MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL VALUATION AS OF
JUNE 30, 2017

G. S. CURRAN & COMPANY, LTD.

Actuarial Services

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December 11, 2017

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

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Municipal Employees' Retirement System for the fiscal year ending June 30, 2017. Our report is based on the actuarial assumptions specified and relies on the data supplied by the system's administrators and accountants. This report was prepared at the request of the Board of Trustees of the Municipal Employees' Retirement System of the State of Louisiana. The primary purpose of this report is to determine the actuarially required contribution for the retirement system for the fiscal year ending June 30, 2018, and to recommend the net direct employer contribution rate for Fiscal 2019. This report does not contain the information necessary for accounting disclosures as required by Governmental Accounting Standards Board (GASB) Statements 67 and 68; that information is included in a separate report. This report was prepared exclusively for the Municipal Employees' Retirement System for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

In our opinion, all of the assumptions on which this valuation is based are reasonable individually and in the aggregate. Both economic and demographic assumptions are based on our expectations for future experience for the 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.

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

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

		June 30, 2017	June 30, 2016
Valuation Date:		June 30, 2017	June 30, 2016
Census Summary:	Active Members	4,937	4,912
	Retired Members and Survivors	3,417	3,345
	Terminated Due a Deferred Benefit	184	186
	Terminated Due a Refund	2,885	2,826
Payroll:		$ 182,044,919	$ 177,777,678
Benefits in Payment:		$ 60,663,715	$ 57,895,282
Present Value of Future Benefits:		$ 1,297,752,340	$ 1,254,687,419
Actuarial Accrued Liability (EAN):		$ 1,096,616,918	$ 1,063,558,257
Frozen Unfunded Actuarial Accrued Liability:		$ 70,511,316	$ 72,227,730
Funding Deposit Account Credit Balance:		$ 8,112,406	$ 8,421,235
Actuarial Value of Assets (AVA):		$ 781,417,434	$ 769,849,744
Market Value of Assets (MVA):		$ 697,057,939	$ 671,876,210
Ratio of AVA to Actuarial Accrued Liability (EAN):		71.26%	72.38%

	Fiscal 2017	Fiscal 2016
Market Rate of Return:	4.7%	-2.9%
Actuarial Rate of Return:	2.3%	0.8%

	Fiscal 2018	Fiscal 2017
Employers' Normal Cost (Mid-year):	$ 45,887,422	$ 42,638,195
Amortization Cost (Mid-year):	$ 7,135,005	$ 6,880,152
Estimated Administrative Cost:	$ 1,306,346	$ 1,349,933
Projected Ad Valorem Tax Contributions:	$ 6,182,538	$ 6,050,719
Projected Revenue Sharing Funds:	$ 114,303	$ 113,679
Net Direct Employer Actuarially Required Contributions:	$ 48,031,932	$ 44,703,882
Projected Payroll:	$ 185,573,045	$ 181,404,638
Actual Employee Contribution Rate:	9.50%	9.50%
Actual Net Direct Employer Contribution Rate:	24.75%	23.25% †
Actuarially Required Net Direct Employer Contribution Rate:	25.88%	24.64%

	Fiscal 2019	Fiscal 2018
Minimum Recommended Net Direct Employer Contribution Rate:	26.00%	24.75%

† Includes 0.5% withdrawal from the Funding Deposit Account

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

		June 30, 2017	June 30, 2016
Valuation Date:		June 30, 2017	June 30, 2016
Census Summary:	Active Members	2,125	2,142
	Retired Members and Survivors	1,025	975
	Terminated Due a Deferred Benefit	82	71
	Terminated Due a Refund	1,331	1,258
Payroll:		$ 73,275,324	$ 71,918,938
Benefits in Payment:		$ 10,946,571	$ 10,254,964
Present Value of Future Benefits:		$ 282,707,864	$ 270,056,042
Actuarial Accrued Liability (EAN):		$ 232,425,916	$ 221,633,353
Frozen Unfunded Actuarial Accrued Liability:		$ 2,382,456	$ 2,742,698
Funding Deposit Account Credit Balance:		$ 3,286,730	$ 3,233,725
Actuarial Value of Assets (AVA):		$ 168,698,012	$ 164,516,476
Market Value of Assets (MVA):		$ 150,467,958	$ 143,201,586
Ratio of AVA to Actuarial Accrued Liability (EAN):		72.58%	74.23%

	Fiscal 2017	Fiscal 2016
Market Rate of Return:	4.6%	-2.9%
Actuarial Rate of Return:	2.2%	0.7%

	Fiscal 2018	Fiscal 2017
Employers' Normal Cost (Mid-year):	$ 12,002,285	$ 10,948,904
Amortization Cost (Mid-year):	$ 532,482	$ 545,845
Estimated Administrative Cost:	$ 525,820	$ 546,107
Projected Ad Valorem Tax Contributions:	$ 2,488,548	$ 2,447,784
Projected Revenue Sharing Funds:	$ 46,008	$ 45,988
Net Direct Employer Actuarially Required Contributions:	$ 10,526,031	$ 9,547,084
Projected Payroll:	$ 75,165,500	$ 73,117,227
Actual Employee Contribution Rate:	5.00%	5.00%
Actual Net Direct Employer Contribution Rate:	13.25%	11.25% †
Actuarially Required Net Direct Employer Contribution Rate:	14.00%	13.06%

	Fiscal 2019	Fiscal 2018
Minimum Recommended Net Direct Employer Contribution Rate:	14.00%	13.25%

† Includes 0.25% withdrawal from the Funding Deposit Account

GENERAL COMMENTS

The values and calculations in this report were determined by applying statistical analysis and projections to system data and the assumptions listed. There is sometimes a tendency for readers to either dismiss results as mere “guesses” or alternatively to ascribe a greater degree of accuracy to the results than is warranted. In fact, neither of these assessments is valid. Actuarial calculations by their very nature involve estimations. As such, it is likely that eventual results will differ from those presented. The degree to which such differences evolve will depend on several factors including the completeness and accuracy of the data utilized, the degree to which assumptions approximate future experience, and the extent to which the mathematical model accurately describes the plan’s design and future outcomes.

Data quality varies from system to system and year to year. The data inputs involve both asset information and census information of plan participants. In both cases, the actuary must rely on third parties; nevertheless, steps are taken to reduce the probability and degree of errors. The development of assumptions is primarily the task of the actuary; however, information and advice from plan administrators, staff, and other professionals may be factored into the formation of assumptions. The process of setting assumptions is based primarily on analysis of past trends, but modification of historical experience is often required when the actuary has reason to believe that future circumstances may vary significantly from the past. Setting assumptions includes but is not limited to collecting past plan experience and studying general population demographics and economic factors from the past. The actuary will also consider current and future macro-economic and financial expectations as well as factors that are likely to impact the particular group under consideration. Hence, assumptions will also reflect the actuary’s judgment with regard to future changes in plan population and decrements in view of the particular factors which impact participants. Thus, the process of setting assumptions is not mere “guess work” but rather a process of mathematical analysis of past experience and of those factors likely to impact the future.

One area where the actuary is limited in his ability to develop accurate estimates is the projection of future investment earnings. The difficulties here are significant. First, the future is rarely like the past, and the data points available to develop stochastic trials are far fewer than the number required for statistical significance. In this area, some guess work is inevitable. However, there are tools available to lay a foundation for making estimates with an expectation of reliability. Although past data is limited, that which is available is likely to provide some insight into the future. This data consists of general economic and financial values such as past rates of inflation, rates of return variance, and correlations of returns among various asset classes along with the actual asset experience of the plan. In addition, the actuary can review the current asset market environment as well as economic forecasts from governmental and investment research groups to form a reasonable opinion with regard to probable future investment experience for the plan.

All of the above efforts would be in vain if the assumption process was static, and the plan would have to deal with the consequences of actual experience differing from assumptions after forty or fifty years of compounded errors. However, actuarial funding methods for pension plans all allow for periodic corrections of assumptions to conform with reality as it unfolds. This process of repeated correction of estimates produces results which although imperfect are nevertheless a reasonable approach to determine the contribution levels which will provide for the future benefits of plan participants.

COMMENTS ON DATA

For the valuation, the administrative director of the system furnished a census on electronic media derived from the system's master data processing file indicating each active covered employee's sex, date of birth, service credit, annual salary, and accumulated contributions. Information on retirees detailing dates of birth of retirees and beneficiaries, as well as option categories and benefit amounts, was provided in like manner. In addition, data was supplied on former employees who are vested or who have contributions remaining on deposit. As illustrated in Exhibit IX, there are 4,937 active members in Plan A, of whom, 1,820 members, including 224 participants in the Deferred Retirement Option Plan (DROP), have vested retirement benefits; 3,417 former Plan A members or their beneficiaries are receiving retirement benefits. An additional 3,069 former members of Plan A have contributions remaining on deposit with the system. This includes 184 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 2,125 active members in Plan B, of whom, 830 members, including 82 DROP participants, have vested retirement benefits; 1,025 former members of Plan B or their beneficiaries are receiving retirement benefits. An additional, 1,413 former members of Plan B have contributions remaining on deposit with the system. Of this number, 82 have vested rights 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 administrative staff for verification and/or correction. Once the identified data has been researched and verified or corrected, it is returned to us for use in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record. For this valuation, the number of such records is de minimis.

In addition to the statistical information provided on the system's participants, the system's administrative director furnished general information related to other aspects of the system's expenses, benefits and funding. Except as stated below, valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of Hawthorn, Waymouth, and Carroll, L.L.P. As indicated in the system's audit report, the net market value of Plan A's assets was $697,057,939 as of June 30, 2017. For Plan A, the net investment income for Fiscal 2017 measured on a market value basis amounted to $31,251,320. Contributions to Plan A for the fiscal year totaled $65,375,055; benefits and expenses amounted to $71,444,646.

