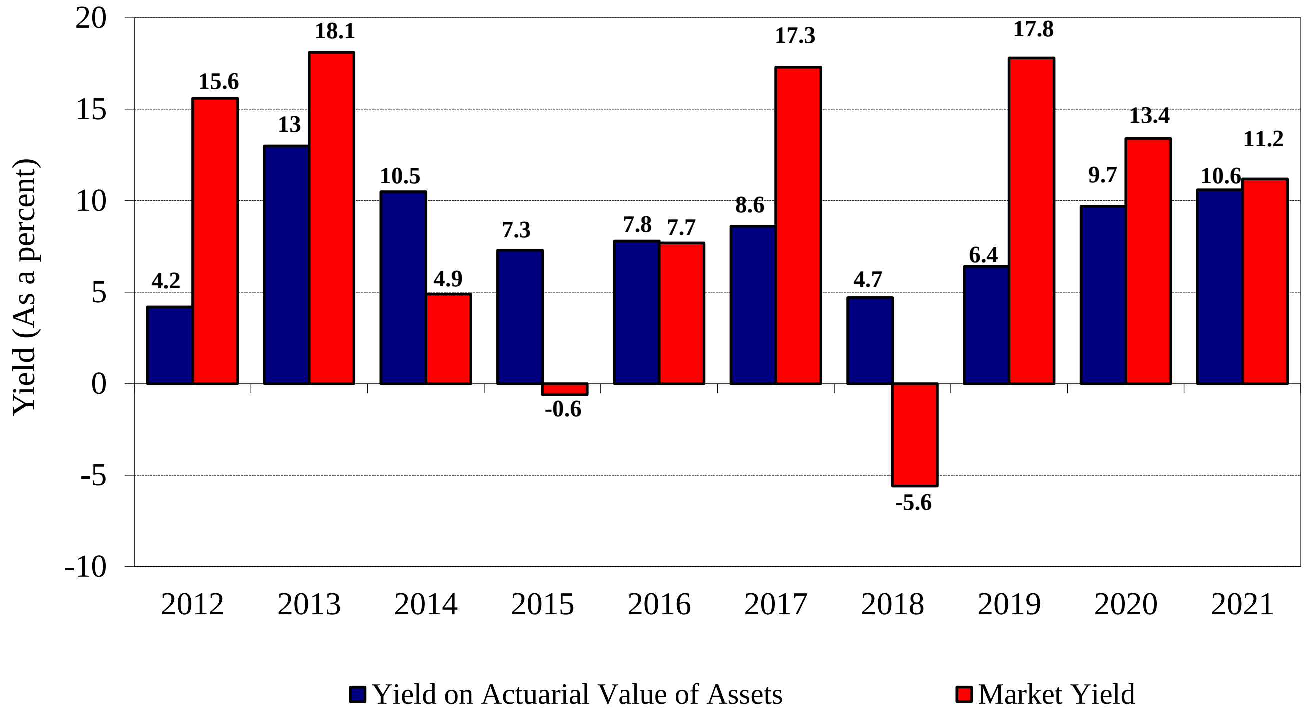
Plan A – Active – Census By Age
(as a percent)



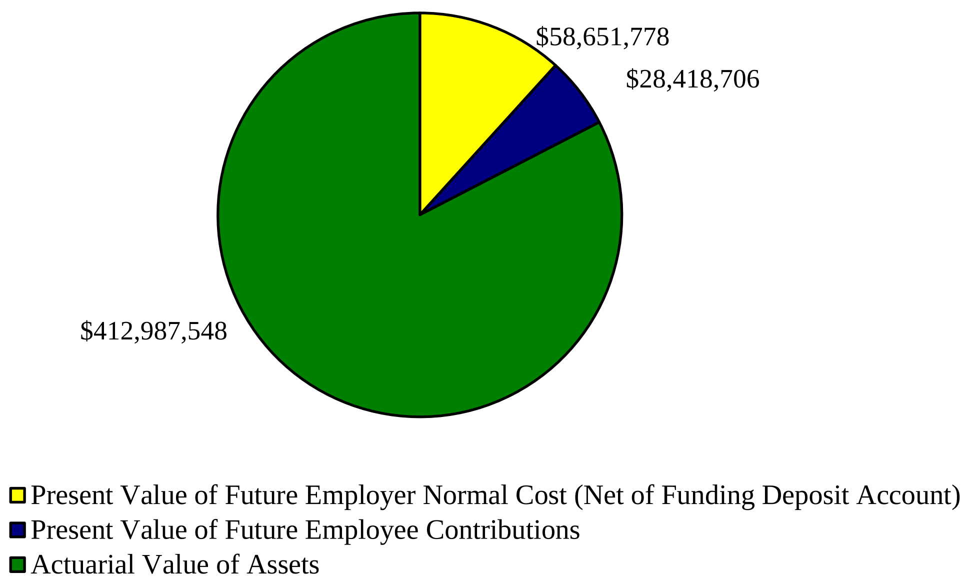
Plan A – Active – Census By Service
(as a percent)



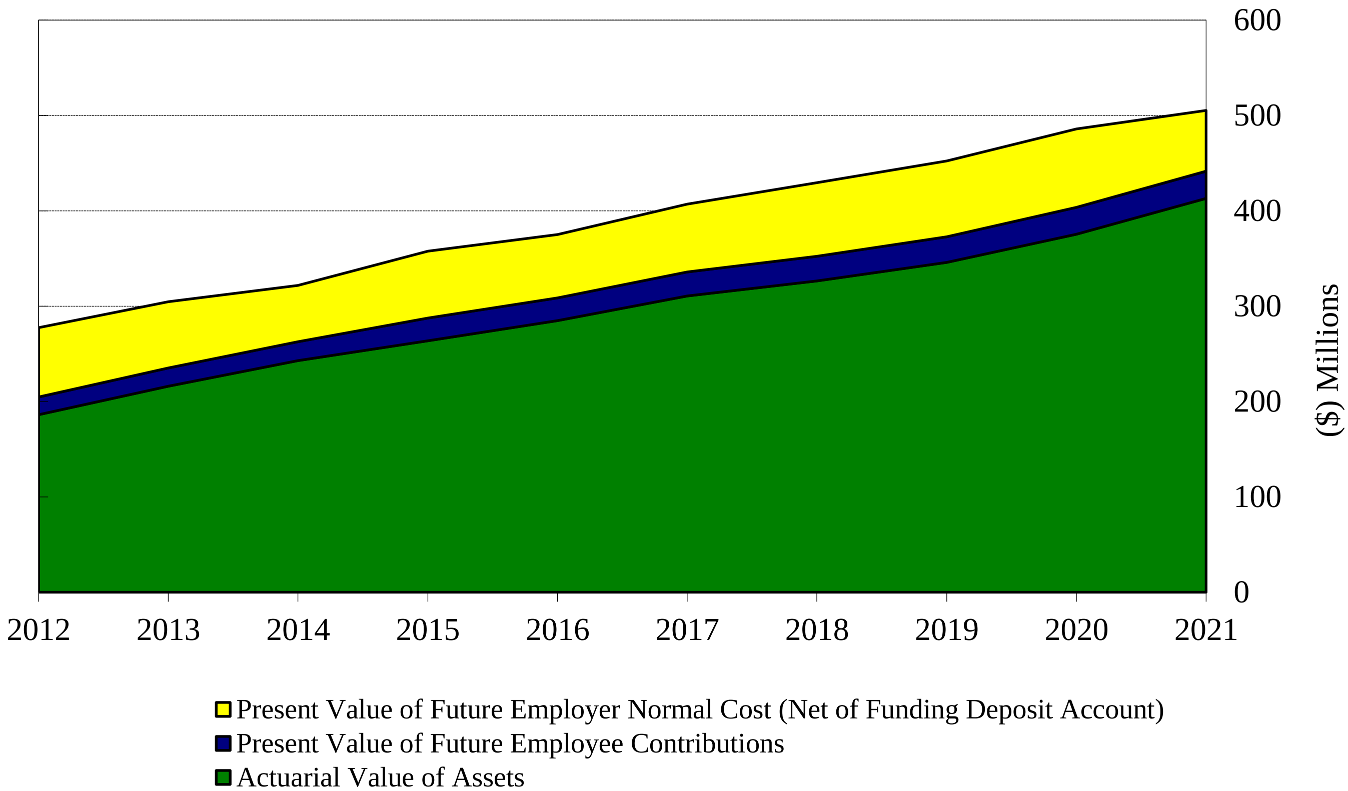
Plan A – Historical Asset Yield



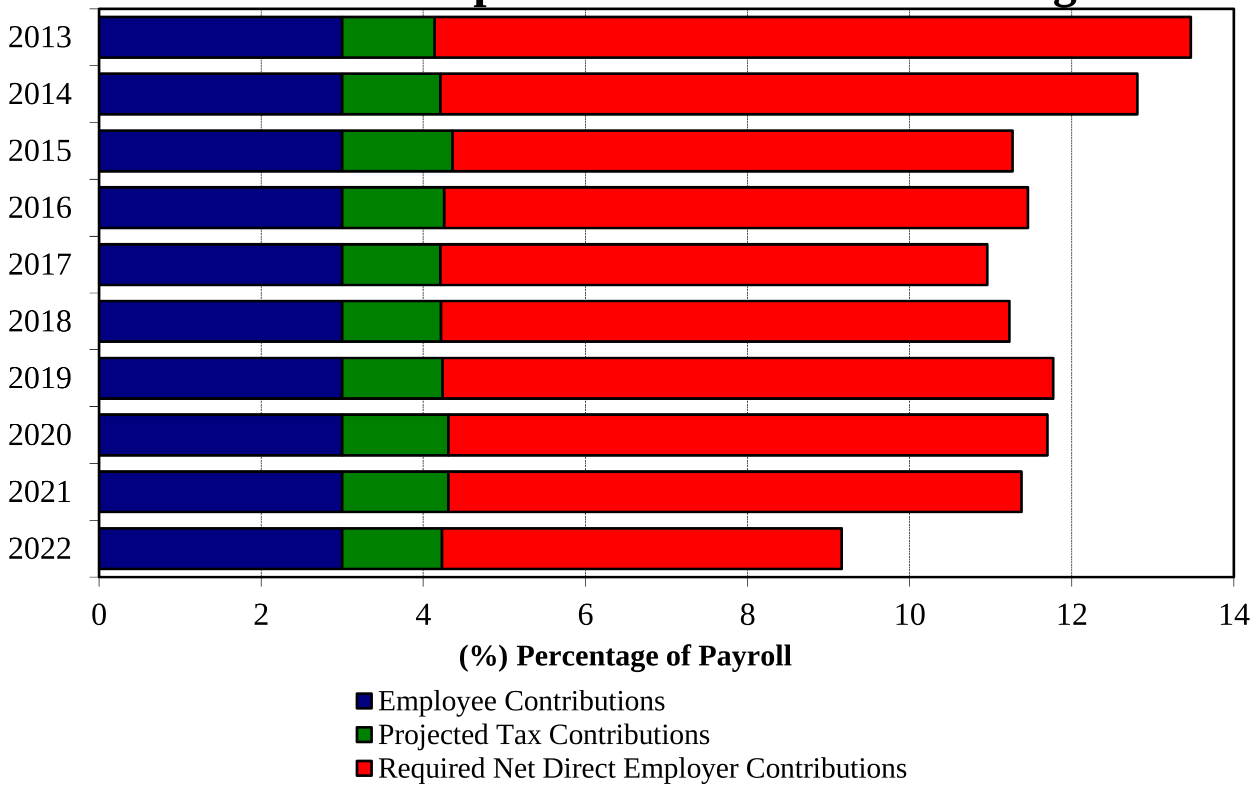
Plan B – Components of Present Value of Future Benefits
December 31, 2021



