

**PAROCHIAL EMPLOYEES'
RETIREMENT SYSTEM**

ACTUARIAL VALUATION AS OF
DECEMBER 31, 2017

G. S. CURRAN & COMPANY, LTD.

Actuarial Services

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June 8, 2018

Board of Trustees
Parochial Employees' Retirement System
P.O. Box 14619
Baton Rouge, LA 70898-4619

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, 2017. 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, 2018, to recommend the net direct employer contribution rate for Fiscal 2019. 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 actuaries are members of the American Academy of Actuaries and have met the qualification standards for the American Academy of Actuaries to render the actuarial opinions incorporated in this report, and are available to provide further information or answer any questions with respect to this valuation.

Sincerely,

G. S. CURRAN & COMPANY, LTD.

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


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

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**SUMMARY OF VALUATION RESULTS
PAROCHIAL EMPLOYEES' RETIREMENT SYSTEM - PLAN A**

Valuation Date:	December 31, 2017	December 31, 2016
Census Summary:		
Active Members	14,201	14,330
Retired Members and Survivors	7,301	7,050
Terminated Due a Deferred Benefit	709	703
Terminated Due a Refund	7,482	7,329
Payroll:	\$ 605,199,478	\$ 599,421,070
Benefits in Payment:	\$ 170,697,910	\$ 157,140,568
Present Value of Future Benefits:	\$ 4,632,531,531	\$ 4,327,500,828
Actuarial Accrued Liability (EAN):	\$ 3,676,214,901	\$ 3,446,813,538
Funding Deposit Account Credit Balance:	\$ 66,910,393	\$ 68,896,088
Actuarial Asset Value (AVA):	\$ 3,657,539,805	\$ 3,419,149,648
Market Value of Assets (Includes side funds):	\$ 3,829,020,281	\$ 3,313,917,014
Ratio of AVA to Actuarial Accrued Liability (EAN):	99.49%	99.20%
	Fiscal 2017	Fiscal 2016
Market Rate of Return:	17.3%	7.7%
Actuarial Rate of Return:	8.6%	7.8%
	Fiscal 2018	Fiscal 2017
Employers' Normal Cost (Mid-year):	\$ 67,799,112	\$ 63,651,297
Estimated Administrative Cost:	\$ 1,537,336	\$ 1,451,134
Projected Ad Valorem Tax Contributions:	\$ 7,420,668	\$ 7,373,605
Projected Revenue Sharing Funds:	\$ 136,120	\$ 136,772
Net Direct Employer Actuarially Required Contributions:	\$ 61,779,660	\$ 57,592,054
Projected Payroll:	\$ 618,406,554	\$ 615,728,805
Actual Employee Contribution Rate:	9.50%	9.50%
Actual Net Direct Employer Contribution Rate:	11.50%	12.50%
Actuarially Required Net Direct Employer Contribution Rate:	9.99%	9.35%
	Fiscal 2019	Fiscal 2018
Minimum Recommended Net Direct Employer Cont. Rate:	10.00%	9.25%

**SUMMARY OF VALUATION RESULTS
PAROCHIAL EMPLOYEES' RETIREMENT SYSTEM - PLAN B**

Valuation Date:	December 31, 2017	December 31, 2016
Census Summary:		
Active Members	2,459	2,415
Retired Members and Survivors	855	792
Terminated Due a Deferred Benefit	142	138
Terminated Due a Refund	1,637	1,608
Payroll:	\$ 103,056,369	\$ 100,932,377
Benefits in Payment:	\$ 10,430,299	\$ 9,070,674
Present Value of Future Benefits:	\$ 407,015,556	\$ 375,042,475
Actuarial Accrued Liability (EAN):	\$ 307,480,656	\$ 283,598,901
Funding Deposit Account Credit Balance:	\$ 5,361,971	\$ 5,602,259
Actuarial Asset Value (AVA):	\$ 310,818,392	\$ 284,685,809
Market Value of Assets (Includes side funds):	\$ 325,626,878	\$ 275,756,021
Ratio of AVA to Actuarial Accrued Liability (EAN):	101.09%	100.38%
	Fiscal 2017	Fiscal 2016
Market Rate of Return:	17.4%	7.7%
Actuarial Rate of Return:	8.5%	7.5%
	Fiscal 2018	Fiscal 2017
Employers' Normal Cost (Mid-year):	\$ 8,432,337	\$ 8,040,957
Estimated Administrative Cost:	\$ 261,785	\$ 244,346
Projected Ad Valorem Tax Contributions:	\$ 1,263,628	\$ 1,241,590
Projected Revenue Sharing Funds:	\$ 23,179	\$ 23,030
Net Direct Employer Actuarially Required Contributions:	\$ 7,407,315	\$ 7,020,683
Projected Payroll:	\$ 105,640,944	\$ 104,085,606
Actual Employee Contribution Rate:	3.00%	3.00%
Actual Net Direct Employer Contribution Rate:	7.50%	8.00%
Actuarially Required Net Direct Employer Contribution Rate:	7.01%	6.75%
	Fiscal 2019	Fiscal 2018
Minimum Recommended Net Direct Employer Cont. Rate:	7.00%	6.75%

GENERAL COMMENTS

The values and calculations in this report were determined by applying statistical analysis and projections to system data and the assumptions listed. There is sometimes a tendency for readers to either dismiss results as mere “guesses” or alternatively ascribe absolute accuracy. 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 amount 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 14,201 active members in Plan A, of whom, 7,379 members, including 512 participants in the Deferred Retirement Option Plan (DROP), have vested retirement benefits; 7,301 former members of Plan A or their beneficiaries are receiving retirement benefits. An additional 8,191 former members of Plan A have contributions remaining on deposit with the system. This includes 709 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 2,459 active members in Plan B, of whom, 1,211 members, including 86 DROP participants, have vested retirement benefits; 855 former members of Plan B or their beneficiaries are receiving retirement benefits. An additional 1,779 former members of Plan B have contributions remaining on deposit with the system. Of this number, 142 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.

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 \$3,829,020,281 as of December 31, 2017. For Plan A, the net investment income for Fiscal 2017 measured on a market value basis was \$569,914,523. Contributions to Plan A for the fiscal year totaled \$148,445,382; benefits and expenses amounted to \$203,256,638.

The net market value of Plan B's assets was \$325,626,878 as of December 31, 2017. For Plan B, the net investment income for Fiscal 2017 measured on a market value basis was \$48,062,503. Contributions to Plan B for the fiscal year totaled \$12,323,151; benefits and expenses amounted to \$10,514,797.

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 \$68,896,088 and \$5,602,259, respectively. Both accounts were increased with interest at 7.00% for the year. A freeze in the employer contribution rate in Plan A for Fiscal 2017 resulted in a contribution gain of \$20,052,357 as of December 31, 2017. A freeze in the employer contribution rate in Plan B for Fiscal 2017 resulted in a contribution gain of \$1,120,712 as of December 31, 2017. In addition, \$26,860,777 was withdrawn from the Funding Deposit Account as of December 31, 2017 for Plan A and \$1,753,159 was withdrawn from the Funding Deposit Account as of December 31, 2017 for Plan B to pay for a Cost of Living Increase payable on January 1, 2018. When interest and additional contributions were added to the Funding Deposit Accounts, offset by the withdrawals, the resulting balances as of December 31, 2017 for Plans A and B were \$66,910,393 and \$5,361,971, 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, 2010 – December 31, 2014, unless otherwise specified in this report. 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. Consideration was also given to a 2018 report of Segal Marco Advisors on 20 year Return Projections of future expected rates of return for the current portfolio asset allocation as well as the review issued by the legislative auditor's office. A review of the above information finds that it would be reasonable to maintain the current valuation interest rate of 7.00%. We estimate that there is a 53% probability that the fund will have earnings at or above 7.00% in the long term. However, given the Board's recent desire for conservatism in the Plan and the desire to reduce the long-term risk of the retirement fund, the assumed rate of return for the valuation

was reduced from 7.00% to 6.75% for Plans A and B. We have maintained the inflation rate assumption of 2.50% implicit in both the assumed rate of return and rate of salary increases.

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-four through seventy. All assumptions used are based on estimates of future long-term experience for the fund. All calculations, recommendations, and conclusions are based on the assumptions specified. To the extent that prospective experience differs from that assumed adjustments will be required to contribution levels. Such differences will be revealed in future actuarial valuations. For this valuation, the effect of changes in assumptions was an increase in the required contribution rate for Plan A of 2.6949% and an increase in the required contribution rate for Plan B of 1.5280%.

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.

All pension plans are subject to asset performance risk. Asset performance is comprised of the real rates of return earned on the portfolio of investments plus the underlying inflation rate. High levels of inflation or deflation can present the plan with problems by either reducing the purchasing power of plan benefits or impairing asset values in the trust. 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. Another element of asset risk is reinvestment risk. Recent interest rate declines have subjected pension plans to an increase in this risk. As fixed income securities have matured, investment managers have been forced to reinvest funds at decreasing rates of return. For pension plans which require significant net cash flow above contributions to fund benefit payments, the risk of insufficient liquidity is another risk component which can create problems if it becomes necessary to sell securities under unfavorable market conditions in order to raise cash necessary to pay retirement benefits. Even for individual securities, insolvency and performance risk can subject a plan to stress if these investments comprise a significant portion of plan assets. Security insolvency or severe underperformance can result in steep increases in sponsor contributions where individual investments comprise more than a de minimis amount of the investment portfolio.

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. Final average compensation plans are vulnerable to unexpectedly large increases in salary for individual members near retirement. Conversely, in cases where plans have large unfunded liabilities, payroll contraction is a risk insofar as contributions which are typically reported as a percentage of payroll may increase as payrolls decline.

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.

Recommended actuarial contributions are based on expectations related to asset and liability performance; all of the above mentioned factors can produce unexpected changes in the future cost structures of the plan. For this reason, future costs may differ significantly from current levels. 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, certain factors have the potential on their own accord to pose a significant risk to future cost levels and solvency.

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 99.49% for Plan A and 101.09% for Plan B as of December 31, 2017. 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. 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 0.71% for the fund. For Plan B, 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 0.35% for the fund.

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 sensitive 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 2017, this ratio is 28.21% for Plan A and 10.12% for Plan B; ten years ago this ratio was 17.02% for Plan A and 7.00% for Plan B.

One other area of risk is the risk that plan assumptions will need to be revised to conform to changing actual or expected plan experience. Such assumption revisions could relate to demographic or economic factors. 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 2018 by 10.86% of payroll for Plan A and 6.20% of payroll for Plan B.

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 and changes in economic or demographic assumptions. Analysis of the effect of all these factors and additional risk metrics is beyond the scope of this report.

CHANGES IN PLAN PROVISIONS

The following changes in plan provisions were enacted during the 2017 Regular Session of the Louisiana Legislature:

Act 285 of the 2017 Regular Session of the Louisiana Legislature provides a framework to correct enrollment errors for all employees in positions covered by state and statewide retirement systems. The act requires the member to be enrolled in the correct system with a transfer of contributions and interest from the erroneous system to the correct system. As a part of the correction of the enrollment error, the member will be credited with the correct service credit, accrual rate, and employee contribution balance in the correct system. If the correction occurs within three years of the enrollment error, the correct system shall complete the correction upon receipt of the employee contributions and employer contributions that would have been paid had the member been properly enrolled with interest at the system's board-approved actuarial valuation interest rate. If the correction occurs more than three years after the enrollment error, the correct system shall receive the greater of 1) Employee contributions and employer contributions plus interest, and 2) The actuarial cost to the correct system of the service credit transferred. The employer must pay the difference between the amount transferred from the incorrect system to the correct system and the cost of the correction.

Act 366 of the 2017 Regular Session of the Louisiana Legislature made individuals appointed or elected on or after July 1, 2017 ineligible to serve as trustee on the Board for any state or statewide

retirement system if found in violation of the Code of Governmental Ethics for actions involving the misuse of public funds. In addition, the act clarified that legislative staff is authorized to attend executive sessions and that they enjoy lawyer-client privilege for information related to the executive session.

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.

<u>Plan A</u>	<u>Market Value</u>	<u>Actuarial Value</u>
2008	-25.7%	* -4.9%
2009	20.6%	9.1%
2010	15.2%	4.4%
2011	-0.7%	2.9%
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%

<u>Plan B</u>	<u>Market Value</u>	<u>Actuarial Value</u>
2008	-25.0%	* -5.2%
2009	20.7%	8.8%
2010	15.4%	4.6%
2011	-0.7%	3.2%
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%

* Includes effects of change in asset valuation method. Effective with the 2008 valuation the corridor limits on the smoothed value were changed from +/- 10% of market value to +/- 15% with smoothed values averaged with corridor limits when they fall outside the corridor limits.

Geometric Average Market Rates of Return – Plan A

5 year average	(Fiscal 2013 – 2017)	9.2%
10 year average	(Fiscal 2008 – 2017)	6.3%
15 year average	(Fiscal 2003 – 2017)	7.7%
20 year average	(Fiscal 1998 – 2017)	6.8%
25 year average	(Fiscal 1993 – 2017)	7.8%

Geometric Average Market Rates of Return – Plan B

5 year average	(Fiscal 2013 – 2017)	9.1%
10 year average	(Fiscal 2008 – 2017)	6.4%
15 year average	(Fiscal 2003 – 2017)	7.6%
20 year average	(Fiscal 1998 – 2017)	6.9%
25 year average	(Fiscal 1993 – 2017)	7.5%

The market rate of return gives a measure of investment return on a total return basis and includes realized and unrealized capital gains and losses as well as interest income. 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 2017, Plan A earned \$54,359,691 and Plan B earned \$4,592,491 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 \$535,258,702 while the total of such gains for Plan B amounted to \$45,161,288. Investment expenses were \$19,703,870 for Plan A and \$1,691,276 for Plan B.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 7.00% for Fiscal 2017. 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 6.75% assumption will reduce future costs; yields below 6.75% will increase future costs. Net actuarial investment earnings exceeded the actuarial assumed earnings rate of 7.00%, used for Fiscal 2017, by \$55,746,886 for Plan A and exceeded the actuarial assumed earnings rate of 7.00%, used for Fiscal 2017, by \$4,334,000 for Plan B. These earnings surpluses for Plan A produced actuarial gains, which decreased the normal cost accrual rate by 1.0775% and the earnings surpluses for Plan B produced actuarial gains, which decreased the normal cost accrual rate by 0.4819% 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, 2017 valuation we found members of Plan A and Plan B with such service and recommend a transfer of \$14,440 be made from the Plan A trust to the Plan B trust for Fiscal 2017.

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 46 years old with 9.87 years of service and an annual salary of \$42,617. The plan's active membership, inclusive of DROP participants, decreased by 129 members during the fiscal year. The plan has experienced a decrease in the active plan population of 169 members over the last five years. A review of the active census by age indicates that over the last ten

years the population over age fifty has increased. Over the same ten-year period the plan showed a fairly stable distribution among the various service groups.

The average regular retiree is 71 years old with a monthly benefit of \$2,164. The number of retirees and beneficiaries receiving benefits from the system increased by 251 during the fiscal year; over the last five years the number of retirees has increased by 1,310 and benefit payments have increased by \$56,182,804.

Plan liability experience for Fiscal 2017 was favorable. Disabilities and salary increases were below projected levels. Retiree deaths were above projected levels. These factors tend to reduce costs. Partially offsetting these factors were DROP entries above projected levels and withdrawals below projected levels. Retirements were near projected levels. In aggregate, plan liability gains decreased the normal cost accrual rate by 0.8921%.

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 9.55 years of service and an annual salary of \$41,910. The plan's active membership, inclusive of DROP participants, increased by 44 members during the fiscal year. The plan has experienced an increase in the active plan population of 161 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 under fifty age group has decreased while the proportion of active members over age fifty increased. Over the same ten-year period the plan showed a fairly stable distribution among the various service groups.

The average regular retiree is 72 years old with a monthly benefit of \$1,103. The number of retirees and beneficiaries receiving benefits from the system increased by 63 during the fiscal year; over the last five years the number of retirees has increased by 198 and benefit payments have increased by \$4,096,146.

Plan liability experience for Fiscal 2017 was favorable. Disabilities and salary increases were below projected levels. Retiree deaths were above projected levels. These factors tend to reduce costs. Partially offsetting these factors were withdrawals below projected levels and DROP entries above projected levels. The number of retirements was near projected levels. In aggregate, plan liability gains decreased the normal cost accrual rate by 0.7517%.