The net market value of Plan B's assets was $150,467,958 as of June 30, 2017. For Plan B, the net investment income for Fiscal 2017 measured on a market value basis amounted to $6,661,993.

Contributions to Plan B for the fiscal year totaled $14,465,417; benefits and expenses amounted to $13,861,038.

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

COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

This valuation is based on the Frozen Attained Age Normal actuarial cost method with the unfunded actuarial accrued liability frozen as of June 30, 1989. Under the provisions of Louisiana R.S. 11:103 the unfunded accrued liability for Plan A, which was determined to be $48,466,297 as of June 30, 1989, was amortized over forty years with payments increasing at 4.25% per year. The unfunded accrued liability for Plan B, which was determined to be $9,853,175 as of June 30, 1989, was amortized over forty years with payments decreasing at 2% per year. In Plan A, payroll growth less than 4.25% per year will increase future amortization payments as a percent of payroll. In Plan B, any payroll growth or payroll decline less than 2% per year will reduce future amortization payments as a percent of payroll. Under the Frozen Attained Age Normal Cost Method, actuarial gains and losses are spread over future normal costs. Thus, favorable plan experience will lower future normal costs; unfavorable experience will cause future normal costs to increase. In addition, changes in benefits and assumptions are also spread over future normal costs.

Prior to the June 30, 2009 valuation, in any year in which the net direct employer contribution was set above the actuarially required employer contribution rate, excess funds collected, if any, were used to reduce the frozen unfunded actuarial accrued liability. In Plan B, the Board elected to freeze the employer contribution rate in Fiscal 2001. As a result of the additional contributions generated by this freeze in rates, the unfunded accrued liability will be fully amortized by June 30, 2023. Effective with the June 30, 2009 valuation, any excess funds collected as a result of a freeze in employer contributions are credited to the Funding Deposit Account. Funds deposited into the Funding Deposit Account can be used to reduce the unfunded accrued liability, reduce future normal costs, fund cost of living increases to retirees, or offset net direct employer contributions as determined by the Board of Trustees.

In February of 2017, a recommendation was made to the Board of Trustees to reduce the long-term rate of return assumption. The recommendation was formed after an analysis of the system’s portfolio along with expected long-term rates of return, standard deviations of return, and correlations between asset classes collected from a number of investment consulting firms in addition to the system’s investment consultants, Meketa Investment Group. Based on this analysis and after discussions with the Board, a plan was approved to reduce the 7.5% valuation interest rate in effect for the Fiscal 2016 actuarial valuation to 7.0% over the coming four actuarial valuations with reductions of 0.10% in 2017, 0.125% in 2018, 0.10% in 2019, and 0.175% in 2020 for Plans A and B. Therefore, the assumed rate of return for the Fiscal 2017 valuation was set at 7.4% for Plans A and B. For 2017, an assumed rate of inflation of 2.775% was implicit in the assumed rate of return for Plans A and B. The remaining actuarial assumptions utilized for this report are based on the results of an actuarial experience study for the period July 1, 2009 – June 30, 2014, unless otherwise specified in this report. 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 Increases (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-seven through seventy-four. All assumptions 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. The net effect of all changes in assumptions was to increase the normal cost accrual rate by 0.9368% in Plan A and 0.5249% in Plan B.

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 71.26% for Plan A and 72.58% for Plan B as of June 30, 2017. This value gives some indication of the financial strength of the plan; however, it does not guarantee the ability of the fund to pay benefits in the future or indicate that in the future, contributions are likely to be less than or greater than current contributions. In addition, the ratio cannot be used in isolation to compare the relative strength of different retirement systems. However, the trend of this ratio over time can give some insight into the financial health of the plan. Even in this regard, caution is warranted since market fluctuations in asset values and changes in plan assumptions can distort underlying trends in this value. One additional risk measure is the sensitivity of the plan's cost structure to asset gains and losses. For this plan, 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 0.59% for Plan A and 0.32% for Plan B.

The ability of a system to recover from adverse asset or liability performance is related to the maturity of the plan population. In general, plans with increasing active membership are less sensitive to asset and liability gains and losses than mature plans since changes in plan costs can be partially allocated to new members. If the plan has a large number of active members compared to retirees, asset or liability losses can be more easily addressed. As more members retire, contributions can only be collected from a smaller segment of the overall plan population. Often, population ratios of actives to annuitants are used to measure the plan's ability to adjust or recover from adverse events since contributions are made by or on behalf of active members but not for retirees. Thus, if the plan suffers a mortality loss through increased longevity, this will affect both actives and retirees, but the system can only fund this loss by contributions related to active members. A measure of risk related to plan maturity is the ratio of total benefit payments to active payroll. For Fiscal 2017, this ratio is 33% for Plan A and 15% for Plan B. Ten years ago this ratio was 25% for Plan A and 12% for Plan B.

One other area of risk is the risk that plan assumptions will need to be revised to conform to changing actual or expected plan experience. Such assumption revisions could relate to demographic or economic factors. With regard to the economic assumptions, we have determined that a reduction in the valuation interest rate by 1% (without any change to other collateral factors) would increase the actuarially required employer contribution rate for Fiscal 2018 by 9.01% of payroll for Plan A and 5.07% 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, changes in economic or demographic assumptions, changes in plan provisions or applicable law, or completion of amortization schedules. Analysis of the effect of all these factors and additional risk metrics is beyond the scope of this report.

CHANGES IN PLAN PROVISIONS

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

Act 23 of the 2017 Regular Session of the Louisiana Legislature reduces the number of trustees who are members but not elected officials from three to two and adds a retired member of the system. It also provides that the retired membership of the system shall elect the trustee who is a retired member of the system. In addition, the act sets the existing six year, staggered term for trustees who are members of the system to be applicable to the retiree trustee as well.

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

Act 314 of the 2017 Regular Session of the Louisiana Legislature provides that if a retiree returns to work on or after July 1, 2017, for at least 35 hours per week (full-time), his retirement benefit shall be suspended, and he shall become a member of the system. Upon termination of service, the system shall resume payment of the reemployed retiree's original benefit. In addition, the act provides that if a full-time reemployed retiree works for a period of at least 12 months, he shall accrue a supplemental benefit calculated using his period of service and salary during reemployment. If the reemployed retiree works less than 12 months, he shall not receive a supplemental benefit and his employee contributions shall returned without interest upon termination of service. The act also limits the supplemental benefit so that when combined with the original benefit it shall not exceed the final compensation figure used to compute the supplemental benefit.

Act 366 of the 2017 Regular Session of the Louisiana Legislature made individuals appointed or elected on or after July 1, 2017 ineligible to serve as trustee on the Board for any state or statewide retirement system if found in violation of the Code of Governmental Ethics for actions involving the misuse of public funds. In addition, the act clarified that legislative staff is authorized to attend executive sessions and that they enjoy lawyer-client privilege for information related to the executive session.

ASSET EXPERIENCE

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

Plan A	Market Value	Actuarial Value
2008	1.1%	9.0%
2009	-13.8% ǂ	0.9% *
2010	11.0%	5.9%
2011	10.5%	4.2%
2012	-4.8% †	0.7%
2013	4.3%	0.7%
2014	12.3%	5.8%
2015	-3.1%	3.7%
2016	-2.9%	0.8%
2017	4.7%	2.3%

Plan B	Market Value	Actuarial Value
2008	1.3%	8.8%
2009	-13.7% ǂ	0.9% *
2010	10.9%	5.8%
2011	10.5%	4.2%
2012	-4.7% †	1.0%
2013	4.1%	0.9%
2014	11.7%	5.6%
2015	-3.2%	3.5%
2016	-2.9%	0.7%
2017	4.6%	2.2%

* Includes the effect of a change in asset valuation method.

ǂ Includes the impact of inclusion of the prior period adjustment for investment income as income in fiscal year.

† Based upon asset values which include an unaudited "best estimate" of the value of a receivable related to the FIA Leveraged Fund

Geometric Average Market Rates of Return – Plan A

5 year average	(Fiscal 2013 – 2017)	2.9%
10 year average	(Fiscal 2008 – 2017)	1.6%
15 year average	(Fiscal 2003 – 2017)	4.2%
20 year average	(Fiscal 1998 – 2017)	4.4%
25 year average	(Fiscal 1993 – 2017)	5.5%

Geometric Average Market Rates of Return – Plan B

5 year average	(Fiscal 2013 – 2017)	2.7%
10 year average	(Fiscal 2008 – 2017)	1.6%
15 year average	(Fiscal 2003 – 2017)	4.1%
20 year average	(Fiscal 1998 – 2017)	4.2%
25 year average	(Fiscal 1993 – 2017)	5.3%

The market rate of return gives a measure of investment return on a total return basis and includes realized and unrealized capital gains and losses as well as interest income. This rate of return gives an indication of performance for an actively managed portfolio where securities are bought and sold with the objective of producing the highest total rate of return. During 2017, Plan A earned $855,865 and Plan B earned $214,472 of dividends and interest income. In addition, Plan A had net realized and unrealized capital gains on investments of $32,466,018 while the total of such gains for Plan B amounted to $6,886,731. Investment expenses were $2,070,563 for Plan A and $439,210 for Plan B.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 7.50% used for the prior valuation. This rate is calculated based on the smoothed value of assets subject to constraints as given in Exhibit VI for Plan A and Exhibit XVI for Plan B. Investment income used to calculate this yield is based upon a smoothing of investment income above or below the valuation interest rate. The difference between rates of return on an actuarial and market value basis results from the smoothing utilized. In the future, yields in excess of the valuation interest rate assumption will reduce future costs; yields below the valuation interest rate assumption will increase future costs. For Plan A, the net actuarial investment earnings for Fiscal 2017 were $39,877,955 less than the actuarial assumed earnings rate of 7.50%, and were $8,783,833 less for Plan B. These actuarial losses increased the normal cost accrual rate by 3.0336% for Plan A and 1.6414% for Plan B.