Plan B – Components of Present Value of Future Benefits

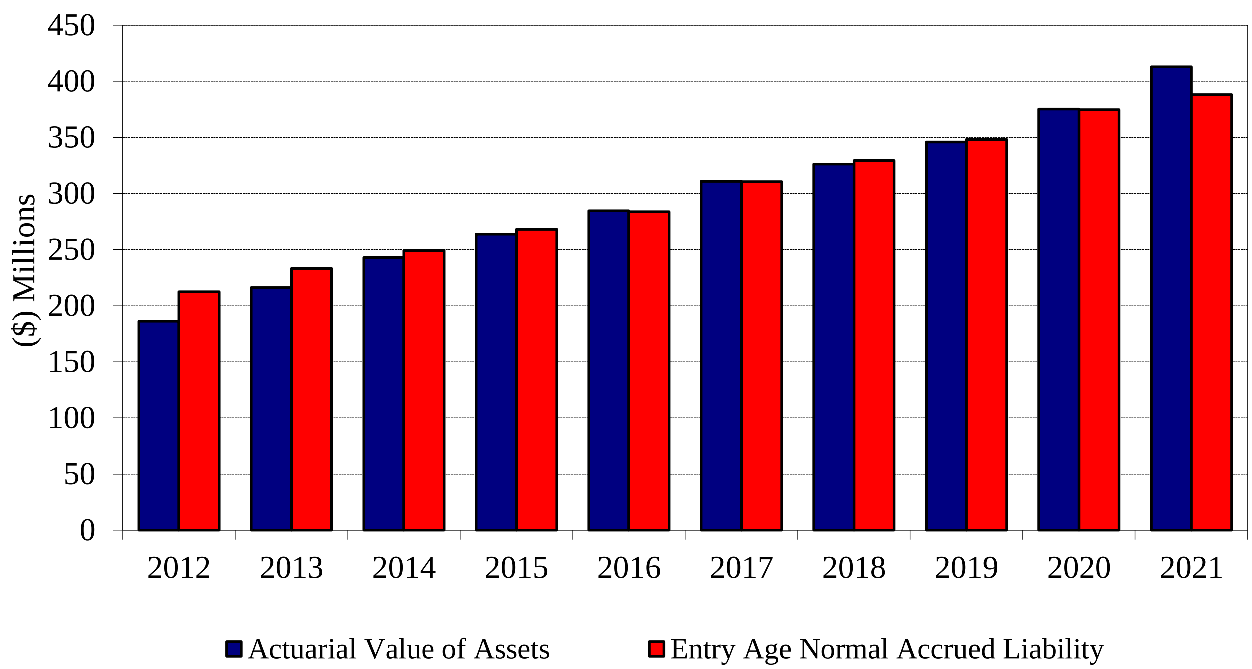


Plan B – Components of Actuarial Funding

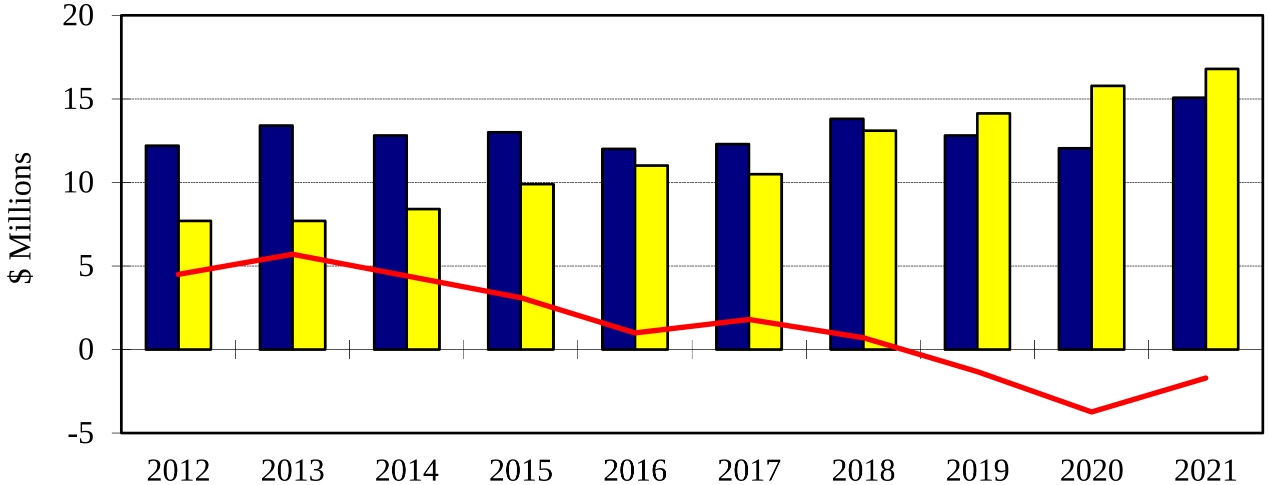


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

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

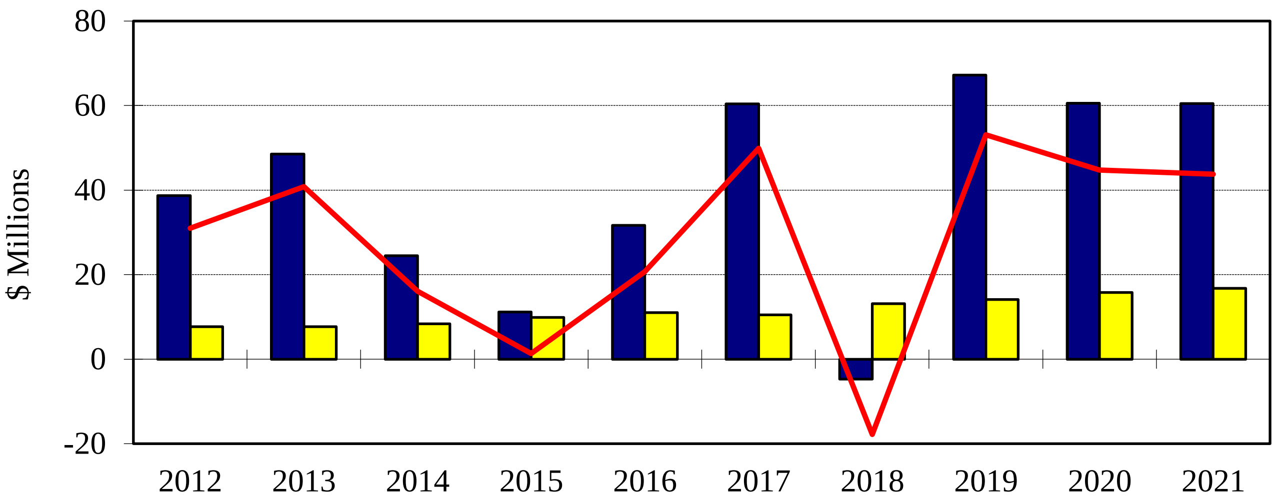


Plan B – Net Non-Investment Income



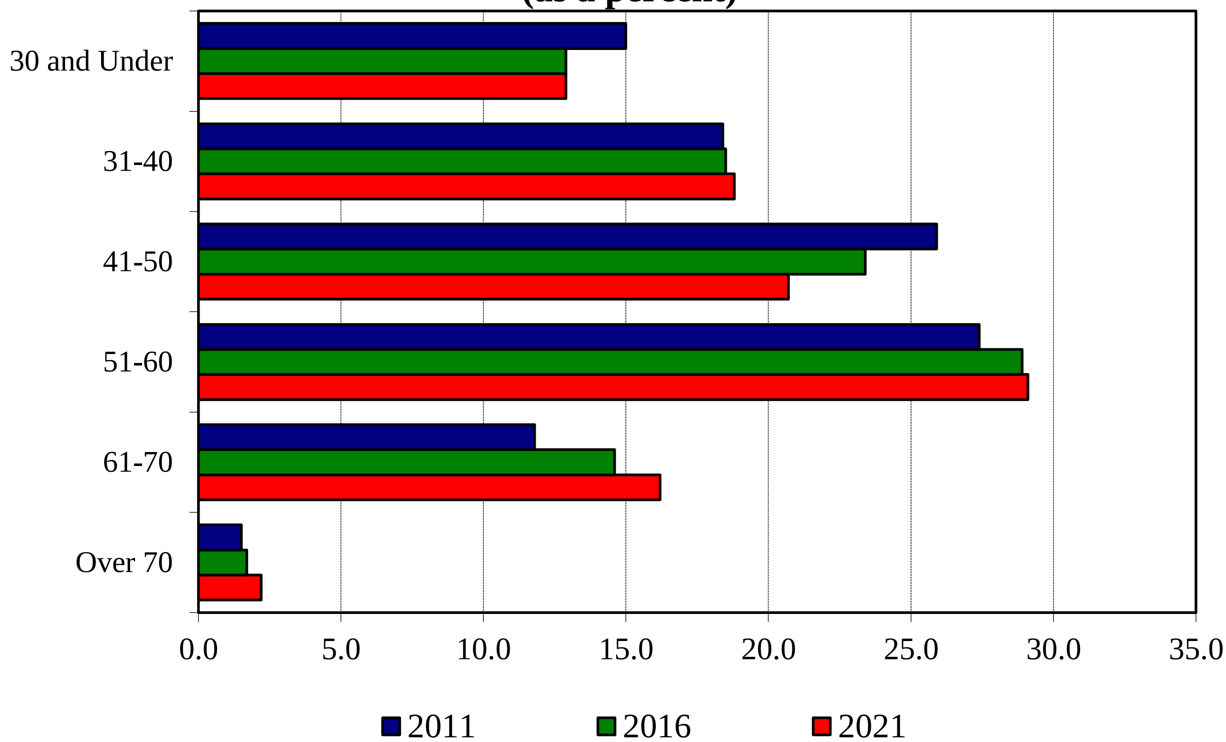
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Non-Investment Income ($Mil)	12.2	13.4	12.8	13.3	12.0	12.3	13.8	12.8	12.0	15.1
Benefits and Expenses ($Mil)	7.7	7.7	8.4	9.9	11.0	10.5	13.1	14.1	15.8	16.8
Net Non-Investment Income ($Mil)	4.5	5.7	4.4	3.4	1.0	1.8	0.7	-1.3	-3.8	-1.7

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

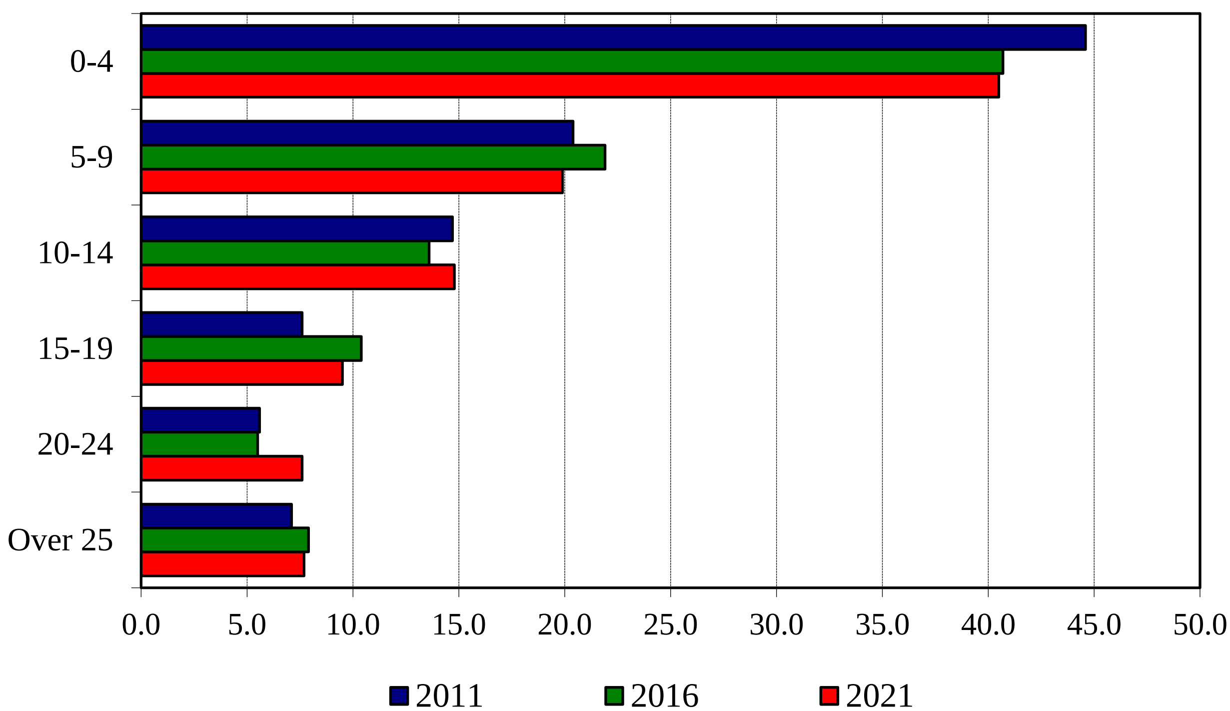


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Income ($Mil)	38.7	48.5	24.5	11.5	31.7	60.4	-4.7	67.2	60.5	60.5
Benefits and Expenses ($Mil)	7.7	7.7	8.4	9.9	11.0	10.5	13.1	14.1	15.8	16.8
Net Change in MVA ($Mil)	31.0	40.8	16.1	1.6	20.7	49.9	-17.8	53.1	44.7	43.7