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 produces 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 2018 as of January 1, 2018 is \$65,620,580. 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 2018 is \$69,336,448. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for Fiscal 2018 is \$61,779,660. This is 9.99% of the projected Plan A payroll for Fiscal 2018.

Liability and asset experience as well as changes in assumptions and benefits can increase or decrease plan costs. In addition to these factors, any COLA granted in the prior fiscal year would increase required contributions. 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 2017	11.1214%
Factors Increasing the Normal Cost Accrual Rate:	
Assumption Changes	2.6949%
Cost of Living Increase (COLA)	0.5192%
Factors Decreasing the Normal Cost Accrual Rate:	
Asset Experience Gain	1.0775%
Plan Liability Experience Gain	0.8921%
Withdrawal from FDA to pay for COLA	0.5192%
New Members	0.1623%
Employer's Normal Cost Accrual Rate – Fiscal 2018	11.6844%

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 2018 will remain level as a percent 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 2018 for Plan A of 9.99%; the actual employer contribution rate for Fiscal 2018 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 10.00% for Fiscal 2019.

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 2018 as of January 1, 2018 is \$8,161,388. 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 2018 is \$8,694,122. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for Fiscal 2018 is \$7,407,315. This is 7.01% of the projected Plan B payroll for Fiscal 2018.

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

Employer's Normal Cost Accrual Rate – Fiscal 2017	8.2646%
Factors Increasing the Normal Cost Accrual Rate:	
Assumption Changes	1.5280%
Cost of Living Increase (COLA)	0.1949%
Factors Decreasing the Normal Cost Accrual Rate:	
Plan Liability Experience Gain	0.7517%
Asset Experience Gain	0.4819%
Withdrawal from FDA to pay for COLA	0.1949%
New Members	0.0342%
Employer's Normal Cost Accrual Rate – Fiscal 2018	8.5248%

We estimate that for Plan B the funds collected from ad valorem taxes and revenue sharing funds in Fiscal 2018 will increase by 0.01% 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 2018 for Plan B of 7.01%; the actual employer contribution rate for Fiscal 2018 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 7.00% for Fiscal 2019.

For Plan A, the Board may set the net direct employer contribution at any rate between 10.00% and 11.50%. For Plan B, the board may set the rate at any rate between 7.00% 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

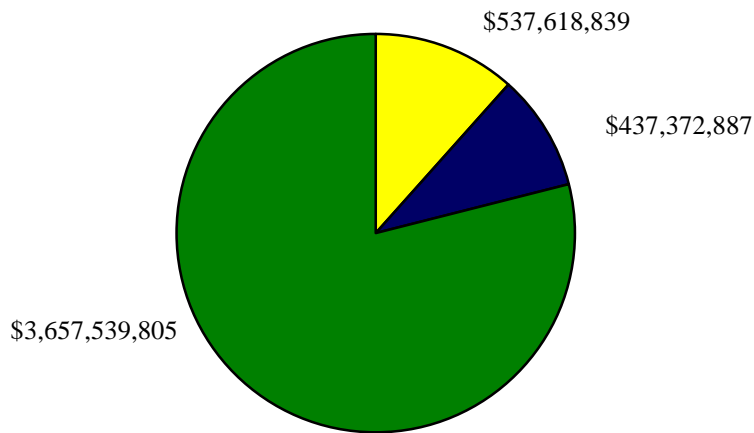
During calendar 2017 the actual cost of living (as measured by the U.S. Department of Labor CPI-U) increased by 2.11%.

The Board of Trustees authorized a 2.5% cost of living increase to retirees aged 62 or over who have been retired at least one year effective January 1, 2018. The benefits and liabilities included within this valuation report include this cost of living increase. The present value of the additional benefits payable related to this cost of living increase was estimated to be \$26,860,777 for Plan A and \$1,753,159 for Plan B. The minimum recommended employer contribution rates determined by this report were not affected by the granting of this cost of living increase since funds equal to the present values stated above were released from each plan's Funding Deposit Account.

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 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 that cost of living benefits shall be in the form (unless the board otherwise specifies) of $\$X \times (A+B)$ where X is at most \$1 and "A" represents the number of years of credited service accrued at retirement or at death of the member or retiree and "B" is equal to the number of years since retirement or since death of the member or retiree to December 31st of the initial year of such increase. The provisions of this subpart 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.

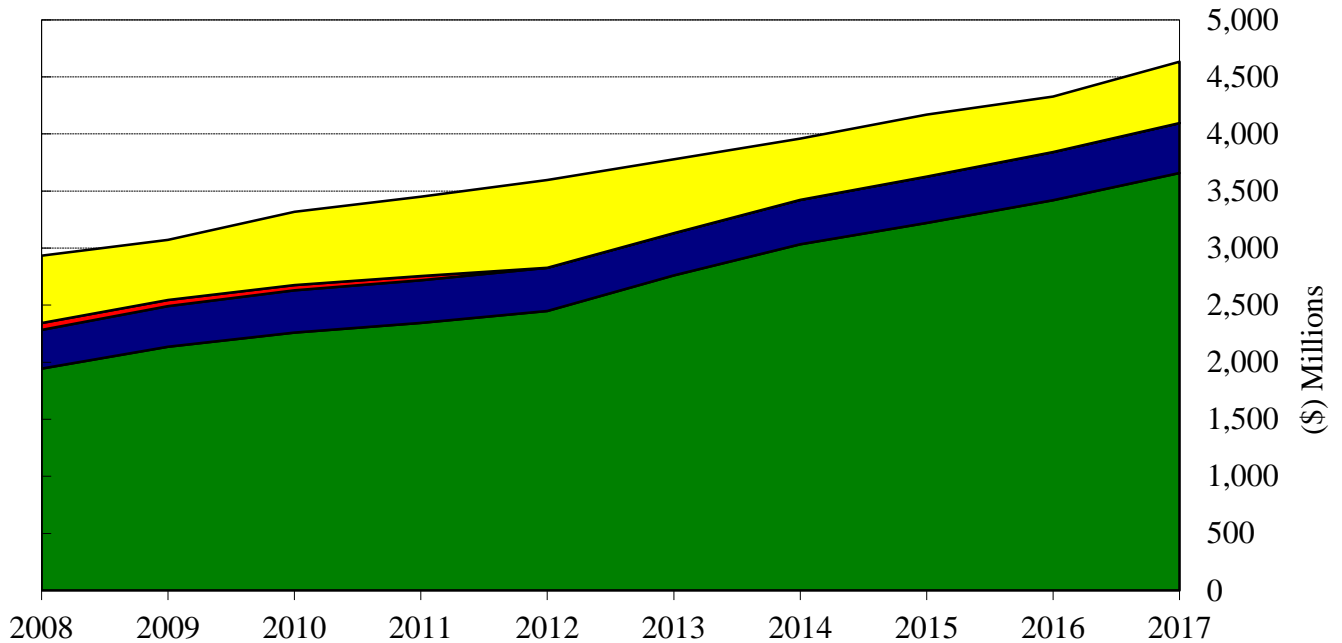
All of the above provisions require that the system earn sufficient excess interest earnings to fund the increases unless the Board funds a cost of living increase out of the Funding Deposit Account Credit Balance. For Fiscal 2017, despite having excess interest earnings in Plans A and B, since a cost of living increase was granted as of January 1, 2018, neither plan may pay a cost of living increase based upon the criteria established in R.S. 11:243.

Plan A - Components of Present Value of Future Benefits December 31, 2017



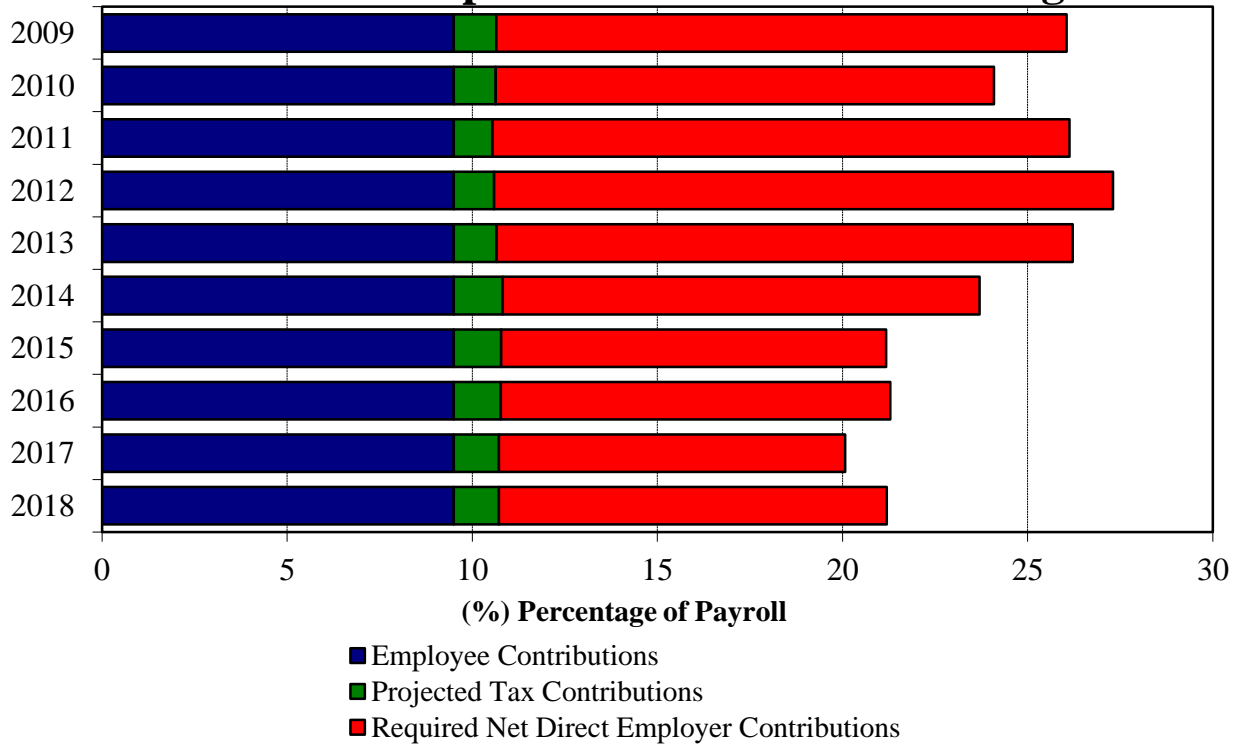
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan A - Components of Present Value of Future Benefits



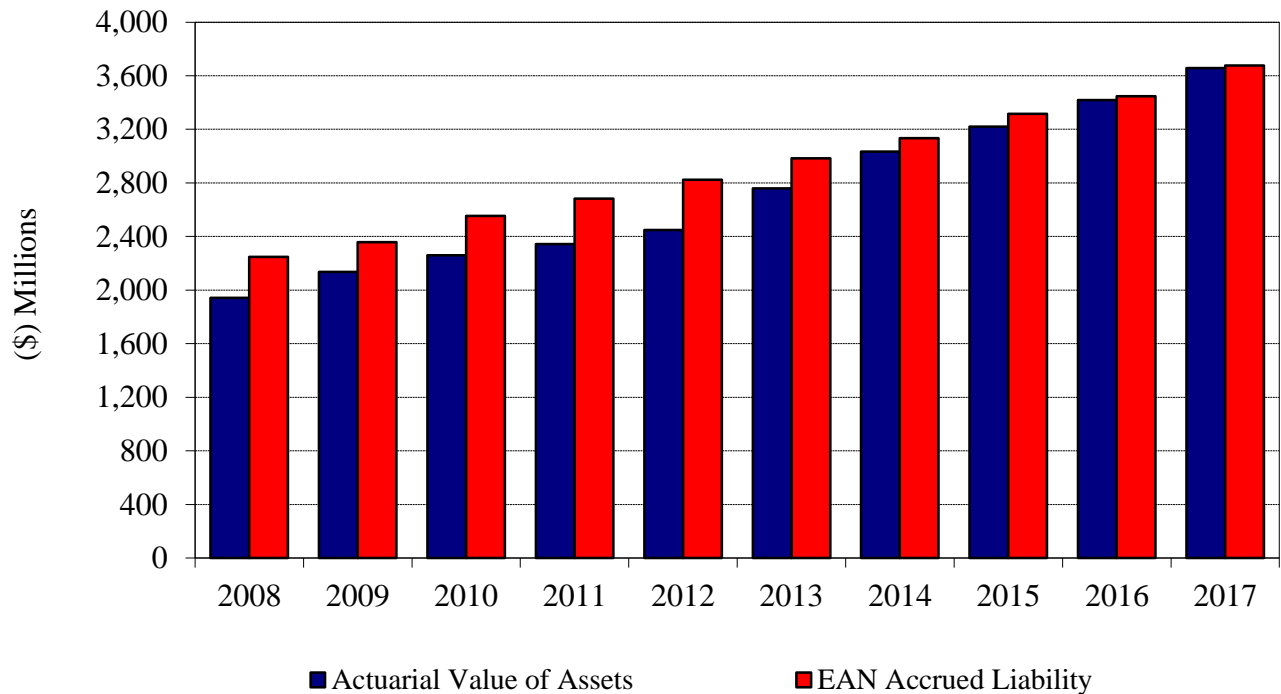
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Unfunded Accrued Liability
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan A - Components of Actuarial Funding