At the end of each fiscal year, a review of the data is made to identify current members of Plan A and Plan B who have consecutive service credit in both plans that have not been addressed in previous transfers of assets and liabilities between the Plan A and Plan B trust funds pursuant to the provisions of R.S. 11:1862(F). In the course of reviewing data for the June 30, 2017 valuation we found 3 members of Plan A with Plan B service credit and 14 such members of Plan B with Plan A service. Based upon a valuation of the liabilities for service in the previous plan, we recommend a transfer of $72,968 with accrued interest thereon from June 30, 2017 be made from the Plan A trust to the Plan B trust for Fiscal 2017.

PLAN A – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit IX. The average active member is 48 years old with 9.71 years of service and an annual salary of $36,874. The plan's active membership, inclusive of DROP participants, increased by 25 members during the fiscal year. The plan has experienced a decrease in the active plan population of 84 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 forty and above age fifty has increased while the proportion of active members age forty-one through fifty has decreased. Over the same ten-year period the plan showed an increase in members with less than ten years of service and more than twenty-five years of service. The average regular retiree is 71 years old with a monthly benefit of $1,677. The number of retirees and beneficiaries receiving benefits from the system increased by 72 during the fiscal year; over the last five years the number of retirees has increased by 377 and benefit payments have increased by $14,439,577.

Plan liability experience for Fiscal 2017 was favorable. Deaths were above projected levels and retirements were below projected levels. In addition, salary increases were below projections. All of these factors generally reduce costs. Withdrawals below expected levels and disabilities above projected levels partially offset these gains. Plan liability gains decreased the normal cost accrual rate by 1.1537%.

PLAN B – DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the plan is given in Exhibit XIX. The average active member is 50 years old with 9.8 years of service and an annual salary of $34,483. The plan's active membership, inclusive of DROP participants, decreased by 17 members during the fiscal year. The plan has experienced a decrease in the active plan population of 30 members over the last five years. A review of the active census by age indicates that over the last ten years the population 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 no significant shift in the proportion of the active membership by service group. The average regular retiree is 73 years old with a monthly benefit of $991. The number of retirees and beneficiaries receiving benefits from the system increased by 50 during the fiscal year; over the last five years the number of retirees has increased by 146 and benefit payments have increased by $2,661,314.

Plan liability experience for Fiscal 2017 was slightly favorable. Withdrawals were above expected levels while disabilities were below projected levels. In addition, salary increases were slightly below projections. These factors tend to reduce costs. Retirements above projected levels partially offset these gains. Plan liability gains decreased the normal cost accrual rate by 0.3716%.

FUNDING ANALYSIS AND RECOMMENDATIONS

Actuarial funding of a retirement system is a process whereby funds are accumulated over the working lifetimes of employees in such a manner as to have sufficient assets available at retirement to pay for the lifetime benefits accrued by each member of the system. The required contributions are determined by an actuarial valuation based on rates of mortality, termination, disability, and retirement, as well as investment return and other statistical measures specific to the particular group. Each year a determination is made of two cost components, and the actuarially required contributions are based on the sum of these two components plus administrative expenses. These two components are the normal cost and the amortization payment on the unfunded actuarial accrued liability. The normal cost refers to the portion of annual cost based on the salary of active participants. The term unfunded accrued liability (UAL) refers to the excess of the present value of plan benefits over the sum of current assets and future normal costs. Each year the UAL grows with interest and is reduced by payments. Under the funding method used for both plans, changes in plan experience, benefits, or assumptions do not affect the unfunded actuarial accrued liability. These items increase or decrease future normal costs.

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

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

For Plan A, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for Fiscal 2018 adjusted for mid-year payment is $45,887,422. The amortization payment on the plan’s frozen unfunded actuarial accrued liability adjusted for mid-year payment is $7,135,005. The total actuarially required contribution is determined by adding estimated administrative expenses to these two values. As given on line 16 of Exhibit I the gross actuarially required employer contribution for Fiscal 2018 is $54,328,773. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers’ minimum net direct actuarially required contribution for Fiscal 2018 is $48,031,932. This is 25.88% of the projected Plan A payroll for Fiscal 2018.

Liability and asset experience as well as changes in assumptions and benefits can increase or decrease plan costs. In addition to these factors, any COLA granted in the prior fiscal year would increase required contributions. New entrants to the system can also increase or decrease costs as a percent of payroll depending upon their demographic distribution and other factors related to prior plan experience. Finally, contributions above or below requirements may reduce or increase future costs.

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

Employer’s Normal Cost Accrual Rate – Fiscal 2017	24.8646%
Factors Increasing the Normal Cost Accrual Rate:	
Assumption Changes	0.9368%
Asset Experience Loss	3.0336%
Contribution Loss	0.1497%

Factors Decreasing the Normal Cost Accrual Rate:	
Plan Liability Experience Gain	1.1537%
New Members	1.6593%
Employer's Normal Cost Accrual Rate – Fiscal 2018	26.1717%

Required net direct employer contributions are also affected by the available ad valorem taxes and revenue sharing funds which the system receives each year. When these funds change as a percentage of payroll, net direct employer contributions are adjusted accordingly. We estimate that for Plan A these funds collected in Fiscal 2018 will decrease by 0.01% of payroll. We also estimate the amortization payment on the fund's UAL will increase by 0.05% of projected payroll. The net effect of the above changes in the cost structure of the system resulted in a minimum actuarially required net direct employer contribution rate for Fiscal 2018 for Plan A of 25.88%; the actual employer contribution rate for Fiscal 2018 is 24.75% of payroll. R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest 0.25%, hence, after accounting for the anticipated contribution shortfall, we are recommending a minimum net direct employer contribution rate for Plan A of 26.00% for Fiscal 2019.

For Plan B, the derivation of the actuarially required contribution for the current fiscal year is given in Exhibit XI. The normal cost for Fiscal 2018 adjusted for mid-year payment is $12,002,285. The amortization payment on the plan's frozen unfunded actuarial accrued liability adjusted for mid-year payment is $532,482. The total actuarially required contribution is determined by adding estimated administrative expenses to these two values. As given on line 16 of Exhibit XI the gross actuarially required employer contribution for Fiscal 2018 is $13,060,587. When this amount is reduced by projected tax contributions and revenue sharing funds, the resulting employers' minimum net direct actuarially required contribution for Fiscal 2018 is $10,526,031. This is 14.00% of the projected Plan B payroll for Fiscal 2018.

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

Employer's Normal Cost Accrual Rate – Fiscal 2017	15.8320%
Factors Increasing the Normal Cost Accrual Rate:	
Assumption Changes	0.5249%
Asset Experience Loss	1.6414%
Contribution Loss	0.3273%
Factors Decreasing the Normal Cost Accrual Rate:	
Plan Liability Experience Gain	0.3716%
New Members	0.9023%
Employer's Normal Cost Accrual Rate – Fiscal 2018	17.0518%

We estimate that for Plan B the funds collected from ad valorem taxes and revenue sharing funds in Fiscal 2018 will decrease by 0.04% of payroll. We also estimate that the amortization payment on the fund's UAL will decrease by 0.04% of projected payroll. The net effect of the above changes in the cost structure of the system resulted in a minimum actuarially required net direct employer contribution rate for Fiscal 2018 for Plan B of 14.00%; the actual employer contribution rate for Fiscal 2018 is 13.25% of payroll. R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest 0.25%, hence, after accounting for the anticipated contribution shortfall, we are recommending a minimum net direct employer contribution rate for Plan B of 14.00% for Fiscal 2019.

Both Plan A and Plan B have Funding Deposit Account Credit Balances. Since the Board elected to offset direct employer contributions by 0.5% in Plan A and 0.25% in Plan B for Fiscal 2017, the balance in the interest adjusted Funding Deposit Account was reduced for the value of these contributions, interest adjusted to the end of the year. Pursuant to board action, $940,422 was withdrawn from the Plan A Funding Deposit Account and $189,524 was withdrawn from the Plan B Funding Deposit Account to offset employer contributions for Fiscal 2017. The balances were also adjusted for the accrual of interest at the valuation interest rate. The remaining funds in these accounts may be used to reduce the outstanding unfunded accrued liability, reduce the future normal costs, fund cost of living increases to retirees, or reduce contributions for specified fiscal years.

COST OF LIVING INCREASES

During Fiscal 2017 the actual cost of living (as measured by the US Department of Labor CPI-U) increased by 1.63%. Cost of living provisions for the system are detailed in R.S. 11:1761 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% of each retiree's original benefit. R.S. 11:246 provides cost of living increases of retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. R.S. 11:241 provides 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 June 30th 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.