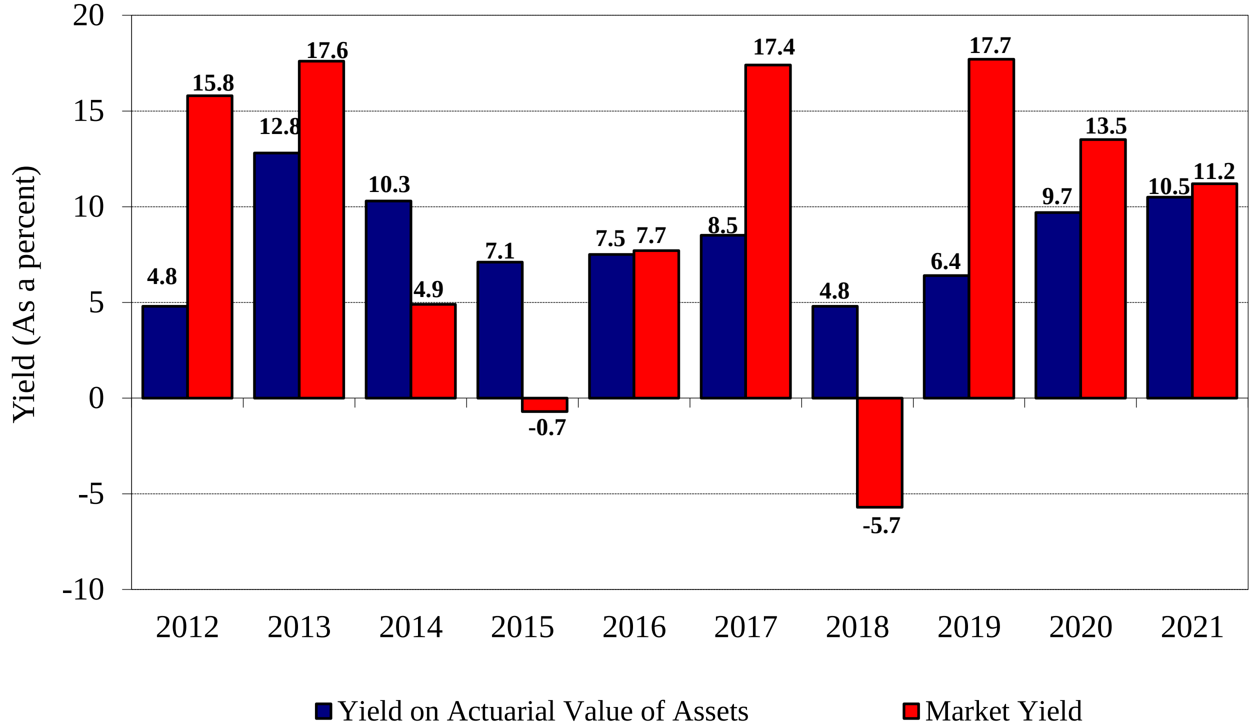
Plan B – Active – Census By Age
(as a percent)



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



Plan B – Historical Asset Yield



EXHIBITS

EXHIBIT I
PLAN A: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	$	5,531,290,870
2.	Funding Deposit Account Credit Balance	$	69,983,070
3.	Actuarial Value of Assets	$	4,568,593,183
4.	Present Value of Future Employee Contributions	$	518,500,733
5.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4)	$	514,180,024
6.	Present Value of Future Salaries	$	6,049,814,871
7.	Employer Normal Cost Accrual Rate (5 ÷ 6)		8.499103%
8.	Projected Fiscal 2022 Salary for Current Membership	$	631,334,033
9.	Employer Normal Cost as of January 1, 2022 (7 × 8)	$	53,657,730
10.	Employer Normal Cost Interest Adjusted for Mid-year Payment	$	55,348,150
11.	Estimated Administrative Cost for Fiscal 2022	$	1,916,833
12.	TOTAL Administrative and Interest Adjusted Actuarial Costs (10 + 11)	$	57,264,983
13.	Estimated Ad Valorem Tax Contributions for Fiscal 2022	$	8,317,053
14.	Estimated Revenue Sharing Funds for Fiscal 2022	$	135,557
15.	Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2022 (12 – 13 – 14)	$	48,812,373
16.	Projected Payroll for Fiscal 2022	$	687,202,977
17.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2022 (15 ÷ 16)		7.10%
18.	Actual Employer Contribution Rate for Fiscal 2022		11.50%
19.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2023 (17, Rounded to Nearest 0.25%)		7.00%

EXHIBIT II
PLAN A: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$	2,851,721,443		
Survivor Benefits		51,060,547		
Disability Benefits		121,056,604		
Vested Termination Benefits		122,142,173		
Refunds of Contributions		78,349,386		
TOTAL Present Value of Future Benefits for Active Members			$	3,224,330,153

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$	112,769,788		
Terminated Members with Reciprocals Due Benefits at Retirement		319,438		
Terminated Members Due a Refund		16,961,500		
TOTAL Present Value of Future Benefits for Terminated Members			$	130,050,726

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees						
Maximum	$	920,458,205				
Option 1		1,809,941				
Option 2		709,601,515				
Option 3		299,485,779				
Option 4		71,219,440				
TOTAL Regular Retirees			$	2,002,574,880		
Disability Retirees				34,606,118		
Survivors & Widows				138,477,768		
Reserve for Accrued Retiree DROP Account Balances				1,251,225		
TOTAL Present Value of Future Benefits for Retirees & Survivors					$	2,176,909,991

TOTAL Present Value of Future Benefits	$	5,531,290,870

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

CURRENT ASSETS:				
Cash in Banks	$	130,028,774		
Contributions and Taxes Receivable		35,002,947		
Accrued Interest and Dividends		1,738,918		
Investments Receivable		159,343		
Due (to)/from other Funds		2,212,539		
Liability Transfer (to)/from Plan B		(334,999)		
Deferred Outflows of Resources		44,487		
Other Current Assets		13		
TOTAL CURRENT ASSETS			$	168,852,022
Property Plant & Equipment			$	524,106
INVESTMENTS:				
Cash Equivalents	$	59,304,713		
Equities		2,640,145,032		
Fixed Income		1,386,683,416		
Real Estate		283,013,568		
Alternative Investments		464,343,465		
TOTAL INVESTMENTS			$	4,833,490,194
TOTAL ASSETS			$	5,002,866,322
CURRENT LIABILITIES:				
Accounts Payable	$	3,017,192		
Benefits Payable		18,968,895		
Refunds Payable		1,564,321		
Investments Payable		2,478,503		
Other Post-Employment Benefits Payable		678,611		
Deferred Inflows of Resources		121,178		
TOTAL CURRENT LIABILITIES			$	26,828,700
MARKET VALUE OF ASSETS			$	4,976,037,622

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

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

Fiscal year 2021	$	218,362,291
Fiscal year 2020		279,534,404
Fiscal year 2019		397,226,316
Fiscal year 2018		(469,282,812)
Fiscal year 2017		339,826,280
Total for five years	$	765,666,479

Deferral of excess (shortfall) of invested income:

Fiscal year 2021 (80%)	$	174,689,833
Fiscal year 2020 (60%)		167,720,642
Fiscal year 2019 (40%)		158,890,526
Fiscal year 2018 (20%)		(93,856,562)
Fiscal year 2017 (0%)		0
Total deferred for year	$	407,444,439

Market value of plan net assets, end of year	$	4,976,037,622
Preliminary actuarial value of plan assets, end of year	$	4,568,593,183

Actuarial value of assets corridor

85% of market value, end of year	$	4,229,631,979
115% of market value, end of year	$	5,722,443,265

Final actuarial value of plan net assets, end of year	$	4,568,593,183

EXHIBIT IV
PLAN A: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	518,500,733
Employer Normal Contributions to the Pension Accumulation Fund		514,180,024
Funding Deposit Account Debit / (Credit) Balance		(69,983,070)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	962,697,687

EXHIBIT V
PLAN A: RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year	$	75,682,384		
Interest on the Normal Cost		4,843,672		
Administrative Expenses		1,550,486		
Interest on Expenses		48,845		
TOTAL Interest Adjusted Actuarially Required Employer Contributions			$	82,125,387
Direct Employer Contributions	$	82,274,839		
Interest on Employer Contributions		2,591,967		
Ad Valorem Taxes and Revenue Sharing		8,272,216		
Interest on Ad Valorem Taxes and Revenue Sharing Funds		260,606		
TOTAL Interest Adjusted Employer Contributions			$	93,399,628
CONTRIBUTION SURPLUS (DEFICIENCY)			$	11,274,241

EXHIBIT VI
PLAN A: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (December 31, 2020)		$ 4,218,785,899
INCOME:		
Member Contributions	$ 60,596,263	
Employer Contributions	82,274,839	
Irregular Contributions	340,040	
Ad Valorem and Revenue Sharing Funds	8,272,216	
Transfer (to)/from Plan B	(1,385,061)	
Transfers from other Systems	2,943,663	
Other Income	2,888,302	
Total Contributions		$ 155,930,262
Net Appreciation in Fair Value of Investments	$ 448,887,247	
Interest & Dividends	82,410,084	
Class Action Settlement	13,038	
Investment Expense	(23,952,470)	
Net Investment Income		$ 507,357,899
TOTAL Income		$ 663,288,161
EXPENSES:		
Retirement Benefits	$ 207,160,592	
DROP Disbursements	22,399,392	
Refunds of Contributions	14,043,544	
Transfers to other Systems	3,097,868	
Administrative Expenses	1,550,486	
TOTAL Expenses		$ 248,251,882
Net Market Value Income for Fiscal 2021 (Income - Expenses)		$ 415,036,279
Unadjusted Fund Balance as of December 31, 2021 (Fund Balance Previous Year + Net Income)		$ 4,633,822,178
Adjustment for Actuarial Smoothing		$ (65,228,995)
Actuarial Value of Assets: (December 31, 2021)		$ 4,568,593,183

EXHIBIT VII
PLAN A: FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of December 31, 2020	$	55,177,473
Interest on Opening Balance at 6.40%		3,531,358
Contributions to the Funding Deposit Account		11,274,239
Withdrawals from the Funding Deposit Account		0
Funding Deposit Account Balance as of December 31, 2021	$	69,983,070

EXHIBIT VIII – SCHEDULE A
PLAN A: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees	$ 2,008,090,792
Present Value of Benefits Payable to Terminated Employees	130,050,726
Present Value of Benefits Payable to Current Retirees and Beneficiaries	2,176,909,991
TOTAL PENSION BENEFIT OBLIGATION	$ 4,315,051,509
NET ACTUARIAL VALUE OF ASSETS	$ 4,568,593,183
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation	105.88%

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

Accrued Liability for Active Employees	$ 2,119,062,046
Accrued Liability for Terminated Employees	130,050,726
Accrued Liability for Current Retirees and Beneficiaries	2,176,909,991
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	$ 4,426,022,763
NET ACTUARIAL VALUE OF ASSETS	$ 4,568,593,183
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability	103.22%

EXHIBIT IX
PLAN A: CENSUS DATA

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of December 31, 2020	13,220	9,200	530	7,873	30,823
Additions to Census					
Initial membership	1,757	177			1,934
Death of another member				114	114
Omitted in error last year					
Adjustment for multiple records	3	5			8
Change in Status during Year					
Actives terminating service	(622)	622			
Actives who retired	(296)			296	
Actives entering DROP	(229)	(1)	230		
Term. members rehired	71	(71)			
Term. members who retire		(41)		41	
Retirees who are rehired					
Refunded who are rehired	32	9			41
DROP participants retiring			(143)	143	
DROP returned to work	86		(86)		
Eliminated from Census					
Refund of contributions	(872)	(246)			(1,118)
Deaths	(35)	(22)	(3)	(361)	(421)
Included in error last year				(10)	(10)
Adjustment for multiple records					
Number of members as of December 31, 2021	13,115	9,632	528	8,096	31,371

PLAN A - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	74	24	98	29,481	2,889,128
21 - 25	365	280	645	33,519	21,619,711
26 - 30	480	555	1,035	39,729	41,119,051
31 - 35	534	676	1,210	43,875	53,088,580
36 - 40	623	851	1,474	48,901	72,079,492
41 - 45	707	819	1,526	51,995	79,344,507
46 - 50	677	864	1,541	53,421	82,321,699
51 - 55	913	972	1,885	53,589	101,015,765
56 - 60	979	957	1,936	52,229	101,114,820
61 - 65	688	725	1,413	51,869	73,290,552
66 - 70	307	294	601	52,721	31,685,145
71 - 75	121	81	202	47,565	9,608,194
76 - 80	37	21	58	45,630	2,646,566
81 - 85	11	4	15	30,550	458,250
86 - 90	2	2	4	14,698	58,790
TOTAL	6,518	7,125	13,643	49,281	672,340,250

THE ACTIVE CENSUS INCLUDES 7,005 ACTIVES WITH VESTED BENEFITS, INCLUDING 528 DROP PARTICIPANTS AND 319 ACTIVE FORMER DROP PARTICIPANTS.