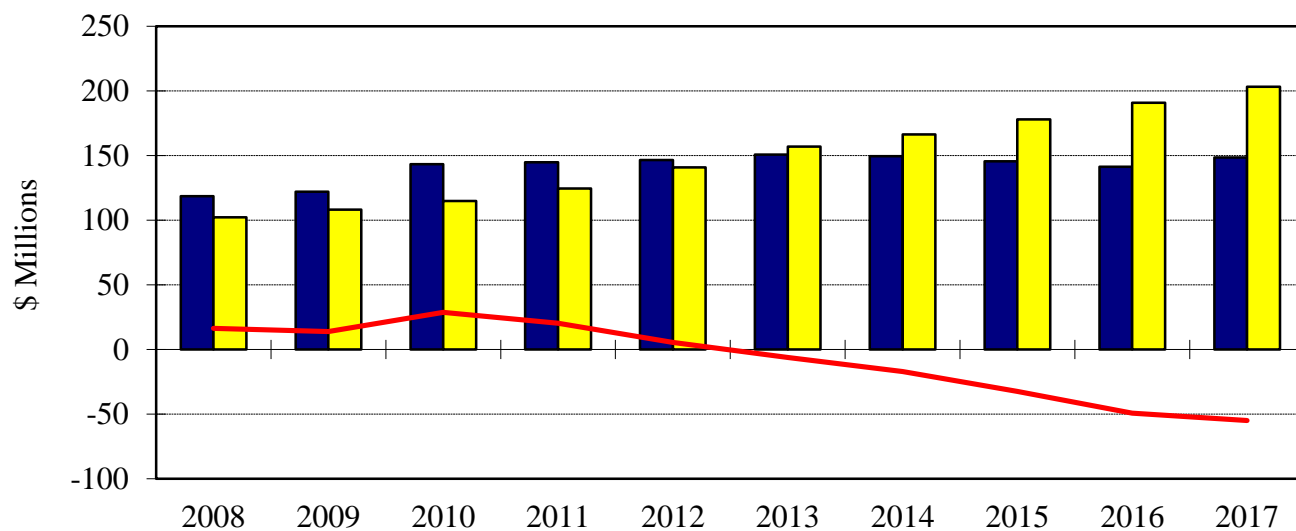


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

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

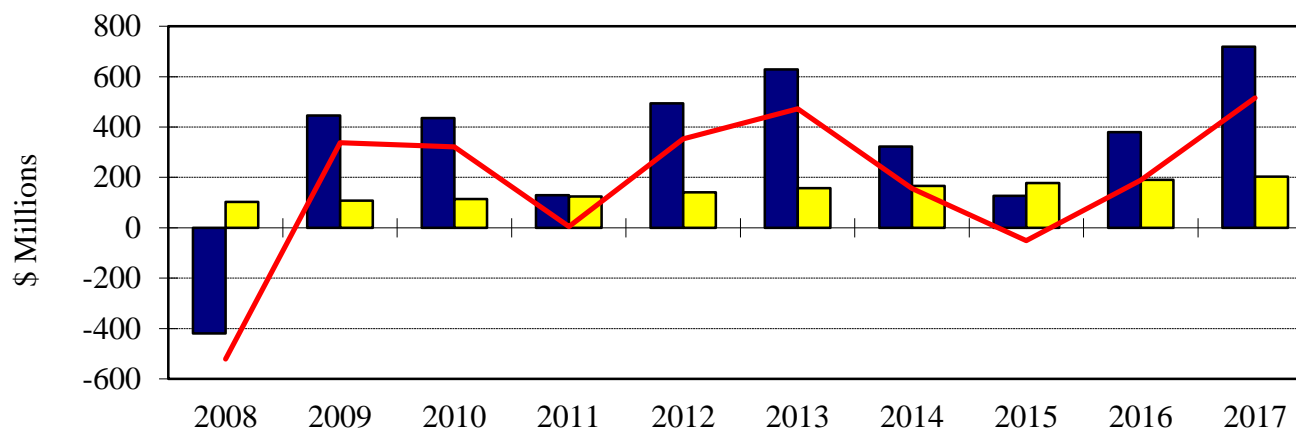


Plan A - Net Non-Investment Income



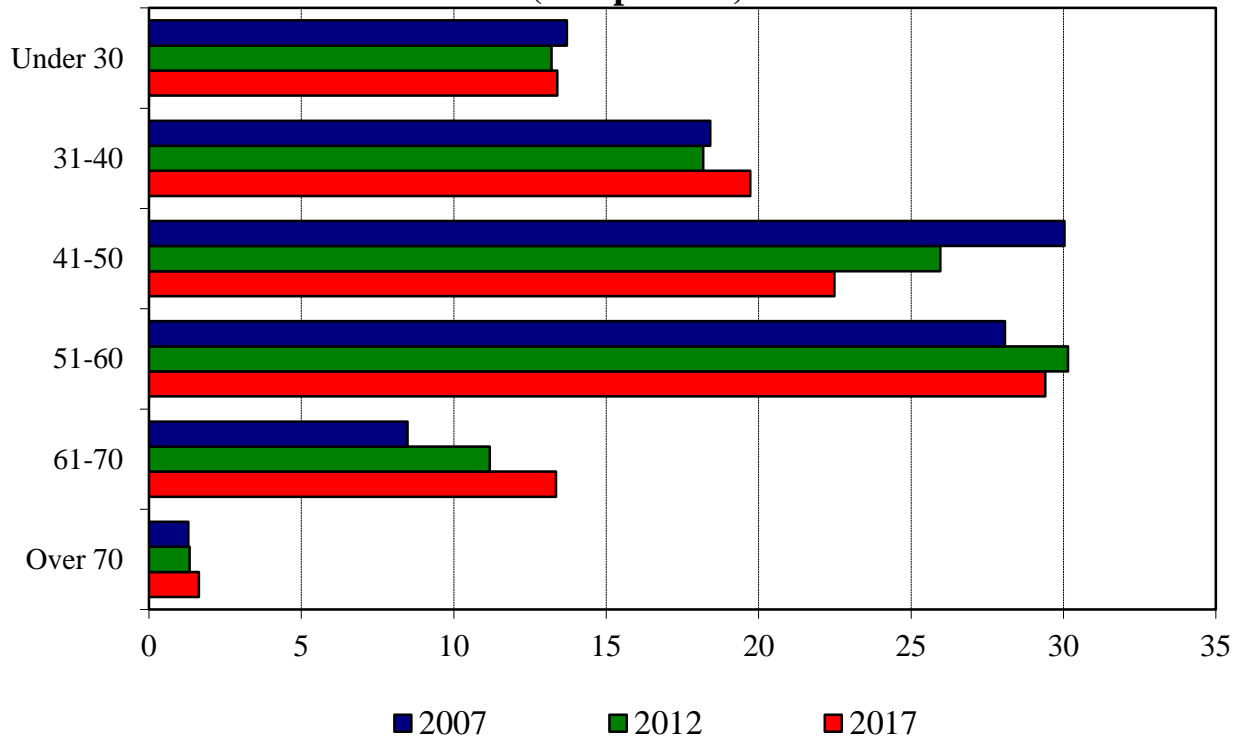
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Non-Investment Income (\$Mil)	118.6	121.9	143.4	144.8	146.4	149.8	149.4	145.6	141.4	148.4
Benefits and Expenses (\$Mil)	102.3	108.1	114.8	124.6	140.9	156.8	166.4	177.9	190.7	203.3
Net Non-Investment Income (\$Mil)	16.3	13.8	28.6	20.2	5.5	-7.0	-17.0	-32.3	-49.3	-54.9

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

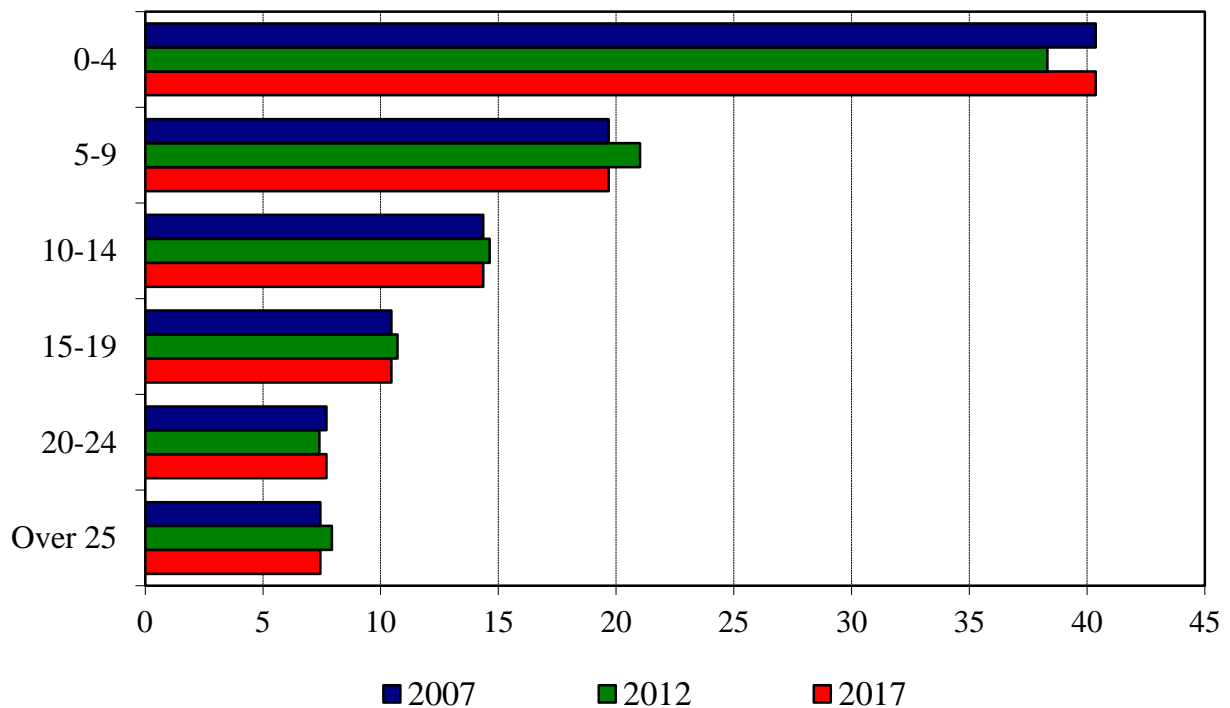


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Income (\$Mil)	-419.2	446.2	435.7	130.1	494.4	616.3	298.5	126.8	380.0	718.4
Benefits and Expenses (\$Mil)	102.3	108.1	114.8	124.6	140.9	156.8	166.4	177.9	190.7	203.3
Net Change in MVA (\$Mil)	-521.5	338.1	320.9	5.5	353.5	459.5	132.1	-51.1	189.3	515.1

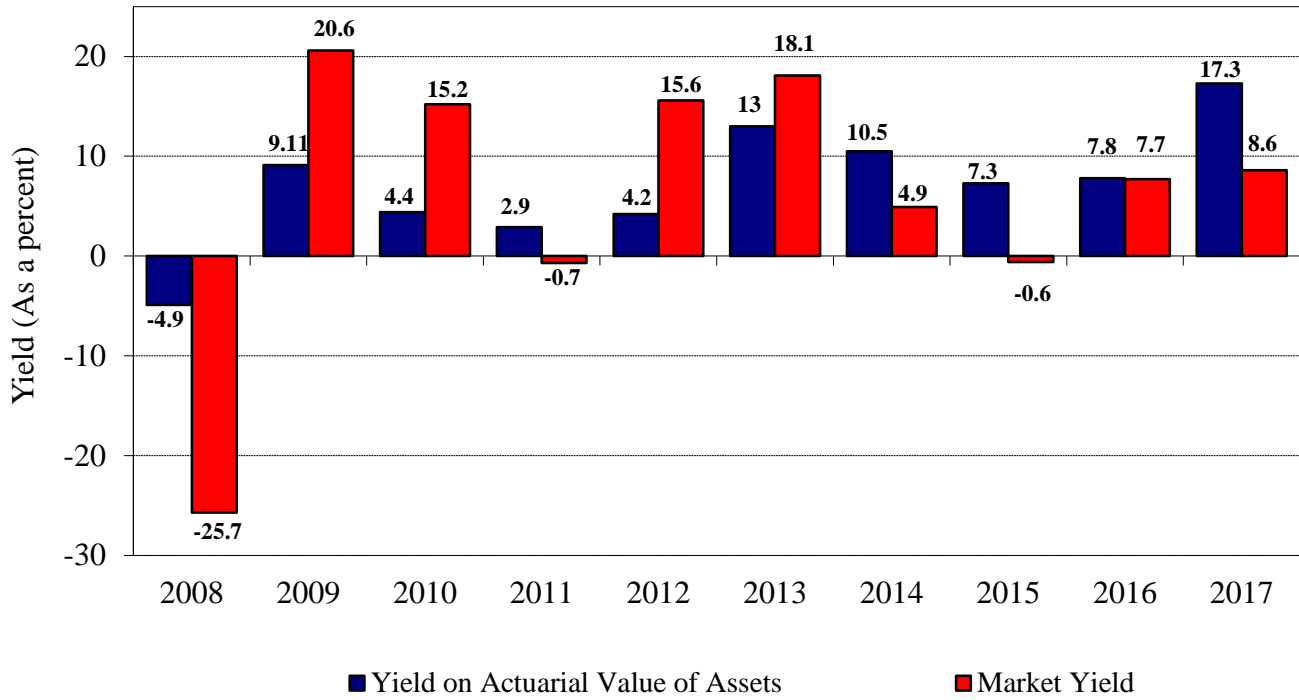
Plan A - Active – Census By Age (as a percent)



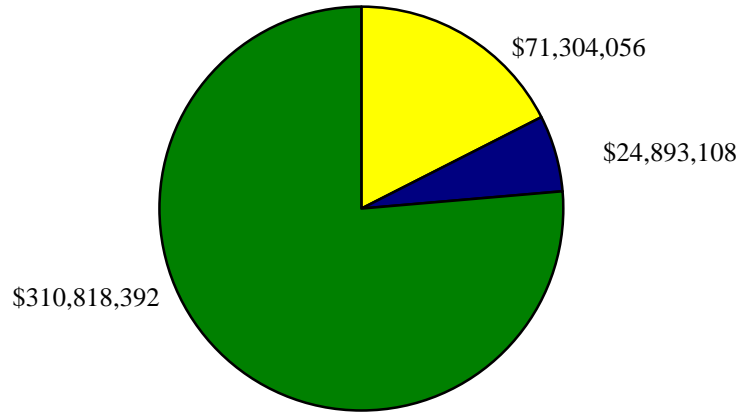
Plan A - Active – Census By Service (as a percent)



Plan A – Historical Asset Yield

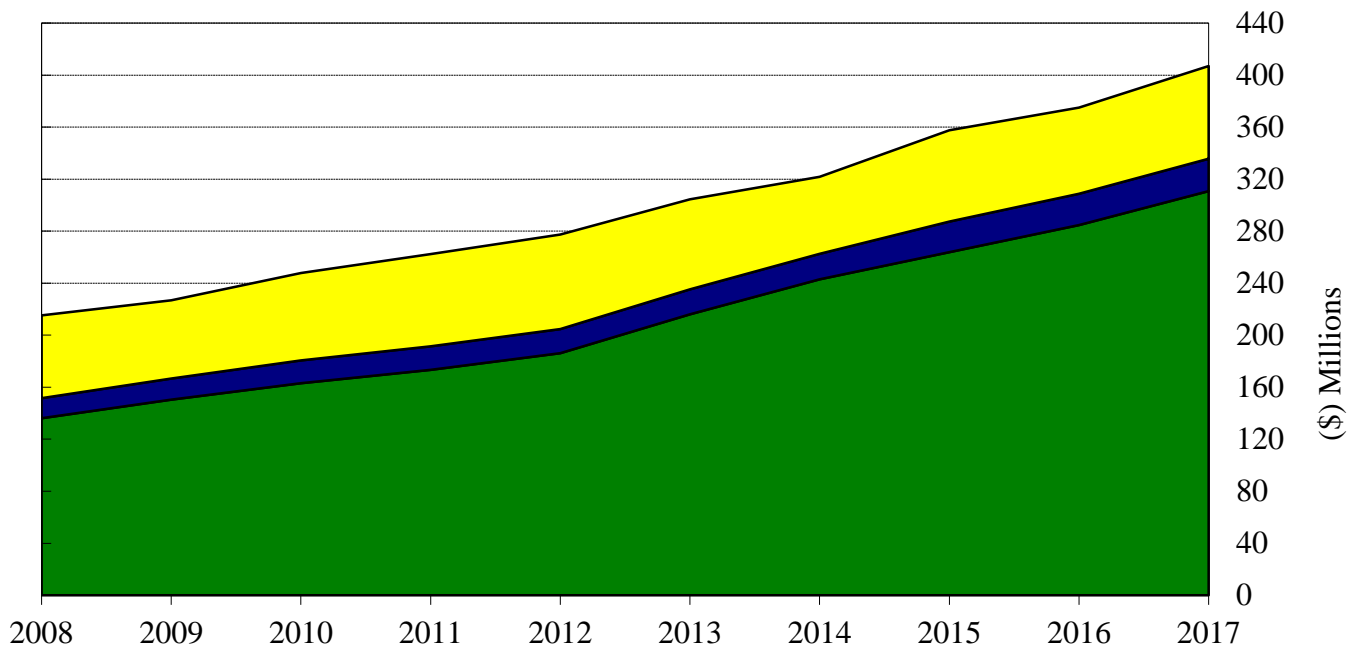


Plan B - Components of Present Value of Future Benefits December 31, 2017



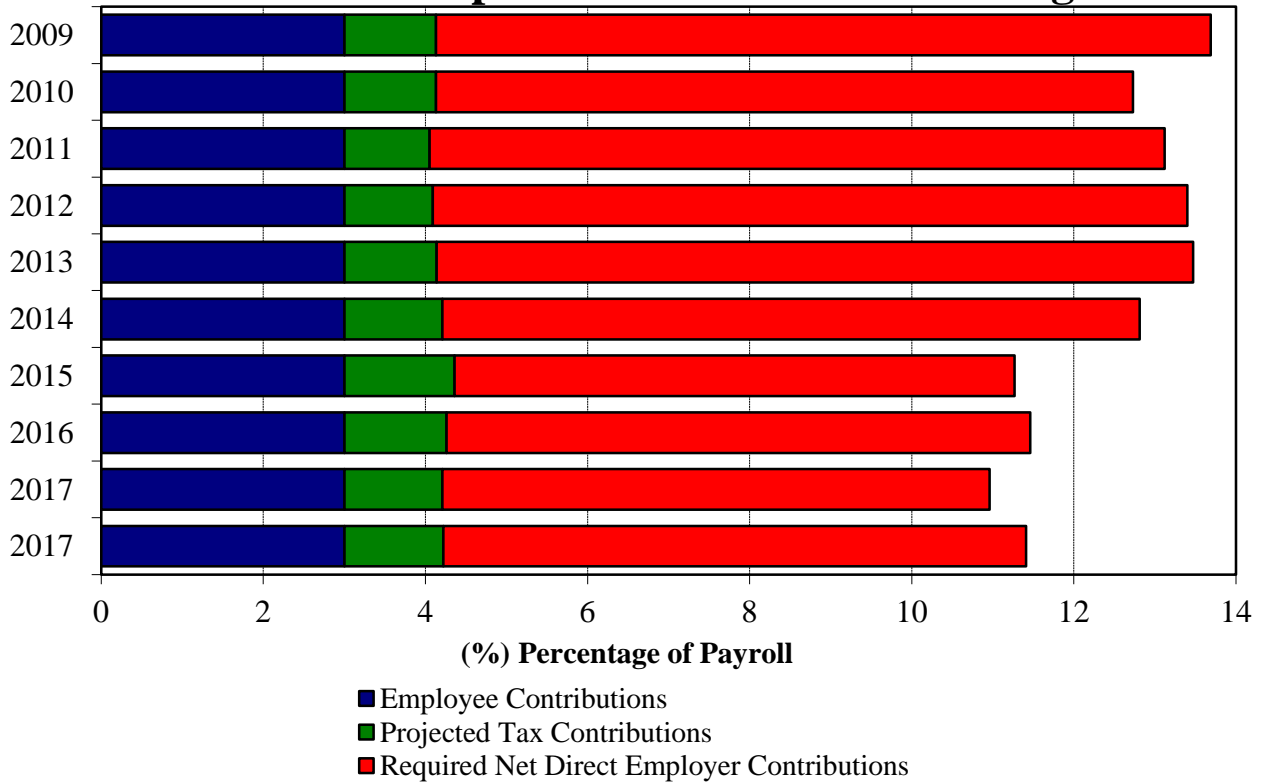
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan B - Components of Present Value of Future Benefits