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

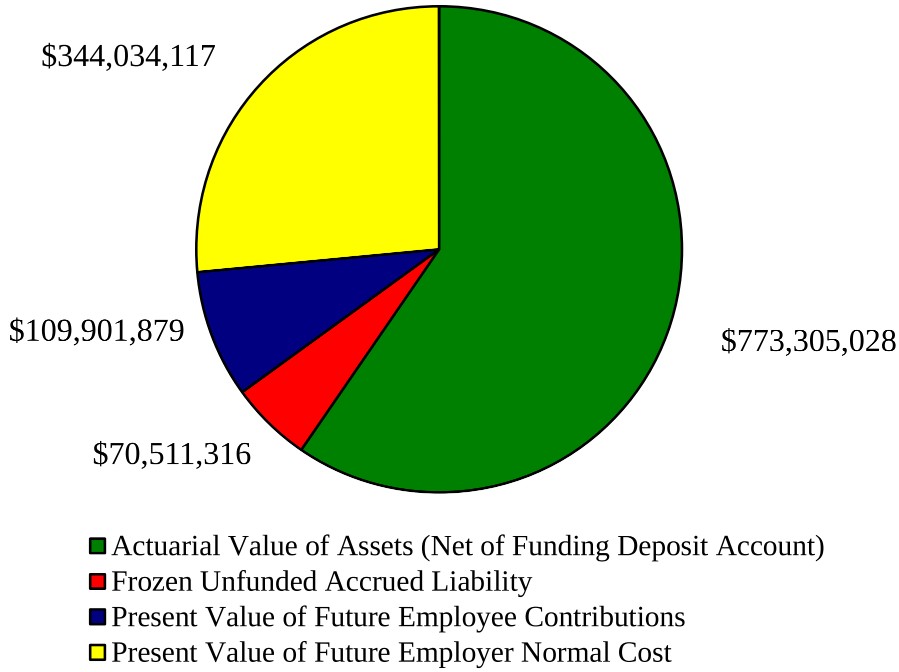
Based upon the irrevocable election of the Board of Trustees to accept the alternative method for determining eligibility to authorize cost of living increases under Act 170 of the 2013 Legislative Session, the ratio of the plan's assets to benefit obligations must meet the criteria established in R.S.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

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

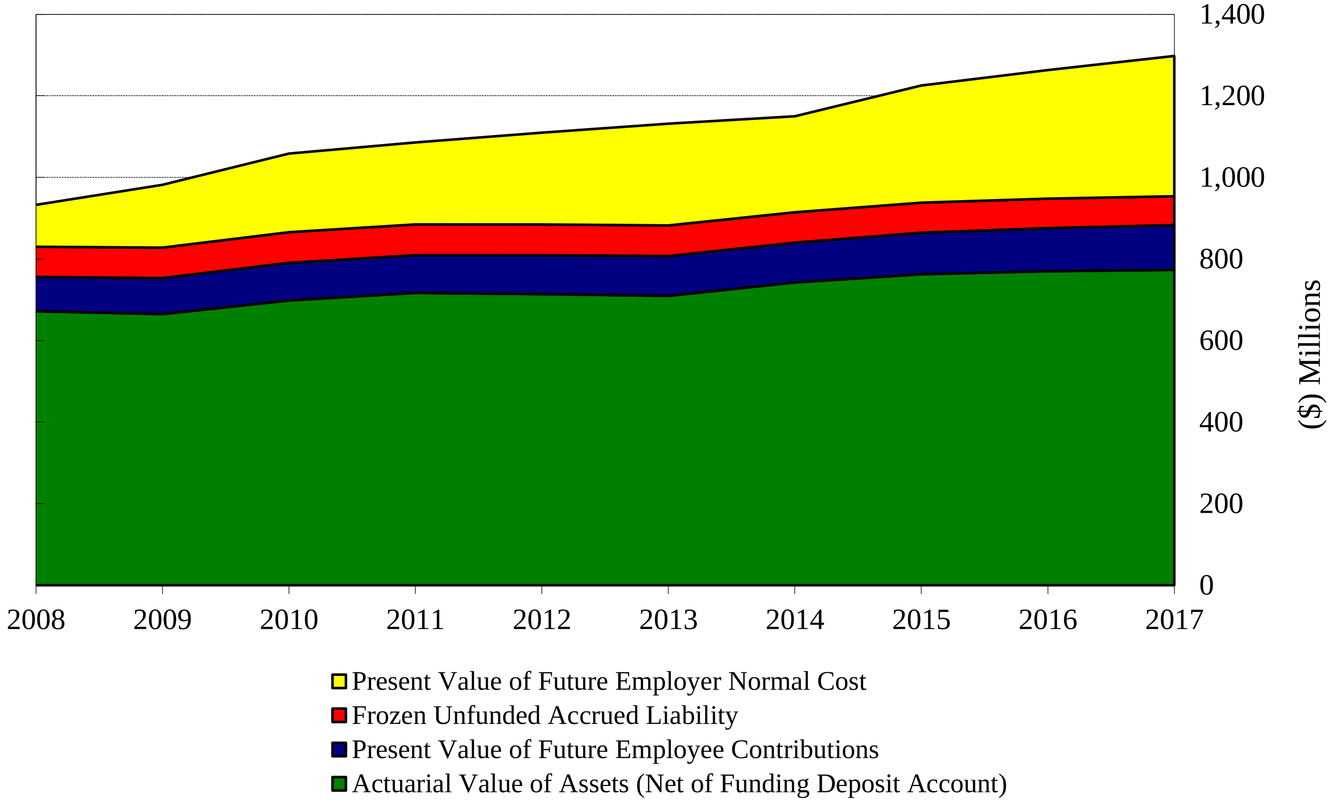
2. The system has a funded ratio of 80% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the two most recent fiscal years.
3. The system has a funded ratio of 70% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the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

We have determined that for Fiscal 2017, neither plan had excess interest earnings; hence no cost of living increase is payable to regular retirees unless paid out of the Funding Deposit Account.

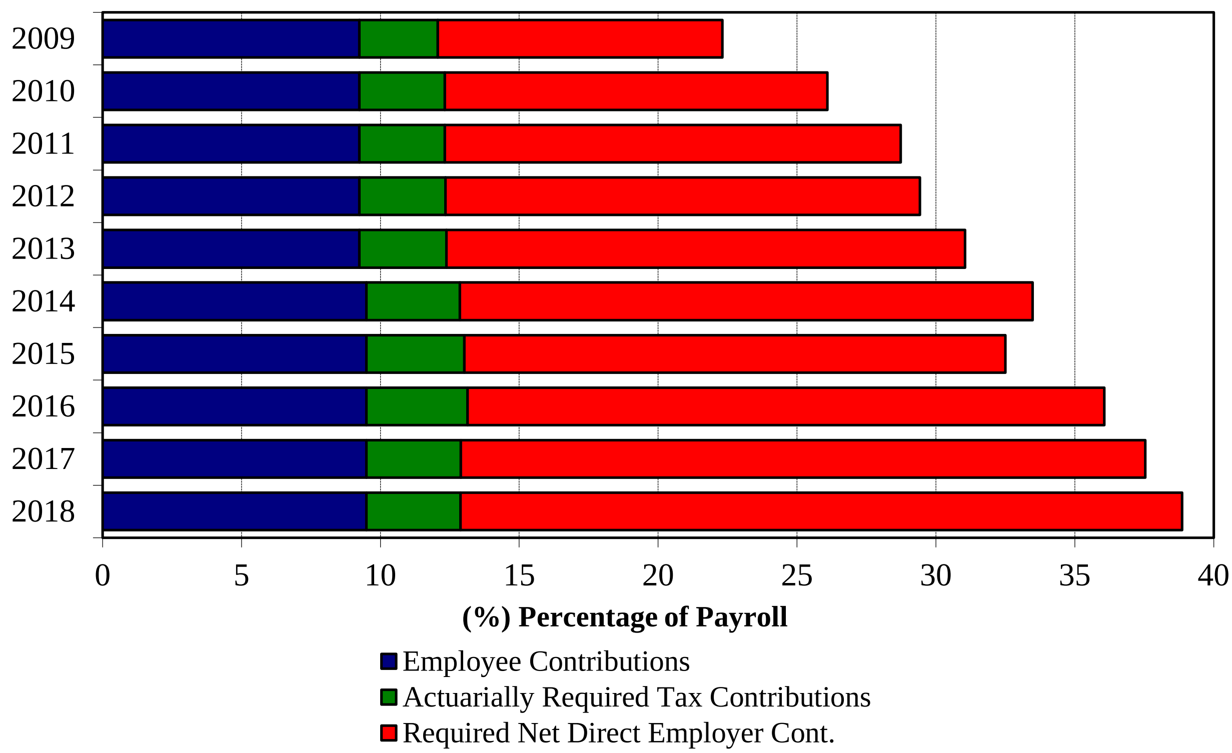
Plan A – Components of Present Value of Future Benefits
June 30, 2017