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
26 - 30	2	1	3	9,153	27,458
31 - 35	11	25	36	11,604	417,749
36 - 40	28	50	78	15,177	1,183,844
41 - 45	43	57	100	18,561	1,856,099
46 - 50	50	88	138	20,011	2,761,544
51 - 55	69	136	205	22,161	4,543,070
56 - 60	85	117	202	18,960	3,829,956
61 - 65	52	46	98	11,330	1,110,337
66 - 70	20	10	30	11,549	346,459
71 - 75	5	1	6	7,941	47,645
76 - 80	1	1	2	2,945	5,889
81 - 85	0	2	2	5,637	11,273
86 - 90	0	1	1	1,713	1,713
TOTAL	366	535	901	17,917	16,143,036

PLAN A - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From		To	Number	Total Contributions
0	-	99	4,527*	124,507*
100	-	499	1,356	334,517
500	-	999	618	449,037
1,000	-	1,999	515	735,697
2,000	-	4,999	748	2,409,598
5,000	-	9,999	468	3,353,079
10,000	-	19,999	358	5,095,142
20,000	-	99,999	140	4,188,355
100,000	&	Above	1	111,459
		TOTAL	8,731	16,801,391

* Includes 3,311 members due a refund who were not included in the data provided to the actuary since they are maintained external to the system's database. Excludes $160,109 due to deceased members.

PLAN A - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
46 - 50	1	1	2	67,140	134,280
51 - 55	30	20	50	54,454	2,722,696
56 - 60	227	194	421	48,956	20,610,344
61 - 65	566	576	1,142	37,129	42,400,977
66 - 70	842	836	1,678	28,926	48,537,316
71 - 75	801	741	1,542	24,799	38,240,664
76 - 80	493	421	914	22,511	20,575,281
81 - 85	329	289	618	19,547	12,080,056
86 - 90	140	155	295	15,749	4,646,074
91 - 99	67	99	166	14,555	2,416,060
TOTAL	3,496	3,332	6,828	28,173	192,363,748

PLAN A - DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	1	0	1	12,682	12,682
41 - 45	2	2	4	20,157	80,626
46 - 50	6	8	14	17,957	251,394
51 - 55	29	15	44	19,513	858,556
56 - 60	41	35	76	16,068	1,221,192
61 - 65	27	15	42	13,312	559,086
66 - 70	3	1	4	11,183	44,732
TOTAL	109	76	185	16,369	3,028,268

PLAN A - SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 25	5	10	15	19,404	291,056
26 - 30	0	4	4	21,663	86,651
31 - 35	2	1	3	9,641	28,922
36 - 40	2	4	6	13,955	83,729
41 - 45	1	3	4	4,959	19,836
46 - 50	2	5	7	18,425	128,978
51 - 55	2	17	19	19,385	368,309
56 - 60	6	43	49	20,049	982,417
61 - 65	15	84	99	19,540	1,934,475
66 - 70	20	123	143	17,639	2,522,372
71 - 75	16	175	191	14,911	2,847,954
76 - 80	19	175	194	12,906	2,503,804
81 - 85	16	165	181	12,246	2,216,575
86 - 90	2	106	108	11,414	1,232,708
91 - 99	3	57	60	9,158	549,462
TOTAL	111	972	1,083	14,587	15,797,248

PLAN A - 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	80	14	4									98
21 - 25	291	162	95	56	23	18						645
26 - 30	283	133	151	136	112	210	10					1,035
31 - 35	208	109	116	115	92	410	156	4				1,210
36 - 40	212	126	111	89	101	358	320	138	19			1,474
41 - 45	186	123	99	102	79	286	281	210	145	15		1,526
46 - 50	163	80	81	95	68	294	242	205	211	91	11	1,541
51 - 55	166	106	103	88	99	366	297	208	217	160	75	1,885
56 - 60	113	88	74	101	88	400	326	230	254	145	117	1,936
61 - 65	47	29	39	44	56	350	260	189	175	125	99	1,413
66 - 70	22	11	8	23	17	130	128	95	74	42	51	601
71 & Over	9	4	7	6	4	37	43	47	34	35	53	279
Totals	1,780	985	888	855	739	2,859	2,063	1,326	1,129	613	406	13,643

PLAN A - 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	29,061	29,486	37,860									29,481
21 - 25	32,308	32,398	35,091	35,708	38,279	41,996						33,519
26 - 30	36,793	40,897	38,315	38,563	43,288	42,089	55,033					39,729
31 - 35	35,260	38,490	43,093	40,090	46,539	47,389	51,381	55,884				43,875
36 - 40	35,377	44,356	42,788	39,232	50,240	50,733	55,632	61,959	61,083			48,901
41 - 45	37,389	43,386	44,710	44,996	47,885	50,027	57,037	62,251	67,485	70,791		51,995
46 - 50	38,558	41,782	39,672	46,153	41,549	48,093	55,034	64,504	66,784	73,258	75,619	53,421
51 - 55	35,843	45,857	45,148	42,158	40,572	50,216	55,066	58,663	62,760	74,917	70,492	53,589
56 - 60	34,999	52,815	48,217	39,135	41,806	48,467	49,921	53,758	59,678	66,530	72,496	52,229
61 - 65	36,553	44,761	39,742	47,845	42,078	49,496	47,589	52,385	58,037	62,912	67,122	51,869
66 - 70	38,130	58,376	65,049	42,213	42,852	47,614	51,408	52,305	56,383	74,583	57,659	52,721
71 & Over	36,291	32,396	34,395	34,397	38,453	37,365	46,121	47,507	42,340	45,915	57,914	45,777
Average	35,394	41,769	41,878	41,246	44,150	48,372	52,971	57,872	61,632	68,459	67,133	49,281

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Years Until Retirement Eligibility

Ages	0	1	2	3	4	Attained 5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 25												0
26 - 30											3	3
31 - 35										8	28	36
36 - 40									29	35	14	78
41 - 45								52	34	14		100
46 - 50							88	39	11			138
51 - 55	6	4	1	1	1	120	58	14				205
56 - 60	19	23	36	26	37	50	11					202
61 - 65	45	10	11	11	12	9						98
66 - 70	23	7										30
71 - 75	6											6
76 - 80	2											2
81 - 85	2											2
86 - 90	1											1
91 & Over												0
Totals	104	44	48	38	50	179	157	105	74	57	45	901

PLAN A - 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 - 25												0
26 - 30											9,153	9,153
31 - 35										17,132	10,025	11,604
36 - 40									19,043	13,407	11,598	15,177
41 - 45								24,452	13,034	10,101		18,561
46 - 50							23,256	13,596	16,793			20,011
51 - 55	40,623	62,964	31,210	25,413	34,492	24,933	13,250	13,993				22,161
56 - 60	23,931	20,157	22,479	19,489	22,242	12,547	13,220					18,960
61 - 65	11,880	14,412	10,274	8,930	11,774	8,786						11,330
66 - 70	11,470	11,806										11,549
71 - 75	7,941											7,941
76 - 80	2,945											2,945
81 - 85	5,637											5,637
86 - 90	1,713											1,713
91 & Over												0
Average	15,032	21,414	19,864	16,588	19,975	20,661	18,856	19,025	15,948	13,117	10,456	17,917

PLAN A - 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	1	1										2
51 - 55	22	14	3	6	3	2						50
56 - 60	68	69	63	38	49	118	14	2				421
61 - 65	164	154	135	92	117	342	102	27	4	3	2	1,142
66 - 70	121	149	140	130	144	619	241	96	17	13	8	1,678
71 - 75	36	51	45	58	69	595	439	184	46	8	11	1,542
76 - 80	13	23	11	13	20	168	255	274	92	32	13	914
81 - 85	5	5	4	5	5	51	88	177	190	58	30	618
86 - 90		2	1		1	17	24	26	76	104	44	295
91 & Over							4	13	24	42	83	166
Totals	430	468	402	342	408	1,912	1,167	799	449	260	191	6,828

PLAN A - 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	49,651	84,629										67,140
51 - 55	54,774	59,830	50,467	49,194	37,297	60,797						54,454
56 - 60	42,472	50,686	48,713	51,441	49,957	51,677	43,972	19,869				48,956
61 - 65	30,432	32,171	31,613	29,586	38,590	46,461	41,699	26,240	14,636	8,812	7,427	37,129
66 - 70	23,880	24,039	23,964	22,850	26,063	30,072	39,244	35,178	20,039	10,546	7,478	28,926
71 - 75	23,038	26,615	22,803	23,449	23,436	21,740	24,821	35,501	30,538	18,810	11,931	24,799
76 - 80	22,050	27,258	27,571	15,708	22,558	21,818	21,084	21,651	28,134	26,673	22,080	22,511
81 - 85	16,263	33,013	27,582	19,602	18,934	19,406	17,951	19,213	18,066	24,966	22,668	19,547
86 - 90		14,913	26,356		28,011	15,696	11,767	17,858	12,750	15,771	21,344	15,749
91 & Over							29,200	11,259	16,583	11,106	15,523	14,555
Average	30,745	32,340	30,620	28,084	31,909	30,639	27,917	25,784	20,472	18,162	17,804	28,173

PLAN A - DISABILITY 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 - 30												0
31 - 35						1						1
36 - 40												0
41 - 45				1	1	2						4
46 - 50	2	2	1	1	2	2	2	2				14
51 - 55	4	4	5	3	3	13	8	2	2			44
56 - 60	5	6	3	2	5	29	12	7	6	1		76
61 - 65	6	2	4	3	4	5	4	1	3	7	3	42
66 - 70	1						2			1		4
71 & Over												0
Totals	18	14	13	10	15	52	28	12	11	9	3	185

PLAN A - AVERAGE ANNUAL BENEFITS PAYABLE TO DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement											Average Benefit
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 30												0
31 - 35						12,682						12,682
36 - 40												0
41 - 45				16,336	37,571	13,360						20,157
46 - 50	18,990	17,363	7,962	12,431	32,662	18,004	13,399	15,083				17,957
51 - 55	20,512	33,728	18,730	17,577	20,906	19,722	16,512	14,483	7,524			19,513
56 - 60	20,327	19,350	14,878	11,521	18,776	16,372	19,783	10,298	8,325	7,685		16,068
61 - 65	14,756	15,405	20,987	15,736	14,668	17,901	13,402	9,492	7,663	8,030	6,037	13,312
66 - 70	15,645						10,012			9,063		11,183
71 & Over												0
Average	18,102	22,610	17,707	15,175	21,211	17,232	16,783	11,726	7,999	8,106	6,037	16,369

PLAN A - 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 - 20	3	1	4	1	1	4		1				15
21 - 25												0
26 - 30						2		1		1		4
31 - 35		1				1	1					3
36 - 40		1			2			1		2		6
41 - 45					1	1	1	1				4
46 - 50		1				2	3				1	7
51 - 55			2			9	4	3	1			19
56 - 60	2	2	2	3	2	14	11	7	3	3		49
61 - 65	3	7	4	8	6	28	22	14	4	2	1	99
66 - 70	2	3		3	8	48	34	27	12	4	2	143
71 - 75	2	2	1	1	2	35	49	51	22	18	8	191
76 - 80	2	1	1	1		17	44	62	35	23	8	194
81 - 85		1	1		1	11	22	34	55	36	20	181
86 - 90							7	13	15	43	30	108
91 & Over						1	1	1	6	16	35	60
Totals	14	20	15	17	23	173	199	216	153	148	105	1,083