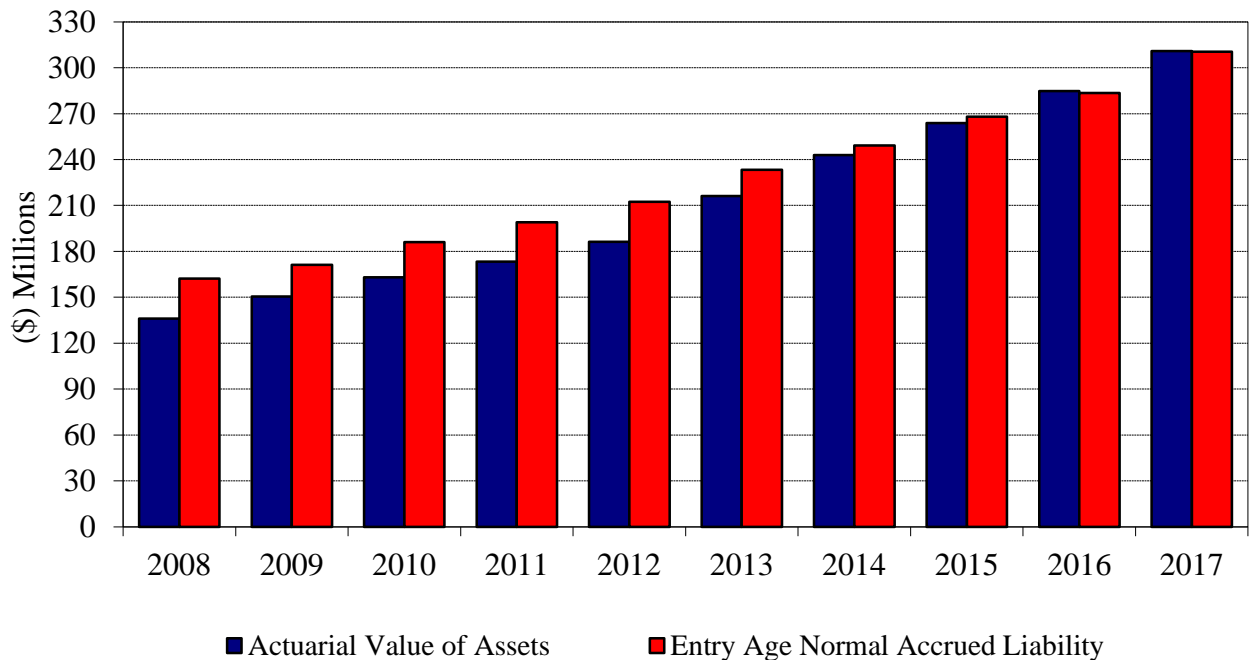
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan B - Components of Actuarial Funding

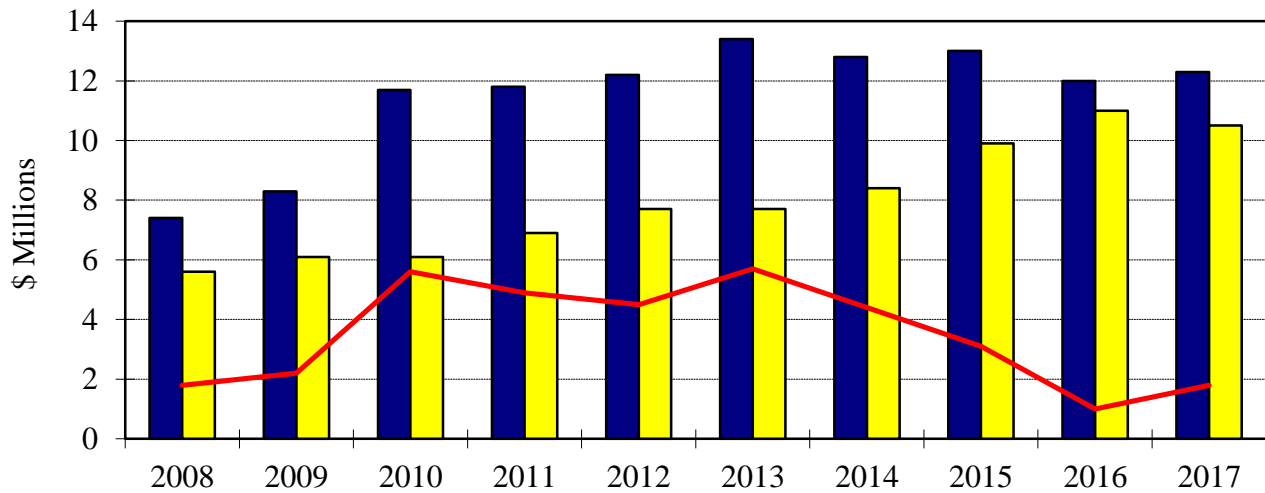


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

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

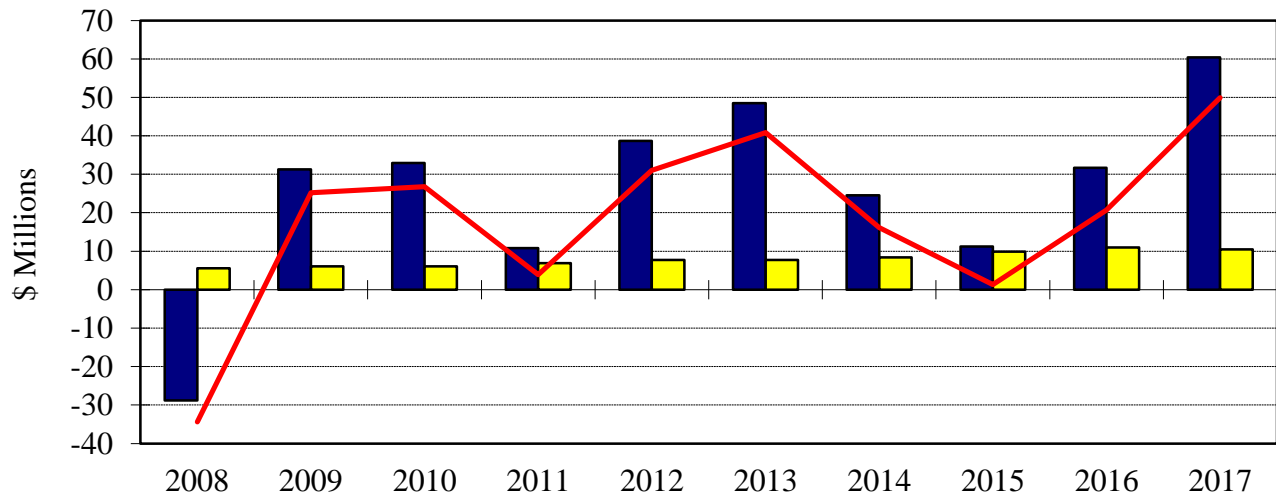


Plan B - Net Non-Investment Income



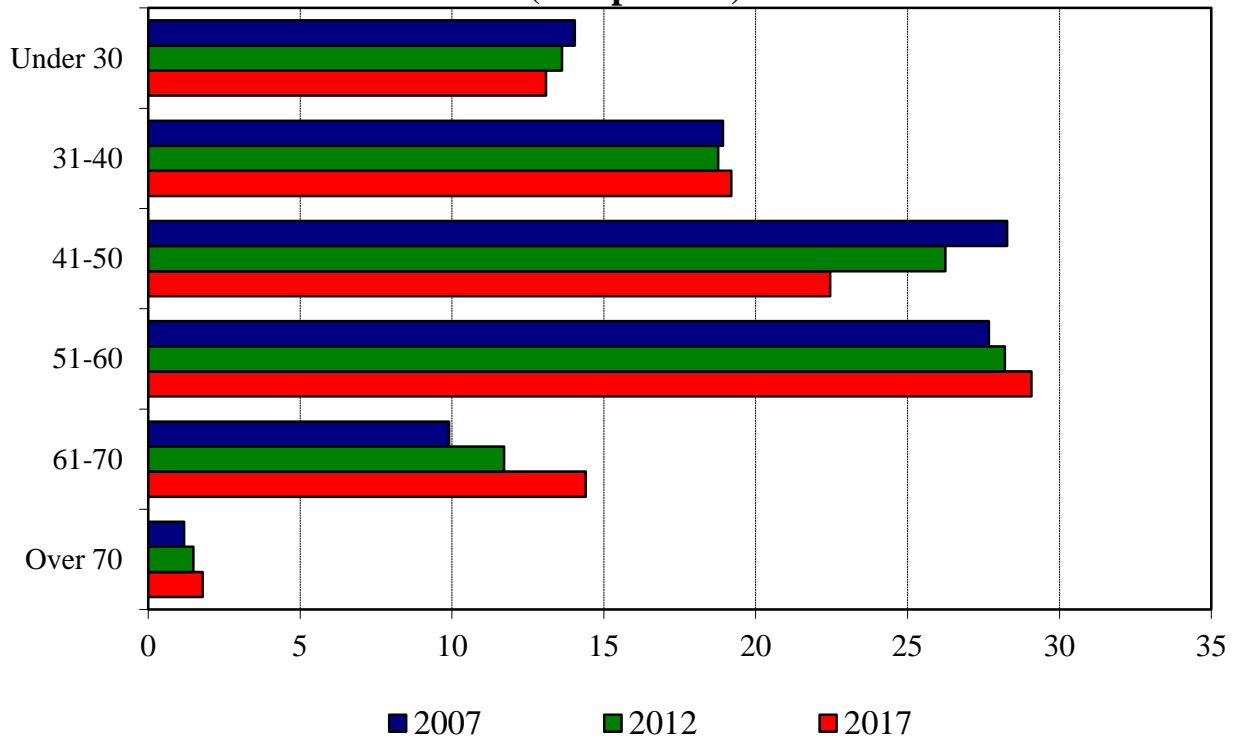
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Non-Investment Income (\$Mil)	■	7.4	8.3	11.7	11.8	12.2	13.4	12.8	13.3	12.0	12.3
Benefits and Expenses (\$Mil)	■	5.6	6.1	6.1	6.9	7.7	7.7	8.4	9.9	11.0	10.5
Net Non-Investment Income (\$Mil)	—	1.8	2.2	5.6	4.9	4.5	5.7	4.4	3.4	1.0	1.8

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

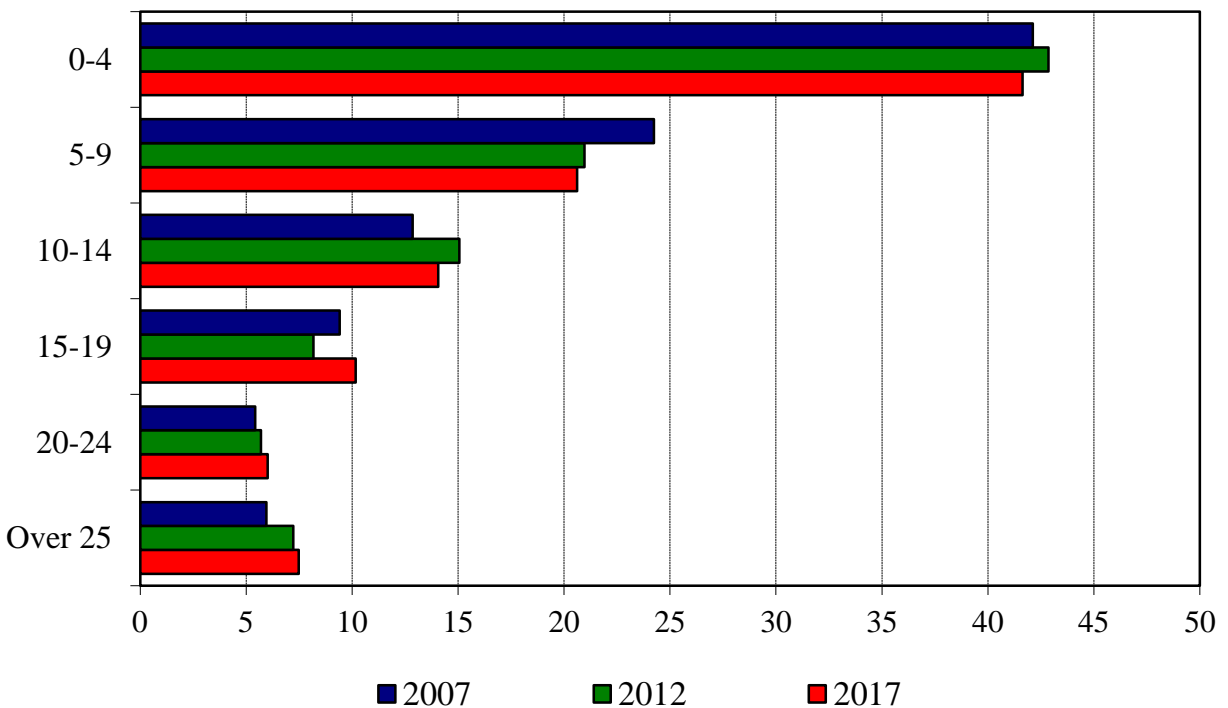


		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Income (\$Mil)	■	-28.8	31.3	32.9	10.8	38.7	48.5	24.5	11.5	31.7	60.4
Benefits and Expenses (\$Mil)	■	5.6	6.1	6.1	6.9	7.7	7.7	8.4	9.9	11.0	10.5
Net Change in MVA (\$Mil)	—	-34.4	25.2	26.8	3.9	31.0	40.8	16.1	1.6	20.7	49.9