Plan A – Components of Present Value of Future Benefits

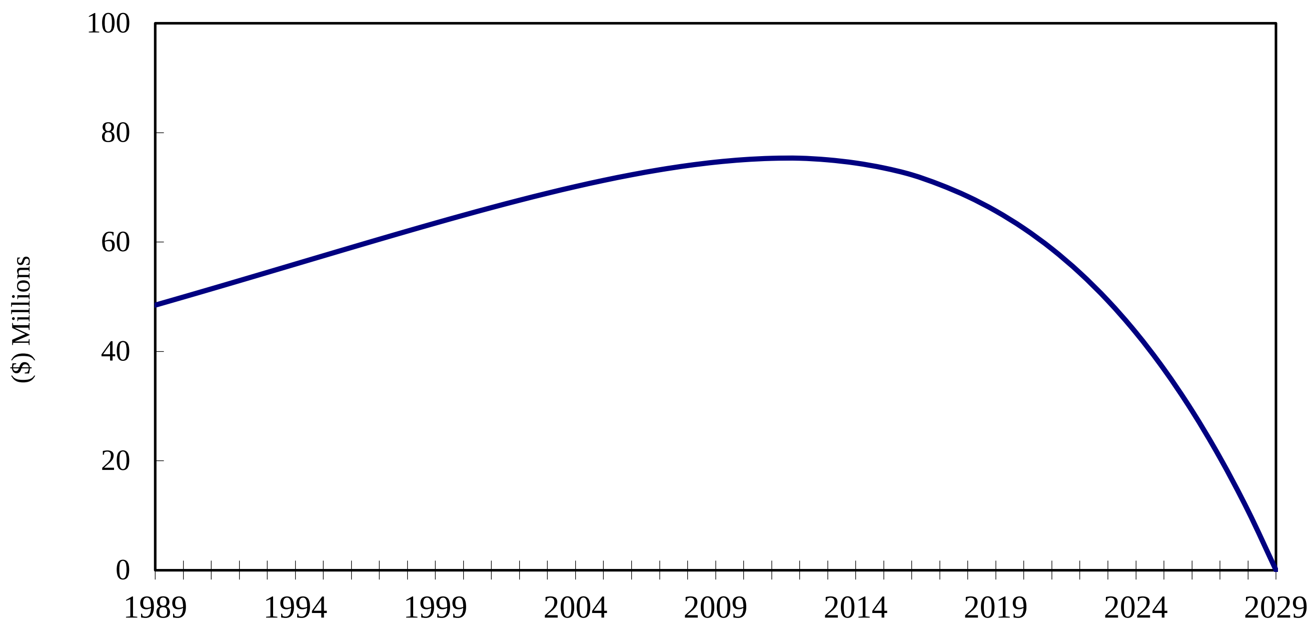


Plan A – Components of Actuarial Funding

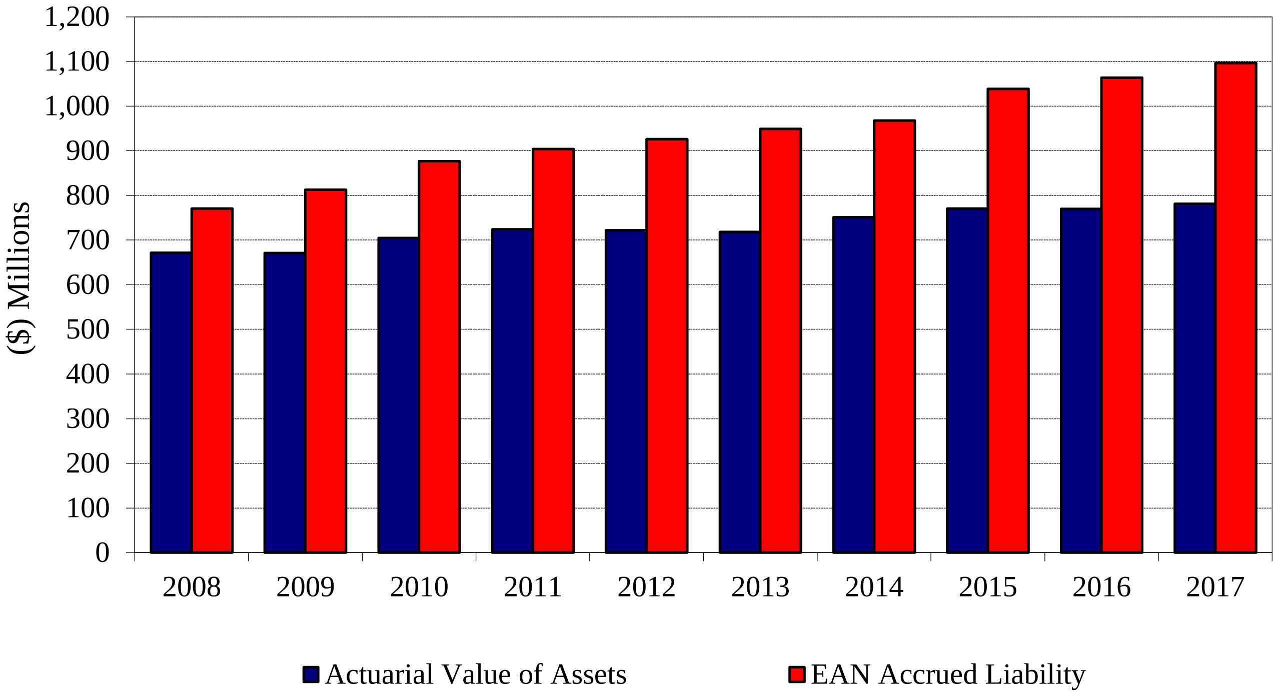


Projected Tax Contributions consist of Projected Ad Valorem and Revenue Sharing Funds as a percent of payroll

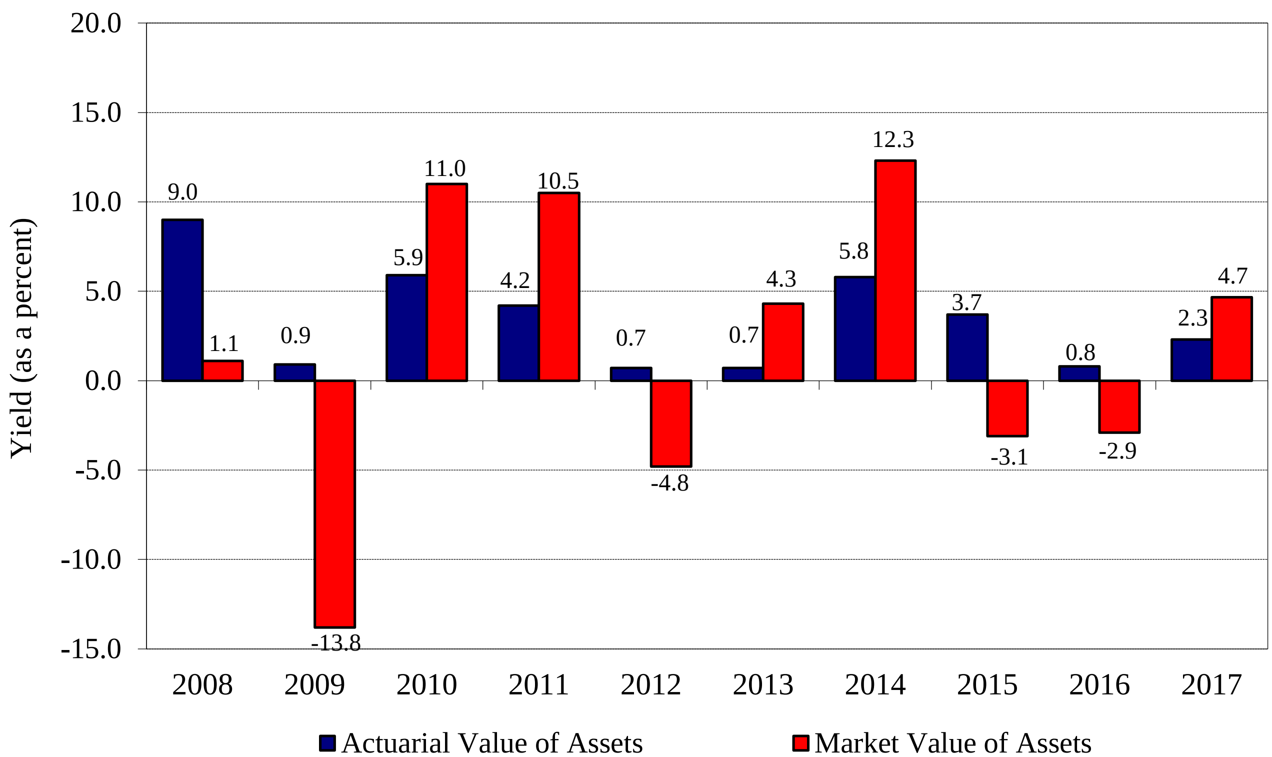
Plan A – Frozen Unfunded Accrued Liability



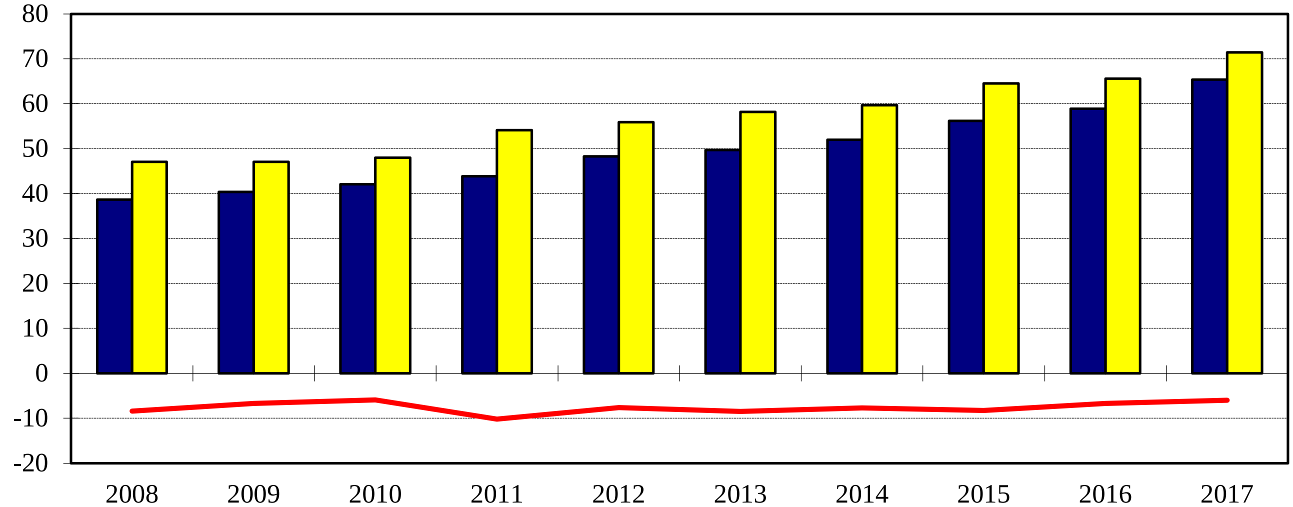
Plan A – Actuarial Value of Assets vs. EAN Accrued Liability



