

**PAROCHIAL EMPLOYEES'
RETIREMENT SYSTEM**

ACTUARIAL VALUATION AS OF
DECEMBER 31, 2016

G. S. CURRAN & COMPANY, LTD.

Actuarial Services

10555 N. Glenstone Place • Baton Rouge, Louisiana 70810 • (225)769-4825

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

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

June 20, 2017

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, 2016. 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, 2017, to recommend the net direct employer contribution rate for Fiscal 2018. 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.

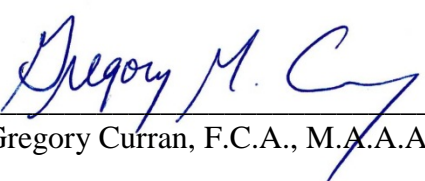
In our opinion, all of the assumptions on which this valuation is based are reasonable individually and in the aggregate. Both economic and demographic assumptions are based on our expectations for future experience for the fund. This report has been prepared in accordance with generally accepted actuarial 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.

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
SUMMARY OF VALUATION RESULTS – PLAN A	1
SUMMARY OF VALUATION RESULTS – PLAN B.....	2
GENERAL COMMENTS	3
COMMENTS ON DATA.....	4
COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS	5
RISK FACTORS	6
CHANGES IN PLAN PROVISIONS	8
ASSET EXPERIENCE.....	8
DEMOGRAPHICS AND LIABILITY EXPERIENCE – PLAN A	10
DEMOGRAPHICS AND LIABILITY EXPERIENCE – PLAN B.....	10
FUNDING ANALYSIS AND RECOMMENDATIONS	11
COST OF LIVING INCREASES	13
GRAPHS	15
EXHIBIT I – Plan A: Analysis of Actuarially Required Contributions.....	25
EXHIBIT II – Plan A: Present Value of Future Benefits.....	26
EXHIBIT III – SCHEDULE A – Plan A: Market Value of Assets.....	27
EXHIBIT III – SCHEDULE B – Plan A: Actuarial Value of Assets	28
EXHIBIT IV – Plan A: Present Value of Future Contributions.....	29
EXHIBIT V – Plan A: Reconciliation of Contributions.....	29
EXHIBIT VI – Plan A: Analysis of Change in Assets.....	30
EXHIBIT VII – Plan A: Pension Benefit Obligation	31
EXHIBIT VIII – Plan A: Entry Age Normal Accrued Liabilities.....	31
EXHIBIT IX – Plan A: Census Data.....	32
EXHIBIT X – Plan A: Year-to-Year Comparison	40
EXHIBIT XI – Plan B: Analysis of Actuarially Required Contributions	43
EXHIBIT XII – Plan B: Present Value of Future Benefits	44
EXHIBIT XIII – SCHEDULE A – Plan B: Market Value of Assets.....	45
EXHIBIT XIII – SCHEDULE B – Plan B: Actuarial Value of Assets.....	46
EXHIBIT XIV – Plan B: Present Value of Future Contributions	47
EXHIBIT XV – Plan B: Reconciliation of Contributions	47
EXHIBIT XVI – Plan B: Analysis Of Change In Assets	48
EXHIBIT XVII – Plan B: Pension Benefit Obligation	49
EXHIBIT XVIII – Plan B: Entry Age Normal Accrued Liabilities	49
EXHIBIT XIX – Plan B: Census Data	50
EXHIBIT XX – Plan B: Year-To-Year Comparison	58
SUMMARY OF PRINCIPAL PLAN PROVISIONS.....	60
ACTUARIAL ASSUMPTIONS	64
ACTUARIAL TABLES AND RATES.....	69
GLOSSARY	70

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

Valuation Date:	December 31, 2016	December 31, 2015
Census Summary:		
Active Members	14,330	14,232
Retired Members and Survivors	7,050	6,783
Terminated Due a Deferred Benefit	703	678
Terminated Due a Refund	7,329	7,182
Payroll:	\$ 599,421,070	\$ 577,600,460
Benefits in Payment:	\$ 157,140,568	\$ 146,994,479
Present Value of Future Benefits:	\$ 4,327,500,828	\$ 4,169,347,064
Actuarial Accrued Liability (EAN):	\$ 3,446,813,538	\$ 3,316,128,533
Funding Deposit Account Credit Balance:	\$ 68,896,088	\$ 49,644,401
Actuarial Asset Value (AVA):	\$ 3,419,149,648	\$ 3,220,157,028
Market Value of Assets (Includes side funds):	\$ 3,313,917,014	\$ 3,124,593,132
Ratio of AVA to Actuarial Accrued Liability:	99.20%	97.11%

	Fiscal 2016	Fiscal 2015
Market Rate of Return:	7.7%	-0.6%
Actuarial Rate of Return:	7.8%	7.3%

	Fiscal 2017	Fiscal 2016
Employers' Normal Cost (Mid-year):	\$ 63,651,297	\$ 68,147,128
Estimated Administrative Cost:	\$ 1,451,134	\$ 1,412,532
Projected Ad Valorem Tax Contributions:	\$ 7,373,605	\$ 7,349,416
Projected Revenue Sharing Funds:	\$ 136,772	\$ 135,798
Net Direct Employer Actuarially Required Contributions:	\$ 57,592,054	\$ 62,074,446
Projected Payroll:	\$ 615,728,805	\$ 589,987,903
Actual Employee Contribution Rate:	9.50%	9.50%
Actual Net Direct Employer Contribution Rate:	12.50%	13.00%
Actuarially Required Net Direct Employer Contribution Rate:	9.35%	10.52%

	Fiscal 2018	Fiscal 2017
Minimum Recommended Net Direct Employer Cont. Rate:	9.25%	10.50%

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

Valuation Date:	December 31, 2016	December 31, 2015
Census Summary:		
Active Members	2,415	2,413
Retired Members and Survivors	792	747
Terminated Due a Deferred Benefit	138	139
Terminated Due a Refund	1,608	1,554
Payroll:	\$ 100,932,377	\$ 98,127,898
Benefits in Payment:	\$ 9,070,674	\$ 8,150,177
Present Value of Future Benefits:	\$ 375,042,475	\$ 357,606,663
Actuarial Accrued Liability (EAN):	\$ 283,598,901	\$ 267,985,810
Funding Deposit Account Credit Balance:	\$ 5,602,259	\$ 4,622,489
Actuarial Asset Value (AVA):	\$ 284,685,809	\$ 263,849,591
Market Value of Assets (Includes side funds):	\$ 275,756,021	\$ 255,103,397
Ratio of AVA to Actuarial Accrued Liability:	100.38%	98.46%
	Fiscal 2016	Fiscal 2015
Market Rate of Return:	7.7%	-0.7%
Actuarial Rate of Return:	7.5%	7.1%
	Fiscal 2017	Fiscal 2016
Employers' Normal Cost (Mid-year):	\$ 8,040,957	\$ 8,286,312
Estimated Administrative Cost:	\$ 244,346	\$ 239,973
Projected Ad Valorem Tax Contributions:	\$ 1,241,590	\$ 1,248,584
Projected Revenue Sharing Funds:	\$ 23,030	\$ 23,070
Net Direct Employer Actuarially Required Contributions:	\$ 7,020,683	\$ 7,254,631
Projected Payroll:	\$ 104,085,606	\$ 100,772,731
Actual Employee Contribution Rate:	3.00%	3.00%
Actual Net Direct Employer Contribution Rate:	8.00%	8.00%
Actuarially Required Net Direct Employer Contribution Rate:	6.75%	7.20%
	Fiscal 2018	Fiscal 2017
Minimum Recommended Net Direct Employer Cont. Rate:	6.75%	7.25%

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 on magnetic diskette 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 14,330 active members in Plan A, of whom, 7,504 members, including 534 participants in the Deferred Retirement Option Plan (DROP), have vested retirement benefits; 7,050 former members of Plan A or their beneficiaries are receiving retirement benefits. An additional 8,032 former members of Plan A have contributions remaining on deposit with the system. This includes 703 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 2,415 active members in Plan B, of whom, 1,229 members, including 67 DROP participants, have vested retirement benefits; 792 former members of Plan B or their beneficiaries are receiving retirement benefits. An additional, 1,746 former members of Plan B have contributions remaining on deposit with the system. Of this number, 138 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 \$3,313,917,014 as of December 31, 2016. For Plan A, the net investment income for Fiscal 2016 measured on a market value basis was \$238,615,848. Contributions to Plan A for the fiscal year totaled \$141,358,875; benefits and expenses amounted to \$190,650,841.

The net market value of Plan B's assets was \$275,756,021 as of December 31, 2016. For Plan B, the net investment income for Fiscal 2016 measured on a market value basis was \$19,716,857. Contributions to Plan B for the fiscal year totaled \$11,959,491; benefits and expenses amounted to \$11,023,724.

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 \$49,644,401 and \$4,622,489, 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 2016 resulted in a contribution gain of \$15,776,579 as of December 31, 2016. A freeze in the employer contribution rate in Plan B for Fiscal 2016 resulted in a contribution gain of \$656,194 as of December 31, 2016. When interest and additional contributions were added to the Funding Deposit Accounts, the resulting balances as of December 31, 2016 for Plans A and B were \$68,896,088 and \$5,602,259, 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. These factors were used to derive forward estimates of the Fund's portfolio earnings rate. Consideration was also given to a 2016 report from Segal Marco Advisors on 20 year Return Projections of future expected rates of return for the current portfolio asset allocation. Based on the results of this interest rate assumption review, the assumed rate of return for the valuation was set at 7.00% for Plans A and B. An inflation rate of 2.50% was implicit in both the assumed rate of return and rate of salary increases. Additional details are given in the complete Experience Report for fiscal years 2010 through 2014.

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. 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 sixty-nine. 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.

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 99.20% for Plan A and 100.38% for Plan B as of December 31, 2016. 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 0.68% 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 0.33% 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 2016, this ratio is 26.22% for Plan A and 8.99% for Plan B; ten years ago this ratio was 17.40% for Plan A and 6.81% 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 2017 by 10.28% of payroll for Plan A and 5.85% 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 2016 Regular Session of the Louisiana Legislature:

Act 410 requires that the executive director or person holding the equivalent position of each public retirement system file a Tier 2.1 personal financial statement.

Act 424 requires that interest be credited annually to those whose DROP contributing period has ended using the preceding 12-month average of interest paid by the custodial bank's prime money market institutional shares fund. The act repeals language related to self-directed accounts.

Act 621 replaces the Chairman of the House Committee on Retirement with a member of the House Committee on Retirement appointed by the Speaker of the House of Representatives as trustee on each state and statewide retirement system board.

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>
2007	7.9%	* 17.1%
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%

<u>Plan B</u>	<u>Market Value</u>	<u>Actuarial Value</u>
2007	7.7%	* 13.4%
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%

* Includes effect of change in asset valuation method. Effective with the 2007 valuation the method was changed from smoothing capital gains and losses over 3 years to smoothing investment earnings above or below the assumed rate of return over a five year period with a +/- 10% of market value corridor limit.

** 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.

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 2016, Plan A earned \$51,207,333 and Plan B earned \$4,225,115 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 \$204,700,897 while the total of such gains for Plan B amounted to \$16,949,769. Investment expenses were \$17,292,382 for Plan A and \$1,458,027 for Plan B. The geometric mean of the market value rates of return measured over the last ten years was 5.4% for Plan A and 5.5% for Plan B. For the last twenty-five years, the geometric mean returns were 7.5% for Plan A and 7.3% 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 2016. 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 7.00% assumption will reduce future costs; yields below 7.00% will increase future costs. Net actuarial investment earnings exceeded the actuarial assumed earnings rate of 7.00%, used for Fiscal 2016, by \$24,569,634 for Plan A and exceeded the actuarial assumed earnings rate of 7.00%, used for Fiscal 2016, by \$1,398,782 for Plan B. These earnings surpluses for Plan A produced actuarial gains, which decreased the normal cost accrual rate by 0.4922% and the earnings surpluses for Plan B produced actuarial gains, which decreased the normal cost accrual rate by 0.1608% 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, 2016 valuation we found

members of Plan A and Plan B with such service and recommend a transfer of \$179,592 be made from the Plan B trust to the Plan A trust for Fiscal 2016.

PLAN A – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit IX. The average active member is 46 years old with 9.84 years of service and an annual salary of \$41,830. The plan's active membership, inclusive of DROP participants, increased by 98 members during the fiscal year. The plan has experienced a decrease in the active plan population of 316 members over the last five years. A review of the active census by age indicates that over the last ten years the population under age fifty has decreased while the proportion of active members age fifty-one and above 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 \$2,064. The number of retirees and beneficiaries receiving benefits from the system increased by 267 during the fiscal year; over the last five years the number of retirees has increased by 1,332; during the same period, benefits in payment increased by \$52,457,073.

Plan liability experience for Fiscal 2016 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 retirements above projected levels and withdrawals below projected levels. DROP entries were near projected levels. In aggregate, plan liability gains decreased the normal cost accrual rate by 0.3864%.

PLAN B – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit XIX. The average active member is 47 years old with 9.68 years of service and an annual salary of \$41,794. The plan's active membership, inclusive of DROP participants, increased by 2 members during the fiscal year. The plan has experienced an increase in the active plan population of 112 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 \$1,033. The number of retirees and beneficiaries receiving benefits from the system increased by 45 during the fiscal year; over the last five years the number of retirees has increased by 181; during the same period benefits in payment increased by \$3,324,641.

Plan liability experience for Fiscal 2016 was favorable. Disabilities and salary increases were below projected levels. Retiree deaths were slightly 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 0.2879%.

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 2017 as of January 1, 2017 is \$61,534,031. 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 2017 is \$65,102,431. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for Fiscal 2017 is \$57,592,054. This is 9.35% of the projected Plan A payroll for Fiscal 2017.

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 2016	12.3340%
---	----------

Factors Increasing the Normal Cost Accrual Rate:

None

Factors Decreasing the Normal Cost Accrual Rate:

Asset Experience Gain	0.4922%
Plan Liability Experience Gain	0.3864%
New Members	0.3340%

Employer's Normal Cost Accrual Rate – Fiscal 2017	11.1214%
---	----------

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 2017 will decrease by 0.05% 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 2017 for Plan A of 9.35%; the actual employer contribution rate for Fiscal 2017 is 12.50% 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 9.25% for Fiscal 2018.

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 2017 as of January 1, 2017 is \$7,773,487. 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 2017 is \$8,285,303. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' net direct actuarially required contribution for Fiscal 2017 is \$7,020,683. This is 6.75% of the projected Plan B payroll for Fiscal 2017.

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

Employer's Normal Cost Accrual Rate – Fiscal 2016	8.8224%
---	---------

Factors Increasing the Normal Cost Accrual Rate:

None

Factors Decreasing the Normal Cost Accrual Rate:

Asset Experience Gain	0.1608%
Plan Liability Experience Gain	0.2879%
New Members	0.1091%

Employer's Normal Cost Accrual Rate – Fiscal 2017	8.2646%
---	---------

We estimate that for Plan B the funds collected from ad valorem taxes and revenue sharing funds in Fiscal 2017 will decrease by 0.05% 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 2017 for Plan B of 6.75%; the actual employer contribution rate for Fiscal 2017 is 8.00% 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 6.75% for Fiscal 2018.