PLAN A - 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 - 20	27,254	28,648	12,882	22,902	42,013	13,578		9,892				19,404
21 - 25												0
26 - 30						39,094		2,115		6,348		21,663
31 - 35		14,261				7,395	7,266					9,641
36 - 40		32,634			16,527			6,958		5,542		13,955
41 - 45					5,412	6,549	3,510	4,365				4,959
46 - 50		7,527				41,517	10,469				7,009	18,425
51 - 55			40,450			22,029	14,221	8,554	6,600			19,385
56 - 60	26,124	40,479	13,720	26,980	36,817	17,636	22,605	15,087	11,667	10,341		20,049
61 - 65	28,141	20,769	24,194	22,063	11,187	23,533	19,473	15,923	8,878	6,914	4,683	19,540
66 - 70	13,394	17,029		8,502	22,928	19,041	18,710	18,238	12,873	7,493	4,305	17,639
71 - 75	6,712	20,059	62,299	10,032	9,639	16,223	16,512	14,023	14,185	12,313	9,632	14,911
76 - 80	22,523	13,992	22,511	80,594		10,132	12,629	12,890	11,110	13,511	14,369	12,906
81 - 85		14,795	9,197		21,043	9,954	8,804	11,275	13,012	12,817	15,396	12,246
86 - 90							7,002	11,444	14,740	12,955	8,558	11,414
91 & Over						18,429	19,764	5,710	10,923	7,501	9,143	9,158
Average	21,692	21,470	23,377	23,322	19,347	18,009	15,274	13,529	12,646	11,913	10,448	14,587

EXHIBIT X
PLAN A: YEAR-TO-YEAR COMPARISON

	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Number of Active Members	13,643	13,750	14,042	14,027
Number of Retirees & Survivors	8,096	7,873	7,651	7,467
Number of Terminated Due Deferred Benefits	901	849	818	813
Number Terminated Due Refunds	8,731	8,351	7,967	7,845
Active Lives Payroll	$ 672,340,250	$ 666,414,649	$ 634,490,049	$ 615,887,352
Retiree Benefits in Payment	$ 211,189,264	$ 201,085,695	$ 185,969,386	$ 177,804,484
Market Value of Assets	$ 4,976,037,622	$ 4,561,001,343	$ 4,091,788,575	$ 3,540,960,468
Entry Age Normal (EAN) Accrued Liability	$ 4,426,022,763	$ 4,306,898,028	$ 4,019,234,688	$ 3,908,729,734
Ratio of AVA to EAN Accrued Liability	103.22%	97.95%	97.41%	96.03%
Actuarial Value of Assets	$ 4,568,593,183	$ 4,218,785,899	$ 3,915,328,623	$ 3,753,426,178
Present Value of Future Employer Normal Cost	$ 514,180,024	$ 725,789,884	$ 717,931,079	$ 756,070,638
Present Value of Future Employee Contrib.	$ 518,500,733	$ 513,701,674	$ 480,272,531	$ 466,755,194
Funding Deposit Account Credit Balance	$ 69,983,070	$ 55,177,473	$ 83,972,205	$ 78,847,141
Frozen Unfunded Actuarial Accrued Liability	$ 0	$ 0	$ 0	$ 0
Present Value of Future Benefits	$ 5,531,290,870	$ 5,403,099,984	$ 5,029,560,028	$ 4,897,404,869

	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019
Employee Contribution Rate	9.50%	9.50%	9.50%	9.50%
Projected Tax Contribution as % of Payroll	1.23%	1.30%	1.30%	1.24%
Actuarially Required Net Direct Employer Contribution Rate	7.10%	10.38%	11.11%	12.18%
Actual Employer Contribution Rate	11.50%	12.25%	12.25%	11.50%

Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013	Fiscal 2012
14,201	14,330	14,232	14,061	13,866	14,370
7,301	7,050	6,783	6,523	6,242	5,991
709	703	678	660	683	561
7,482	7,329	7,182	7,026	7,109	6,795
$ 605,199,478	$ 599,421,070	$ 577,600,460	$ 566,547,812	$ 543,669,542	$ 558,327,346
$ 170,697,910	$ 157,140,568	$ 146,994,479	$ 137,309,161	$ 124,299,785	$ 114,515,106
$ 3,829,020,281	$ 3,313,917,014	$ 3,124,593,132	$ 3,175,649,999	$ 3,043,479,814	$ 2,583,983,506
$ 3,676,214,901	$ 3,446,813,538	$ 3,316,128,533	$ 3,133,179,431	$ 2,984,143,643	$ 2,823,038,820
99.49%	99.20%	97.11%	96.80%	92.49%	86.73%
$ 3,657,539,805	$ 3,419,149,648	$ 3,220,157,028	$ 3,032,888,183	$ 2,760,148,403	$ 2,448,529,177
$ 604,529,232	$ 555,155,571	$ 592,955,250	$ 560,647,763	$ 651,806,943	$ 773,908,389
$ 437,372,887	$ 422,091,697	$ 405,879,187	$ 389,156,042	$ 370,352,485	$ 378,465,400
$ 66,910,393	$ 68,896,088	$ 49,644,401	$ 23,781,823	$ 4,918,053	$ 4,574,933
$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
$ 4,632,531,531	$ 4,327,500,828	$ 4,169,347,064	$ 3,958,910,165	$ 3,777,389,778	$ 3,596,328,033

Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
9.50%	9.50%	9.50%	9.50%	9.50%	9.50%
1.22%	1.22%	1.27%	1.28%	1.32%	1.16%
9.99%	9.35%	10.52%	10.40%	13.07%	15.56%
11.50%	12.50%	13.00%	14.50%	16.00%	16.75%

PAGE INTENTIONALLY LEFT BLANK

EXHIBIT XI
PLAN B: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	$	500,058,032
2.	Funding Deposit Account Credit Balance	$	5,194,363
3.	Actuarial Value of Assets	$	412,987,548
4.	Present Value of Future Employee Contributions	$	28,418,706
5.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4)	$	63,846,141
6.	Present Value of Future Salaries	$	1,018,641,145
7.	Employer Normal Cost Accrual Rate (5 ÷ 6)		6.267776%
8.	Projected Fiscal 2022 Salary for Current Membership	$	107,208,204
9.	Employer Normal Cost as of January 1, 2022 (7 × 8)	$	6,719,570
10.	Employer Normal Cost Interest Adjusted for Mid-year Payment	$	6,931,262
11.	Estimated Administrative Cost for Fiscal 2022	$	328,982
12.	TOTAL Administrative and Interest Adjusted Actuarial Costs (10 + 11)	$	7,260,244
13.	Estimated Ad Valorem Tax Contributions for Fiscal 2022	$	1,427,440
14.	Estimated Revenue Sharing Funds for Fiscal 2022	$	23,265
15.	Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2022 (12 – 13 – 14)	$	5,809,539
16.	Projected Payroll for Fiscal 2022	$	117,723,275
17.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2022 (15 ÷ 16)		4.93%
18.	Actual Employer Contribution Rate for Fiscal 2022		7.50%
19.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2023 (17, Rounded to Nearest 0.25%)		5.00%

EXHIBIT XII
PLAN B: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$	300,904,665		
Survivor Benefits		6,103,566		
Disability Benefits		14,813,242		
Vested Termination Benefits		13,035,782		
Refunds of Contributions		4,167,690		
TOTAL Present Value of Future Benefits for Active Members			$	339,024,945

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$	12,871,828		
Terminated Members with Reciprocals Due Benefits at Retirement		152,555		
Terminated Members Due a Refund		1,248,270		
TOTAL Present Value of Future Benefits for Terminated Members			$	14,272,653

PRESENT VALUE OF FUTURE BENEFITS FOR PENSIONERS:

Regular Retirees by Option Selected:

Maximum	$	59,150,711
Option 1		234,867
Option 2		57,149,957
Option 3		14,473,675
Option 4		1,556,287

TOTAL Regular Retirees	$	132,565,497		
TOTAL Disability Retirees	$	2,774,131		
TOTAL Survivors & Widows	$	11,401,915		
Reserve for Accrued Retiree DROP Account Balances	$	18,891		
TOTAL Present Value of Future Benefits for Retirees & Survivors			$	146,760,434

TOTAL Present Value of Future Benefits	$	500,058,032

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

CURRENT ASSETS:				
Cash in Banks	$	39,331,337		
Contributions and Taxes Receivable		3,373,412		
Accrued Interest and Dividends		148,371		
Investments Receivable		13,564		
Due (to)/from other Funds		(2,212,539)		
Liability Transfer (to)/from Plan A		334,999		
Other Current Assets		8,415		
TOTAL CURRENT ASSETS			$	40,997,559
Property Plant & Equipment			$	78,604
INVESTMENTS:				
Cash Equivalents	$	5,195,095		
Equities		223,454,930		
Fixed Income		116,405,283		
Real Estate		24,657,318		
Alternative Investments		40,467,735		
TOTAL INVESTMENTS			$	410,180,361
TOTAL ASSETS			$	451,256,524
CURRENT LIABILITIES :				
Benefits Payable	$	1,257,620		
Accounts Payable		252,928		
Investments Payable		225,474		
Refunds Payable		128,462		
TOTAL CURRENT LIABILITIES			$	1,864,484
MARKET VALUE OF ASSETS			$	449,392,040

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

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

Fiscal year 2021	$	19,533,805
Fiscal year 2020		25,162,835
Fiscal year 2019		34,442,464
Fiscal year 2018		(40,486,193)
Fiscal year 2017		28,697,360
Total for five years	$	67,350,271

Deferral of excess (shortfall) of invested income:

Fiscal year 2021 (80%)	$	15,627,044
Fiscal year 2020 (60%)		15,097,701
Fiscal year 2019 (40%)		13,776,986
Fiscal year 2018 (20%)		(8,097,239)
Fiscal year 2017 (0%)		0
Total deferred for year	$	36,404,492

Market value of plan net assets, end of year	$	449,392,040
Preliminary actuarial value of plan assets, end of year	$	412,987,548

Actuarial value of assets corridor

85% of market value, end of year	$	381,983,234
115% of market value, end of year	$	516,800,846

Final actuarial value of plan net assets, end of year	$	412,987,548

EXHIBIT XIV
PLAN B: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	28,418,706
Employer Normal Contributions to the Pension Accumulation Fund		63,846,141
Funding Deposit Account Debit / (Credit) Balance		(5,194,363)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	87,070,484

EXHIBIT XV
PLAN B: RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year	$	9,153,682		
Interest on Normal Cost		585,836		
Administrative Expenses		265,342		
Interest on Expenses		8,360		
TOTAL Interest Adjusted Actuarially Required Employer Contributions			$	10,013,220
Direct Employer Contributions	$	8,566,347		
Interest on Employer Contributions		269,872		
Ad Valorem Taxes and Revenue Sharing Funds		1,467,409		
Interest on Taxes and Revenue Sharing Funds		46,229		
TOTAL Interest Adjusted Employer Contributions			$	10,349,857
CONTRIBUTION SURPLUS (DEFICIENCY)			$	336,637

EXHIBIT XVI
PLAN B: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (December 31, 2020)			$	375,316,220
INCOME:				
Member Contributions	$	3,392,465		
Employer Contributions		8,566,347		
Irregular Contributions		12,388		
Ad Valorem Taxes and Revenue Sharing		1,467,409		
Transfers (to)/from Plan A		1,385,061		
Transfers from other Systems		130,687		
Other Income		122,652		
Total Contributions			$	15,077,009
Net Appreciation in Fair Value of Investments	$	40,238,555		
Interest & Dividends		7,396,320		
Class Action Settlement		1,179		
Investment Expense		(2,193,980)		
Net Investment Income			$	45,442,074
TOTAL Income			$	60,519,083
EXPENSES:				
Retirement Benefits	$	14,014,282		
DROP Disbursements		1,452,667		
Refunds of Contributions		856,758		
Transfers to other Systems		194,955		
Administrative Expenses		265,342		
TOTAL Expenses			$	16,784,004
Net Market Value Income for Fiscal 2021 (Income - Expenses)			$	$43,735,079
Unadjusted Fund Balance as of December 31, 2021 (Fund Balance Previous Year + Net Income)			$	419,051,299
Adjustment for Actuarial Smoothing			$	(6,063,751)
Actuarial Value of Assets (December 31, 2021)			$	412,987,548