Plan A – Historical Asset Yield

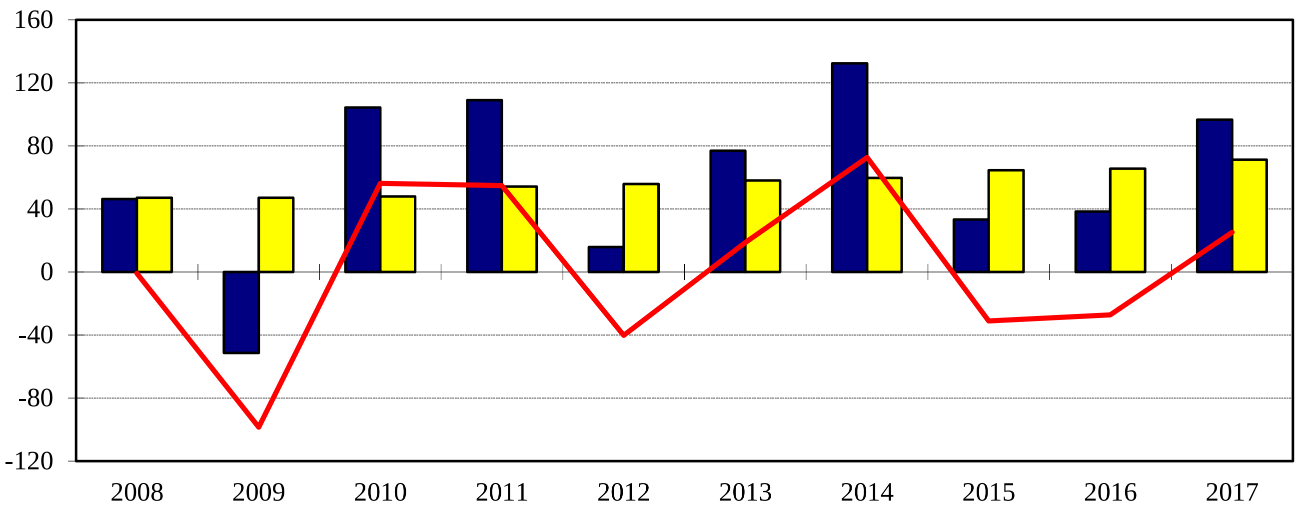


Plan A – Net Non-Investment Income



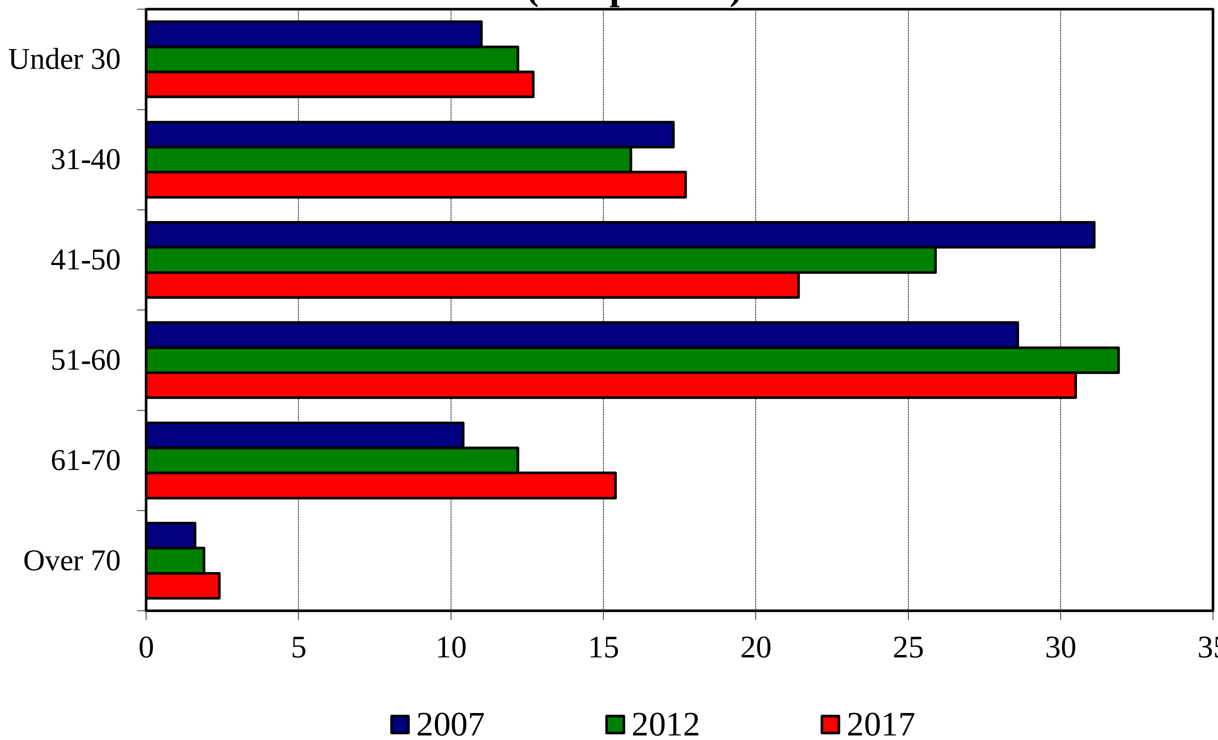
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Non-Investment Income ($Mil)		38.7	40.4	42.1	43.9	48.3	49.7	52.0	56.2	58.9	65.4
Benefits and Expenses ($Mil)		47.1	47.1	48.0	54.1	55.9	58.2	59.7	64.5	65.6	71.4
Net Non-Investment Income ($Mil)		-8.4	-6.7	-5.9	-10.2	-7.6	-8.5	-7.7	-8.3	-6.7	-6.0

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

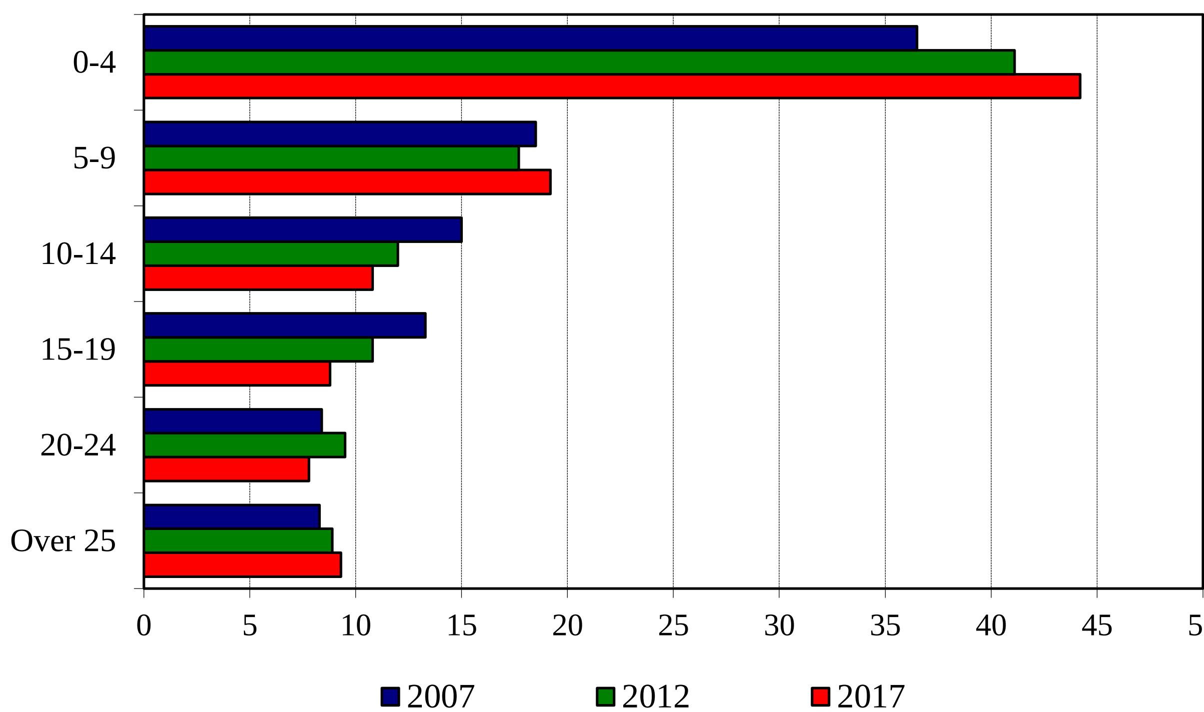


		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Income ($Mil)		46.3	-51.3	104.3	108.9	15.8	77.0	132.4	33.4	38.5	96.6
Benefits and Expenses ($Mil)		47.1	47.1	48.0	54.1	55.9	58.2	59.7	64.5	65.6	71.4
Net Change in MVA ($Mil)		-0.8	-98.4	56.3	54.8	-40.1	18.8	72.7	-31.1	-27.1	25.2