For Plan A, the Board may set the net direct employer contribution at any rate between 9.25% and 12.50%. For Plan B, the board may set the rate at any rate between 6.75% and 8.00%. 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 2016 the actual cost of living (as measured by the U.S. Department of Labor CPI-U) increased by 2.07%. 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.

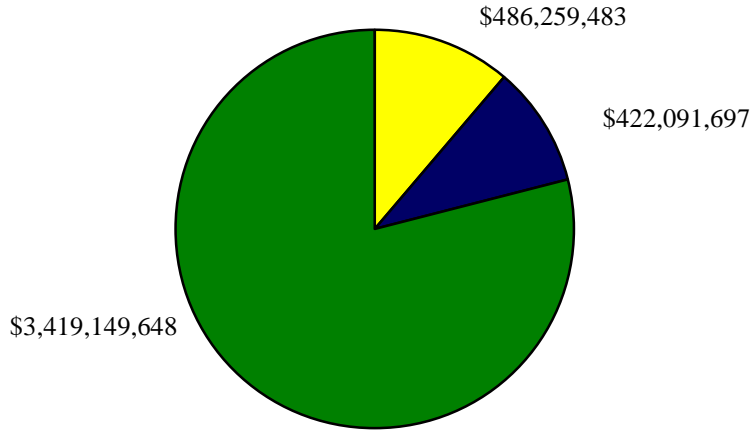
All of the above provisions require that the system earn sufficient excess interest earnings to fund the increases unless the Board funds a cost of living increase out of the Funding Deposit Account Credit Balance. For Fiscal 2016, Plan A had \$24,569,634 in excess interest earnings and Plan B had \$1,398,782. Since both Plan A and Plan B have funded ratios in excess of 90% and the most recent cost of living increase was granted as of January 1, 2015, both plans meet the criteria established in R.S. 11:243.

<u>PLAN A COLA Descriptions</u>	<u>Annual Increase in Benefits</u>	<u>Present Value of Increase</u>	<u>Change in Normal Cost %</u>
R.S. 11:1937 – 2 1/2% of current benefit to pensioners over age 62	\$ 2,984,249	\$ 27,046,502	0.54%
R.S. 11:246 - 2% of original benefit to pensioners over age 65	\$ 1,857,316	\$ 16,229,739	0.33%

<u>PLAN B COLA Descriptions</u>	<u>Annual Increase in Benefits</u>	<u>Present Value of Increase</u>	<u>Change in Normal Cost %</u>
R.S. 11:1937 – 2 1/2% of current benefit to pensioners over age 62	\$ 190,899	\$ 1,759,801	0.20%
R.S. 11:246 - 2% of original benefit to pensioners over age 65	\$ 122,102	\$ 1,094,149	0.13%

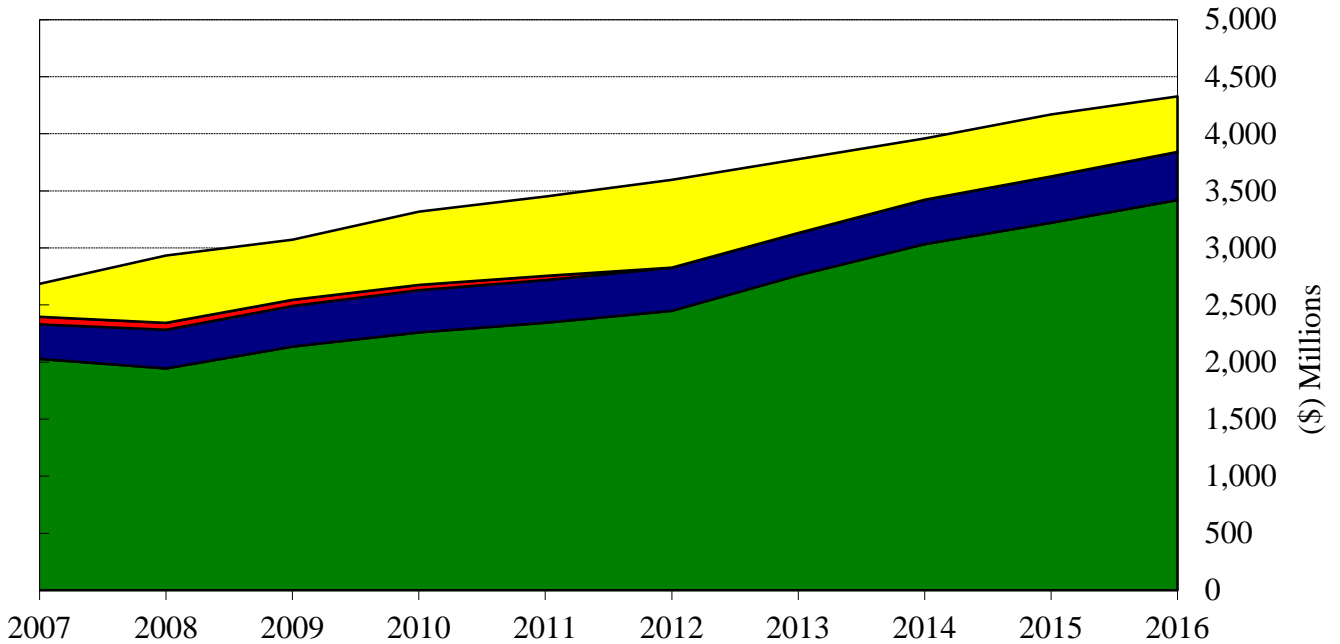
If COLAs are paid from the Funding Deposit Account, there will be no increase in the Normal Cost Accrual Rate for the Plans.

**Plan A - Components of Present Value of Future Benefits
December 31, 2016**



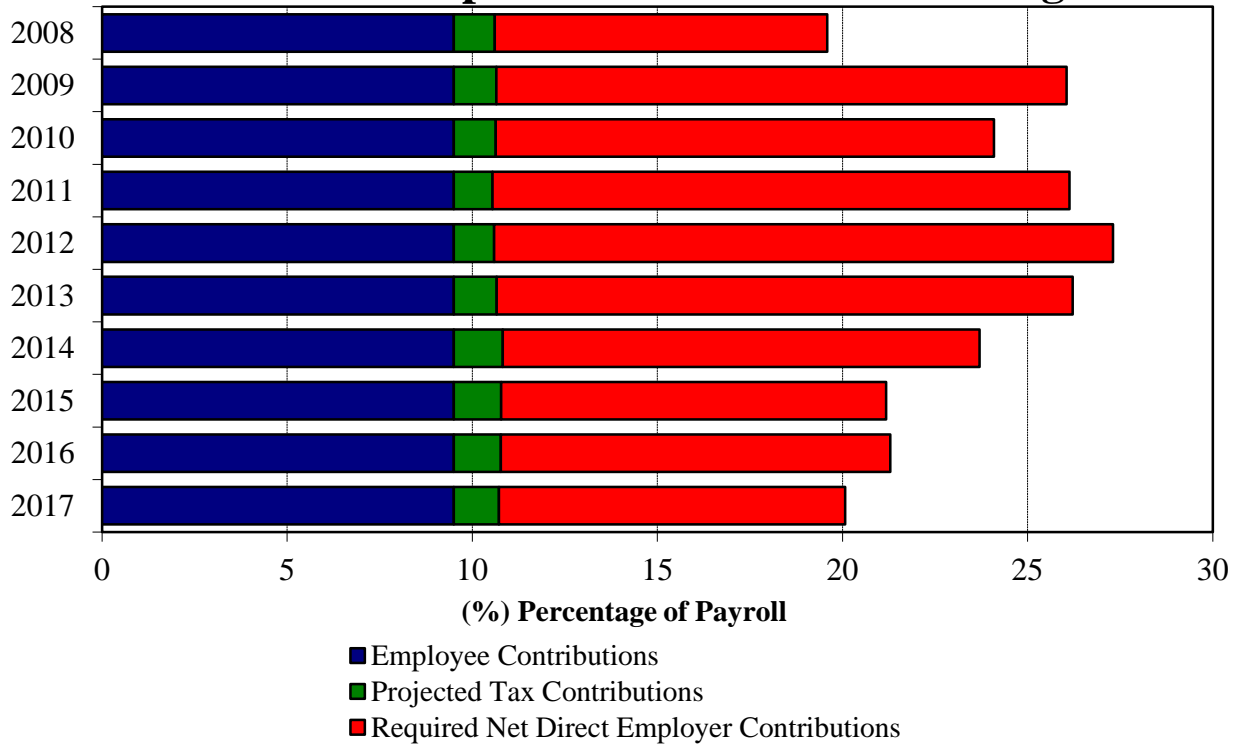
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan A - Components of Present Value of Future Benefits



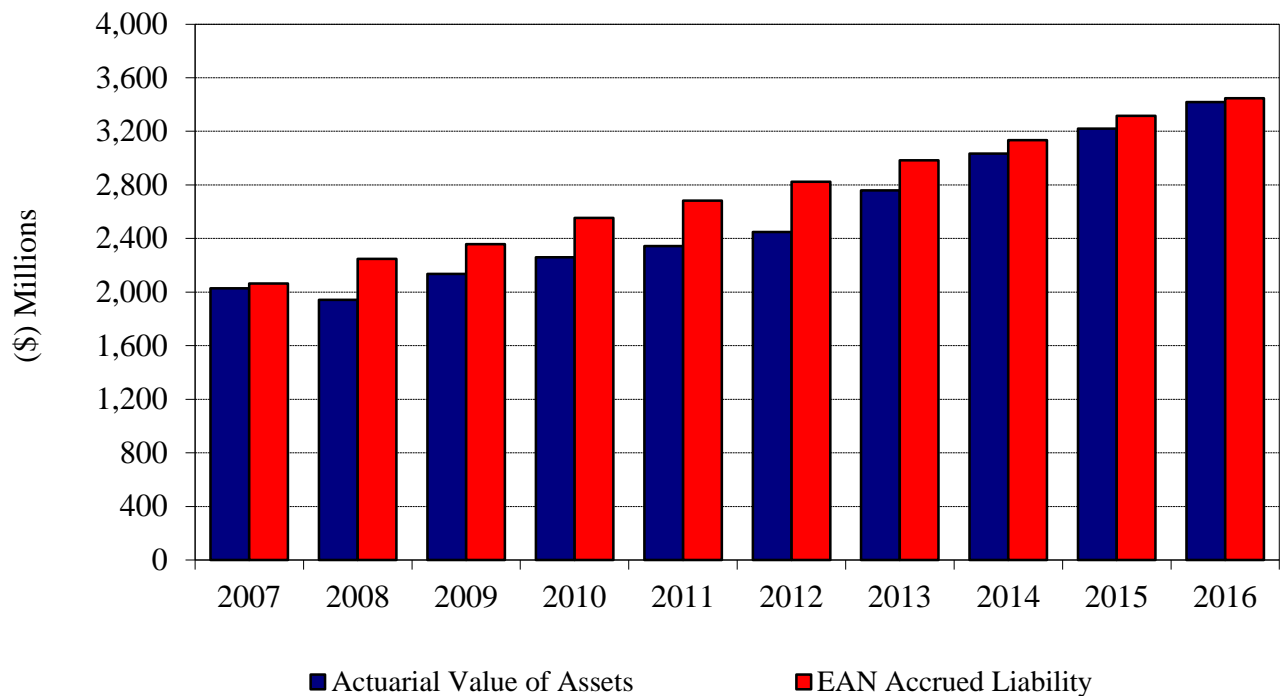
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Unfunded Accrued Liability
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan A - Components of Actuarial Funding