EXHIBIT XVII
PLAN B: FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of December 31, 2020	$	4,881,920
Interest on Opening Balance at 6.40%		312,443
Contributions to the Funding Deposit Account		0
Withdrawals from the Funding Deposit Account		0
Funding Deposit Account Balance as of December 31, 2021	$	5,194,363

EXHIBIT XVIII – SCHEDULE A
PLAN B: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees	$	204,836,502
Present Value of Benefits Payable to Terminated Employees		14,272,653
Present Value of Benefits Payable to Current Retirees and Beneficiaries		146,760,434
TOTAL PENSION BENEFIT OBLIGATION	$	365,869,589
NET ACTUARIAL VALUE OF ASSETS	$	412,987,548
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation		112.88%

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

Accrued Liability for Active Employees	$	227,012,721
Accrued Liability for Terminated Employees		14,272,653
Accrued Liability for Current Retirees and Beneficiaries		146,760,434
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	$	388,045,808
NET ACTUARIAL VALUE OF ASSETS	$	412,987,548
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability		106.43%

EXHIBIT XIX
PLAN B: CENSUS DATA

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of December 31, 2020	2,321	1,999	66	985	5,371
Additions to Census					
Initial membership	324	32			356
Death of Another Member				11	11
Omitted in error last year				1	1
Adjustment for multiple records					
Change in Status during Year					
Actives terminating service	(147)	147			
Actives who retired	(55)			55	
Actives entering DROP	(22)		22		
Term. members rehired	26	(26)			
Term. members who retire		(5)		5	
Retirees who are rehired					
Refunded who are rehired	4	2			6
DROP participants retiring			(8)	8	
DROP returned to work	23		(23)		
Eliminated from Census					
Refund of contributions	(159)	(48)			(207)
Deaths	(5)	(4)		(52)	(61)
Included in error last year		(8)			(8)
Adjustment for multiple records		(1)			(1)
Number of members as of December 31, 2021	2,310	2,088	57	1,013	5,468

PLAN B - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	6	3	9	27,112	244,009
21 - 25	48	53	101	33,424	3,375,784
26 - 30	90	105	195	39,581	7,718,243
31 - 35	71	136	207	45,165	9,349,130
36 - 40	100	139	239	49,536	11,839,083
41 - 45	72	144	216	50,971	11,009,739
46 - 50	130	145	275	50,910	14,000,230
51 - 55	156	173	329	51,320	16,884,415
56 - 60	184	176	360	50,584	18,210,152
61 - 65	153	115	268	52,146	13,975,146
66 - 70	69	46	115	50,134	5,765,441
71 - 75	26	15	41	59,231	2,428,468
76 - 80	8	2	10	53,765	537,652
81 - 85	2	0	2	27,471	54,941
TOTAL	1,115	1,252	2,367	48,750	115,392,433

THE ACTIVE CENSUS INCLUDES ____ ACTIVES WITH VESTED BENEFITS, INCLUDING 57 DROP PARTICIPANTS AND 71 ACTIVE FORMER DROP PARTICIPANTS.

PLAN B - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
26 - 30	0	2	2	7,566	15,132
31 - 35	5	4	9	6,665	59,982
36 - 40	10	10	20	8,529	170,578
41 - 45	7	16	23	9,150	210,443
46 - 50	6	10	16	13,110	209,762
51 - 55	8	29	37	12,973	479,997
56 - 60	18	16	34	11,744	399,304
61 - 65	14	10	24	8,627	207,042
66 - 70	3	6	9	9,188	82,692
TOTAL	71	103	174	10,546	1,834,932

PLAN B - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From		To	Number	Total Contributions
0	-	99	1,094*	28,574*
100	-	499	350	87,158
500	-	999	136	96,683
1,000	-	1,999	132	194,484
2,000	-	4,999	144	455,476
5,000	-	9,999	52	339,061
10,000	-	19,999	6	72,764
		TOTAL	1,914	1,274,200

* Includes 718 members due a refund who were not included in the data provided to the actuary because they are maintained external to the computer system. Excludes $7,593 in contributions owed to deceased members.

PLAN B - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51 - 55	2	0	2	13,727	27,454
56 - 60	14	9	23	35,202	809,653
61 - 65	71	66	137	19,040	2,608,443
66 - 70	112	101	213	16,048	3,418,302
71 - 75	115	102	217	14,501	3,146,654
76 - 80	67	57	124	12,133	1,504,540
81 - 85	46	35	81	10,185	824,981
86 - 90	16	26	42	10,846	455,541
91 - 99	2	11	13	7,637	99,287
TOTAL	445	407	852	15,135	12,894,855

PLAN B - DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	1	0	1	7,401	7,401
41 - 45	2	0	2	8,416	16,832
46 - 50	2	1	3	8,706	26,117
51 - 55	1	2	3	13,059	39,176
56 - 60	4	4	8	11,267	90,139
61 - 65	2	3	5	8,409	42,046
66 - 70	0	1	1	6,307	6,307
TOTAL	12	11	23	9,914	228,018

PLAN B - SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	0	1	1	4,844	4,844
41 - 45	0	3	3	9,447	28,340
46 - 50	1	0	1	2,463	2,463
51 - 55	0	2	2	9,855	19,710
56 - 60	1	3	4	5,403	21,610
61 - 65	3	18	21	9,361	196,575
66 - 70	3	12	15	12,107	181,611
71 - 75	3	23	26	10,907	283,569
76 - 80	2	32	34	9,936	337,815
81 - 85	1	20	21	6,074	127,556
86 - 90	0	6	6	9,095	54,571
91 - 99	0	4	4	3,496	13,983
TOTAL	14	124	138	9,222	1,272,647

PLAN B - 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	8	1										9
21 - 25	51	19	11	14	5	1						101
26 - 30	62	31	24	18	23	34	3					195
31 - 35	30	19	30	17	19	67	25					207
36 - 40	37	21	14	23	14	58	45	26	1			239
41 - 45	18	20	21	14	19	46	38	20	20			216
46 - 50	34	21	16	16	16	42	47	39	31	12	1	275
51 - 55	39	8	22	11	22	58	49	33	44	27	16	329
56 - 60	19	16	19	17	18	71	63	43	42	19	33	360
61 - 65	16	9	16	10	9	58	46	35	27	16	26	268
66 - 70	5	5	1	4	1	27	26	15	12	13	6	115
71 & Over	2	1	1		1	9	9	14	3	2	11	53
Totals	321	171	175	144	147	471	351	225	180	89	93	2,367

PLAN B - 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	26,421	32,640										27,112
21 - 25	31,417	34,377	33,775	36,921	41,956	22,161						33,424
26 - 30	38,082	38,473	39,789	37,011	39,926	43,901	44,141					39,581
31 - 35	44,122	35,266	36,762	56,558	46,394	48,294	46,955					45,165
36 - 40	40,203	39,555	46,553	43,868	52,867	55,736	52,522	56,766	48,019			49,536
41 - 45	38,789	44,380	38,269	42,748	53,501	51,983	65,807	51,010	54,661			50,971
46 - 50	39,056	50,274	41,759	47,332	46,739	49,333	62,484	51,689	50,724	63,637	82,631	50,910
51 - 55	38,271	56,892	44,491	64,995	38,727	51,753	53,581	50,814	58,114	61,735	53,942	51,320
56 - 60	41,687	33,073	37,082	50,448	42,423	45,984	49,495	57,218	55,742	67,149	63,719	50,584
61 - 65	41,305	39,083	38,686	38,410	39,635	53,474	61,810	50,179	53,888	51,975	62,121	52,146
66 - 70	31,757	27,870	41,121	40,296	46,488	48,696	53,194	52,043	53,045	61,471	50,730	50,134
71 & Over	29,454	83,497	39,110		32,382	64,042	79,007	48,875	56,338	84,317	45,256	57,001
Average	37,929	40,242	39,631	46,022	44,662	50,330	56,377	52,757	54,847	61,862	58,772	48,750

PLAN B - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Attained Ages	Years Until Retirement Eligibility 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 25												0
26 - 30											2	2
31 - 35										2	7	9
36 - 40									5	14	1	20
41 - 45								8	8	7		23
46 - 50							9	6	1			16
51 - 55						31	5	1				37
56 - 60	5	4	11	1	3	9	1					34
61 - 65	15	1	2	1	3	2						24
66 - 70	8	1										9
71 & Over												0
Totals	28	6	13	2	6	42	15	15	14	23	10	174

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

Attained Ages	Years Until Retirement Eligibility 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 25												0
26 - 30											7,566	7,566
31 - 35										9,339	5,901	6,665
36 - 40									11,811	7,587	5,299	8,529
41 - 45								10,084	9,155	8,076		9,150
46 - 50							14,537	11,864	7,749			13,110
51 - 55						13,942	8,343	6,096				12,973
56 - 60	13,622	12,967	14,547	6,593	19,233	5,668	4,007					11,744
61 - 65	9,649	6,540	7,808	11,774	5,045	6,618						8,627
66 - 70	6,581	30,045										9,188
71 & Over												0
Average	9,482	14,742	13,510	9,184	12,139	11,820	11,770	10,530	10,004	7,888	6,174	10,546

PLAN B - 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	7	7	6	3								23
61 - 65	29	23	25	14	13	28	2	1	1	1		137
66 - 70	21	13	23	28	26	80	14	6	2			213
71 - 75	7	11	8	17	18	84	53	15	2	2		217
76 - 80	2	3	1	2	8	27	37	42	1		1	124
81 - 85		3	1	1	1	8	15	24	24	4		81
86 - 90						4	3	5	20	8	2	42
91 & Over										4	9	13
Totals	67	60	65	65	66	231	124	93	50	19	12	852

PLAN B - 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	23,295		4,159									13,727
56 - 60	38,127	37,177	32,636	28,904								35,202
61 - 65	16,525	18,996	18,978	18,383	21,687	22,038	21,536	7,627	4,379	6,426		19,040
66 - 70	12,738	18,464	13,791	14,065	17,372	18,000	15,955	12,155	5,885			16,048
71 - 75	16,057	21,677	11,410	11,127	15,051	13,408	14,493	20,776	9,645	9,589		14,501
76 - 80	49,083	9,309	19,463	12,455	15,310	12,708	10,691	10,725	18,602		3,845	12,133
81 - 85		11,360	6,333	6,169	12,049	16,385	10,889	7,916	11,451	1,781		10,185
86 - 90						5,981	15,899	9,626	10,190	12,102	17,581	10,846
91 & Over										5,849	8,433	7,637
Average	18,619	20,627	17,057	14,740	17,258	15,937	13,235	11,621	10,653	8,049	9,575	15,135

PLAN B - DISABILITY 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 - 35												0
36 - 40			1									1
41 - 45	1		1									2
46 - 50			1			1		1				3
51 - 55						3						3
56 - 60		1	1	1		3		2				8
61 - 65						2	2	1				5
66 - 70							1					1
71 & Over												0
Totals	1	1	4	1	0	9	3	4	0	0	0	23

PLAN B - AVERAGE ANNUAL BENEFITS PAYABLE TO DISABILITY 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 - 35												0
36 - 40			7,401									7,401
41 - 45	8,715		8,117									8,416
46 - 50			11,127			9,697		5,293				8,706
51 - 55						13,059						13,059
56 - 60		9,400	13,209	15,080		13,381		6,153				11,267
61 - 65						7,579	10,777	5,335				8,409
66 - 70							6,307					6,307
71 & Over												0
Average	8,715	9,400	9,964	15,080	0	11,575	9,287	5,734	0	0	0	9,914

PLAN B - 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 - 35												0
36 - 40					1							1
41 - 45						1		1	1			3
46 - 50								1				1
51 - 55	1					1						2
56 - 60					1	2		1				4
61 - 65		2	1	2	2	2	4	6	1	1		21
66 - 70		1	1			3	6	3	1			15
71 - 75		1		1	1	6	5	6	4	2		26
76 - 80						5	10	10	7	2		34
81 - 85						2	1	5	5	5	3	21
86 - 90								2		2	2	6
91 & Over								1			3	4
Totals	1	4	2	3	5	22	26	36	19	12	8	138