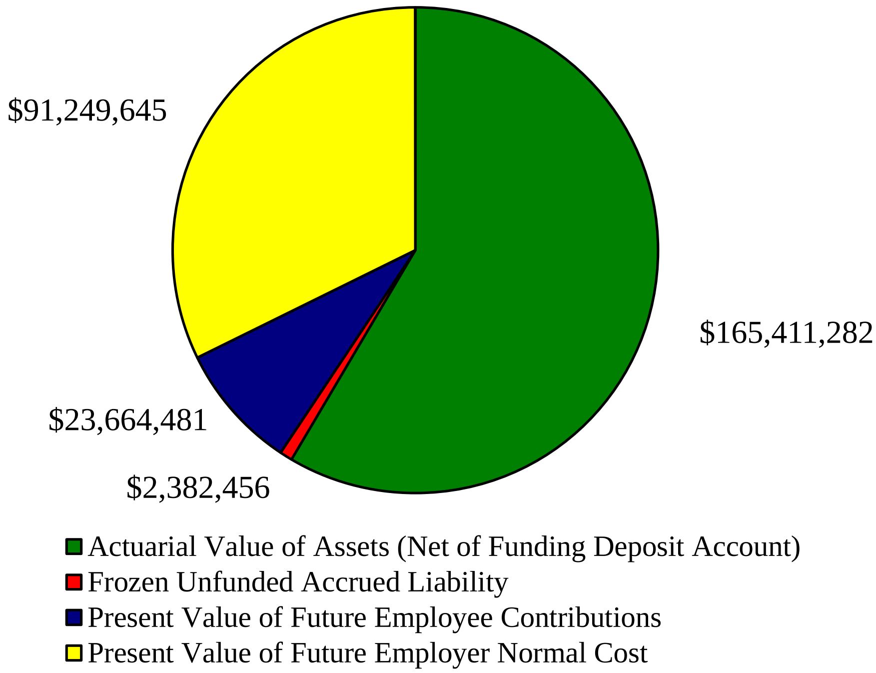
Plan A – Active – Census By Age
(as a percent)



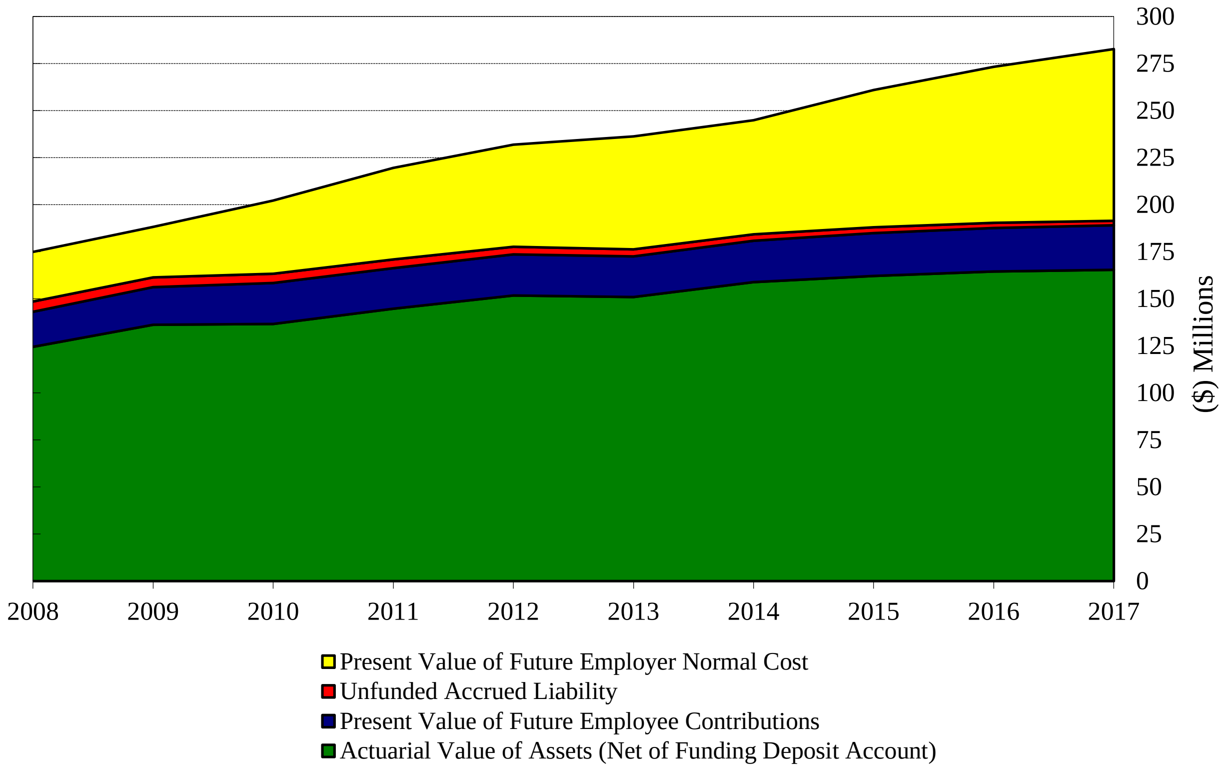
Plan A – Active – Census By Service
(as a percent)



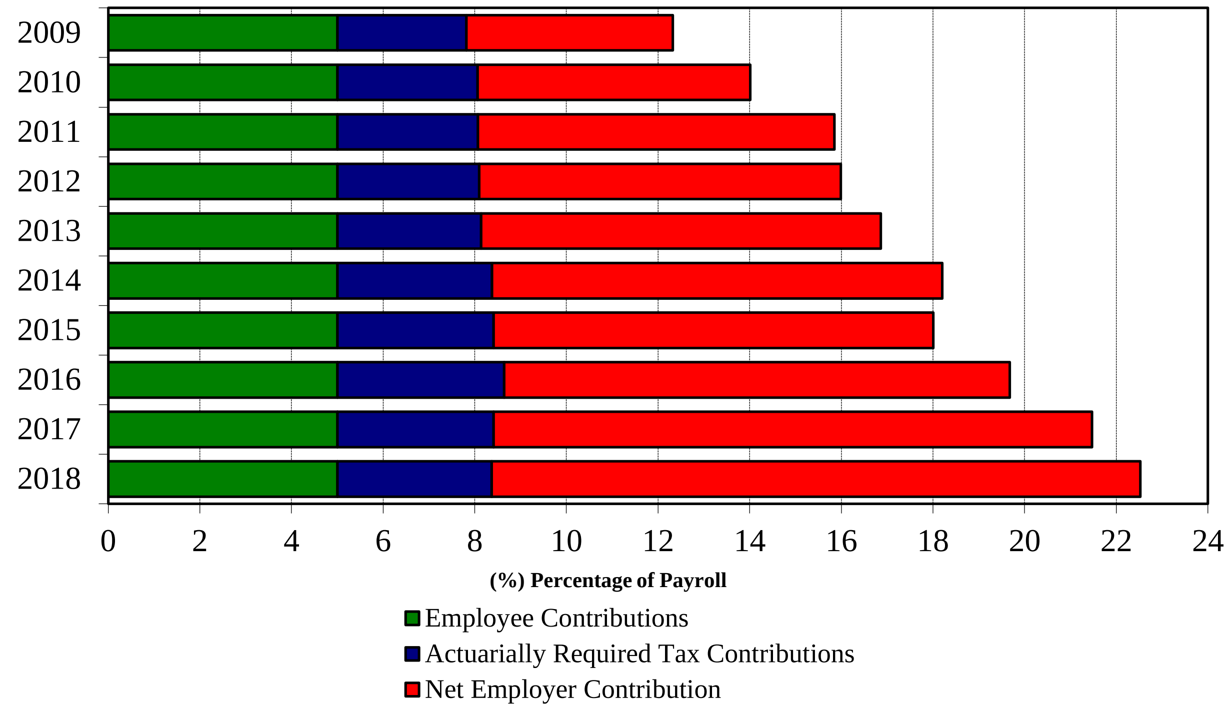
Plan B – Components of Present Value of Future Benefits
June 30, 2017



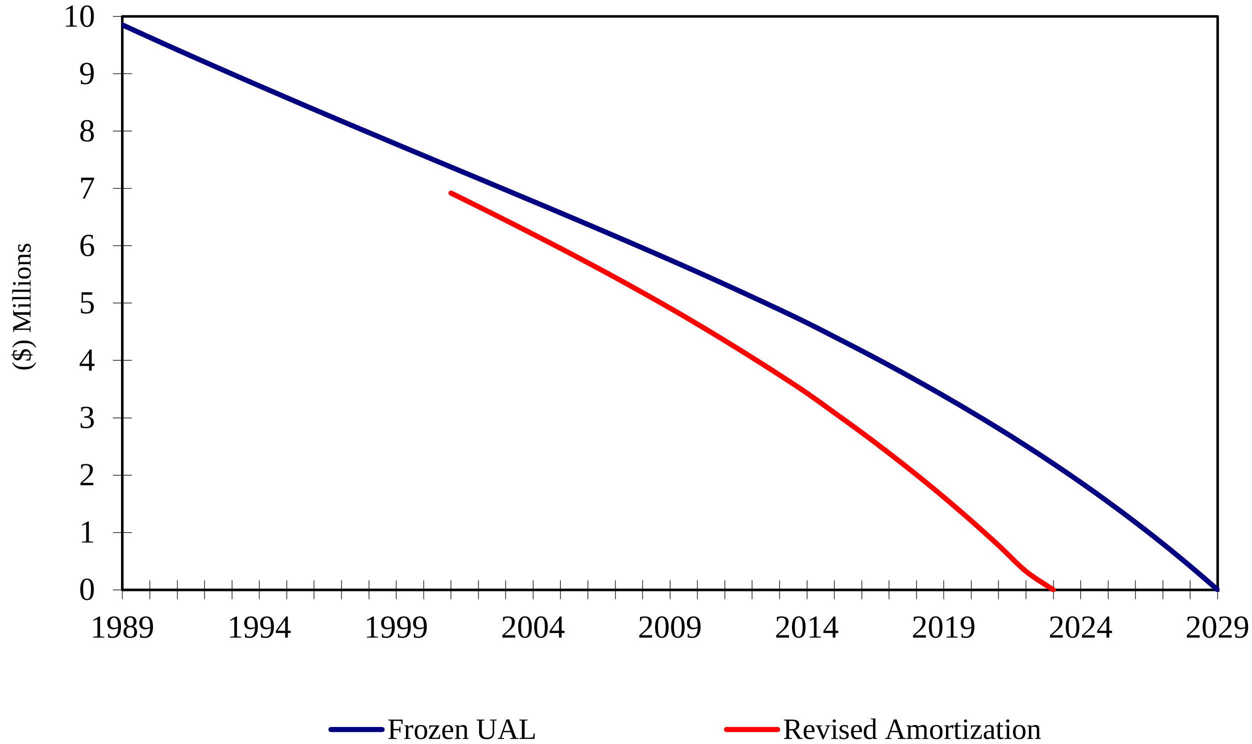
Plan B – Components of Present Value of Future Benefits