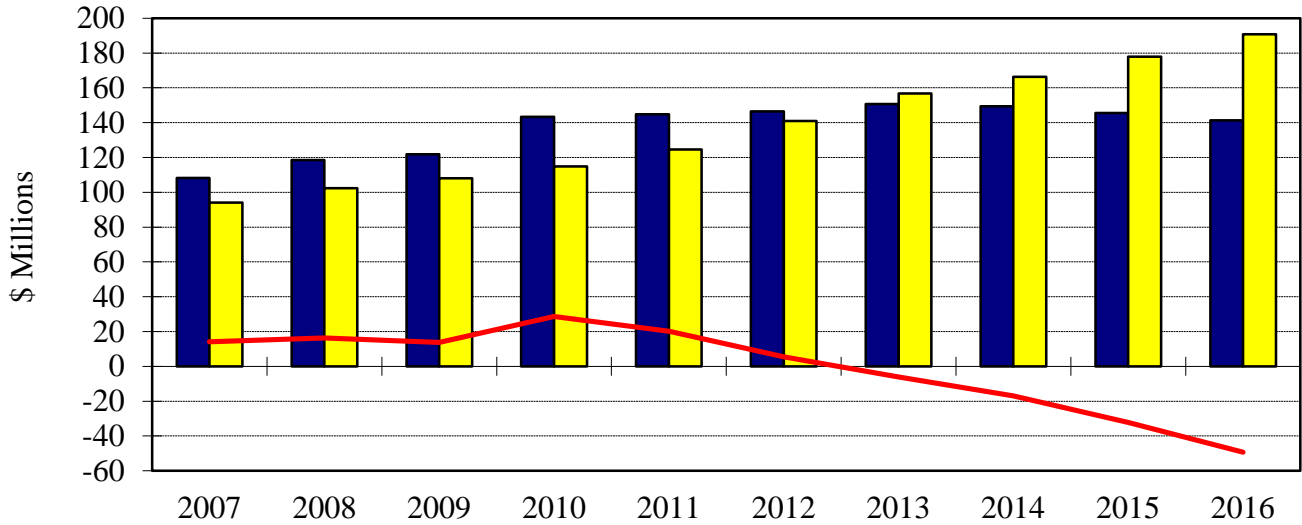


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

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

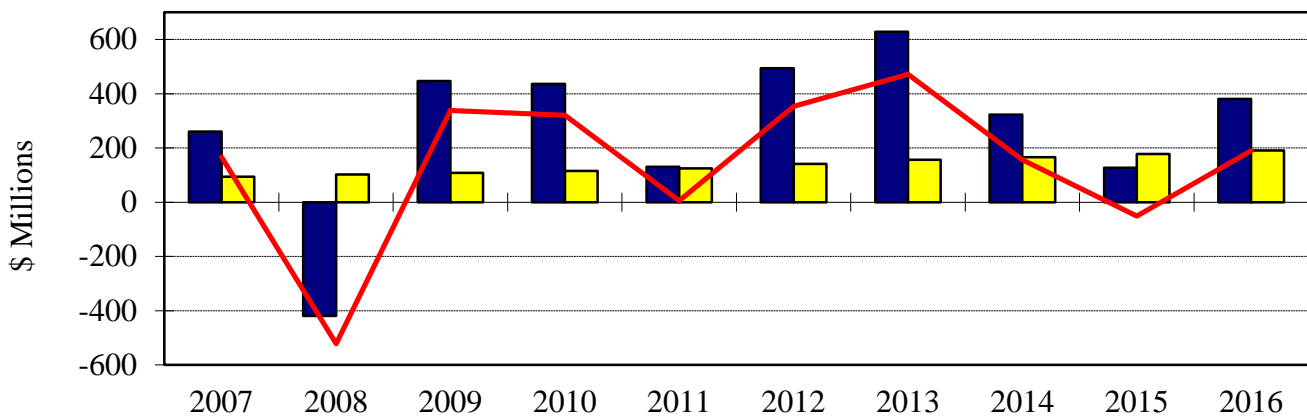


Plan A - Net Non-Investment Income



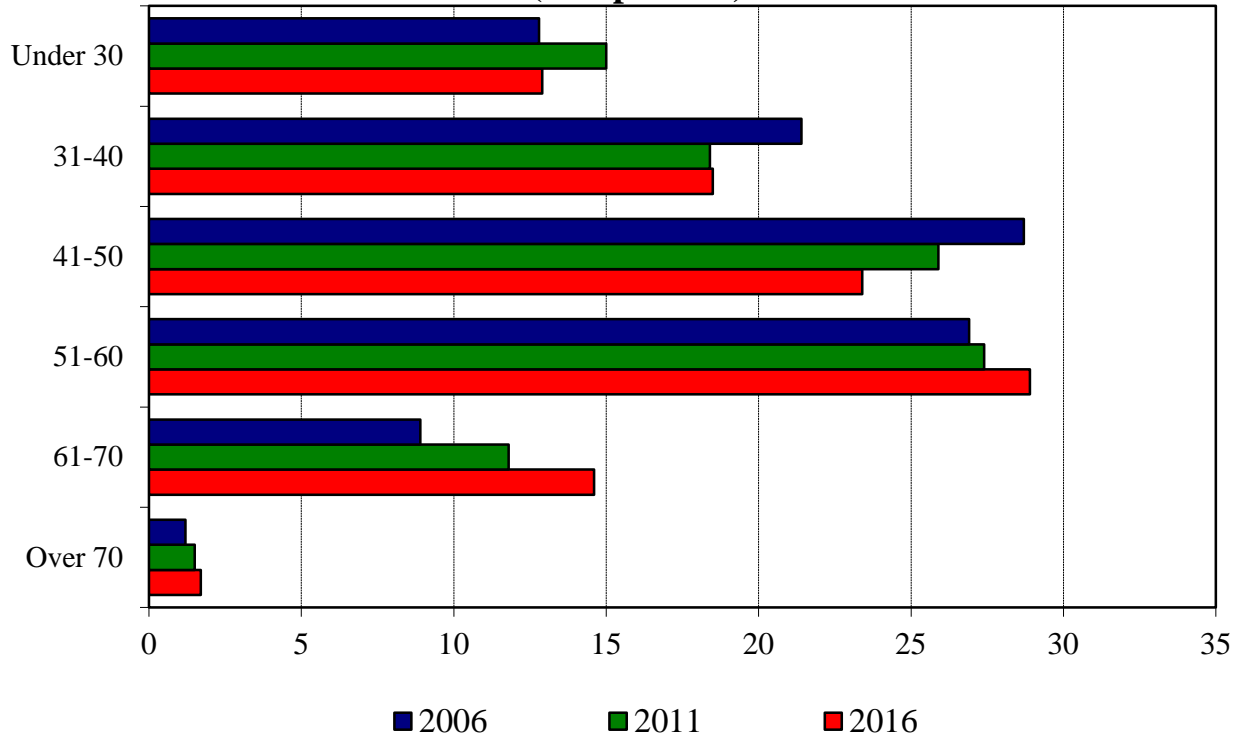
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Non-Investment Income (\$Mil)	■	108.2	118.6	121.9	143.4	144.8	146.4	149.8	149.4	145.6	141.4
Benefits and Expenses (\$Mil)	■	94.1	102.3	108.1	114.8	124.6	140.9	156.8	166.4	177.9	190.7
Net Non-Investment Income (\$Mil)	—	14.1	16.3	13.8	28.6	20.2	5.5	-7.0	-17.0	-32.3	-49.3

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

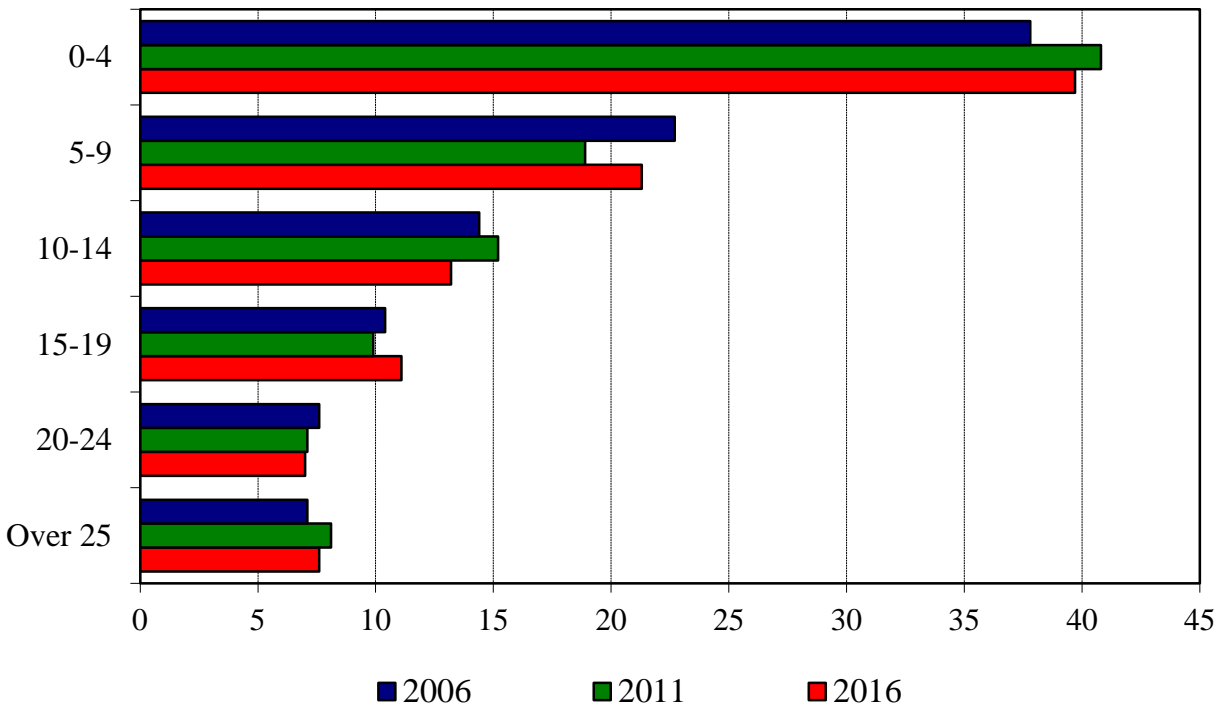


		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total Income (\$Mil)	■	260.2	-419.2	446.2	435.7	130.1	494.4	616.3	298.5	126.8	380.0
Benefits and Expenses (\$Mil)	■	94.1	102.3	108.1	114.8	124.6	140.9	156.8	166.4	177.9	190.7
Net Change in MVA (\$Mil)	—	166.1	-521.5	338.1	320.9	5.5	353.5	459.5	132.1	-51.1	189.3

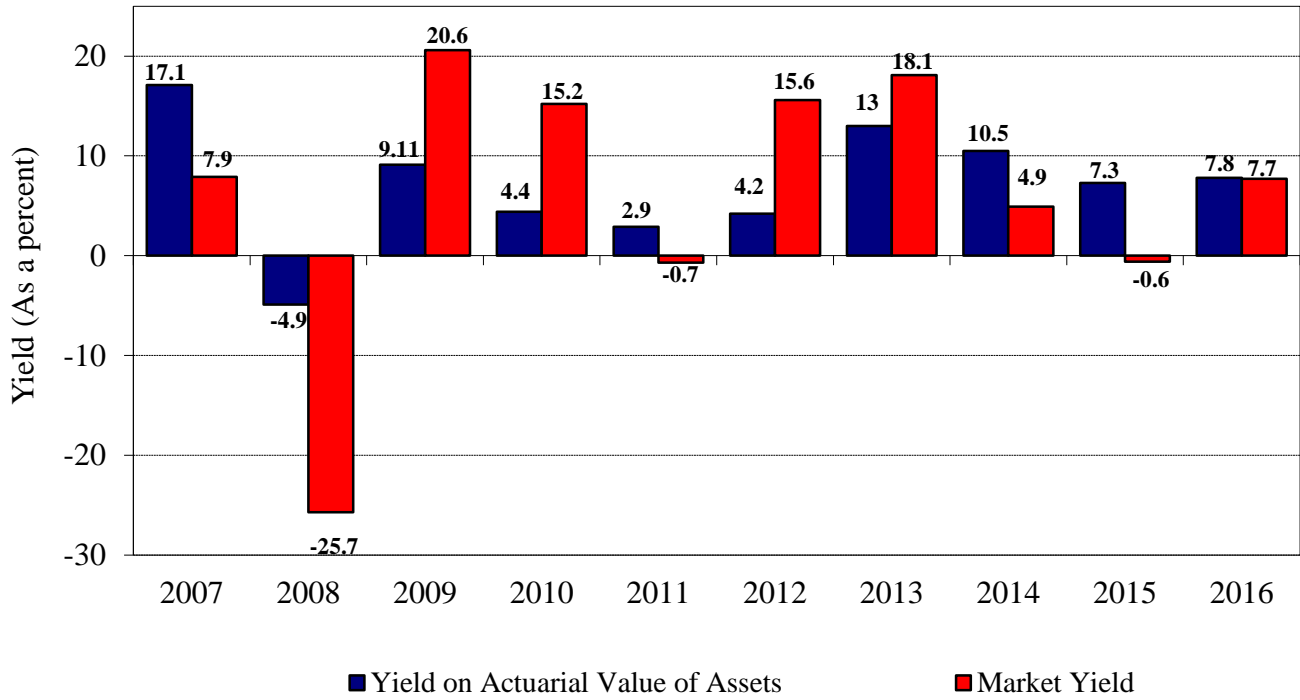
Plan A - Active – Census By Age (as a percent)



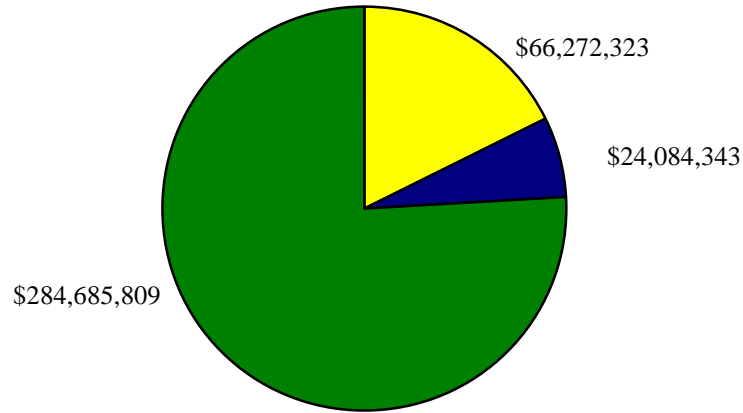
Plan A - Active – Census By Service (as a percent)



Plan A – Historical Asset Yield

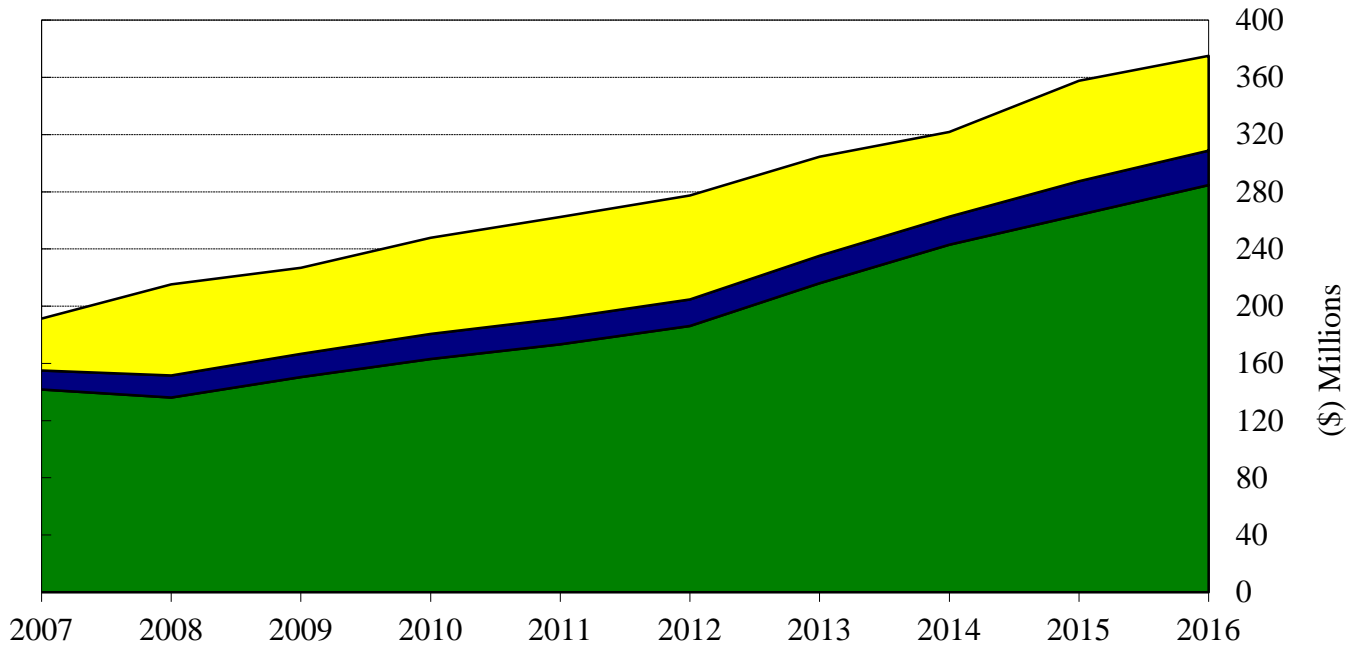


Plan B - Components of Present Value of Future Benefits December 31, 2016



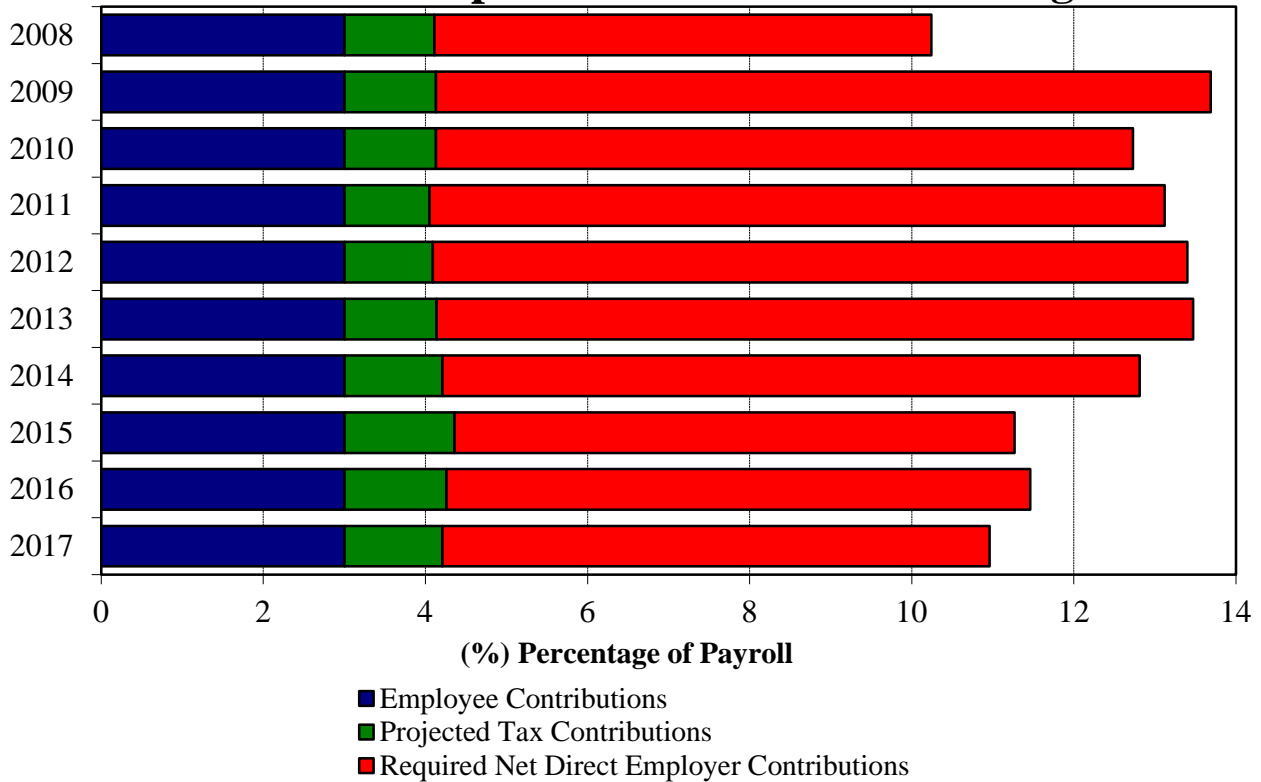
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan B - Components of Present Value of Future Benefits