PLAN B - 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 - 35												0
36 - 40					4,844							4,844
41 - 45						12,772		12,078	3,490			9,447
46 - 50								2,463				2,463
51 - 55	8,502					11,208						9,855
56 - 60					6,861	3,700		7,350				5,403
61 - 65		9,072	10,243	6,350	15,236	13,517	6,594	10,083	3,366	7,745		9,361
66 - 70		20,862	8,804			10,658	14,098	7,097	14,093			12,107
71 - 75		7,326		13,754	19,093	7,450	11,267	17,345	7,608	3,931		10,907
76 - 80						8,574	8,897	10,463	13,419	3,712		9,936
81 - 85						8,811	5,882	8,116	6,778	2,759	5,262	6,074
86 - 90								7,763		7,323	12,201	9,095
91 & Over								4,005			3,326	3,496
Average	8,502	11,583	9,524	8,818	12,254	8,890	10,082	10,347	9,432	4,289	6,271	9,222

EXHIBIT XX
PLAN B: YEAR-TO-YEAR COMPARISON

	Fiscal 2021	Fiscal 2020	Fiscal 2019	Fiscal 2018
Number of Active Members	2,367	2,387	2,462	2,429
Number of Retirees & Survivors	1,013	985	942	896
Number of Terminated Due Deferred Benefits	174	158	152	154
Number Terminated Due Refunds	1,914	1,841	1,769	1,708
Active Lives Payroll	$ 115,392,433	$ 114,185,471	$ 111,568,953	$ 105,914,905
Retiree Benefits in Payment	$ 14,395,520	$ 13,557,343	$ 12,183,667	$ 11,243,992
Market Value of Assets	$ 449,392,040	$ 405,656,961	$ 360,893,172	$ 307,800,757
Entry Age Normal (EAN) Accrued Liability	$ 388,045,808	$ 374,570,332	$ 348,089,703	$ 329,243,218
Ratio of AVA to EAN Accrued Liability	106.43%	100.20%	99.34%	99.11%
Actuarial Value of Assets	$ 412,987,548	$ 375,316,220	$ 345,786,489	$ 326,300,632
Present Value of Future Employer Normal Cost	$ 63,846,141	$ 87,209,842	$ 86,369,014	$ 83,679,498
Present Value of Future Employee Contrib.	$ 28,418,706	$ 28,295,937	$ 27,007,067	$ 25,843,520
Funding Deposit Account Credit Balance	$ 5,194,363	$ 4,881,920	$ 6,928,047	$ 6,220,583
Present Value of Future Benefits	$ 500,058,032	$ 485,940,079	$ 452,234,523	$ 429,603,067

	Fiscal 2022	Fiscal 2021	Fiscal 2020	Fiscal 2019
Employee Contribution Rate	3.00%	3.00%	3.00%	3.00%
Projected Tax Contribution as % of Payroll	1.23%	1.31%	1.31%	1.24%
Actuarially Required Net Direct Employer Contribution Rate	4.93%	7.07%	7.39%	7.53%
Actual Employer Contribution Rate	7.50%	7.50%	7.50%	7.50%

Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013	Fiscal 2012
2,459	2,415	2,413	2,321	2,288	2,298
855	792	747	714	688	657
142	138	139	135	135	132
1,637	1,608	1,554	1,531	1,550	1,504
$ 103,056,369	$ 100,932,377	$ 98,127,898	$ 91,698,297	$ 89,168,260	$ 86,882,261
$ 10,430,299	$ 9,070,674	$ 8,150,177	$ 7,448,991	$ 6,779,114	$ 6,334,153
$ 325,626,878	$ 275,756,021	$ 255,103,397	$ 253,501,744	$ 237,412,166	$ 196,577,145
$ 307,480,656	$ 283,598,901	$ 267,985,810	$ 249,207,071	$ 233,321,224	$ 212,489,491
101.09%	100.38%	98.46%	97.50%	92.60%	87.62%
$ 310,818,392	$ 284,685,809	$ 263,849,591	$ 242,977,968	$ 216,066,754	$ 186,172,779
$ 76,666,027	$ 71,874,582	$ 74,851,929	$ 61,503,111	$ 71,374,679	$ 74,251,290
$ 24,893,108	$ 24,084,343	$ 23,527,632	$ 19,608,454	$ 19,192,399	$ 18,544,210
$ 5,361,971	$ 5,602,259	$ 4,622,489	$ 2,281,164	$ 2,126,959	$ 1,559,909
$ 407,015,556	$ 375,042,475	$ 357,606,663	$ 321,808,369	$ 304,506,873	$ 277,408,370

Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
1.22%	1.21%	1.26%	1.36%	1.21%	1.14%
7.01%	6.75%	7.20%	6.91%	8.60%	9.33%
7.50%	8.00%	8.00%	9.00%	9.25%	10.00%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

All members of the Parochial Employees' Retirement System are participants in either Plan A or Plan 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.

PLAN A PROVISIONS:

CONTRIBUTION RATES – The Plan A fund is financed by employee contributions at a rate determined by the Board subject to the statutory range of 8% through 11% of each member's earnings and employer contributions as determined by the Public Retirement Systems' Actuarial Committee. 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 East Baton Rouge Parish, and remits the money to the system on an annual basis. The system also receives revenue sharing funds each year as appropriated by the legislature. In any fiscal year in which employer contribution rate as actuarially determined is scheduled to decrease, the Board of Trustees may elect to maintain the existing rate or any rate between the existing and minimum rates.

RETIREMENT BENEFITS – Members hired on or before December 31, 2006, with seven years of creditable service may retire at age sixty-five; ten years of creditable service may retire at age sixty; members with twenty-five years of service may retire at age fifty-five; members with thirty years of service may retire regardless of age. Members hired on or after January 1, 2007, with seven years of creditable service may retire at age sixty-seven; ten years of creditable service may retire at age sixty-two; members with thirty years of service may retire at age fifty-five. The retirement allowance is equal to three percent of the member's final compensation multiplied by his years of creditable service; however, any employee who was a member of the supplemental plan only prior to the revision date has the benefit earned for service credited prior to the revision date on the basis of one percent of final compensation plus two dollars per month for each year of service credited prior to the revision date, and three percent of final compensation for each year of service credited after the revision date. All accumulated annual leave for which payment cannot be made in accordance with law and all unused sick leave accumulated at the time of retirement is included in the member's creditable service for retirement computation purposes. The retirement allowance may not exceed the greater of one hundred percent of member's final salary or final compensation. Final compensation for members hired before January 1, 2007 refers to the highest 36 months of consecutive or joined service; final compensation for members hired after December 31, 2006 refers to the highest 60 months of consecutive or joined service.

DISABILITY BENEFITS – Five years of creditable service are required in order to be eligible for disability benefits for members hired on or before December 31, 2006. Seven years of creditable service are required in order to be eligible for disability benefits for members hired on or after January 1, 2007. Disabled members receive a normal retirement allowance if eligible. Otherwise, the member receives the lesser of three percent of compensation multiplied by his years of service, not to be less than fifteen years, or the accrual percentage as defined for retirement benefits multiplied by final compensation multiplied by years of service assuming continued service to age sixty for members hired on or before December 31, 2006 or age sixty-two for members hired on or after January 1, 2007.

SURVIVOR BENEFITS – Five years of creditable service is required in order to be eligible for survivor benefits. If a member is eligible for normal retirement at the time of death, the surviving spouse receives an automatic option 2 benefit. If the member was not eligible for a normal retirement, the surviving unmarried spouse with minor children receives sixty percent of final compensation. If the member was not eligible for a normal retirement, the surviving unmarried spouse with no minor children receives forty percent of final compensation payable upon the attainment of age sixty by the spouse, or upon becoming disabled. Minor children with no unmarried spouse receive thirty percent of final compensation each, not to exceed a total of sixty percent of final compensation.

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 rights in the system. If a member receives a refund of contributions and is subsequently rehired on or after January 1, 2007, the provisions applicable to members initially hired on or after January 1, 2007 will apply.

PLAN B PROVISIONS:

CONTRIBUTION RATES – The Plan B fund is financed by employee contributions at a rate determined by the Board subject to the statutory range of 3% through 5% of each member's earnings and employer contributions as determined by the Public Retirement Systems' Actuarial Committee. 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 East Baton Rouge Parish, and remits the money to the system on an annual basis. The system also receives revenue sharing funds each year as appropriated by the legislature. In any fiscal year in which the employer contribution rate as actuarially determined is scheduled to decrease, the Board of Trustees may elect to maintain the existing rate or any rate between the existing and minimum rates.

RETIREMENT BENEFITS: – Members hired on or before December 31, 2006, with seven years of creditable service may retire at age sixty-five; ten years of creditable service may retire at age sixty; members with thirty years of service may retire at age fifty-five. Members hired on or after January 1, 2007, with seven years of creditable service may retire at age sixty-seven; ten years of creditable service may retire at age sixty-two; members with thirty years of service may retire at age fifty-five. The retirement allowance is equal to two percent of the member's final compensation multiplied by the years of creditable service. All accumulated annual leave for which payment cannot be made in accordance with law and all unused sick leave accumulated at the time of retirement is included in the member's creditable service for retirement computation purposes. Final compensation for members hired before January 1, 2007 refers to the highest 36 months of consecutive or joined service; final compensation for members hired after December 31, 2006 refers to the highest 60 months of consecutive or joined service.

DISABILITY BENEFITS – Five years of creditable service is required in order to be eligible for disability benefits for members hired on or before December 31, 2006. Seven years of creditable service is required in order to be eligible for disability benefits for members hired on or after January 1, 2007. Disabled members receive a normal retirement allowance, if eligible. Otherwise, the member receives the lesser of two percent of compensation multiplied by the years of service, not to be less than fifteen years, or two percent of final compensation multiplied by the years of service assuming continued service to age sixty for members hired on or before December 31, 2006 or age sixty-two for members hired on or after January 1, 2007.

SURVIVOR BENEFITS – The surviving spouse of a member who was eligible for normal retirement at the time of death receives an automatic option 2 benefit. The surviving spouse of a member with ten or more years of creditable service and not eligible for normal retirement at the time of death receives an option 2 benefit payable at attainment of age fifty by the spouse.

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 rights in the system. If a member receives a refund of contributions and is subsequently rehired on or after January 1, 2007, the provisions applicable to members initially hired on or after January 1, 2007 will apply.

PROVISIONS APPLICABLE TO BOTH PLAN A AND B:

OPTIONAL ALLOWANCES – Upon application for retirement any member may elect to receive their benefit in a retirement allowance payable throughout their life, or he may elect at that time to receive the actuarial equivalent of their retirement allowance in a reduced retirement allowance payable throughout life. A retiree cannot change the designation of 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.

DEFERRED RETIREMENT OPTION PLAN:
In lieu of terminating employment and accepting a service retirement allowance, any member of Plan A or Plan 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. In terms of DROP eligibility, any member whose service, when combined with service in any other state or statewide public retirement system exceeds thirty years will be eligible to include reciprocally recognized service credit. Upon commencement of 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 fund. This fund does earn interest once the member terminates participation in DROP but continues their employment. The interest rate is based upon the rate of return of a short-term U.S. Treasury security, a group of short-term U.S. Treasury Securities, or an index of short-term U.S. Treasury securities to be selected by the board of trustees. This interest is to be credited to the individual's account balance on an annual basis. Additionally, no cost-of-living increases are payable to the 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 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 Deferred Retirement Option Plan fund 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. 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 those individuals hired on or before December 31, 2006; or at least sixty months for those individuals hired on or after January 1, 2007.

COST OF LIVING INCREASES – Under R.S. 11:246, 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). Under R.S. 11:1937, 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 up to two and one-half percent of the member's current benefit to those age sixty-two and over. 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 other cost of living increases the Board may grant an increase to retirees in the form "X×(A&B)" where "A" is equal to the number of years of credited service accrued as retirement or death of the member or retiree and "B" is equal to the number of years since death of the member or retiree to June 30 of the initial year of increase and "X" is equal to any amount available for funding such increase up to a maximum of $1.00.

ACTUARIAL ASSUMPTIONS

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

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

The following assumptions apply to both Plan A and Plan B unless stated otherwise.

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

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

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.