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



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



Plan B – Historical Asset Yield

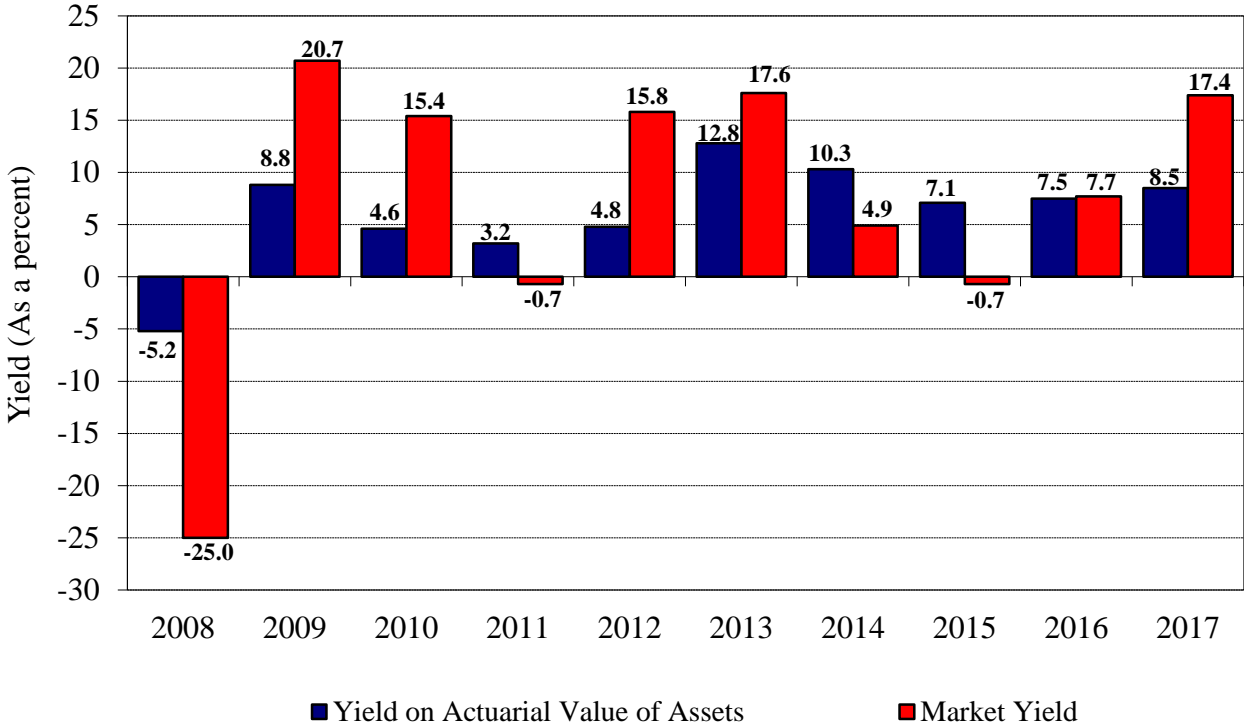


EXHIBIT I
PLAN A: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits	\$ 4,632,531,531
2. Funding Deposit Account Credit Balance	\$ 66,910,393
3. Actuarial Value of Assets	\$ 3,657,539,805
4. Present Value of Future Employee Contributions	\$ 437,372,887
5. Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4).....	\$ 604,529,232
6. Present Value of Future Salaries	\$ 5,173,831,284
7. Employer Normal Cost Accrual Rate (5 ÷ 6)	11.684363%
8. Projected Fiscal 2018 Salary for Current Membership.....	\$ 561,610,251
9. Employer Normal Cost as of January 1, 2018 (7 × 8)	\$ 65,620,580
10. Employer Normal Cost Interest Adjusted for Midyear Payment	\$ 67,799,112
11. Estimated Administrative Cost for Fiscal 2018	\$ 1,537,336
12. TOTAL Administrative and Interest Adjusted Actuarial Costs (10 + 11).....	\$ 69,336,448
13. Estimated Ad Valorem Tax Contributions for Fiscal 2018	\$ 7,420,668
14. Estimated Revenue Sharing Funds for Fiscal 2018	\$ 136,120
15. Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2018 (12 – 13 – 14).....	\$ 61,779,660
16. Projected Payroll for Fiscal 2018.....	\$ 618,406,554
17. Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2018 (15 ÷ 16)	9.99%
18. Actual Employer Contribution Rate for Fiscal 2018	11.50%
19. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2019 (17, Rounded to Nearest 0.25%).....	10.00%

EXHIBIT II
PLAN A: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	\$ 2,534,389,122
Survivor Benefits.....	36,964,499
Disability Benefits	123,096,834
Vested Termination Benefits.....	85,705,828
Refunds of Contributions	65,978,670

TOTAL Present Value of Future Benefits for Active Members..... \$ 2,846,134,953

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement..	\$ 77,757,215
Terminated Members with Reciprocal Due Benefits at Retirement	303,389
Terminated Members Due a Refund	11,467,241

TOTAL Present Value of Future Benefits for Terminated Members..... \$ 89,527,845

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees

Maximum.....	\$ 724,925,806
Option 1	1,552,399
Option 2	495,836,404
Option 3	221,142,044
Option 4	65,695,859

TOTAL Regular Retirees \$ 1,509,152,512

Disability Retirees 83,134,400

Survivors & Widows 103,017,896

Reserve for Accrued Retiree DROP Account Balances..... 1,563,925

TOTAL Present Value of Future Benefits for Retirees & Survivors..... \$ 1,696,868,733

TOTAL Present Value of Future Benefits..... \$ 4,632,531,531

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

CURRENT ASSETS:

Cash in Banks	\$ 24,256,825
Contributions and Taxes Receivable.....	31,919,961
Accrued Interest and Dividends	2,124,582
Investments Receivable	2,949,213
Due (to)/from other Funds	226,601
Due (to)/from Plan B	(14,440)
Other Current Assets	13

TOTAL CURRENT ASSETS..... \$ 61,462,755

Property Plant & Equipment..... \$ 597,716

INVESTMENTS:

Cash Equivalents.....	\$ 34,860,773
Equities	2,182,706,488
Fixed Income	1,225,833,493
Real Estate	182,526,077
Alternative Investments	163,109,067

TOTAL INVESTMENTS..... \$ 3,789,035,898

TOTAL ASSETS \$ 3,851,096,369

CURRENT LIABILITIES:

Accounts Payable	\$ 2,473,126
Benefits Payable.....	14,921,513
Refunds Payable.....	511,515
Investments Payable.....	3,532,812
Other Post-Employment Benefits Payable.....	637,122

TOTAL CURRENT LIABILITIES \$ 22,076,088

MARKET VALUE OF ASSETS..... \$ 3,829,020,281

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

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

Fiscal year 2017	\$ 339,826,280
Fiscal year 2016	21,590,369
Fiscal year 2015	(247,856,881)
Fiscal year 2014	(70,960,087)
Fiscal year 2013	272,966,174
Total for five years	\$ 315,565,855

Deferral of excess (shortfall) of invested income:

Fiscal year 2017 (80%)	\$ 271,861,024
Fiscal year 2016 (60%)	12,954,221
Fiscal year 2015 (40%)	(99,142,752)
Fiscal year 2014 (20%)	(14,192,017)
Fiscal year 2013 (0%)	0
Total deferred for year	\$ 171,480,476

Market value of plan net assets, end of year..... \$ 3,829,020,281

Preliminary actuarial value of plan assets, end of year \$ 3,657,539,805

Actuarial value of assets corridor

85% of market value, end of year	\$ 3,254,667,239
115% of market value, end of year	\$ 4,403,373,323

Final actuarial value of plan net assets, end of year \$ 3,657,539,805

EXHIBIT IV
PLAN A: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	\$ 437,372,887
Employer Normal Contributions to the Pension Accumulation Fund	604,529,232
Funding Deposit Account Debit / (Credit) Balance	(66,910,393)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	\$ 974,991,726

EXHIBIT V
PLAN A: RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year.....	\$ 61,534,031
Interest on the Normal Cost.....	4,307,382
Administrative Expenses	1,427,221
Interest on Expenses	49,109
TOTAL Interest Adjusted Actuarially Required Employer Contributions	\$ 67,317,743
Direct Employer Contributions.....	\$ 77,029,442
Interest on Employer Contributions.....	2,650,432
Ad Valorem Taxes and Revenue Sharing.....	7,434,422
Interest on Ad Valorem Taxes and Revenue Sharing Funds	255,804
TOTAL Interest Adjusted Employer Contributions	\$ 87,370,100
CONTRIBUTION SURPLUS (DEFICIENCY)	\$ 20,052,357

EXHIBIT VI
PLAN A: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (December 31, 2016)		\$ 3,419,149,648
INCOME:		
Member Contributions	\$ 55,665,016	
Employer Contributions	77,029,442	
Irregular Contributions	3,961,554	
Ad Valorem and Revenue Sharing Funds	7,434,422	
Transfer (to)/from Plan B	(14,440)	
Transfers from other Systems.....	2,325,415	
Other Income	2,043,973	
Total Contributions		\$ 148,445,382
Net Appreciation in Fair Value of Investments	\$ 535,152,073	
Interest & Dividends	54,359,691	
Class Action Settlement	24,923	
Miscellaneous Income	81,706	
Investment Expense	(19,703,870)	
Net Investment Income		\$ 569,914,523
TOTAL Income		\$ 718,359,905
EXPENSES:		
Retirement Benefits	\$ 164,136,927	
DROP Disbursements	22,625,420	
Refunds of Contributions	11,051,467	
Transfers to other Systems.....	4,015,603	
Administrative Expenses	1,427,221	
TOTAL Expenses		\$ 203,256,638
Net Market Value Income for Fiscal 2017 (Income - Expenses)		\$ 515,103,267
Unadjusted Fund Balance as of December 31, 2017 (Fund Balance Previous Year + Net Income).....		\$ 3,934,252,915
Adjustment for Actuarial Smoothing.....		\$ (276,713,110)
Actuarial Value of Assets: (December 31, 2017)		\$ 3,657,539,805

**EXHIBIT VII
PLAN A: FUNDING DEPOSIT ACCOUNT**

Funding Deposit Account Balance as of December 31, 2016.....	\$ 68,896,088
Interest on Opening Balance at 7.00%	4,822,726
Contributions to the Funding Deposit Account.....	20,052,356
Withdrawals from the Funding Deposit Account.....	(26,860,777)
Funding Deposit Account Balance as of December 31, 2017.....	\$ 66,910,393

**EXHIBIT VIII – SCHEDULE A
PLAN A: PENSION BENEFIT OBLIGATION**

Present Value of Credited Projected Benefits Payable to Current Employees.....	\$ 1,802,927,901
Present Value of Benefits Payable to Terminated Employees	89,527,845
Present Value of Benefits Payable to Current Retirees and Beneficiaries	1,696,868,733
TOTAL PENSION BENEFIT OBLIGATION.....	\$ 3,589,324,479
NET ACTUARIAL VALUE OF ASSETS.....	\$ 3,657,539,805
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.....	101.90%

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

Accrued Liability for Active Employees	\$ 1,889,818,323
Accrued Liability for Terminated Employees	89,527,845
Accrued Liability for Current Retirees and Beneficiaries	1,696,868,733
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY.....	\$ 3,676,214,901
NET ACTUARIAL VALUE OF ASSETS.....	\$ 3,657,539,805
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability.....	99.49%

**EXHIBIT IX
PLAN A: CENSUS DATA**

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of December 31, 2016	13,796	8,032	534	7,050	29,412
Additions to Census					
Initial membership	1,576	36			1,612
Death of another member				70	70
Omitted in error last year					
Adjustment for multiple records					
Change in Status during Year					
Actives terminating service	(483)	483			
Actives who retired	(275)			275	
Actives entering DROP	(223)		223		
Term. members rehired	33	(33)			
Term. members who retire		(42)		42	
Retirees who are rehired					
Refunded who are rehired	29	4			33
DROP participants retiring			(141)	141	
DROP returned to work	102		(102)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(853)	(285)			(1,138)
Deaths	(13)	(4)	(2)	(271)	(290)
Included in error last year				(6)	(6)
Adjustment for multiple records					
Number of members as of December 31, 2017	13,689	8,191	512	7,301	29,693

PLAN A - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	48	16	64	23,413	1,498,459
21 - 25	356	298	654	27,891	18,240,783
26 - 30	522	662	1,184	33,660	39,853,458
31 - 35	555	776	1,331	39,260	52,255,413
36 - 40	652	818	1,470	42,164	61,981,101
41 - 45	619	753	1,372	45,315	62,171,876
46 - 50	864	958	1,822	45,393	82,705,964
51 - 55	1,064	1,040	2,104	46,225	97,258,043
56 - 60	993	1,078	2,071	44,707	92,589,143
61 - 65	707	662	1,369	46,069	63,068,931
66 - 70	287	240	527	44,762	23,589,531
71 - 75	106	66	172	45,406	7,809,784
76 - 80	26	16	42	38,841	1,631,333
81 - 85	13	6	19	28,719	545,659
TOTAL	6,812	7,389	14,201	42,617	605,199,478

THE ACTIVE CENSUS INCLUDES 7,379 ACTIVES WITH VESTED BENEFITS, INCLUDING 512 DROP PARTICIPANTS AND 366 ACTIVE FORMER DROP PARTICIPANTS.

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	7	12	19	10,248	194,717
36 - 40	20	27	47	13,744	645,965
41 - 45	21	51	72	16,031	1,154,257
46 - 50	43	75	118	17,287	2,039,842
51 - 55	72	96	168	19,384	3,256,447
56 - 60	79	97	176	17,926	3,155,013
61 - 65	38	41	79	11,851	936,192
66 - 70	12	4	16	9,442	151,067
71 - 75	6	1	7	3,535	24,742
76 - 80	1	3	4	5,453	21,813
81 - 85	1	1	2	2,289	4,578
86 - 90	0	1	1	581	581
TOTAL	300	409	709	16,340	11,585,214

PLAN A - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From	To	Number	Total Contributions
0	99	4,444	119,851
100	499	1,141	276,161
500	999	436	313,531
1000	1999	346	485,504
2000	4999	474	1,531,977
5000	9999	310	2,218,554
10000	19999	230	3,303,222
20000	99999	101	3,077,378
TOTAL		7,482	11,326,178

PLAN A - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
46 - 50	0	1	1	41,500	41,500
51 - 55	59	46	105	52,178	5,478,681
56 - 60	244	202	446	47,533	21,199,899
61 - 65	496	500	996	33,482	33,348,500
66 - 70	701	652	1,353	26,206	35,456,998
71 - 75	590	495	1,085	22,167	24,051,184
76 - 80	445	355	800	19,702	15,761,408
81 - 85	283	250	533	16,368	8,724,323
86 - 90	154	182	336	14,067	4,726,534
91 - 99	57	77	134	11,416	1,529,713
TOTAL	3,029	2,760	5,789	25,966	150,318,740

PLAN A - DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
26 - 30	1	0	1	12,682	12,682
36 - 40	1	1	2	26,182	52,363
41 - 45	4	2	6	14,443	86,658
46 - 50	15	13	28	18,069	505,936
51 - 55	36	29	65	16,733	1,087,628
56 - 60	60	43	103	18,760	1,932,249
61 - 65	90	43	133	15,506	2,062,327
66 - 70	64	40	104	13,708	1,425,601
71 - 75	42	23	65	12,806	832,392
76 - 80	10	8	18	6,549	117,878
81 - 85	4	1	5	4,314	21,571
91 - 99	1	0	1	9,550	9,550
TOTAL	328	203	531	15,342	8,146,835

PLAN A - SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 25	7	14	21	13,150	276,148
26 - 30	1	2	3	26,086	78,259
31 - 35	1	1	2	7,272	14,543
36 - 40	1	1	2	5,542	11,084
41 - 45	2	5	7	16,066	112,460
46 - 50	1	11	12	17,170	206,036
51 - 55	6	17	23	17,232	396,339
56 - 60	9	39	48	17,618	845,679
61 - 65	16	62	78	16,118	1,257,170
66 - 70	11	117	128	14,525	1,859,238
71 - 75	25	147	172	12,989	2,234,033
76 - 80	18	160	178	11,373	2,024,395
81 - 85	8	136	144	10,961	1,578,418
86 - 90	4	110	114	8,474	966,023
91 - 99	2	47	49	7,602	372,510
TOTAL	112	869	981	12,469	12,232,335

PLAN A - ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Total			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over				
0 - 20	49	13	2												64
21 - 25	251	196	106	65	28	8									654
26 - 30	280	225	181	147	116	223	12								1,184
31 - 35	204	198	142	123	97	380	170	17							1,331
36 - 40	179	160	127	99	94	329	304	159	19						1,470
41 - 45	139	125	98	74	79	286	245	218	98	10					1,372
46 - 50	159	146	135	109	99	352	281	237	188	113	3				1,822
51 - 55	159	155	108	104	80	385	307	268	259	189	90				2,104
56 - 60	111	119	127	86	107	383	316	287	252	165	118				2,071
61 - 65	29	63	54	47	52	310	263	179	181	107	84				1,369
66 - 70	11	16	14	7	12	107	112	84	60	53	51				527
71 & Over	2	5	5	6	7	32	28	37	37	47	27				233
Totals	1,573	1,421	1,099	867	771	2,795	2,038	1,486	1,094	684	373				14,201

PLAN A - AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Average Salary			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over				
0 - 20	24,173	20,108	26,283	29,395	30,537	33,244									23,413
21 - 25	27,833	27,249	27,191	29,890	34,785	38,079	40,696								27,891
26 - 30	31,060	29,958	33,841	35,890	38,171	43,421	44,740	52,629							33,660
31 - 35	33,270	35,133	37,514	36,438	40,825	43,658	48,136	51,636	54,749						39,260
36 - 40	31,590	36,297	35,712	39,382	40,825	43,658	48,136	51,636	54,749						42,164
41 - 45	29,938	40,243	35,374	41,339	38,500	43,807	51,229	55,785	56,480	63,668					45,315
46 - 50	31,033	37,783	37,208	37,684	39,922	42,924	49,472	50,956	60,230	58,284	58,585				45,393
51 - 55	31,805	39,204	38,786	39,083	38,900	42,286	44,053	49,809	56,988	59,221	62,817				46,225
56 - 60	31,937	39,955	37,333	35,941	41,445	39,533	41,889	47,665	50,081	56,797	67,569				44,707
61 - 65	33,429	49,631	37,552	38,617	42,292	42,362	41,795	47,794	52,060	56,598	56,815				46,069
66 - 70	28,490	45,238	33,575	31,631	29,585	39,611	44,203	44,621	50,907	45,607	60,726				44,762
71 & Over	26,529	64,887	33,762	29,374	36,771	33,822	44,393	42,602	37,339	41,463	65,739				42,862
Average	30,733	35,651	35,495	37,026	38,628	41,908	45,695	49,967	54,056	55,861	62,860				42,617