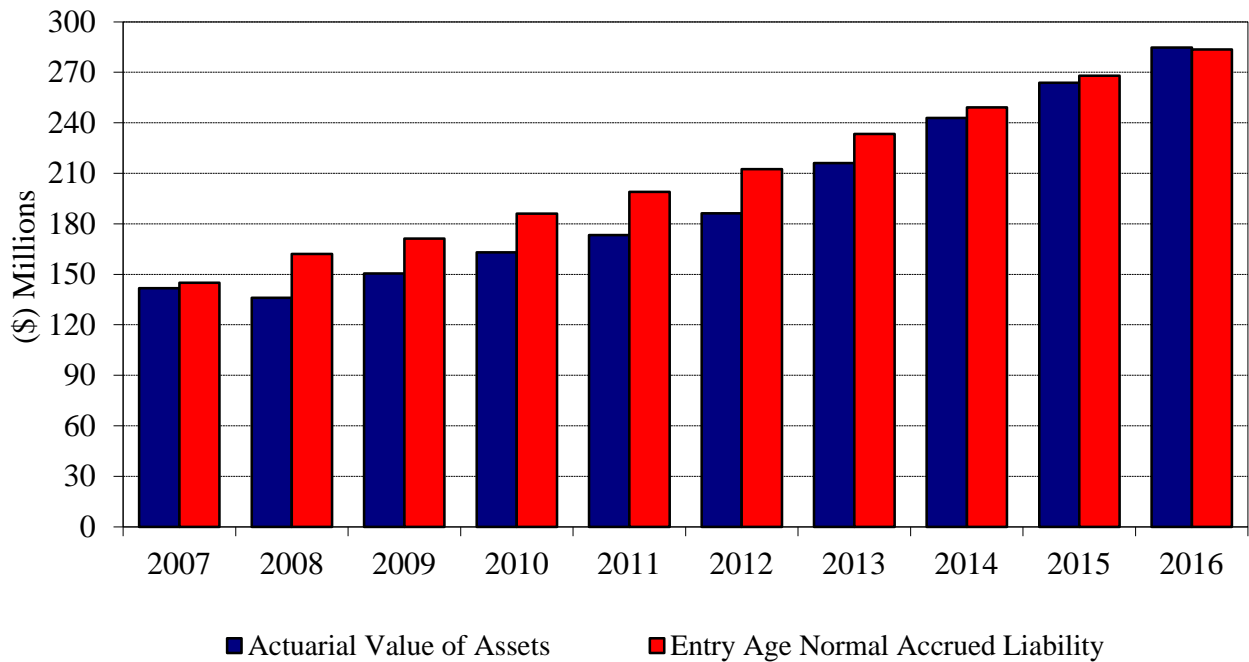
- Present Value of Future Employer Normal Cost (Net of Funding Deposit Account)
- Present Value of Future Employee Contributions
- Actuarial Value of Assets

Plan B - Components of Actuarial Funding

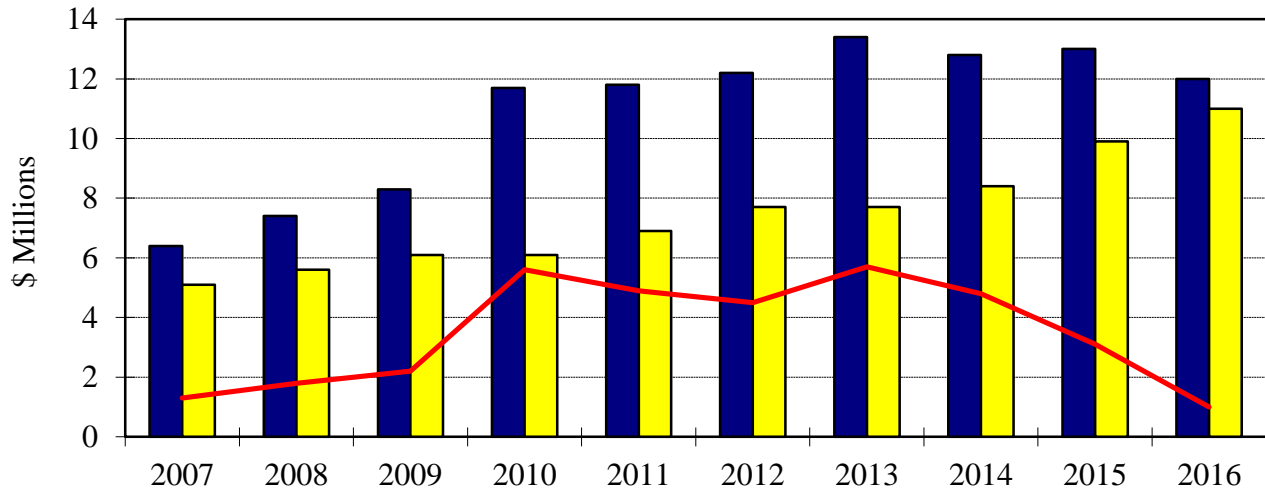


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

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

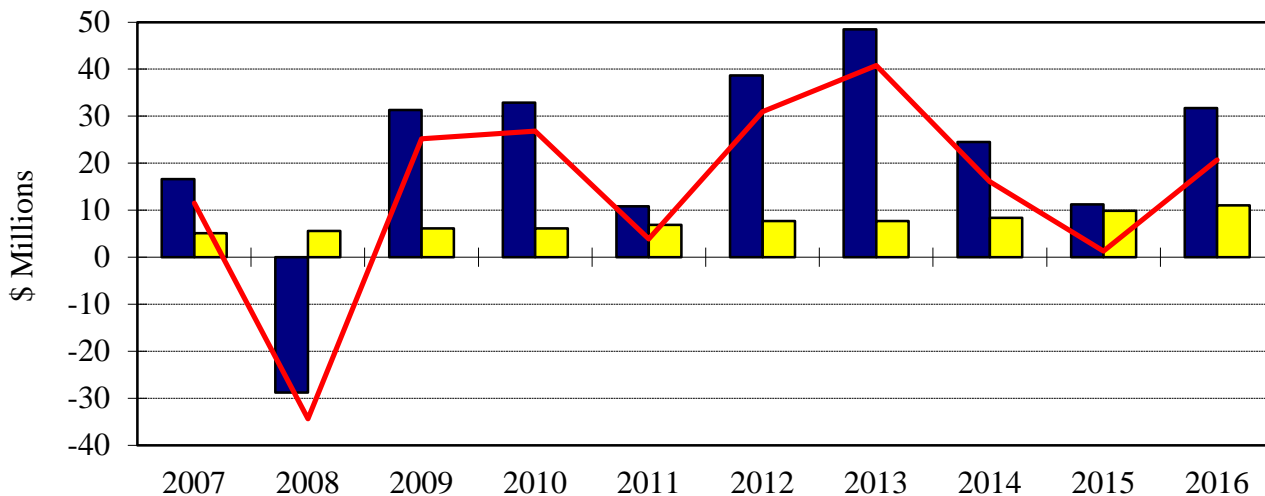


Plan B - Net Non-Investment Income



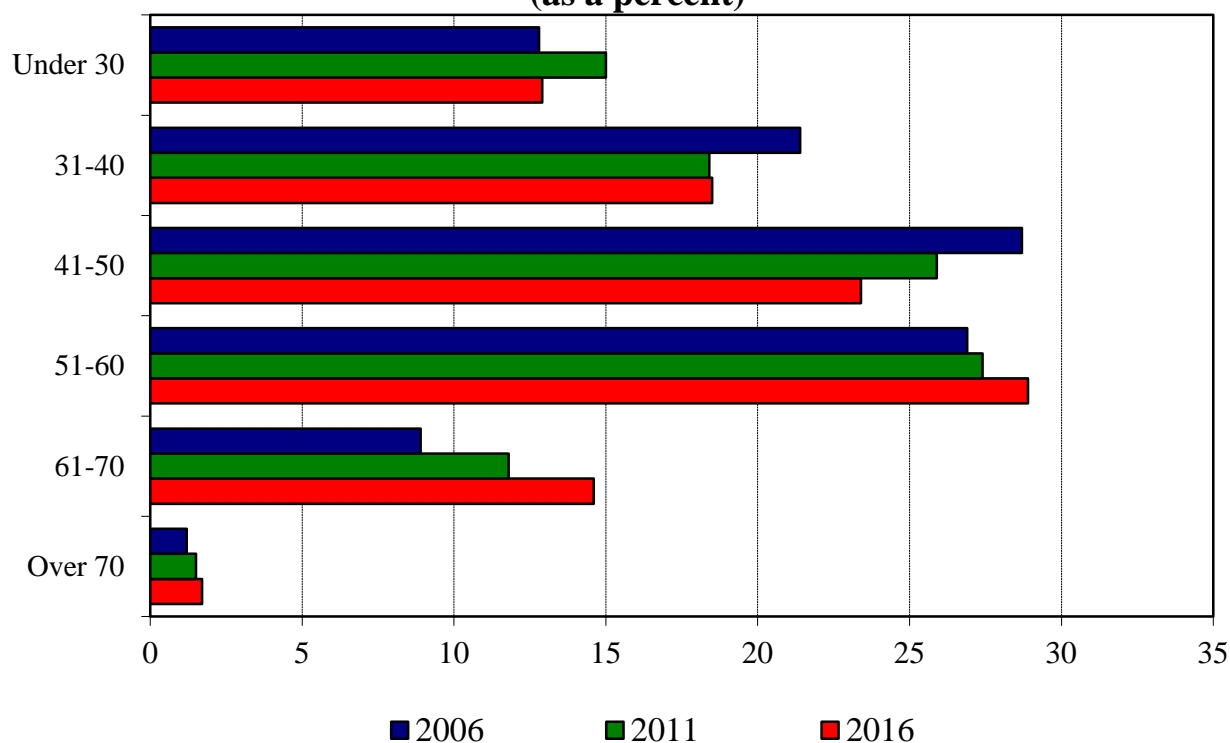
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Non-Investment Income (\$Mil)	■	6.4	7.4	8.3	11.7	11.8	12.2	13.4	12.8	13.3	12.0
Benefits and Expenses (\$Mil)	■	5.1	5.6	6.1	6.1	6.9	7.7	7.7	8.4	9.9	11.0
Net Non-Investment Income (\$Mil)	—	1.3	1.8	2.2	5.6	4.9	4.5	5.7	4.4	3.4	1.0

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

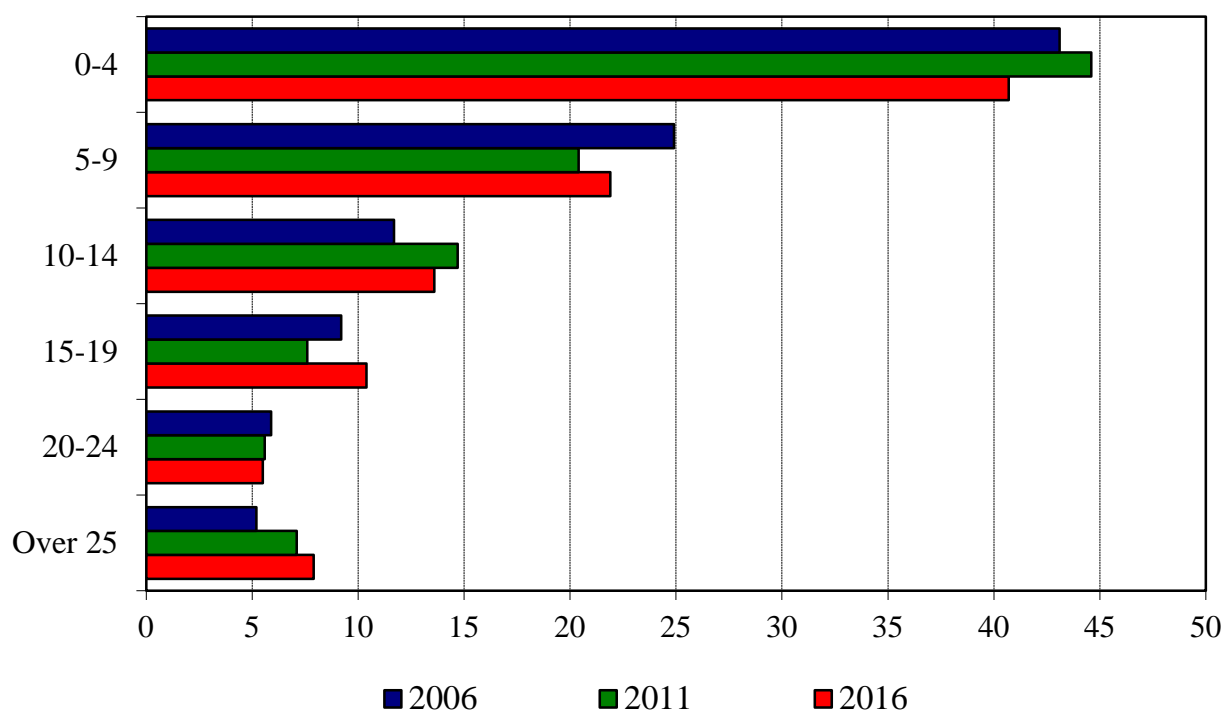


		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total Income (\$Mil)	■	16.6	-28.8	31.3	32.9	10.8	38.7	48.5	24.5	11.5	31.7
Benefits and Expenses (\$Mil)	■	5.1	5.6	6.1	6.1	6.9	7.7	7.7	8.4	9.9	11.0
Net Change in MVA (\$Mil)	—	11.5	-34.4	25.2	26.8	3.9	31.0	40.8	16.1	1.6	20.7