VALUATION INTEREST RATE: 6.40%

ANNUAL SALARY INCREASE RATE: 4.75% (2.45% Merit / 2.30% Inflation) for Plan A
4.25% (1.95% Merit / 2.30% Inflation) for Plan B

ACTIVE MEMBER MORTALITY: Pub-2010 Public Retirement Plans Mortality Table for General Employees multiplied by 130% for males and 125% for females, each with full generational projection using the MP2018 scale.

ANNUITANT AND BENEFICIARY MORTALITY: Pub-2010 Public Retirement Plans Mortality Table for General Healthy Retirees multiplied by 130% for males and 125% for females, each with full generational projection using the MP2018 scale

DISABLED LIVES MORTALITY: Pub-2010 Public Retirement Plans Mortality Table for General Disabled Retirees multiplied by 130% for males and 125% for females, each with full generational projection using the MP2018 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. All eligible persons age 85 and over in both plans are assumed to retire immediately. These rates apply only to those individuals eligible to retire.

RATES OF WITHDRAWAL: The rates of withdrawal are applied based upon completed years of service:

PLAN A:

Service Duration ≤	Factor	Service Duration ≤	Factor
1	0.21	17	0.02
2	0.18	18	0.02
3	0.16	19	0.02
4	0.13	20	0.02
5	0.11	21	0.01
6	0.09	22	0.01
7	0.08	23	0.01
8	0.07	24	0.02
9	0.06	25	0.02
10	0.05	26	0.02
11	0.04	27	0.01
12	0.04	28	0.01
13	0.04	29	0.01
14	0.03	30	0.01
15	0.03	>30	0.01
16	0.03		

PLAN B

Service Duration ≤	Factor	Service Duration ≤	Factor
1	0.21	17	0.02
2	0.18	18	0.02
3	0.15	19	0.01
4	0.13	20	0.01
5	0.10	21	0.01
6	0.08	22	0.01
7	0.07	23	0.01
8	0.06	24	0.01
9	0.05	25	0.02
10	0.05	26	0.02
11	0.04	27	0.02
12	0.04	28	0.02
13	0.04	29	0.01
14	0.03	30	0.01
15	0.03	>30	0.01
16	0.02		

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

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

FAMILY STATISTICS: Assumptions used in determining the cost of various survivor benefits are listed below:

Age at Death	% with Children	# 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

VESTING ELECTING PERCENTAGE: The percent of those who are vested at termination and elect deferred benefits in lieu of contribution refunds are as follows:

Plan A:	Under Age 40:	30%
	Age 40 – 49:	45%
	Above Age 49:	60%
Plan B:	Under Age 40:	45%
	Age 40 – 49:	45%
	Above Age 49:	55%

SICK AND ANNUAL LEAVE: (Tier 1 members)	Retirees were assumed to convert 1.44 months for Plan A and 0.6 months for Plan B of sick and annual leave to retirement credit for each ten years of service credit.
RATES OF DROP ENTRY:	The table of these rates is included later in the report. These rates apply only to those individuals eligible to enter the DROP plan.
DROP PARTICIPATION:	All members who enter the DROP plan are assumed to participate for the full 3 year period and 50% are assumed to retire at the end of DROP participation with 50% assumed to work 2 years post DROP and then retire.
DISABILITY RATES:	40% of the disability rates used for the 21st valuation of the Railroad Retirement System for individuals with 10-19 years of service for Plan A. 40% of the disability rates used for the 21st valuation of the Railroad Retirement System for individuals with 10-19 years of service for Plan B. A table of these rates is included later in the report.
RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS	The table of these rates is included later in the report. All eligible persons age 85 and over in both plans are assumed to retire immediately. These rates only apply to members who return to work after completing the DROP plan and then subsequently retire.

ACTUARIAL TABLES AND RATES – PLAN A

Age	Remarriage Rates	Tier 1 Retirement Rates	Tier 2 Retirement Rates	Tier 1 DROP Entry Rates	Tier 2 DROP Entry Rates	Post-DROP Retirement Rates	Base Disability Rates
18	0.06124	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
19	0.06124	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
20	0.06124	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
21	0.05818	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
22	0.05524	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
23	0.05242	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
24	0.04971	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
25	0.04566	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
26	0.04335	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
27	0.04114	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
28	0.03902	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
29	0.03698	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
30	0.03502	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
31	0.03314	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
32	0.03134	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
33	0.02961	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
34	0.02795	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
35	0.02636	0.00000	0.00000	0.00000	0.00000	0.00000	0.0017
36	0.02483	0.00000	0.00000	0.00000	0.00000	0.00000	0.0019
37	0.02336	0.00000	0.00000	0.00000	0.00000	0.00000	0.0021
38	0.02195	0.00000	0.00000	0.00000	0.00000	0.00000	0.0024
39	0.02060	0.00000	0.00000	0.00000	0.00000	0.00000	0.0027
40	0.01930	0.00000	0.00000	0.00000	0.00000	0.00000	0.0031
41	0.01805	0.00000	0.00000	0.00000	0.00000	0.00000	0.0035
42	0.01686	0.00000	0.00000	0.00000	0.00000	0.00000	0.0039
43	0.01571	0.00000	0.00000	0.00000	0.00000	0.00000	0.0044
44	0.01461	0.00000	0.00000	0.00000	0.00000	0.00000	0.0050
45	0.01355	0.00000	0.00000	0.00000	0.00000	0.00000	0.0057
46	0.01253	0.09000	0.00000	0.27000	0.00000	0.38000	0.0065
47	0.01156	0.09000	0.00000	0.27000	0.00000	0.38000	0.0073
48	0.01063	0.09000	0.00000	0.27000	0.00000	0.38000	0.0083
49	0.00973	0.08000	0.00000	0.45000	0.00000	0.38000	0.0094
50	0.00887	0.07000	0.00000	0.47000	0.00000	0.38000	0.0107
51	0.00804	0.06000	0.00000	0.43000	0.00000	0.38000	0.0122
52	0.00725	0.08000	0.00000	0.42000	0.00000	0.38000	0.0138
53	0.00649	0.10000	0.00000	0.44000	0.00000	0.38000	0.0157
54	0.00576	0.12000	0.00000	0.41000	0.00000	0.38000	0.0178
55	0.00000	0.12000	0.12000	0.35000	0.35000	0.36000	0.0202
56	0.00000	0.10000	0.10000	0.28000	0.28000	0.33000	0.0230
57	0.00000	0.09000	0.09000	0.23000	0.23000	0.32000	0.0261
58	0.00000	0.08000	0.08000	0.19000	0.19000	0.32000	0.0296
59	0.00000	0.08000	0.08000	0.18000	0.18000	0.32000	0.0337
60	0.00000	0.08000	0.08000	0.17000	0.17000	0.31000	0.0488
61	0.00000	0.08000	0.08000	0.17000	0.17000	0.28000	0.0488
62	0.00000	0.08000	0.08000	0.16000	0.16000	0.25000	0.0488
63	0.00000	0.09000	0.09000	0.15000	0.15000	0.25000	0.0488
64	0.00000	0.11000	0.11000	0.14000	0.14000	0.26000	0.0488
65	0.00000	0.13000	0.14000	0.12000	0.12000	0.28000	0.0488
66	0.00000	0.15000	0.16000	0.10000	0.10000	0.27000	0.0488
67	0.00000	0.14000	0.15000	0.08000	0.08000	0.25000	0.0488
68	0.00000	0.13000	0.14000	0.08000	0.08000	0.23000	0.0488
69	0.00000	0.12000	0.13000	0.10000	0.09000	0.21000	0.0488
70	0.00000	0.12000	0.12000	0.12000	0.10000	0.22000	0.0488
71	0.00000	0.10000	0.11000	0.11000	0.11000	0.23000	0.0488
72	0.00000	0.08000	0.10000	0.10000	0.10000	0.22000	0.0488
73	0.00000	0.08000	0.11000	0.09000	0.09000	0.17000	0.0488
74	0.00000	0.10000	0.12000	0.07000	0.08000	0.13000	0.0488
75	0.00000	0.13000	0.14000	0.06000	0.06000	0.13000	0.0488

ACTUARIAL TABLES AND RATES – PLAN B

	Remarriage Rates	Tier 1 Retirement Rates	Tier 2 Retirement Rates	Tier 1 DROP Entry Rates	Tier 2 DROP Entry Rates	Post-DROP Retirement Rates	Base Disability Rates
18	0.06124	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
19	0.06124	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
20	0.06124	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
21	0.05818	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
22	0.05524	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
23	0.05242	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
24	0.04971	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
25	0.04566	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
26	0.04335	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
27	0.04114	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
28	0.03902	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
29	0.03698	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
30	0.03502	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
31	0.03314	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
32	0.03134	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
33	0.02961	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
34	0.02795	0.00000	0.00000	0.00000	0.00000	0.00000	0.0015
35	0.02636	0.00000	0.00000	0.00000	0.00000	0.00000	0.0017
36	0.02483	0.00000	0.00000	0.00000	0.00000	0.00000	0.0019
37	0.02336	0.00000	0.00000	0.00000	0.00000	0.00000	0.0021
38	0.02195	0.00000	0.00000	0.00000	0.00000	0.00000	0.0024
39	0.02060	0.00000	0.00000	0.00000	0.00000	0.00000	0.0027
40	0.01930	0.00000	0.00000	0.00000	0.00000	0.00000	0.0031
41	0.01805	0.00000	0.00000	0.00000	0.00000	0.00000	0.0035
42	0.01686	0.00000	0.00000	0.00000	0.00000	0.00000	0.0039
43	0.01571	0.00000	0.00000	0.00000	0.00000	0.00000	0.0044
44	0.01461	0.00000	0.00000	0.00000	0.00000	0.00000	0.0050
45	0.01355	0.00000	0.00000	0.00000	0.00000	0.00000	0.0057
46	0.01253	0.00000	0.00000	0.00000	0.00000	0.00000	0.0065
47	0.01156	0.00000	0.00000	0.00000	0.00000	0.00000	0.0073
48	0.01063	0.00000	0.00000	0.00000	0.00000	0.00000	0.0083
49	0.00973	0.00000	0.00000	0.00000	0.00000	0.00000	0.0094
50	0.00887	0.00000	0.00000	0.00000	0.00000	0.00000	0.0107
51	0.00804	0.00000	0.00000	0.00000	0.00000	0.00000	0.0122
52	0.00725	0.00000	0.00000	0.00000	0.00000	0.00000	0.0138
53	0.00649	0.00000	0.00000	0.00000	0.00000	0.00000	0.0157
54	0.00576	0.00000	0.00000	0.00000	0.00000	0.00000	0.0178
55	0.00000	0.08000	0.08000	0.31000	0.31000	0.02000	0.0202
56	0.00000	0.09000	0.09000	0.31000	0.31000	0.02000	0.0230
57	0.00000	0.09000	0.09000	0.27000	0.27000	0.02000	0.0261
58	0.00000	0.07000	0.07000	0.25000	0.25000	0.12000	0.0296
59	0.00000	0.06000	0.06000	0.23000	0.23000	0.24000	0.0337
60	0.00000	0.07000	0.07000	0.20000	0.20000	0.31000	0.0488
61	0.00000	0.09000	0.09000	0.15000	0.15000	0.33000	0.0488
62	0.00000	0.10000	0.11000	0.11000	0.11000	0.31000	0.0488
63	0.00000	0.10000	0.11000	0.10000	0.09000	0.26000	0.0488
64	0.00000	0.11000	0.13000	0.10000	0.09000	0.22000	0.0488
65	0.00000	0.15000	0.16000	0.09000	0.09000	0.20000	0.0488
66	0.00000	0.19000	0.18000	0.07000	0.07000	0.19000	0.0488
67	0.00000	0.20000	0.19000	0.04000	0.05000	0.20000	0.0488
68	0.00000	0.17000	0.17000	0.03000	0.04000	0.17000	0.0488
69	0.00000	0.13000	0.15000	0.03000	0.04000	0.14000	0.0488
70	0.00000	0.10000	0.15000	0.04000	0.05000	0.17000	0.0488
71	0.00000	0.10000	0.15000	0.04000	0.07000	0.25000	0.0488
72	0.00000	0.12000	0.15000	0.05000	0.08000	0.31000	0.0488
73	0.00000	0.15000	0.16000	0.04000	0.08000	0.29000	0.0488
74	0.00000	0.19000	0.16000	0.02000	0.05000	0.22000	0.0488
75	0.00000	0.21000	0.17000	0.01000	0.01000	0.21000	0.0488

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.

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.