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Attained Ages	Years Until Retirement Eligibility											Total	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over		
0 - 30													0
31 - 35												3	19
36 - 40									20	27	16	47	
41 - 45							42		29	1		72	
46 - 50							41		2			118	
51 - 55			1		1	124	75		2			168	
56 - 60	20	33	36	26	22	37	41		1			176	
61 - 65	41	8	10	8	12		2					79	
66 - 70	13	3										16	
71 - 75	7											7	
76 - 80	4											4	
81 - 85	2											2	
86 - 90	1											1	
91 & Over												0	
Totals	88	44	47	34	35	161	118	83	52	31	16	709	

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

Attained Ages	Years Until Retirement Eligibility											Average Benefit
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	
0 - 30												0
31 - 35												10,248
36 - 40									16,914	11,396	9,311	13,744
41 - 45							19,861		10,815	6,456		16,031
46 - 50							10,857		10,949			17,287
51 - 55			50,748		41,862	21,658	20,971		10,949			19,384
56 - 60	16,328	18,765	22,787	17,236	24,538	10,468	11,262		16,512			17,926
61 - 65	13,543	9,715	13,740	8,771	7,971		6,782					11,851
66 - 70	9,701	8,317										9,442
71 - 75	3,535											3,535
76 - 80	5,453											5,453
81 - 85	2,289											2,289
86 - 90	581											581
91 & Over												0
Average	12,041	16,407	21,457	15,244	19,353	19,086	17,357	15,413	13,275	11,609	9,311	16,340

PLAN A - SERVICE RETIREES:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 50	1											1
51 - 55	28	27	12	15	7	16						105
56 - 60	87	67	72	54	52	104	10					446
61 - 65	150	168	117	110	117	254	74	5	1			996
66 - 70	94	119	133	147	130	511	187	29	1	1	1	1,353
71 - 75	22	35	52	50	48	394	351	101	26	6		1,085
76 - 80	12	14	12	12	17	126	229	276	75	20	7	800
81 - 85	1	7	3	7	6	58	63	139	161	64	24	533
86 - 90		1	1		1	8	23	34	102	126	40	336
91 & Over						1	3	6	15	40	69	134
Totals	395	438	402	395	378	1,472	940	590	381	257	141	5,789

PLAN A - AVERAGE ANNUAL BENEFITS PAYABLE TO SERVICE RETIREES:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 50	41,500											41,500
51 - 55	51,557	56,970	55,225	52,637	48,101	44,246						52,178
56 - 60	42,224	46,109	50,303	53,405	51,864	46,711	37,654					47,533
61 - 65	27,061	27,885	26,828	31,258	33,862	43,012	39,663	38,566	12,376			33,482
66 - 70	22,098	21,552	24,138	21,624	23,046	25,288	39,209	38,939	30,742	6,537	9,420	26,206
71 - 75	26,047	17,207	20,769	23,028	22,674	19,595	22,232	29,446	33,924	29,333		22,167
76 - 80	20,123	24,823	10,657	12,769	20,686	20,792	18,378	18,079	25,900	30,756	23,395	19,702
81 - 85	20,529	20,517	10,689	15,261	24,741	14,285	14,532	14,536	15,457	25,039	17,377	16,368
86 - 90		43,953	5,912		18,252	19,947	9,845	13,661	13,872	12,315	21,033	14,067
91 & Over						19,357	9,967	15,814	13,037	12,146	10,205	11,416
Average	30,709	29,713	29,551	29,625	30,683	27,691	25,349	20,112	18,285	17,267	15,147	25,966

PLAN A - DISABILITY RETIREES:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 30		1										1
31 - 35												0
36 - 40	1				1							2
41 - 45		1	1		1	3	6	1				6
46 - 50	4	4	1	5	2	5	9	6				28
51 - 55	4	5	9	8	5	16	15	10	3			65
56 - 60	11	4	11	10	6	23	32	23	8	5		103
61 - 65	2	2	3	1	9	42	31	24	9	8	2	133
66 - 70			1		2	11	14	18	18	8	3	104
71 - 75						4	5	2	4	5	2	65
76 - 80								1	3			18
81 - 85											1	5
86 - 90												0
91 & Over										1		1
Totals	22	17	26	24	26	104	112	85	63	40	12	531

PLAN A - AVERAGE ANNUAL BENEFITS PAYABLE TO DISABILITY RETIREES:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 30		12,682										12,682
31 - 35												0
36 - 40	37,571				14,792							26,182
41 - 45		11,925	15,195		20,813	12,909	13,343	6,857				14,443
46 - 50	21,858	17,668	15,818	19,298	36,049	15,302	12,721	9,747	7,849			18,069
51 - 55	16,833	23,894	22,218	15,454	19,191	17,798	16,842	16,567	8,496			16,733
56 - 60	19,702	20,761	17,816	20,554	26,041	24,235	16,081	15,338	10,932	6,211		18,760
61 - 65	11,839	8,836	13,621	24,490	16,614	18,275	16,822	16,871	12,864	10,769	6,193	15,506
66 - 70			5,890		11,195	9,621	15,822	11,397	13,431	16,139	6,145	13,708
71 - 75						5,779	12,683	3,476	5,250	8,931	18,564	12,806
76 - 80							5,945	4,554	3,630		7,775	6,549
81 - 85											6,127	4,314
86 - 90												0
91 & Over										9,550		9,550
Average	19,670	18,557	18,219	18,756	20,454	17,826	14,817	14,180	11,033	10,370	9,528	15,342

PLAN A - SURVIVING BENEFICIARIES OF FORMER MEMBERS:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 20	1	1	2	2	5	4	3					18
21 - 25			1				1		1			3
26 - 30		1				2						3
31 - 35	1							1				2
36 - 40									2			2
41 - 45		1								1		7
46 - 50			2	2	2	3	1					12
51 - 55	1			2	2	8	6	4	2			23
56 - 60	1	2	2	4	2	16	13	2	4	1		48
61 - 65	3	7	8	6	4	17	16	8	7	2	1	78
66 - 70		3	2	8	5	42	34	17	13	3	1	128
71 - 75	1	1	3	1	2	26	63	41	26	4	4	172
76 - 80		1	1	1	1	21	40	55	35	16	7	178
81 - 85			1	1		8	16	21	39	38	20	144
86 - 90			1			1	6	7	27	36	36	114
91 & Over							2	1	4	12	30	49
Totals	8	17	23	26	23	151	204	157	160	113	99	981

PLAN A - AVERAGE ANNUAL BENEFITS PAYABLE TO SURVIVORS OF FORMER MEMBERS:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 20	42,013	15,872	10,480	15,092	6,558	22,231	7,451					14,061
21 - 25			14,590				2,115		6,348			7,684
26 - 30		63,598				7,331						26,087
31 - 35	7,585							6,958				7,271
36 - 40		19,497							5,542	7,009		5,542
41 - 45			26,197	63,537	23,366	6,017	4,365					16,066
46 - 50				13,136	8,012	20,354	6,524					17,170
51 - 55	50,099				14,558	20,016	16,664	11,606	11,837			17,232
56 - 60	9,807	44,774	32,965	25,861	14,558	19,304	14,666	9,594	5,784	4,683	1,303	17,618
61 - 65	15,378	23,203	16,194	11,151	20,720	18,293	15,903	19,263	5,908	4,199		16,118
66 - 70		10,693	21,902	18,961	16,463	15,520	14,301	13,522	12,736	4,763	1,543	14,525
71 - 75	7,455	14,229	12,127	11,953	12,766	12,720	14,129	12,410	12,972	4,689	13,193	12,989
76 - 80		3,788	4,659	9,503	8,646	8,960	12,146	10,997	10,852	14,882	14,431	11,373
81 - 85			15,648	4,105		9,342	9,510	13,327	12,337	10,007	9,525	10,961
86 - 90			6,374			8,972	8,477	12,981	8,424	8,208	7,945	8,474
91 & Over							5,590	7,313	12,298	9,950	6,181	7,602
Average	20,386	23,590	16,969	17,984	14,088	14,683	13,088	12,409	10,913	9,614	8,269	12,469

EXHIBIT X
PLAN A: YEAR-TO-YEAR COMPARISON

	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
Number of Active Members	14,201	14,330	14,232	14,061
Number of Retirees & Survivors	7,301	7,050	6,783	6,523
Number of Terminated Due Deferred Benefits	709	703	678	660
Number Terminated Due Refunds	7,482	7,329	7,182	7,026
Active Lives Payroll	\$ 605,199,478	\$ 599,421,070	\$ 577,600,460	\$ 566,547,812
Retiree Benefits in Payment	\$ 170,697,910	\$ 157,140,568	\$ 146,994,479	\$ 137,309,161
Market Value of Assets	\$ 3,829,020,281	\$ 3,313,917,014	\$ 3,124,593,132	\$ 3,175,649,999
Entry Age Normal (EAN) Accrued Liability	\$ 3,676,214,901	\$ 3,446,813,538	\$ 3,316,128,533	\$ 3,133,179,431
Ratio of AVA to EAN Accrued Liability	99.49%	99.20%	97.11%	96.80%
Actuarial Value of Assets	\$ 3,657,539,805	\$ 3,419,149,648	\$ 3,220,157,028	\$ 3,032,888,183
Present Value of Future Employer Normal Cost	\$ 604,529,232	\$ 555,155,571	\$ 592,955,250	\$ 560,647,763
Present Value of Future Employee Contrib.	\$ 437,372,887	\$ 422,091,697	\$ 405,879,187	\$ 389,156,042
Funding Deposit Account Credit Balance	\$ 66,910,393	\$ 68,896,088	\$ 49,644,401	\$ 23,781,823
Frozen Unfunded Actuarial Accrued Liability	\$ 0	\$ 0	\$ 0	\$ 0
Present Value of Future Benefits	\$ 4,632,531,531	\$ 4,327,500,828	\$ 4,169,347,064	\$ 3,958,910,165

	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
Employee Contribution Rate	9.50%	9.50%	9.50%	9.50%
Projected Tax Contribution as % of Payroll	1.22%	1.22%	1.27%	1.28%
Actuarially Required Net Direct Employer Contribution Rate	9.99%	9.35%	10.52%	10.40%
Actual Employer Contribution Rate	11.50%	12.50%	13.00%	14.50%

Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008
13,866	14,370	14,646	14,791	14,795	14,373
6,242	5,991	5,718	5,531	5,413	5,235
683	561	561	556	562	545
7,109	6,795	6,795	6,762	6,611	6,464
\$ 543,669,542	\$ 558,327,346	\$ 552,543,155	\$ 546,737,427	\$ 536,408,372	\$ 511,891,487
\$ 124,299,785	\$ 114,515,106	\$ 104,683,495	\$ 97,650,642	\$ 90,207,961	\$ 84,492,940
\$ 3,043,479,814	\$ 2,583,983,506	\$ 2,230,462,425	\$ 2,225,041,407	\$ 1,904,114,041	\$ 1,565,934,957
\$ 2,984,143,643	\$ 2,823,038,820	\$ 2,682,634,009	\$ 2,553,982,211	\$ 2,358,101,301	\$ 2,248,596,038
92.49%	86.73%	87.38%	88.46%	90.55%	86.43%
\$ 2,760,148,403	\$ 2,448,529,177	\$ 2,344,047,017	\$ 2,259,207,052	\$ 2,135,230,590	\$ 1,943,569,363
\$ 651,806,943	\$ 773,908,389	\$ 724,810,561	\$ 669,371,250	\$ 552,376,261	\$ 613,635,252
\$ 370,352,485	\$ 378,465,400	\$ 373,626,178	\$ 370,489,102	\$ 355,947,027	\$ 339,052,728
\$ 4,918,053	\$ 4,574,933	\$ 29,274,204	\$ 27,231,818	\$ 25,331,924	\$ 23,564,580
\$ 0	\$ 0	\$ 36,903,336	\$ 45,756,457	\$ 53,552,388	\$ 60,381,793
\$ 3,777,389,778	\$ 3,596,328,033	\$ 3,450,112,888	\$ 3,317,592,043	\$ 3,071,774,342	\$ 2,933,074,556

Fiscal 2014	Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009
9.50%	9.50%	9.50%	9.50%	9.50%	9.50%
1.32%	1.16%	1.09%	1.05%	1.13%	1.15%
13.07%	15.56%	16.72%	15.58%	13.46%	15.40%
16.00%	16.75%	15.75%	15.75%	15.75%	12.25%

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EXHIBIT XI
PLAN B: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	\$	407,015,556
2.	Funding Deposit Account Credit Balance	\$	5,361,971
3.	Actuarial Value of Assets	\$	310,818,392
4.	Present Value of Future Employee Contributions	\$	24,893,108
5.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4).....	\$	76,666,027
6.	Present Value of Future Salaries	\$	899,327,561
7.	Employer Normal Cost Accrual Rate (5 ÷ 6)		8.524817%
8.	Projected Fiscal 2018 Salary for Current Membership.....	\$	95,736,817
9.	Employer Normal Cost as of January 1, 2018 (7 × 8)	\$	8,161,388
10.	Employer Normal Cost Interest Adjusted for Midyear Payment	\$	8,432,337
11.	Estimated Administrative Cost for Fiscal 2018	\$	261,785
12.	TOTAL Administrative and Interest Adjusted Actuarial Costs (10 + 11).....	\$	8,694,122
13.	Estimated Ad Valorem Tax Contributions for Fiscal 2018	\$	1,263,628
14.	Estimated Revenue Sharing Funds for Fiscal 2018	\$	23,179
15.	Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2018 (12 – 13 – 14).....	\$	7,407,315
16.	Projected Payroll for Fiscal 2018.....	\$	105,640,944
17.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2018 (15 ÷ 16)		7.01%
18.	Actual Employer Contribution Rate for Fiscal 2018		7.50%
19.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2019 (17, Rounded to Nearest 0.25%).....		7.00%

EXHIBIT XII
PLAN B: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	\$ 262,019,473
Survivor Benefits	5,052,894
Disability Benefits	12,385,155
Vested Termination Benefits	12,726,758
Refunds of Contributions	3,740,897
 TOTAL Present Value of Future Benefits for Active Members.....	 \$ 295,925,177

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	\$ 8,602,027
Terminated Members with Reciprocals	
Due Benefits at Retirement	91,948
Terminated Members Due a Refund	777,031
 TOTAL Present Value of Future Benefits for Terminated Members	 \$ 9,471,006

PRESENT VALUE OF FUTURE BENEFITS FOR PENSIONERS:

Regular Retirees by Option Selected:

Maximum.....	\$ 42,232,279
Option 1	255,401
Option 2	34,715,849
Option 3	8,403,346
Option 4	1,069,551
 TOTAL Regular Retirees.....	 \$ 86,676,426
 TOTAL Disability Retirees.....	 \$ 5,847,038
 TOTAL Survivors & Widows	 \$ 9,095,199
 Reserve for Accrued Retiree DROP Account Balances	 \$ 710
 TOTAL Present Value of Future Benefits for Retirees & Survivors.....	 \$ 101,619,373
 TOTAL Present Value of Future Benefits.....	 \$ 407,015,556

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

CURRENT ASSETS:

Cash in Banks	\$ 1,466,838
Contributions and Taxes Receivable.....	2,747,381
Accrued Interest and Dividends	193,530
Investments Receivable	204,304
Due (to)/from other Funds	(226,601)
Due (to)/from Plan A	14,440
Other Current Assets	6,948

TOTAL CURRENT ASSETS..... \$ 4,406,840

Property Plant & Equipment..... \$ 89,694

INVESTMENTS:

Cash Equivalents.....	\$ 12,901,079
Equities	180,071,546
Fixed Income	101,142,929
Real Estate	15,009,308
Alternative Investments	13,439,748

TOTAL INVESTMENTS..... \$ 322,564,610

TOTAL ASSETS \$ 327,061,144

CURRENT LIABILITIES:

Retirements Payable.....	\$ 200,939
Accounts Payable	869,350
Investments Payable.....	64,467
Refunds Payable.....	299,510

TOTAL CURRENT LIABILITIES \$ 1,434,266

MARKET VALUE OF ASSETS..... \$ 325,626,878

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

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

Fiscal year 2017	\$ 28,697,360
Fiscal year 2016	1,827,421
Fiscal year 2015	(20,301,524)
Fiscal year 2014	(5,626,226)
Fiscal year 2013	20,198,394
Total for five years	\$ 24,795,425