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



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



Plan B – Historical Asset Yield

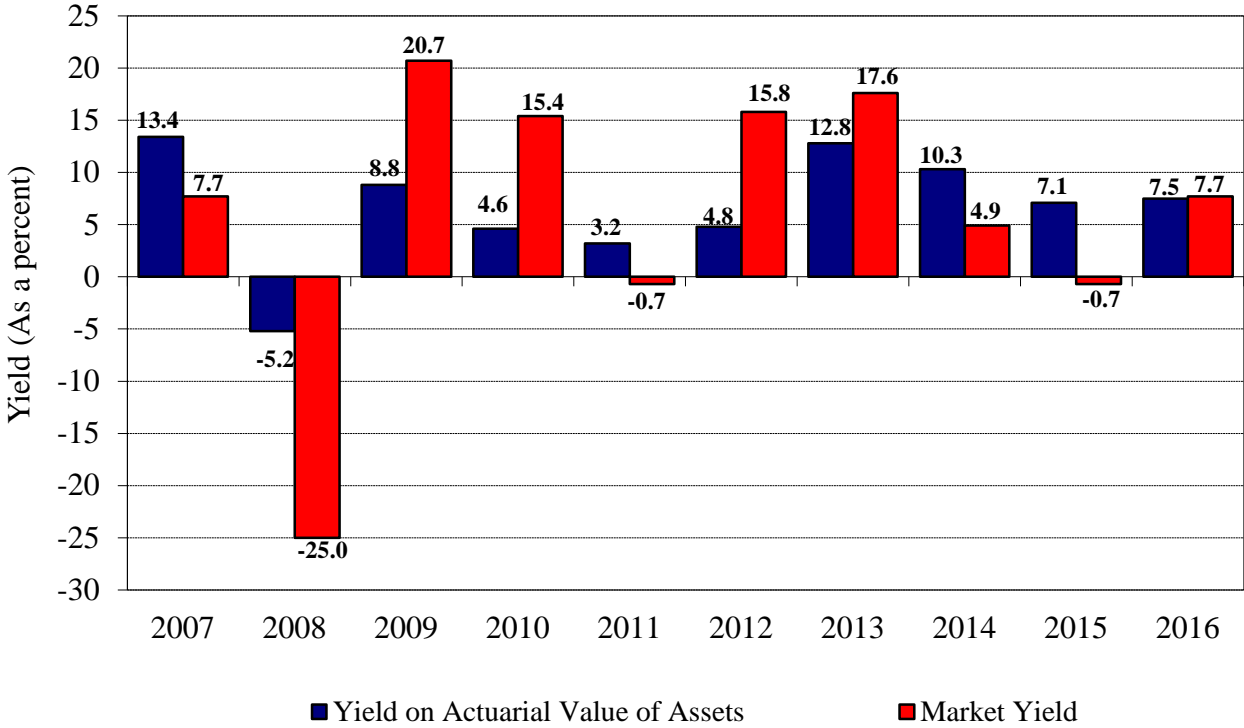


EXHIBIT I
PLAN A: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits	\$ 4,327,500,828
2. Funding Deposit Account Credit Balance	\$ 68,896,088
3. Actuarial Value of Assets	\$ 3,419,149,648
4. Present Value of Future Employee Contributions	\$ 422,091,697
5. Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4).....	\$ 555,155,571
6. Present Value of Future Salaries.....	\$ 4,991,796,863
7. Employer Normal Cost Accrual Rate (5 ÷ 6)	11.121357%
8. Projected Fiscal 2017 Salary for Current Membership.....	\$ 553,296,065
9. Employer Normal Cost as of January 1, 2017 (7 × 8)	\$ 61,534,031
10. Employer Normal Cost Interest Adjusted for Midyear Payment	\$ 63,651,297
11. Estimated Administrative Cost for Fiscal 2017	\$ 1,451,134
12. TOTAL Administrative and Interest Adjusted Actuarial Costs (10 + 11).....	\$ 65,102,431
13. Estimated Ad Valorem Tax Contributions for Fiscal 2017	\$ 7,373,605
14. Estimated Revenue Sharing Funds for Fiscal 2017	\$ 136,772
15. Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2017 (12 – 13 – 14).....	\$ 57,592,054
16. Projected Payroll for Fiscal 2017.....	\$ 615,728,805
17. Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2017 (15 ÷ 16)	9.35%
18. Actual Employer Contribution Rate for Fiscal 2017	12.50%
19. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2018 (17, Rounded to Nearest 0.25%).....	9.25%

EXHIBIT II
PLAN A: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	\$ 2,416,931,484
Survivor Benefits.....	34,521,555
Disability Benefits	114,632,309
Vested Termination Benefits.....	79,985,174
Refunds of Contributions	63,955,701

TOTAL Present Value of Future Benefits for Active Members..... \$ 2,710,026,223

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement..	\$ 71,964,496
Terminated Members with Reciprocal Due Benefits at Retirement	266,834
Terminated Members Due a Refund	9,868,924

TOTAL Present Value of Future Benefits for Terminated Members..... \$ 82,100,254

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees	
Maximum.....	\$ 658,509,918
Option 1	1,555,891
Option 2	435,609,651
Option 3	202,590,199
Option 4	63,238,376

TOTAL Regular Retirees..... \$ 1,361,504,035

Disability Retirees 78,295,832

Survivors & Widows..... 93,943,405

Reserve for Accrued Retiree DROP Account Balances..... 1,631,079

TOTAL Present Value of Future Benefits for Retirees & Survivors..... \$ 1,535,374,351

TOTAL Present Value of Future Benefits..... \$ 4,327,500,828

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

CURRENT ASSETS:

Cash in Banks	\$ 24,304,376
Contributions and Taxes Receivable.....	29,294,532
Accrued Interest and Dividends	1,213,479
Investments Receivable	2,301,715
Due from Other Funds	1,285,228
Due (to)/from Plan B	179,592
Other Current Assets	13

TOTAL CURRENT ASSETS..... \$ 58,578,935

Property Plant & Equipment..... \$ 617,843

INVESTMENTS:

Cash Equivalents.....	\$ 74,308,726
Equities	1,767,110,160
Fixed Income	1,133,091,618
Real Estate	161,073,541
Alternative Investments	139,346,218

TOTAL INVESTMENTS..... \$ 3,274,930,263

TOTAL ASSETS

CURRENT LIABILITIES:

Accounts Payable	\$ 2,129,420
Benefits Payable.....	13,624,175
Refunds Payable.....	813,679
Investments Payable.....	3,047,875
Other Post-Employment Benefits Payable.....	594,878

TOTAL CURRENT LIABILITIES

MARKET VALUE OF ASSETS..... \$ 3,313,917,014

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

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

Fiscal year 2016.....	\$ 21,590,369
Fiscal year 2015.....	(247,856,881)
Fiscal year 2014.....	(70,960,087)
Fiscal year 2013.....	272,966,174
Fiscal year 2012.....	180,555,953
Total for five years.....	\$ 156,295,528

Deferral of excess (shortfall) of invested income:

Fiscal year 2016 (80%).....	\$ 17,272,295
Fiscal year 2015 (60%).....	(148,714,129)
Fiscal year 2014 (40%).....	(28,384,035)
Fiscal year 2013 (20%).....	54,593,235
Fiscal year 2012 (0%).....	0
Total deferred for year.....	\$ (105,232,634)

Market value of plan net assets, end of year..... \$ 3,313,917,014

Preliminary actuarial value of plan assets, end of year..... \$ 3,419,149,648

Actuarial value of assets corridor

85% of market value, end of year.....	\$ 2,816,829,462
115% of market value, end of year.....	\$ 3,811,004,566

Final actuarial value of plan net assets, end of year..... \$ 3,419,149,648

EXHIBIT IV
PLAN A: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	\$ 422,091,697
Employer Normal Contributions to the Pension Accumulation Fund.....	555,155,571
Funding Deposit Account Debit / (Credit) Balance	(68,896,088)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	\$ 908,351,180

EXHIBIT V
PLAN A: RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year.....	\$ 65,880,315
Interest on the Normal Cost.....	4,611,622
Administrative Expenses	1,419,415
Interest on Expenses	48,840
TOTAL Interest Adjusted Actuarially Required Employer Contributions	\$ 71,960,192
Direct Employer Contributions.....	\$ 77,431,442
Interest on Employer Contributions.....	2,664,263
Ad Valorem Taxes and Revenue Sharing.....	7,386,897
Interest on Ad Valorem Taxes and Revenue Sharing Funds.....	254,169
TOTAL Interest Adjusted Employer Contributions	\$ 87,736,771
CONTRIBUTION SURPLUS (DEFICIENCY)	\$ 15,776,579

EXHIBIT VI
PLAN A: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (December 31, 2015)		\$ 3,220,157,028
INCOME:		
Member Contributions	\$ 53,518,453	
Employer Contributions	77,431,442	
Irregular Contributions	706,202	
Ad Valorem and Revenue Sharing Funds	7,386,897	
Transfers (to)/from Plan B	179,592	
Transfers from other Systems.....	1,140,746	
Other Income	995,543	
Total Contributions		\$ 141,358,875
Net Appreciation in Fair Value of Investments	\$ 204,619,999	
Interest & Dividends	51,207,333	
Class Action Settlement	10,635	
Miscellaneous Income	70,263	
Investment Expense	(17,292,382)	
Net Investment Income		\$ 238,615,848
TOTAL Income		\$ 379,974,723
EXPENSES:		
Retirement Benefits	\$ 153,388,380	
DROP Disbursements	21,894,143	
Refunds of Contributions.....	11,028,687	
Transfers to other Systems.....	2,920,216	
Administrative Expenses	1,419,415	
TOTAL Expenses		\$ 190,650,841
Net Market Value Income for Fiscal 2016 (Income - Expenses)		\$ 189,323,882
Unadjusted Fund Balance as of December 31, 2016 (Fund Balance Previous Year + Net Income).....		\$ 3,409,480,910
Adjustment for Actuarial Smoothing.....		\$ 9,668,738
Actuarial Value of Assets: (December 31, 2016)		\$ 3,419,149,648

EXHIBIT VII
PLAN A: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees.....	\$ 1,740,159,763
Present Value of Benefits Payable to Terminated Employees	82,100,254
Present Value of Benefits Payable to Current Retirees and Beneficiaries	1,535,374,351
TOTAL PENSION BENEFIT OBLIGATION.....	\$ 3,357,634,368
NET ACTUARIAL VALUE OF ASSETS	\$ 3,419,149,648
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.....	101.83%

EXHIBIT VIII
PLAN A: ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees	\$ 1,829,338,933
Accrued Liability for Terminated Employees	82,100,254
Accrued Liability for Current Retirees and Beneficiaries	1,535,374,351
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	\$ 3,446,813,538
NET ACTUARIAL VALUE OF ASSETS	\$ 3,419,149,648
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability	99.20%

**EXHIBIT IX
PLAN A: CENSUS DATA**

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of December 31, 2015	13,656	7,860	576	6,783	28,875
Additions to Census					
Initial membership	1,746	49			1,795
Death of another member				73	73
Omitted in error last year				4	4
Adjustment for multiple records	2				2
Change in Status during Year					
Actives terminating service	(480)	480			
Actives who retired	(254)			254	
Actives entering DROP	(207)		207		
Term. members rehired	50	(50)			
Term. members who retire		(38)		38	
Retirees who are rehired	4			(4)	
Refunded who are rehired	33	9			42
DROP participants retiring			(151)	151	
DROP returned to work	94		(94)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(826)	(272)			(1098)
Deaths	(22)	(5)	(4)	(249)	(280)
Included in error last year					
Adjustment for multiple records		(1)			(1)
Number of members as of December 31, 2016	13,796	8,032	534	7,050	29,412

PLAN A - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	69	18	87	21,642	1,882,892
21 - 25	374	322	696	26,369	18,352,626
26 - 30	505	681	1,186	32,663	38,738,381
31 - 35	576	790	1,366	38,491	52,578,241
36 - 40	647	767	1,414	41,553	58,755,667
41 - 45	652	806	1,458	44,584	65,003,644
46 - 50	876	966	1,842	44,725	82,384,288
51 - 55	1,070	1,073	2,143	45,247	96,963,392
56 - 60	1,011	1,067	2,078	45,085	93,687,022
61 - 65	703	641	1,344	44,570	59,902,367
66 - 70	284	221	505	44,834	22,641,315
71 - 75	87	66	153	42,658	6,526,675
76 - 80	31	14	45	36,431	1,639,379
81 - 85	6	7	13	28,091	365,181
TOTAL	6,891	7,439	14,330	41,830	599,421,070

THE ACTIVE CENSUS INCLUDES 7,504 ACTIVES WITH VESTED BENEFITS, INCLUDING 534 DROP PARTICIPANTS AND 363 ACTIVE FORMER DROP PARTICIPANTS.