Deferral of excess (shortfall) of invested income:

Fiscal year 2017 (80%)	\$ 22,957,888
Fiscal year 2016 (60%)	1,096,453
Fiscal year 2015 (40%)	(8,120,610)
Fiscal year 2014 (20%)	(1,125,245)
Fiscal year 2013 (0%)	0
Total deferred for year	\$ 14,808,486

Market value of plan net assets, end of year..... \$ 325,626,878

Preliminary actuarial value of plan assets, end of year \$ 310,818,392

Actuarial value of assets corridor

85% of market value, end of year	\$ 276,782,846
115% of market value, end of year	\$ 374,470,910

Final actuarial value of plan net assets, end of year \$ 310,818,392

EXHIBIT XIV
PLAN B: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	\$	24,893,108
Employer Normal Contributions to the Pension Accumulation Fund.....		76,666,027
Funding Deposit Account Debit / (Credit) Balance		(5,361,971)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	\$	96,197,164

EXHIBIT XV
PLAN B: RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year.....	\$	7,773,487
Interest on Normal Cost.....		544,144
Administrative Expenses		242,064
Interest on Expenses		8,330
TOTAL Interest Adjusted Actuarially Required Employer Contributions	\$	8,568,025
Direct Employer Contributions.....	\$	8,096,586
Interest on Employer Contributions.....		278,588
Ad Valorem Taxes and Revenue Sharing Funds		1,269,869
Interest on Taxes and Revenue Sharing Funds.....		43,694
TOTAL Interest Adjusted Employer Contributions	\$	9,688,737
CONTRIBUTION SURPLUS (DEFICIENCY)	\$	1,120,712

EXHIBIT XVI
PLAN B: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (December 31, 2016)	\$	284,685,809
INCOME:		
Member Contributions	\$	2,920,617
Employer Contributions		8,096,586
Irregular Contributions		9,038
Ad Valorem Taxes and Revenue Sharing		1,269,869
Transfers (to)/from Plan A		14,440
Other Income		12,601
Total Contributions	\$	12,323,151
Net Appreciation in Fair Value of Investments		\$45,114,417
Interest & Dividends		4,592,491
Class Action Settlement		2,109
Miscellaneous Investment Income		44,762
Investment Expense		(1,691,276)
Net Investment Income	\$	48,062,503
TOTAL Income	\$	60,385,654
EXPENSES:		
Retirement Benefits	\$	9,707,218
DROP Disbursements		1,251,262
Refunds of Contributions		588,797
Transfers to other Systems		(1,274,544)
Administrative Expenses		242,064
TOTAL Expenses	\$	10,514,797
Net Market Value Income for Fiscal 2017 (Income - Expenses)	\$	\$49,870,857
Unadjusted Fund Balance as of December 31, 2017 (Fund Balance Previous Year + Net Income)	\$	334,556,666
Adjustment for Actuarial Smoothing	\$	(23,738,274)
Actuarial Value of Assets (December 31, 2017)	\$	310,818,392

EXHIBIT XVII
PLAN B: FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of December 31, 2016.....	\$ 5,602,259
Interest on Opening Balance at 7.00%	392,158
Contributions to the Funding Deposit Account.....	1,120,713
Withdrawals from the Funding Deposit Account.....	(1,753,159)
Funding Deposit Account Balance as of December 31, 2017.....	\$ 5,361,971

EXHIBIT XVIII – SCHEDULE A
PLAN B: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees.....	\$ 178,344,848
Present Value of Benefits Payable to Terminated Employees	9,471,006
Present Value of Benefits Payable to Current Retirees and Beneficiaries	101,619,373
TOTAL PENSION BENEFIT OBLIGATION	\$ 289,435,227
NET ACTUARIAL VALUE OF ASSETS	\$ 310,818,392
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.....	107.39%

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

Accrued Liability for Active Employees	\$ 196,390,277
Accrued Liability for Terminated Employees	9,471,006
Accrued Liability for Current Retirees and Beneficiaries	101,619,373
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	\$ 307,480,656
NET ACTUARIAL VALUE OF ASSETS.....	\$ 310,818,392
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability	101.09%

EXHIBIT XIX
PLAN B: CENSUS DATA

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of December 31, 2016	2,348	1,746	67	792	4,953
Additions to Census					
Initial membership	325	13			338
Death of Another Member				9	9
Omitted in error last year					
Adjustment for multiple records					
Change in Status during Year					
Actives terminating service	(91)	91			
Actives who retired	(56)			56	
Actives entering DROP	(39)		39		
Term. members rehired	6	(6)			
Term. members who retire		(9)		9	
Retirees who are rehired					
Refunded who are rehired	6				6
DROP participants retiring			(9)	9	
DROP returned to work	11		(11)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(132)	(55)			(187)
Deaths	(5)	(1)		(20)	(26)
Included in error last year					
Adjustment for multiple records					
Number of members as of December 31, 2017	2,373	1,779	86	855	5,093

PLAN B - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	3	5	8	25,894	207,154
21 - 25	61	47	108	27,748	2,996,733
26 - 30	72	134	206	34,027	7,009,520
31 - 35	88	136	224	37,368	8,370,427
36 - 40	102	146	248	40,725	10,099,810
41 - 45	99	141	240	45,513	10,923,029
46 - 50	139	173	312	43,622	13,610,207
51 - 55	178	188	366	43,547	15,938,235
56 - 60	195	154	349	45,290	15,806,325
61 - 65	133	114	247	44,898	11,089,874
66 - 70	66	41	107	45,718	4,891,800
71 - 75	23	11	34	50,294	1,709,982
76 - 80	8	2	10	40,327	403,273
TOTAL	1,167	1,292	2,459	41,910	103,056,369

THE ACTIVE CENSUS INCLUDES 1,211 ACTIVES WITH VESTED BENEFITS, INCLUDING 86 DROP PARTICIPANTS AND 44 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	1	0	1	4,563	4,563
31 - 35	3	3	6	7,655	45,931
36 - 40	6	7	13	6,369	82,793
41 - 45	5	4	9	10,333	92,996
46 - 50	7	16	23	11,778	270,887
51 - 55	12	16	28	11,863	332,165
56 - 60	23	16	39	9,028	352,090
61 - 65	6	13	19	6,409	121,773
66 - 70	2	1	3	8,439	25,317
76 - 80	0	1	1	499	499
TOTAL	65	77	142	9,359	1,329,014

PLAN B - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From	To	Number	Total Contributions
0	99	1,068	27,075
100	499	282	70,858
500	999	96	68,227
1000	1999	63	96,648
2000	4999	96	298,612
5000	9999	31	202,222
10000	19999	1	13,389
	TOTAL	1,637	777,031

PLAN B - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
56 - 60	5	11	16	23,530	376,482
61 - 65	53	61	114	19,006	2,166,680
66 - 70	87	77	164	15,005	2,460,825
71 - 75	86	72	158	11,460	1,810,724
76 - 80	59	44	103	10,187	1,049,214
81 - 85	35	33	68	10,169	691,485
86 - 90	10	22	32	7,362	235,586
91 - 99	3	15	18	6,535	117,623
TOTAL	338	335	673	13,237	8,908,619

PLAN B - DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	2	0	2	7,495	14,990
46 - 50	1	1	2	15,994	31,988
51 - 55	3	5	8	9,289	74,313
56 - 60	9	6	15	11,631	174,461
61 - 65	16	6	22	8,787	193,317
66 - 70	5	3	8	5,509	44,072
TOTAL	36	21	57	9,353	533,141

PLAN B - SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	0	2	2	7,785	15,569
41 - 45	1	0	1	2,463	2,463
51 - 55	0	2	2	6,154	12,308
56 - 60	1	10	11	12,190	134,092
61 - 65	1	18	19	9,118	173,240
66 - 70	1	14	15	6,297	94,455
71 - 75	3	25	28	10,092	282,579
76 - 80	0	24	24	6,883	165,187
81 - 85	1	11	12	6,315	75,778
86 - 90	0	7	7	3,099	21,691
91 - 99	1	3	4	2,794	11,177
TOTAL	9	116	125	7,908	988,539

PLAN B - ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Total			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over				
0 - 20	7	1													8
21 - 25	55	29	14	7	3	40	4								108
26 - 30	52	34	41	20	15	57	29	4							206
31 - 35	42	27	21	19	25	66	40	24	1						224
36 - 40	35	33	18	15	16	63	44	38	7						248
41 - 45	32	17	17	10	12	62	47	40	33	16	1				240
46 - 50	33	16	20	24	20	64	55	48	35	20	30				312
51 - 55	33	21	33	15	12	71	51	42	30	24	36				366
56 - 60	21	24	26	14	10	54	44	31	27	16	20				349
61 - 65	11	6	15	13	10	21	27	13	10	6	9				247
66 - 70	3	5	6	5	2	9	5	10	5		6				107
71 & Over		3	1	2	3										44
Totals	324	216	212	144	128	507	346	250	148	82	102				2,459

PLAN B - AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Average Salary				
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over					
0 - 20	26,648	20,615														25,894
21 - 25	26,507	29,293	29,273	26,268	31,894	37,920	32,823	49,639	55,271	51,545	30,062					27,748
26 - 30	31,203	30,666	35,744	32,839	38,263	42,375	42,942	46,672	56,088	54,271	53,502					34,027
31 - 35	35,689	29,026	33,601	39,018	31,264	43,178	41,542	43,998	55,271	49,639	57,098					37,368
36 - 40	31,912	37,642	37,232	37,824	51,020	55,137	45,443	43,998	56,088	46,672	50,690					40,725
41 - 45	35,420	38,836	39,275	45,190	39,345	48,837	42,531	41,885	56,088	51,545	30,062					45,513
46 - 50	32,375	36,673	37,092	42,757	42,685	41,276	44,924	47,634	53,828	51,545	30,062					43,622
51 - 55	29,985	38,219	35,231	36,437	34,151	44,537	50,311	43,397	55,364	54,271	53,502					43,547
56 - 60	28,214	41,804	39,560	39,159	42,412	44,537	42,842	43,646	46,228	50,690	57,098					45,290
61 - 65	40,688	54,097	37,110	41,769	30,066	44,472	42,842	43,646	51,033	53,133	52,490					44,898
66 - 70	27,795	46,277	31,028	40,696	24,632	53,552	45,420	40,194	62,696	33,371	48,608					45,718
71 & Over		41,812	32,739	29,669	31,152	64,746	38,945	45,485	59,616		45,321					48,029
Average	31,474	35,523	35,978	38,389	38,052	45,752	44,450	44,422	53,052	50,940	53,430					41,910

PLAN B -- TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Attained Ages	Years Until Retirement Eligibility											Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	
0 - 25												0
26 - 30											1	1
31 - 35										1	5	6
36 - 40								4		8	1	13
41 - 45								4				9
46 - 50							15		5			23
51 - 55						23	5		8			28
56 - 60	5	5	7	5	5	11	1					39
61 - 65	9	4	2		4							19
66 - 70	3											3
71 - 75												0
76 - 80	1											1
81 & Over												0
Totals	18	9	9	5	9	34	21	13	8	9	7	142

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

Attained Ages	Years Until Retirement Eligibility											Average Benefit
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	
0 - 25												0
26 - 30											4,563	4,563
31 - 35										11,165	6,953	7,655
36 - 40								6,473		6,295	6,540	6,369
41 - 45								10,355	6,473	10,306		10,333
46 - 50							11,749	11,832	10,306			11,778
51 - 55						13,314	5,191					11,863
56 - 60	11,889	8,941	9,427	7,207	12,232	7,315	4,288					9,028
61 - 65	6,055	7,658	7,709		5,306							6,409
66 - 70	8,439											8,439
71 - 75												0
76 - 80	499											499
81 & Over												0
Average	7,764	8,371	9,045	7,207	9,154	11,373	9,832	11,264	8,389	6,836	6,553	9,359

PLAN B - SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement											Total	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over		
0 - 55	7	3	4	1	1								0
56 - 60	26	34	16	12	12	12	2						16
61 - 65	22	15	21	13	13	60	17	2	1				114
66 - 70	8	4	14	8	7	61	44	8	3				164
71 - 75	3	3	2	2	2	18	36	31	6	1			158
76 - 80		2	1		1	7	14	26	12	3	2		103
81 - 85		1					3	4	12	11	1		68
86 - 90							1		12	11	1		32
91 & Over									1	11	5		18
Totals	66	62	58	36	36	158	117	71	35	25	9		673

PLAN B - AVERAGE ANNUAL BENEFITS PAYABLE TO SERVICE 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 - 55	23,157	22,357	27,330	18,769	19,220	19,155	7,544						0
56 - 60	17,176	20,762	18,805	23,093	15,937	19,155	7,544						23,530
61 - 65	15,868	16,486	14,296	13,118	12,656	13,676	22,420	10,505	6,417				19,006
66 - 70	16,381	13,019	13,313	11,702	10,987	11,177	10,095	14,629	7,981				15,005
71 - 75	12,821	14,611	3,366	16,648	8,751	8,628	9,203	12,208	7,390	3,751			11,460
76 - 80		11,917	9,362		21,906	12,142	7,815	9,905	9,137	17,626	10,970		10,187
81 - 85		8,613					8,019	8,966	5,694	8,810	1,815		10,169
86 - 90							3,908		3,299	7,240	6,155		7,362
91 & Over													6,535
Average	17,080	18,526	15,739	16,481	13,648	12,484	11,189	11,407	7,313	9,177	6,476		13,237

PLAN B - DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement										Total				
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29		30&Over			
0 - 40															0
41 - 45					1			1							2
46 - 50	2														2
51 - 55			1		2	3		2							8
56 - 60			1	3	3	6	1		1						15
61 - 65	1		2		1	5	9		4		1				22
66 - 70			1	1	1	2	3								8
71 & Over															0
Totals	0	3	5	4	7	16	16	5	0	1	0	0	0	0	57

PLAN B - 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 - 40																0
41 - 45					9,697		5,293									7,495
46 - 50	15,994															15,994
51 - 55			8,507		10,252	10,999	6,153									9,289
56 - 60			13,228	9,576	12,341	14,313	5,335	4,273								11,631
61 - 65	9,647		16,997	4,723	8,688	9,409	8,551	4,851		6,270						8,787
66 - 70			6,539	4,723	8,688	5,309	4,501									5,509
71 & Over																0
Average	0	13,878	12,453	8,363	10,845	11,033	7,087	4,736	0	6,270	0	0	0	0	9,353	

PLAN B - SURVIVING BENEFICIARIES OF FORMER MEMBERS:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 35												0
36 - 40							1		1			2
41 - 45							1					1
46 - 50												0
51 - 55		1										2
56 - 60	2				1		3		1			11
61 - 65				1		4	7	4	1			19
66 - 70		1				4	2	6	2			15
71 - 75		1	1			8	14	2	1			28
76 - 80		1		1		2	8	6	3	2	1	24
81 - 85								3	6	3		12
86 - 90								1	2	2		7
91 & Over										1	3	4
Totals	2	4	1	3	2	24	36	22	17	8	6	125

PLAN B - AVERAGE ANNUAL BENEFITS PAYABLE TO SURVIVORS OF FORMER MEMBERS:

Completed Years Since Retirement

Attained Ages	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 35												0
36 - 40							12,078		3,490			7,784
41 - 45							2,463					2,463
46 - 50												0
51 - 55		11,208										6,154
56 - 60	14,985				1,100	13,006	10,665		7,556			12,190
61 - 65					12,546	8,570	11,103	6,990	4,789			9,118
66 - 70						4,935	6,750	8,080	3,834			6,297
71 - 75		5,067				10,638	10,604	8,843	9,121			10,092
76 - 80		5,412	6,321			5,102	7,946	6,758	3,555	6,106	1,694	6,883
81 - 85		10,446						5,602	6,520	6,618		6,315
86 - 90								1,925	4,420	3,621	1,842	3,099
91 & Over										3,555	2,541	2,794
Average	14,985	8,033	6,321	12,563	6,823	9,104	9,716	6,973	5,368	5,358	2,167	7,908

EXHIBIT XX
PLAN B: YEAR-TO-YEAR COMPARISON

	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
Number of Active Members	2,459	2,415	2,413	2,321
Number of Retirees & Survivors	855	792	747	714
Number of Terminated Due Deferred Benefits	142	138	139	135
Number Terminated Due Refunds	1,637	1,608	1,554	1,531
Active Lives Payroll	\$ 103,056,369	\$ 100,932,377	\$ 98,127,898	\$ 91,698,297
Retiree Benefits in Payment	\$ 10,430,299	\$ 9,070,674	\$ 8,150,177	\$ 7,448,991
Market Value of Assets	\$ 325,626,878	\$ 275,756,021	\$ 255,103,397	\$ 253,501,744
Entry Age Normal (EAN) Accrued Liability	\$ 307,480,656	\$ 283,598,901	\$ 267,985,810	\$ 249,207,071
Ratio of AVA to EAN Accrued Liability	101.09%	100.38%	98.46%	97.50%
Actuarial Value of Assets	\$ 310,818,392	\$ 284,685,809	\$ 263,849,591	\$ 242,977,968
Present Value of Future Employer Normal Cost	\$ 76,666,027	\$ 71,874,582	\$ 74,851,929	\$ 61,503,111
Present Value of Future Employee Contrib.	\$ 24,893,108	\$ 24,084,343	\$ 23,527,632	\$ 19,608,454
Funding Deposit Account Credit Balance	\$ 5,361,971	\$ 5,602,259	\$ 4,622,489	\$ 2,281,164
Present Value of Future Benefits	\$ 407,015,556	\$ 375,042,475	\$ 357,606,663	\$ 321,808,369

	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
Employee Contribution Rate	3.00%	3.00%	3.00%	3.00%
Projected Tax Contribution as % of Payroll	1.22%	1.21%	1.26%	1.36%
Actuarially Required Net Direct Employer Contribution Rate	7.01%	6.75%	7.20%	6.91%
Actual Employer Contribution Rate	7.50%	8.00%	8.00%	9.00%

Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008
2,288	2,298	2,303	2,313	2,290	2,194
688	657	611	576	560	548
135	132	129	125	118	108
1,550	1,504	1,471	1,430	1,426	1,410
\$ 89,168,260	\$ 86,882,261	\$ 84,237,202	\$ 81,999,193	\$ 79,373,895	\$ 74,891,671
\$ 6,779,114	\$ 6,334,153	\$ 5,746,033	\$ 5,349,314	\$ 4,986,096	\$ 4,744,664
\$ 237,412,166	\$ 196,577,145	\$ 165,603,549	\$ 161,776,161	\$ 134,940,283	\$ 109,749,342
\$ 233,321,224	\$ 212,489,491	\$ 198,962,892	\$ 186,118,552	\$ 171,160,473	\$ 162,127,929
92.60%	87.62%	87.13%	87.62%	87.90%	83.97%
\$ 216,066,754	\$ 186,172,779	\$ 173,354,490	\$ 163,075,793	\$ 150,446,497	\$ 136,139,102
\$ 71,374,679	\$ 74,251,290	\$ 71,951,379	\$ 67,556,191	\$ 60,488,525	\$ 63,985,978
\$ 19,192,399	\$ 18,544,210	\$ 18,084,026	\$ 17,527,008	\$ 16,221,775	\$ 15,422,566
\$ 2,126,959	\$ 1,559,909	\$ 1,012,867	\$ 334,656	\$ 311,308	\$ 289,589
\$ 304,506,873	\$ 277,408,370	\$ 262,377,028	\$ 247,824,336	\$ 226,845,489	\$ 215,258,057

Fiscal 2014	Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
1.21%	1.14%	1.09%	1.05%	1.13%	1.13%
8.60%	9.33%	9.31%	9.07%	8.60%	9.56%
9.25%	10.00%	10.00%	10.00%	10.00%	6.25%

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

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

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

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

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

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 – The Board of Trustees is authorized to grant retired members, and widows of members, who have been retired for at least one full year an annual cost of living increase of two percent of their original benefit and all retired members and widows who are sixty-five years of age and older a two percent increase in their original benefit (or their benefit as of October 1, 1977, if they retired prior to that time). In order for the Board to grant either of these increases the system must meet certain criteria detailed in the statute related to funding status and interest earnings on investments. In lieu of other cost of living increases the Board may grant an increase to retirees in the form " $X \times (A \& B)$ " 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.

<u>Factor</u>	<u>Increase in Factor Results in</u>
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: 6.75%

ANNUAL SALARY INCREASE RATE: 5.25% (2.75% Merit /2.50% Inflation)

ACTIVE MEMBER MORTALITY: RP-2000 Employee Table set back 4 years for males and set back 3 years for females

ANNUITANT AND
BENEFICIARY MORTALITY

RP-2000 Healthy Annuitant table set forward 2 years and projected to 2031 using scale AA for males and RP-2000 Healthy Annuitant table set forward 1 year and projected to 2031 using scale AA for females.

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 80 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	Factor	Service	Factor
	<1	0.25	11	0.04
	1	0.21	12	0.03
	2	0.15	13	0.03
	3	0.12	14	0.02
	4	0.10	15	0.02
	5	0.09	16	0.02
	6	0.08	17	0.02
	7	0.07	18	0.02
	8	0.06	19	0.02
	9	0.05	20	0.02
	10	0.04	>20	0.01
PLAN B:	Service	Factor	Service	Factor
	<1	0.23	11	0.04
	1	0.18	12	0.04
	2	0.16	13	0.04
	3	0.14	14	0.04
	4	0.10	15	0.03
	5	0.09	16	0.03
	6	0.07	17	0.03
	7	0.06	18	0.02
	8	0.05	19	0.02
	9	0.05	20	0.02
	10	0.04	>20	0.01

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

DISABLED LIVES MORTALITY: RP-2000 Disabled Lives Mortality Tables set back 5 years for males and set back 3 years for females

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:	35%
	Age 40 – 49:	45%
	Above Age 49:	60%
Plan B:	Under Age 40:	45%
	Age 40 – 49:	50%
	Above Age 49:	65%

SICK AND ANNUAL LEAVE: Retirees were assumed to convert 1.2 months of sick and annual leave to retirement credit for each ten (Tier 1 members) 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 PERIOD: All DROP participants are assumed to participate for 3 years and to retire at the end of their DROP participation period.

DISABILITY RATES: 50% 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:**

Retirement rates for active former DROP participants are 24% for Plan A and Plan B provided the member is below age 80. For members age 80 or over, the retirement rate is set at 100%.

PRIOR YEAR ASSUMPTIONS

VALUATION INTEREST RATE: 7.00% (Net of Investment Expense)

ACTUARIAL TABLES AND RATES

Age	Male Employee Mortality Rates	Female Employee Mortality Rates	Male Retired Mortality Rates	Female Retired Mortality Rates	Male Disabled Mortality Rates	Female Disabled Mortality Rates	Remarriage Rates
18	0.00025	0.00017	0.00019	0.00012	0.02257	0.00745	0.06124
19	0.00027	0.00018	0.00020	0.00012	0.02257	0.00745	0.06124
20	0.00028	0.00018	0.00020	0.00012	0.02257	0.00745	0.06124
21	0.00030	0.00019	0.00021	0.00011	0.02257	0.00745	0.05818
22	0.00032	0.00019	0.00022	0.00012	0.02257	0.00745	0.05524
23	0.00033	0.00019	0.00024	0.00012	0.02257	0.00745	0.05242
24	0.00035	0.00019	0.00025	0.00013	0.02257	0.00745	0.04971
25	0.00036	0.00019	0.00028	0.00014	0.02257	0.00745	0.04566
26	0.00037	0.00020	0.00033	0.00015	0.02257	0.00745	0.04335
27	0.00037	0.00020	0.00035	0.00016	0.02257	0.00745	0.04114
28	0.00038	0.00021	0.00038	0.00017	0.02257	0.00745	0.03902
29	0.00038	0.00021	0.00043	0.00018	0.02257	0.00745	0.03698
30	0.00038	0.00022	0.00048	0.00022	0.02257	0.00745	0.03502
31	0.00038	0.00024	0.00054	0.00027	0.02257	0.00745	0.03314
32	0.00039	0.00025	0.00060	0.00031	0.02257	0.00745	0.03134
33	0.00041	0.00026	0.00066	0.00033	0.02257	0.00745	0.02961
34	0.00044	0.00031	0.00072	0.00035	0.02257	0.00745	0.02795
35	0.00050	0.00035	0.00077	0.00036	0.02257	0.00745	0.02636
36	0.00056	0.00039	0.00083	0.00038	0.02257	0.00745	0.02483
37	0.00063	0.00044	0.00087	0.00040	0.02257	0.00745	0.02336
38	0.00070	0.00047	0.00090	0.00042	0.02257	0.00745	0.02195
39	0.00077	0.00051	0.00092	0.00044	0.02257	0.00745	0.02060
40	0.00084	0.00055	0.00095	0.00048	0.02257	0.00745	0.01930
41	0.00090	0.00060	0.00098	0.00053	0.02257	0.00745	0.01805
42	0.00096	0.00065	0.00102	0.00059	0.02257	0.00745	0.01686
43	0.00102	0.00071	0.00107	0.00064	0.02257	0.00745	0.01571
44	0.00108	0.00077	0.00111	0.00070	0.02257	0.00745	0.01461
45	0.00114	0.00085	0.00116	0.00074	0.02257	0.00745	0.01355
46	0.00122	0.00094	0.00120	0.00078	0.02257	0.00745	0.01253
47	0.00130	0.00103	0.00125	0.00082	0.02257	0.00745	0.01156
48	0.00140	0.00112	0.00324	0.00088	0.02257	0.00745	0.01063
49	0.00151	0.00122	0.00325	0.00133	0.02257	0.00818	0.00973
50	0.00162	0.00133	0.00321	0.00145	0.02257	0.00896	0.00887
51	0.00173	0.00143	0.00316	0.00161	0.02385	0.00978	0.00804
52	0.00186	0.00155	0.00310	0.00187	0.02512	0.01063	0.00725
53	0.00200	0.00168	0.00316	0.00219	0.02640	0.01154	0.00649
54	0.00214	0.00181	0.00327	0.00259	0.02769	0.01248	0.00576
55	0.00229	0.00197	0.00356	0.00306	0.02897	0.01346	0.00000
56	0.00245	0.00213	0.00393	0.00364	0.03027	0.01446	0.00000
57	0.00262	0.00232	0.00440	0.00421	0.03156	0.01550	0.00000
58	0.00281	0.00253	0.00497	0.00473	0.03286	0.01654	0.00000
59	0.00303	0.00276	0.00546	0.00531	0.03415	0.01760	0.00000
60	0.00331	0.00301	0.00601	0.00592	0.03544	0.01865	0.00000
61	0.00363	0.00329	0.00685	0.00658	0.03673	0.01971	0.00000
62	0.00400	0.00360	0.00758	0.00728	0.03803	0.02077	0.00000
63	0.00441	0.00393	0.00867	0.00804	0.03933	0.02184	0.00000
64	0.00488	0.00429	0.00960	0.00887	0.04067	0.02294	0.00000
65	0.00538	0.00466	0.01063	0.00977	0.04204	0.02408	0.00000
66	0.00592	0.00504	0.01213	0.01074	0.04347	0.02529	0.00000
67	0.00647	0.00543	0.01340	0.01179	0.04498	0.02660	0.00000
68	0.00703	0.00582	0.01434	0.01297	0.04658	0.02803	0.00000
69	0.00757	0.00621	0.01587	0.01433	0.04831	0.02959	0.00000
70	0.00810	0.00658	0.01708	0.01591	0.05017	0.03132	0.00000
71	0.00860	0.00695	0.01902	0.01715	0.05221	0.03323	0.00000
72	0.00907	0.00729	0.02122	0.01906	0.05445	0.03533	0.00000
73	0.00951	0.00761	0.02368	0.02048	0.05691	0.03764	0.00000
74	0.00992	0.01858	0.02639	0.02261	0.05961	0.04014	0.00000
75	0.02457	0.02067	0.03030	0.02414	0.06258	0.04285	0.00000

ACTUARIAL TABLES AND RATES

	Plan A Tier 1 Retirement Rates	Plan A Tier 2 Retirement Rates	Plan A Tier 1 DROP Entry Rates	Plan A Tier 2 DROP Entry Rates	Plan A Disability Rates	Plan B Retirement Rates	Plan B DROP Entry Rates	Plan B Disability Rates
18	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
19	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
20	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
21	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
22	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
23	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
24	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
25	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
26	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
27	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
28	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
29	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
30	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
31	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
32	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
33	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
34	0.00000	0.00000	0.00000	0.00000	0.00075	0.00000	0.00000	0.00060
35	0.00000	0.00000	0.00000	0.00000	0.00085	0.00000	0.00000	0.00068
36	0.00000	0.00000	0.00000	0.00000	0.00095	0.00000	0.00000	0.00076
37	0.00000	0.00000	0.00000	0.00000	0.00105	0.00000	0.00000	0.00084
38	0.00000	0.00000	0.00000	0.00000	0.00120	0.00000	0.00000	0.00096
39	0.00000	0.00000	0.00000	0.00000	0.00135	0.00000	0.00000	0.00108
40	0.00000	0.00000	0.00000	0.00000	0.00155	0.00000	0.00000	0.00124
41	0.00000	0.00000	0.00000	0.00000	0.00175	0.00000	0.00000	0.00140
42	0.00000	0.00000	0.00000	0.00000	0.00195	0.00000	0.00000	0.00156
43	0.00000	0.00000	0.00000	0.00000	0.00220	0.00000	0.00000	0.00176
44	0.00000	0.00000	0.00000	0.00000	0.00250	0.00000	0.00000	0.00200
45	0.00000	0.00000	0.00000	0.00000	0.00285	0.00000	0.00000	0.00228
46	0.15000	0.00000	0.50000	0.00000	0.00325	0.00000	0.00000	0.00260
47	0.15000	0.00000	0.50000	0.00000	0.00365	0.00000	0.00000	0.00292
48	0.15000	0.00000	0.50000	0.00000	0.00415	0.00000	0.00000	0.00332
49	0.15000	0.00000	0.50000	0.00000	0.00470	0.00000	0.00000	0.00376
50	0.15000	0.00000	0.50000	0.00000	0.00535	0.00000	0.00000	0.00428
51	0.15000	0.00000	0.50000	0.00000	0.00610	0.00000	0.00000	0.00488
52	0.15000	0.00000	0.50000	0.00000	0.00690	0.00000	0.00000	0.00552
53	0.15000	0.00000	0.50000	0.00000	0.00785	0.00000	0.00000	0.00628
54	0.15000	0.00000	0.50000	0.00000	0.00890	0.00000	0.00000	0.00712
55	0.15000	0.15000	0.35000	0.35000	0.01010	0.15000	0.50000	0.00808
56	0.11000	0.11000	0.27000	0.27000	0.01150	0.15000	0.40000	0.00920
57	0.11000	0.11000	0.27000	0.27000	0.01305	0.15000	0.25000	0.01044
58	0.11000	0.11000	0.27000	0.27000	0.01480	0.15000	0.25000	0.01184
59	0.11000	0.11000	0.27000	0.27000	0.01685	0.15000	0.15000	0.01348
60	0.11000	0.11000	0.22000	0.22000	0.02440	0.12000	0.15000	0.01952
61	0.11000	0.11000	0.16000	0.16000	0.02440	0.12000	0.11000	0.01952
62	0.11000	0.11000	0.16000	0.16000	0.02440	0.12000	0.11000	0.01952
63	0.11000	0.11000	0.16000	0.16000	0.02440	0.12000	0.11000	0.01952
64	0.11000	0.11000	0.16000	0.16000	0.02440	0.12000	0.11000	0.01952
65	0.14000	0.14000	0.16000	0.16000	0.02440	0.20000	0.11000	0.01952
66	0.14000	0.14000	0.16000	0.16000	0.02440	0.20000	0.05000	0.01952
67	0.14000	0.14000	0.16000	0.16000	0.02440	0.12000	0.05000	0.01952
68	0.14000	0.14000	0.16000	0.16000	0.02440	0.12000	0.05000	0.01952
69	0.14000	0.14000	0.16000	0.16000	0.02440	0.12000	0.05000	0.01952
70	0.14000	0.14000	0.16000	0.16000	0.02440	0.12000	0.05000	0.01952
71	0.14000	0.14000	0.08000	0.08000	0.02440	0.12000	0.05000	0.01952
72	0.14000	0.14000	0.08000	0.08000	0.02440	0.12000	0.05000	0.01952
73	0.14000	0.14000	0.08000	0.08000	0.02440	0.12000	0.05000	0.01952
74	0.14000	0.14000	0.08000	0.08000	0.02440	0.12000	0.05000	0.01952
75	0.14000	0.14000	0.08000	0.08000	0.02440	0.12000	0.05000	0.01952

GLOSSARY

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

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

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

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

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

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

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

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

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

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.

NOTES