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
26 - 30	0	1	1	5,772	5,772
31 - 35	11	11	22	10,471	230,372
36 - 40	23	25	48	15,034	721,652
41 - 45	26	57	83	16,095	1,335,903
46 - 50	52	70	122	17,368	2,118,911
51 - 55	60	90	150	20,774	3,116,066
56 - 60	80	98	178	15,725	2,799,134
61 - 65	38	38	76	12,318	936,185
66 - 70	8	2	10	5,965	59,647
71 - 75	6	3	9	5,086	45,778
76 - 80	0	2	2	5,637	11,273
81 - 85	0	1	1	1,713	1,713
86 - 90	0	1	1	581	581
TOTAL	304	399	703	16,192	11,382,987

PLAN A - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From	To	Number	Total Contributions
0 -	99	4,423	118,848
100 -	499	1,104	267,665
500 -	999	428	307,193
1000 -	1999	328	462,882
2000 -	4999	451	1,475,568
5000 -	9999	286	2,044,167
10000 -	19999	224	3,216,339
20000 -	99999	85	2,398,190
TOTAL		7,329	10,290,852

PLAN A - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
46 - 50	1	0	1	74,417	74,417
51 - 55	72	58	130	51,275	6,665,752
56 - 60	231	195	426	46,117	19,646,010
61 - 65	467	472	939	32,464	30,483,826
66 - 70	704	638	1,342	24,166	32,431,290
71 - 75	537	427	964	21,018	20,261,544
76 - 80	453	353	806	18,142	14,622,300
81 - 85	267	256	523	15,335	8,020,252
86 - 90	141	166	307	14,299	4,389,670
91 - 99	58	79	137	10,834	1,484,253
TOTAL	2,931	2,644	5,575	24,768	138,079,314

PLAN A - DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	1	1	2	13,360	26,719
41 - 45	4	2	6	15,495	92,972
46 - 50	15	12	27	17,046	460,229
51 - 55	38	30	68	17,026	1,157,768
56 - 60	64	41	105	17,496	1,837,110
61 - 65	91	46	137	14,530	1,990,571
66 - 70	59	38	97	13,812	1,339,771
71 - 75	40	19	59	12,232	721,701
76 - 80	11	9	20	5,804	116,082
81 - 85	4	0	4	4,036	16,144
86 - 90	1	0	1	9,317	9,317
TOTAL	328	198	526	14,769	7,768,384

PLAN A - SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 25	8	16	24	14,127	339,054
26 - 30	1	1	2	7,331	14,661
31 - 35	2	0	2	7,824	15,647
36 - 40	1	1	2	3,938	7,875
41 - 45	1	3	4	24,898	99,593
46 - 50	1	10	11	17,801	195,814
51 - 55	5	19	24	17,392	417,408
56 - 60	11	36	47	15,688	737,320
61 - 65	14	64	78	14,909	1,162,890
66 - 70	13	118	131	14,005	1,834,705
71 - 75	24	142	166	11,882	1,972,387
76 - 80	16	149	165	11,599	1,913,898
81 - 85	8	139	147	9,616	1,413,586
86 - 90	2	92	94	8,432	792,626
91 - 99	2	50	52	7,219	375,404
TOTAL	109	840	949	11,900	11,292,868

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	62	24	1											87
21 - 25	293	193	111	54	32	13								696
26 - 30	277	232	188	147	83	250	9							1,186
31 - 35	249	163	152	112	76	426	164	24						1,366
36 - 40	188	149	110	100	68	388	242	154	15					1,414
41 - 45	167	132	101	92	62	322	236	235	98					1,458
46 - 50	171	146	116	111	73	392	263	256	183	13				1,842
51 - 55	170	138	119	92	100	417	286	285	232	119	12			1,842
56 - 60	107	130	93	106	84	411	321	309	234	191	113			2,143
61 - 65	54	50	38	49	45	308	252	210	138	143	140			2,078
66 - 70	15	14	6	10	18	93	98	89	61	57	44			1,344
71 & Over	3	5	4	5	4	33	26	34	43	28	26			505
Totals	1756	1376	1039	878	645	3053	1897	1596	1004	661	425			14330

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	22,092	20,149	29,637												21,642
21 - 25	25,695	25,392	26,508	29,162	29,083	36,576									26,369
26 - 30	28,782	31,230	32,392	34,331	37,050	35,918	36,631								32,663
31 - 35	33,026	33,167	34,674	37,207	36,766	42,247	45,923	49,510							38,491
36 - 40	33,859	32,867	36,398	37,480	33,478	43,507	48,368	52,069	57,364						41,553
41 - 45	36,279	33,342	36,160	37,565	38,405	43,626	52,170	52,648	56,641	59,395					44,584
46 - 50	33,132	35,636	36,139	38,234	39,200	42,838	46,224	50,035	59,440	57,710	59,538				44,725
51 - 55	40,151	35,834	34,733	37,528	36,322	40,710	42,194	48,649	55,024	57,540	64,695				45,247
56 - 60	38,819	36,890	36,054	40,900	37,389	38,907	43,230	47,047	49,710	60,132	66,232				45,085
61 - 65	44,113	33,405	32,581	38,384	38,519	39,931	41,721	47,033	51,926	50,708	61,832				44,570
66 - 70	41,714	27,846	29,446	27,182	38,483	40,101	45,896	44,306	45,054	47,432	65,050				44,834
71 & Over	59,559	47,727	33,749	42,235	30,778	33,721	38,480	44,627	37,393	42,426	46,855				40,432
Average	32,659	32,396	33,894	36,889	36,653	41,035	45,330	48,952	52,996	55,519	63,395				41,830

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 - 25													0
26 - 30												1	1
31 - 35												19	22
36 - 40									25	3		23	48
41 - 45						1		51	29	2		2	83
46 - 50						1	80	39	2				122
51 - 55	1					112	36	1					150
56 - 60	20	32	32	30	21	41	2						178
61 - 65	44	5	8	9	6	4							76
66 - 70	9												10
71 - 75													9
76 - 80													2
81 - 85													1
86 - 90													1
91 & Over													0
Totals	87	38	40	39	27	159	118	91	56	28	20		703

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 - 25													0
26 - 30												5,772	5,772
31 - 35												10,471	10,471
36 - 40									18,054	12,976		10,076	10,471
41 - 45						21,096		19,306	10,716	11,753		9,714	15,034
46 - 50						41,856	20,040	11,265	10,716				16,095
51 - 55						23,929	11,222	6,648	17,268				17,368
56 - 60						9,545	6,780						20,774
61 - 65	25,368					8,904							15,725
66 - 70	14,935	15,033	18,818	22,243	16,429								12,318
71 - 75	14,335	10,385	8,321	10,273	9,809								5,965
76 - 80	5,883	6,696											5,086
81 - 85	5,086												5,637
86 - 90	1,713												1,713
91 & Over	581												581
Average	12,266	14,202	16,718	19,481	14,958	19,937	17,125	15,721	14,226	11,738	9,861		16,192

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	35	19	26	17	20	13						130
56 - 60	85	80	57	50	54	90	10					426
61 - 65	151	128	124	134	104	218	73	5	1	1		939
66 - 70	89	124	137	133	154	496	174	33	1	1		1,342
71 - 75	30	41	41	37	52	313	321	94	26	7	2	964
76 - 80	11	12	14	11	24	116	232	274	77	28	7	806
81 - 85	3	4	2	5	12	47	58	134	181	58	19	523
86 - 90					3	6	22	34	98	108	36	307
91 & Over						1	4	7	17	42	66	137
Totals	405	408	401	387	423	1300	894	581	401	245	130	5575

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	74,417											74,417
51 - 55	50,288	57,761	53,355	50,537	45,870	49,576						51,275
56 - 60	40,389	47,198	51,468	51,285	47,790	44,209	37,975					46,117
61 - 65	26,020	25,408	28,017	30,997	33,863	41,324	40,306	36,732	12,074	6,378		32,464
66 - 70	18,943	22,301	20,276	21,495	19,351	23,840	36,111	36,403	44,590	9,190		24,166
71 - 75	16,846	18,554	21,156	21,424	21,593	19,009	20,201	28,725	32,260	32,061	7,492	21,018
76 - 80	24,599	9,901	12,334	20,710	18,797	17,897	17,694	16,618	23,877	24,685	16,713	18,142
81 - 85	20,704	9,263	14,427	20,102	11,199	14,423	16,493	13,085	14,545	22,841	16,421	15,335
86 - 90					16,309	20,676	10,738	17,290	12,255	13,471	20,464	14,299
91 & Over						18,885	9,360	17,413	13,074	10,276	9,882	10,834
Average	28,940	28,940	29,032	29,863	27,795	26,387	23,965	19,108	16,933	16,908	14,099	24,768

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 - 35												0
36 - 40				1		2	2					2
41 - 45		1	6	1		9	4	2				6
46 - 50	1	3	9	2		16	10	6	1			27
51 - 55	6	11	8	5	4	22	21	10	10	6	1	68
56 - 60	3	10	8	8	6	44	35	17	14	7	2	105
61 - 65	1	1	2	7	7	13	36	22	11	10	2	137
66 - 70		1		2		5	12	16	17	7	2	97
71 - 75							6	3	4	6	2	59
76 - 80								1	2		1	20
81 - 85											1	4
86 - 90										1		1
91 & Over												1
Totals	11	27	25	26	18	111	126	77	59	37	9	526

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 - 35												0
36 - 40				14,792	11,927	13,399	15,083					13,360
41 - 45		15,195	20,666	20,813		15,821	11,136	7,524				15,495
46 - 50	11,137	17,005	14,129	36,049	14,608	20,317	12,450	8,325	7,685			17,046
51 - 55	23,083	20,956	21,814	19,191	31,057	20,255	17,001	10,292	8,181	7,062	7,513	17,026
56 - 60	27,122	17,109	16,529	23,320	15,523	16,620	15,140	14,689	10,015	7,819	5,113	14,530
61 - 65	10,527	5,926	10,922	16,614		9,391	18,111	12,129	13,232	11,194	6,877	13,812
66 - 70		5,747				5,470	12,136	11,229	14,259	15,430	9,325	12,232
71 - 75							5,503	4,275	6,104	6,757	5,278	5,804
76 - 80								4,443	2,862		5,977	4,036
81 - 85										9,317		9,317
86 - 90												0
91 & Over												0
Average	21,957	17,759	18,349	20,322	20,298	16,402	15,213	11,447	10,980	9,917	6,822	14,769

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	2	3	6	1	3	3	1				20
21 - 25	1	1					1		1			4
26 - 30					1	1						2
31 - 35						1	1		1			2
36 - 40						1	1					2
41 - 45			1			2						4
46 - 50		2	1	1		4	3			1		11
51 - 55			1	2	1	7	7	3	3	1		24
56 - 60	5	1	1	2	2	18	9	3	4	1	1	47
61 - 65	4	9	7	1	4	19	19	11	2	2		78
66 - 70		2	8	5	8	31	40	18	12	4	3	131
71 - 75	1	1		1	2	35	59	36	23	5	3	166
76 - 80	1	2	2	1	1	20	33	49	33	19	5	165
81 - 85		1				8	16	21	47	34	20	147
86 - 90						1	2	7	27	31	26	94
91 & Over						1	1	1	5	13	31	52
Totals	13	21	24	18	20	151	195	150	158	110	89	949

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	15,872	10,480	12,763	7,008	6,401	27,507	7,451	23,957				12,620
21 - 25	63,598	14,590					2,115		6,348			21,663
26 - 30					7,395	7,266	6,958		8,689			7,331
31 - 35						3,510						7,824
36 - 40						14,523	4,365			7,009		3,937
41 - 45		26,197	63,537			14,221						24,898
46 - 50			19,463	41,411		14,221	8,554					17,801
51 - 55			26,902	8,012	14,734	26,873	15,088	11,667	10,341			17,392
56 - 60	20,106	26,351	32,058	17,359	17,954	16,823	16,328	8,396	6,702	4,683	1,303	15,688
61 - 65	20,356	17,379	11,308	14,767	17,812	15,196	16,320	12,846	5,795	4,097		14,909
66 - 70		14,504	18,221	18,352	12,424	15,633	13,711	14,724	10,822	4,647	7,416	14,005
71 - 75	13,884	10,578		1,850	6,913	12,000	13,068	10,517	12,795	10,748	4,864	11,882
76 - 80	3,696	33,827	6,638		25,915	8,348	11,518	11,151	12,006	13,009	13,315	11,599
81 - 85		6,218				8,562	9,154	11,587	10,100	10,198	6,383	9,616
86 - 90						12,882	9,062	9,168	7,335	10,107	7,156	8,432
91 & Over						5,473	5,435	7,134	17,197	8,277	5,283	7,219
Average	21,462	18,294	17,435	13,477	13,741	14,022	12,788	11,534	10,529	10,064	6,542	11,900

EXHIBIT X
PLAN A: YEAR-TO-YEAR COMPARISON

	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
Number of Active Members	14,330	14,232	14,061	13,866
Number of Retirees & Survivors	7,050	6,783	6,523	6,242
Number of Terminated Due Deferred Benefits	703	678	660	683
Number Terminated Due Refunds	7,329	7,182	7,026	7,109
Active Lives Payroll	\$ 599,421,070	\$ 577,600,460	\$ 566,547,812	\$ 543,669,542
Retiree Benefits in Payment	\$ 157,140,568	\$ 146,994,479	\$ 137,309,161	\$ 124,299,785
Market Value of Assets (MVA)	\$ 3,313,917,014	\$ 3,124,593,132	\$ 3,175,649,999	\$ 3,043,479,814
Entry Age Normal (EAN) Accrued Liability	\$ 3,446,813,538	\$ 3,316,128,533	\$ 3,133,179,431	\$ 2,984,143,643
Ratio of AVA to EAN Accrued Liability	99.20%	97.11%	96.80%	92.49%
Actuarial Value of Assets	\$ 3,419,149,648	\$ 3,220,157,028	\$ 3,032,888,183	\$ 2,760,148,403
Present Value of Future Employer Normal Cost	\$ 555,155,571	\$ 592,955,250	\$ 560,647,763	\$ 651,806,943
Present Value of Future Employee Contrib.	\$ 422,091,697	\$ 405,879,187	\$ 389,156,042	\$ 370,352,485
Funding Deposit Account Credit Balance	\$ 68,896,088	\$ 49,644,401	\$ 23,781,823	\$ 4,918,053
Frozen Unfunded Actuarial Accrued Liability	\$ 0	\$ 0	\$ 0	\$ 0
Present Value of Future Benefits	\$ 4,327,500,828	\$ 4,169,347,064	\$ 3,958,910,165	\$ 3,777,389,778

	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
Employee Contribution Rate	9.50%	9.50%	9.50%	9.50%
Estimated Tax Contribution as % of Payroll	1.22%	1.27%	1.28%	1.32%
Actuarially Required Net Direct Employer Contribution Rate	9.35%	10.52%	10.40%	13.07%
Actual Employer Contribution Rate	12.50%	13.00%	14.50%	16.00%

Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008	Fiscal 2007
14,370	14,646	14,791	14,795	14,373	13,650
5,991	5,718	5,531	5,413	5,235	5,083
561	561	556	562	545	497
6,795	6,795	6,762	6,611	6,464	6,122
\$ 558,327,346	\$ 552,543,155	\$ 546,737,427	\$ 536,408,372	\$ 511,891,487	\$ 454,741,830
\$ 114,515,106	\$ 104,683,495	\$ 97,650,642	\$ 90,207,961	\$ 84,492,940	\$ 77,403,146
\$ 2,583,983,506	\$ 2,230,462,425	\$ 2,225,041,407	\$ 1,904,114,041	\$ 1,565,934,957	\$ 2,087,385,378
\$ 2,823,038,820	\$ 2,682,634,009	\$ 2,553,982,211	\$ 2,358,101,301	\$ 2,248,596,038	\$ 2,063,501,317
86.73%	87.38%	88.46%	90.55%	86.43%	98.24%
\$ 2,448,529,177	\$ 2,344,047,017	\$ 2,259,207,052	\$ 2,135,230,590	\$ 1,943,569,363	\$ 2,027,214,660
\$ 773,908,389	\$ 724,810,561	\$ 669,371,250	\$ 552,376,261	\$ 613,635,252	\$ 288,883,382
\$ 378,465,400	\$ 373,626,178	\$ 370,489,102	\$ 355,947,027	\$ 339,052,728	\$ 302,732,846
\$ 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	\$ 66,328,358
\$ 3,596,328,033	\$ 3,450,112,888	\$ 3,317,592,043	\$ 3,071,774,342	\$ 2,933,074,556	\$ 2,685,159,246

Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008
9.50%	9.50%	9.50%	9.50%	9.50%	9.50%
1.16%	1.09%	1.05%	1.13%	1.15%	1.11%
15.56%	16.72%	15.58%	13.46%	15.40%	8.98%
16.75%	15.75%	15.75%	15.75%	12.25%	12.75%

PAGE INTENTIONALLY LEFT BLANK

EXHIBIT XI
PLAN B: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Present Value of Future Benefits	\$	375,042,475
2. Funding Deposit Account Credit Balance.....	\$	5,602,259
3. Actuarial Value of Assets.....	\$	284,685,809
4. Present Value of Future Employee Contributions	\$	24,084,343
5. Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4).....	\$	71,874,582
6. Present Value of Future Salaries	\$	869,671,766
7. Employer Normal Cost Accrual Rate (5 ÷ 6).....		8.264564%
8. Projected Fiscal 2017 Salary for Current Membership.....	\$	94,058,037
9. Employer Normal Cost as of January 1, 2017 (7 × 8)	\$	7,773,487
10. Employer Normal Cost Interest Adjusted for Midyear Payment.....	\$	8,040,957
11. Estimated Administrative Cost for Fiscal 2017	\$	244,346
12. TOTAL Administrative and Interest Adjusted Actuarial Costs (10 + 11).....	\$	8,285,303
13. Projected Ad Valorem Tax Contributions for Fiscal 2017	\$	1,241,590
14. Projected Revenue Sharing Funds for Fiscal 2017	\$	23,030
15. Employers' Net Direct Actuarially Required Contribution for Fiscal 2017 (12 – 13 – 14).....	\$	7,020,683
16. Projected Payroll for Fiscal 2017.....	\$	104,085,606
17. Employers' Net Direct Actuarially Required Contribution as a % of Projected Payroll for 2017 (15 ÷ 16).....		6.75%
18. Actual Employer Contribution Rate for Fiscal 2017		8.00%
19. Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2018 (17, Rounded to Nearest 0.25%).....		6.75%

EXHIBIT XII
PLAN B: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	\$ 246,970,967
Survivor Benefits	4,822,459
Disability Benefits	11,596,245
Vested Termination Benefits	11,923,144
Refunds of Contributions	3,601,058
 TOTAL Present Value of Future Benefits for Active Members	 \$ 278,913,873

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	\$ 8,047,220
Terminated Members with Reciprocals	
Due Benefits at Retirement	202,582
Terminated Members Due a Refund	754,602
 TOTAL Present Value of Future Benefits for Terminated Members	 \$ 9,004,404

PRESENT VALUE OF FUTURE BENEFITS FOR PENSIONERS:

Regular Retirees by Option Selected:

Maximum	\$ 34,917,160
Option 1	252,555
Option 2	29,307,376
Option 3	7,702,135
Option 4	913,457
 TOTAL Regular Retirees	 \$ 73,092,683
 TOTAL Disability Retirees	 \$ 5,631,252
 TOTAL Survivors & Widows	 \$ 8,400,233
 Reserve for Accrued Retiree DROP Account Balances	 \$ 30
 TOTAL Present Value of Future Benefits for Retirees & Survivors	 \$ 87,124,198
 TOTAL Present Value of Future Benefits	 \$ 375,042,475

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

CURRENT ASSETS:

Cash in Banks	\$ 1,776,637
Contributions and Taxes Receivable.....	2,730,211
Accrued Interest and Dividends.....	103,256
Investments Receivable	189,062
Due (to)/from other Funds	(1,285,228)
Due (to)/from Plan A	(179,592)
Other Current Assets.....	7,098

TOTAL CURRENT ASSETS..... \$ 3,341,444

Property Plant & Equipment..... \$ 92,744

INVESTMENTS:

Cash Equivalents.....	\$ 11,071,550
Equities	145,006,737
Fixed Income	92,882,219
Real Estate	13,202,736
Alternative Investments	11,432,936

TOTAL INVESTMENTS..... \$ 273,596,178

TOTAL ASSETS \$ 277,030,366

CURRENT LIABILITIES:

Retirements Payable.....	\$ 180,420
Accounts Payable	823,878
Investments Payable.....	14,237
Refunds Payable.....	255,810

TOTAL CURRENT LIABILITIES \$ 1,274,345

MARKET VALUE OF ASSETS..... \$ 275,756,021

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

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

Fiscal year 2016.....	\$ 1,827,421
Fiscal year 2015.....	(20,301,524)
Fiscal year 2014.....	(5,626,226)
Fiscal year 2013.....	20,198,394
Fiscal year 2012.....	13,957,016
 Total for five years.....	 \$ 10,055,081

Deferral of excess (shortfall) of invested income:

Fiscal year 2016 (80%).....	\$ 1,461,937
Fiscal year 2015 (60%).....	(12,180,914)
Fiscal year 2014 (40%).....	(2,250,490)
Fiscal year 2013 (20%).....	4,039,679
Fiscal year 2012 (0%).....	<u>0</u>
 Total deferred for year.....	 \$ (8,929,788)

Market value of plan net assets, end of year..... \$ 275,756,021

Preliminary actuarial value of plan assets, end of year..... \$ 284,685,809

Actuarial value of assets corridor

85% of market value, end of year.....	\$ 234,392,618
115% of market value, end of year.....	\$ 317,119,424

Final actuarial value of plan net assets, end of year..... \$ 284,685,809

EXHIBIT XIV
PLAN B: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	\$ 24,084,343
Employer Normal Contributions to the Pension Accumulation Fund	71,874,582
Funding Deposit Account Debit / (Credit) Balance	(5,602,259)
 TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	 \$ 90,356,666

EXHIBIT XV
PLAN B: RECONCILIATION OF CONTRIBUTIONS

Employer Normal Cost for Prior Year.....	\$ 8,010,680
Interest on Normal Cost.....	560,748
Administrative Expenses	232,496
Interest on Expenses	8,001
 TOTAL Interest Adjusted Actuarially Required Employer Contributions	 \$ 8,811,925
 Direct Employer Contributions.....	 \$ 7,943,831
Interest on Employer Contributions.....	273,332
Ad Valorem Taxes and Revenue Sharing Funds	1,209,345
Interest on Taxes and Revenue Sharing Funds.....	41,611
 TOTAL Interest Adjusted Employer Contributions	 \$ 9,468,119
 CONTRIBUTION SURPLUS (DEFICIENCY)	 \$ 656,194

EXHIBIT XVI
PLAN B: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (December 31, 2015)	\$	263,849,591
INCOME:		
Member Contributions	\$	2,874,226
Employer Contributions		7,943,831
Irregular Contributions		6,850
Ad Valorem Taxes and Revenue Sharing		1,209,345
Transfers (to)/from Plan A		(179,592)
Transfers from other Systems.....		38,871
Other Income		65,960
Total Contributions	\$	11,959,491
Net Appreciation in Fair Value of Investments	\$	16,943,010
Interest & Dividends		4,225,115
Class Action Settlement.....		875
Miscellaneous Investment Income		5,884
Investment Expense		(1,458,027)
Net Investment Income.....	\$	19,716,857
TOTAL Income	\$	31,676,348
EXPENSES:		
Retirement Benefits	\$	8,780,515
DROP Disbursements		1,375,302
Refunds of Contributions.....		543,481
Transfers to other Systems.....		91,930
Administrative Expenses		232,496
TOTAL Expenses	\$	11,023,724
Net Market Value Income for Fiscal 2016 (Income - Expenses)	\$	20,652,624
Unadjusted Fund Balance as of December 31, 2016 (Fund Balance Previous Year + Net Income).....	\$	284,502,215
Adjustment for Actuarial Smoothing.....	\$	183,594
Actuarial Value of Assets (December 31, 2016)	\$	284,685,809

EXHIBIT XVII
PLAN B: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees.....	\$ 169,662,934
Present Value of Benefits Payable to Terminated Employees	9,004,404
Present Value of Benefits Payable to Current Retirees and Beneficiaries	87,124,198
TOTAL PENSION BENEFIT OBLIGATION	\$ 265,791,536
NET ACTUARIAL VALUE OF ASSETS	\$ 284,685,809
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.....	107.11%

EXHIBIT XVIII
PLAN B: ENTRY AGE NORMAL ACCRUED LIABILITIES

Accrued Liability for Active Employees	\$ 187,470,299
Accrued Liability for Terminated Employees	9,004,404
Accrued Liability for Current Retirees and Beneficiaries	87,124,198
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	\$ 283,598,901
NET ACTUARIAL VALUE OF ASSETS.....	\$ 284,685,809
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability	100.38%

**EXHIBIT XIX
PLAN B: CENSUS DATA**

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of December 31, 2015	2,352	1,693	61	747	4,853
Additions to Census					
Initial membership	264	3			267
Death of Another Member				11	11
Omitted in error last year				(3)	(3)
Adjustment for multiple records					
Change in Status during Year					
Actives terminating service	(110)	110			
Actives who retired	(44)			44	
Actives entering DROP	(33)		33		
Term. members rehired	7	(7)			
Term. members who retire		(11)		11	
Retirees who are rehired					
Refunded who are rehired	3	4			7
DROP participants retiring			(11)	11	
DROP returned to work	16		(16)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(101)	(45)			(146)
Deaths	(6)	(1)		(29)	(36)
Included in error last year					
Adjustment for multiple records					
Number of members as of December 31, 2016	2,348	1,746	67	792	4,953

PLAN B - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	5	3	8	23,738	189,902
21 - 25	51	58	109	29,317	3,195,530
26 - 30	79	116	195	33,616	6,555,093
31 - 35	95	132	227	38,929	8,836,947
36 - 40	88	131	219	40,512	8,872,230
41 - 45	107	140	247	43,960	10,858,190
46 - 50	130	188	318	42,684	13,573,367
51 - 55	176	183	359	44,281	15,896,723
56 - 60	186	154	340	45,064	15,321,908
61 - 65	134	105	239	43,672	10,437,606
66 - 70	68	45	113	47,036	5,315,117
71 - 75	20	12	32	48,027	1,536,857
76 - 80	6	2	8	40,552	324,414
81 - 85	0	1	1	18,493	18,493
TOTAL	1,145	1,270	2,415	41,794	100,932,377

THE ACTIVE CENSUS INCLUDES 1,229 ACTIVES WITH VESTED BENEFITS, INCLUDING 67 DROP PARTICIPANTS AND 42 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	11,165	11,165
31 - 35	4	3	7	6,250	43,750
36 - 40	3	8	11	7,316	80,472
41 - 45	4	3	7	12,296	86,073
46 - 50	7	18	25	10,914	272,847
51 - 55	14	14	28	10,977	307,354
56 - 60	21	19	40	8,810	352,407
61 - 65	8	9	17	7,127	121,162
66 - 70	1	0	1	3,300	3,300
76 - 80	0	1	1	499	499
TOTAL	63	75	138	9,268	1,279,029

PLAN B - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From	To	Number	Total Contributions
0 -	99	1,063	26,857
100 -	499	263	65,826
500 -	999	88	63,221
1000 -	1999	65	96,557
2000 -	4999	96	298,224
5000 -	9999	32	204,765
10000 -	19999	1	13,389
TOTAL		1,608	768,839

PLAN B - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
56 - 60	9	12	21	24,550	515,552
61 - 65	42	48	90	17,534	1,578,020
66 - 70	90	78	168	13,817	2,321,297
71 - 75	71	57	128	10,517	1,346,176
76 - 80	58	39	97	9,964	966,540
81 - 85	34	35	69	9,072	625,985
86 - 90	9	19	28	6,797	190,311
91 - 99	2	13	15	6,043	90,651
TOTAL	315	301	616	12,394	7,634,532

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	13,267	26,534
51 - 55	3	4	7	9,372	65,605
56 - 60	12	8	20	11,265	225,295
61 - 65	16	4	20	7,717	154,349
66 - 70	3	3	6	5,759	34,551
TOTAL	37	20	57	9,146	521,324

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
46 - 50	0	1	1	11,208	11,208
51 - 55	0	2	2	4,225	8,450
56 - 60	0	12	12	11,060	132,718
61 - 65	1	12	13	10,029	130,374
66 - 70	1	17	18	7,501	135,026
71 - 75	3	24	27	9,254	249,863
76 - 80	1	21	22	6,196	136,322
81 - 85	0	10	10	6,032	60,319
86 - 90	0	6	6	2,607	15,643
91 - 99	1	4	5	3,372	16,862
TOTAL	8	111	119	7,688	914,817

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	5	1	2										8
21 - 25	51	30	17	5	2	4							109
26 - 30	36	50	23	26	17	43							195
31 - 35	31	26	26	23	18	71	31	1					227
36 - 40	40	23	16	16	21	52	30	21					219
41 - 45	22	26	12	11	11	70	45	35	13	2			247
46 - 50	22	31	25	21	16	59	49	51	27	16	1		318
51 - 55	25	37	18	14	16	77	50	43	26	21	32		359
56 - 60	22	21	16	12	15	74	51	40	25	30	34		340
61 - 65	5	17	10	10	12	50	45	37	23	14	16		239
66 - 70	5	7	5	2	6	21	23	17	10	5	12		113
71 & Over	2		2	2		7	5	6	10	2	5		41
Totals	266	269	172	142	134	528	329	251	134	90	100		2415

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	26,013	7,559	26,140										23,738
21 - 25	28,728	29,573	29,360	28,650	44,933	27,746							29,317
26 - 30	32,088	30,980	32,385	32,714	40,958	36,261							33,616
31 - 35	33,096	35,417	33,057	40,300	40,644	41,551	44,744	35,000					38,929
36 - 40	31,275	29,265	48,243	40,383	43,010	48,052	40,777	43,088					40,512
41 - 45	33,346	37,748	41,230	36,544	41,811	47,611	45,593	44,212	54,728	71,580			43,960
46 - 50	33,768	34,999	38,584	42,099	58,719	43,491	39,832	44,361	51,704	46,918	30,468		42,684
51 - 55	35,178	37,402	34,769	34,825	38,296	39,647	48,592	48,049	56,631	53,980	54,773		44,281
56 - 60	45,166	33,833	37,072	39,857	45,603	46,301	43,689	43,668	45,707	50,487	53,055		45,064
61 - 65	38,900	35,018	37,353	29,463	33,362	42,777	45,005	47,119	49,753	47,939	53,523		43,672
66 - 70	55,166	32,317	30,297	32,050	59,656	50,549	44,692	43,842	56,354	48,199	50,022		47,036
71 & Over	47,595		23,635	26,589		62,333	40,577	47,601	44,373	52,203	42,235		45,848
Average	33,618	33,531	35,920	36,836	43,846	43,814	44,157	45,167	51,300	50,651	52,549		41,794

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	6	7
36 - 40								4	4	6	1	11
41 - 45							3	4				7
46 - 50							20					25
51 - 55						21	7					28
56 - 60	7	6	5	7	4	11						40
61 - 65	8	4	4		1							17
66 - 70	1											1
71 - 75												0
76 - 80	1											1
81 & Over												0
Totals	17	10	9	7	5	32	27	8	8	7	8	138

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											11,165	11,165
31 - 35										4,648	6,517	6,250
36 - 40									6,655	8,001	5,844	7,316
41 - 45								10,649	13,532			12,296
46 - 50							11,804	7,355				10,914
51 - 55						12,724	5,736					10,977
56 - 60	10,663	12,923	8,941	9,427	5,685	6,072						8,810
61 - 65	6,521	6,421	9,698		4,524							7,127
66 - 70	3,300											3,300
71 - 75												0
76 - 80	499											499
81 & Over												0
Average	7,683	10,322	9,278	9,427	5,453	10,437	10,231	8,590	10,093	7,522	7,014	9,268

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																		0
56 - 60	12	5	2	2														21
61 - 65	23	20	12	12	9	8	4	2										90
66 - 70	12	23	15	15	22	60	16	3	2									168
71 - 75	5	9	5	5	8	45	46	3	1							1		128
76 - 80	2		2	4	3	17	33	31	5									97
81 - 85	2	1			2	4	14	28	13	4	1							69
86 - 90							4		10	13	1							28
91 & Over									1	10	4							15
Totals	56	58	36	38	44	134	117	67	32	27	7							616

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																			0
56 - 60	22,959	30,907	20,716	22,037	11,842	21,762	14,697	6,334											24,550
61 - 65	19,808	17,063	21,477	14,276	12,359	14,439	18,916	9,119	9,126										17,534
66 - 70	15,179	12,378	13,233	11,294	9,452	10,347	10,327	13,497	5,105										13,817
71 - 75	11,852	11,640	10,103	13,228	9,452	10,347	7,502	12,080	5,833							3,660			10,517
76 - 80	18,096		16,242	11,018	12,500	9,711	8,405	8,677	8,964	11,075	16,482								9,964
81 - 85	11,627	9,134			2,515	12,655	6,820		5,984	7,801	1,770								9,072
86 - 90									3,219	7,682	2,652								6,797
91 & Over																			6,043
Average	18,428	15,421	16,129	13,027	11,287	12,849	10,504	10,417	7,254	8,242	4,646								12,394

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	1				1											2
51 - 55		1		2	2			2								7
56 - 60	1	1	3	3	3	4	3	1	1							20
61 - 65		2		3	3	8	5	2								20
66 - 70		1	1	1		2	1									6
71 & Over																0
Totals	2	5	4	7	9	14	12	3	1	0	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	19,346				7,188											13,267
51 - 55		6,987		10,252	12,904		6,153									9,372
56 - 60	9,647	13,228	9,576	12,341	14,590	15,848	6,321	4,273	6,270							11,265
61 - 65		16,936		10,477	10,477	6,166	6,656	3,221								7,717
66 - 70		6,379	4,608	8,477		5,191	4,704									5,758
71 & Over																0
Average	14,497	12,093	8,334	10,814	12,022	8,793	6,212	3,571	6,270	0	0	0	0	0		9,146

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	1											1
51 - 55				1								2
56 - 60				1								2
61 - 65			1		1	5	4		1			12
66 - 70	1				2	4	2	3	1			13
71 - 75		1	2		2	5	5	3	2			18
76 - 80	1				1	2	10	2	1			27
81 - 85						2	5	6	4	2	1	22
86 - 90						1	1	1	7	1	4	10
91 & Over						1		1	1	1	3	6
Totals	3	1	3	2	8	26	30	17	17	8	4	119

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	11,208											11,208
51 - 55				1,100			7,350					4,225
56 - 60				12,546			11,538		7,556			11,060
61 - 65			22,154			10,466	5,740	7,127	4,673			10,029
66 - 70					4,377	5,718	13,057	6,657	3,741			7,501
71 - 75		6,167	12,974		6,948	9,023	10,343	8,627	1,960			9,254
76 - 80	10,191				6,582	4,341	8,589	6,525	3,437	6,687	1,653	6,196
81 - 85							9,587	4,493	6,383	1,556		6,032
86 - 90								1,878	3,106	2,665		2,607
91 & Over						5,958				3,468	2,479	3,372
Average	8,781	6,167	16,034	6,823	7,840	8,773	10,026	6,330	4,895	3,632	2,272	7,688

EXHIBIT XX
PLAN B: YEAR-TO-YEAR COMPARISON

	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
Number of Active Members	2,415	2,413	2,321	2,288
Number of Retirees & Survivors	792	747	714	688
Number of Terminated Due Deferred Benefits	138	139	135	135
Number Terminated Due Refunds	1,608	1,554	1,531	1,550
Active Lives Payroll	\$ 100,932,377	\$ 98,127,898	\$ 91,698,297	\$ 89,168,260
Retiree Benefits in Payment	\$ 9,070,674	\$ 8,150,177	\$ 7,448,991	\$ 6,779,114
Market Value of Assets	\$ 275,756,021	\$ 255,103,397	\$ 253,501,744	\$ 237,412,166
Entry Age Normal (EAN) Accrued Liability	\$ 283,598,901	\$ 267,985,810	\$ 249,207,071	\$ 233,321,224
Ratio of AVA to EAN Accrued Liability	100.38%	98.46%	97.50%	92.60%
Actuarial Value of Assets	\$ 284,685,809	\$ 263,849,591	\$ 242,977,968	\$ 216,066,754
Present Value of Future Employer Normal Cost	\$ 71,874,582	\$ 74,851,929	\$ 61,503,111	\$ 71,374,679
Present Value of Future Employee Contrib.	\$ 24,084,343	\$ 23,527,632	\$ 19,608,454	\$ 19,192,399
Funding Deposit Account Credit Balance	\$ 5,602,259	\$ 4,622,489	\$ 2,281,164	\$ 2,126,959
Present Value of Future Benefits	\$ 375,042,475	\$ 357,606,663	\$ 321,808,369	\$ 304,506,873

	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
Employee Contribution Rate	3.00%	3.00%	3.00%	3.00%
Projected Tax Contribution as % of Payroll	1.21%	1.26%	1.36%	1.21%
Actuarially Required Net Direct Employer Contribution Rate	6.75%	7.20%	6.91%	8.60%
Actual Employer Contribution Rate	8.00%	8.00%	9.00%	9.25%

Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008	Fiscal 2007
2,298	2,303	2,313	2,290	2,194	2,030
657	611	576	560	548	530
132	129	125	118	108	97
1,504	1,471	1,430	1,426	1,410	1,353
\$ 86,882,261	\$ 84,237,202	\$ 81,999,193	\$ 79,373,895	\$ 74,891,671	\$ 62,859,807
\$ 6,334,153	\$ 5,746,033	\$ 5,349,314	\$ 4,986,096	\$ 4,744,664	\$ 4,400,123
\$ 196,577,145	\$ 165,603,549	\$ 161,776,161	\$ 134,940,283	\$ 109,749,342	\$ 144,163,791
\$ 212,489,491	\$ 198,962,892	\$ 186,118,552	\$ 171,160,473	\$ 162,127,929	\$ 144,913,286
87.62%	87.13%	87.62%	87.90%	83.97%	97.82%
\$ 186,172,779	\$ 173,354,490	\$ 163,075,793	\$ 150,446,497	\$ 136,139,102	\$ 141,756,387
\$ 74,251,290	\$ 71,951,379	\$ 67,556,191	\$ 60,488,525	\$ 63,985,978	\$ 36,302,827
\$ 18,544,210	\$ 18,084,026	\$ 17,527,008	\$ 16,221,775	\$ 15,422,566	\$ 13,275,174
\$ 1,559,909	\$ 1,012,867	\$ 334,656	\$ 311,308	\$ 289,589	\$ 0
\$ 277,408,370	\$ 262,377,028	\$ 247,824,336	\$ 226,845,489	\$ 215,258,057	\$ 191,334,388

Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008
3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
1.14%	1.09%	1.05%	1.13%	1.13%	1.11%
9.33%	9.31%	9.07%	8.60%	9.56%	6.13%
10.00%	10.00%	10.00%	10.00%	6.25%	6.00%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

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

PLAN A PROVISIONS:

CONTRIBUTION RATES - The Plan A fund is financed by employee contributions at a rate determined by the Board subject to the statutory range of 8% through 11% of each member's earnings and employer contributions as determined by the Public Retirement Systems' Actuarial Committee. In addition, each sheriff and ex-officio tax collector deducts one-fourth of one percent of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish, excepting Orleans Parish and East Baton Rouge Parish, and remits the money to the system on an annual basis. The system also receives revenue sharing funds each year as appropriated by the legislature. In any fiscal year in which employer contribution rate as actuarially determined is scheduled to decrease, the Board of Trustees may elect to maintain the existing rate or any rate between the existing and minimum rates.

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

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

compensation multiplied by years of service assuming continued service to age sixty for members hired on or before December 31, 2006 or age sixty-two for members hired on or after January 1, 2007.

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

CONTRIBUTION REFUNDS - Upon withdrawal from service, members not entitled to a retirement allowance are paid a refund of accumulated contributions upon request. Receipt of such a refund cancels all accrued rights in the system. If a member receives a refund of contributions and is subsequently rehired on or after January 1, 2007, the provisions applicable to members initially hired on or after January 1, 2007 will apply.

PLAN B PROVISIONS:

CONTRIBUTION RATES - The Plan B fund is financed by employee contributions at a rate determined by the Board subject to the statutory range of 3% through 5% of each member's earnings and employer contributions as determined by the Public Retirement Systems' Actuarial Committee. In addition, each sheriff and ex officio tax collector deducts one-fourth of one percent of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish excepting, Orleans Parish and East Baton Rouge Parish, and remits the money to the system on an annual basis. The system also receives revenue sharing funds each year as appropriated by the legislature. In any fiscal year in which the employer contribution rate as actuarially determined is scheduled to decrease, the Board of Trustees may elect to maintain the existing rate or any rate between the existing and minimum rates.

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

DISABILITY BENEFITS - Five years of creditable service is required in order to be eligible for disability benefits for members hired on or before December 31, 2006. Seven years of creditable

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

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

CONTRIBUTION REFUNDS - Upon withdrawal from service, members not entitled to a retirement allowance are paid a refund of accumulated contributions upon request. Receipt of such a refund cancels all accrued rights in the system. If a member receives a refund of contributions and is subsequently rehired on or after January 1, 2007, the provisions applicable to members initially hired on or after January 1, 2007 will apply.

PROVISIONS APPLICABLE TO BOTH PLAN A AND B:

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

VALUATION INTEREST RATE: 7.00%

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	>19	0.01
	10	0.04		
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	>19	0.01
	10	0.05		

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%.

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	0.00025	0.00019	0.00010	0.02257	0.00745	0.06124
19	0.00027	0.00027	0.00020	0.00011	0.02257	0.00745	0.06124
20	0.00028	0.00028	0.00020	0.00011	0.02257	0.00745	0.06124
21	0.00030	0.00030	0.00021	0.00011	0.02257	0.00745	0.05818
22	0.00032	0.00032	0.00022	0.00012	0.02257	0.00745	0.05524
23	0.00033	0.00033	0.00024	0.00013	0.02257	0.00745	0.05242
24	0.00035	0.00035	0.00025	0.00014	0.02257	0.00745	0.04971
25	0.00036	0.00036	0.00028	0.00016	0.02257	0.00745	0.04566
26	0.00037	0.00037	0.00033	0.00019	0.02257	0.00745	0.04335
27	0.00037	0.00037	0.00035	0.00020	0.02257	0.00745	0.04114
28	0.00038	0.00038	0.00038	0.00021	0.02257	0.00745	0.03902
29	0.00038	0.00038	0.00043	0.00023	0.02257	0.00745	0.03698
30	0.00038	0.00038	0.00048	0.00026	0.02257	0.00745	0.03502
31	0.00038	0.00038	0.00054	0.00030	0.02257	0.00745	0.03314
32	0.00039	0.00039	0.00060	0.00034	0.02257	0.00745	0.03134
33	0.00041	0.00041	0.00066	0.00037	0.02257	0.00745	0.02961
34	0.00044	0.00044	0.00072	0.00041	0.02257	0.00745	0.02795
35	0.00050	0.00050	0.00077	0.00044	0.02257	0.00745	0.02636
36	0.00056	0.00056	0.00083	0.00047	0.02257	0.00745	0.02483
37	0.00063	0.00063	0.00087	0.00051	0.02257	0.00745	0.02336
38	0.00070	0.00070	0.00090	0.00054	0.02257	0.00745	0.02195
39	0.00077	0.00077	0.00092	0.00057	0.02257	0.00745	0.02060
40	0.00084	0.00084	0.00095	0.00060	0.02257	0.00745	0.01930
41	0.00090	0.00090	0.00098	0.00064	0.02257	0.00745	0.01805
42	0.00096	0.00096	0.00102	0.00069	0.02257	0.00745	0.01686
43	0.00102	0.00102	0.00107	0.00073	0.02257	0.00745	0.01571
44	0.00108	0.00108	0.00111	0.00077	0.02257	0.00745	0.01461
45	0.00114	0.00114	0.00116	0.00082	0.02257	0.00745	0.01355
46	0.00122	0.00122	0.00120	0.00086	0.02257	0.00745	0.01253
47	0.00130	0.00130	0.00125	0.00090	0.02257	0.00745	0.01156
48	0.00140	0.00140	0.00324	0.00094	0.02257	0.00745	0.01063
49	0.00151	0.00151	0.00325	0.00138	0.02257	0.00818	0.00973
50	0.00162	0.00162	0.00321	0.00140	0.02257	0.00896	0.00887
51	0.00173	0.00173	0.00316	0.00146	0.02385	0.00978	0.00804
52	0.00186	0.00186	0.00310	0.00155	0.02512	0.01063	0.00725
53	0.00200	0.00200	0.00316	0.00171	0.02640	0.01154	0.00649
54	0.00214	0.00214	0.00327	0.00189	0.02769	0.01248	0.00576
55	0.00229	0.00229	0.00356	0.00217	0.02897	0.01346	0.00000
56	0.00245	0.00245	0.00393	0.00250	0.03027	0.01446	0.00000
57	0.00262	0.00262	0.00440	0.00289	0.03156	0.01550	0.00000
58	0.00281	0.00281	0.00497	0.00335	0.03286	0.01654	0.00000
59	0.00303	0.00303	0.00546	0.00376	0.03415	0.01760	0.00000
60	0.00331	0.00331	0.00601	0.00420	0.03544	0.01865	0.00000
61	0.00363	0.00363	0.00685	0.00481	0.03673	0.01971	0.00000
62	0.00400	0.00400	0.00758	0.00533	0.03803	0.02077	0.00000
63	0.00441	0.00441	0.00867	0.00607	0.03933	0.02184	0.00000
64	0.00488	0.00488	0.00960	0.00669	0.04067	0.02294	0.00000
65	0.00538	0.00538	0.01063	0.00737	0.04204	0.02408	0.00000
66	0.00592	0.00592	0.01213	0.00836	0.04347	0.02529	0.00000
67	0.00647	0.00647	0.01340	0.00918	0.04498	0.02660	0.00000
68	0.00703	0.00703	0.01434	0.00979	0.04658	0.02803	0.00000
69	0.00757	0.00757	0.01587	0.01081	0.04831	0.02959	0.00000
70	0.00810	0.00810	0.01708	0.01163	0.05017	0.03132	0.00000
71	0.00860	0.00860	0.01902	0.01293	0.05221	0.03323	0.00000
72	0.00907	0.00907	0.02122	0.01438	0.05445	0.03533	0.00000
73	0.00951	0.00951	0.02368	0.01593	0.05691	0.03764	0.00000
74	0.00992	0.00992	0.02639	0.01759	0.05961	0.04014	0.00000
75	0.02457	0.02457	0.03030	0.02000	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