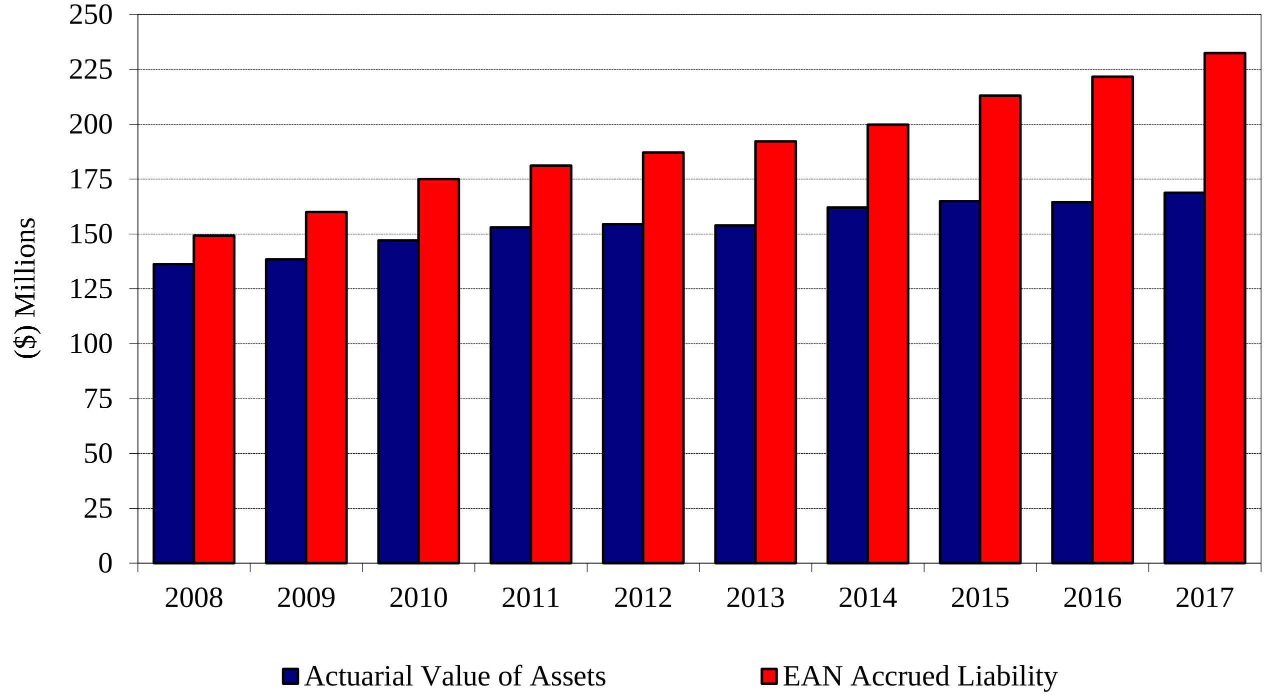
Plan B – Components of Actuarial Funding



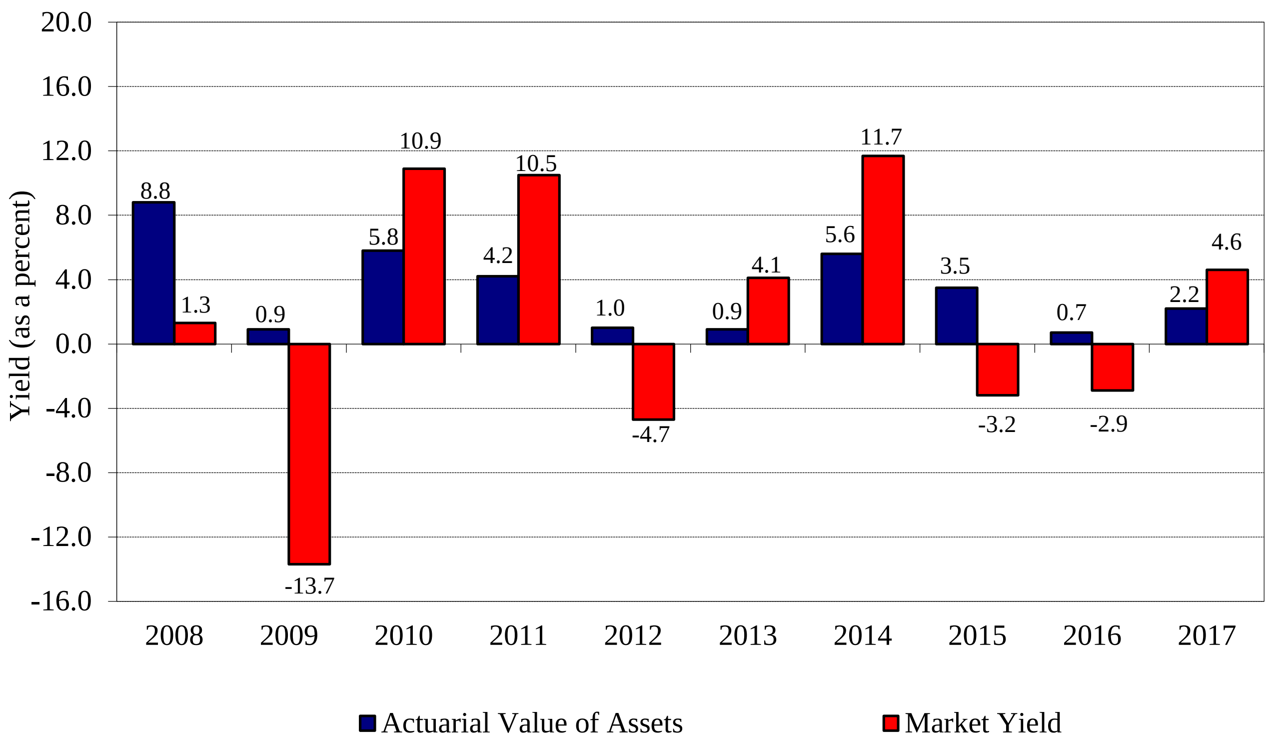
Plan B – Frozen Unfunded Accrued Liability



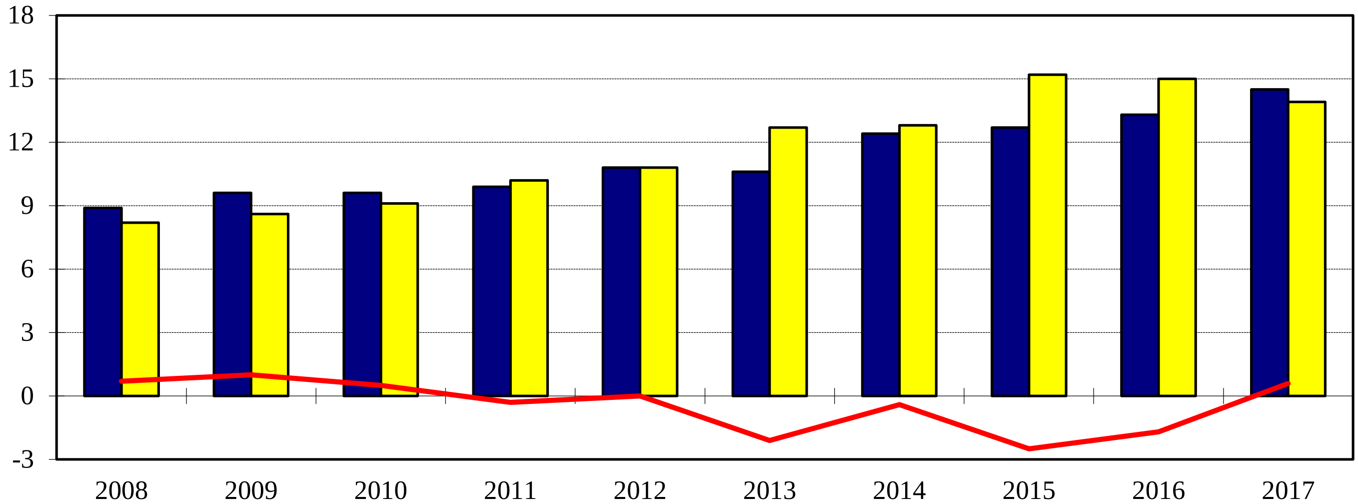
Plan B – Actuarial Value of Assets vs. EAN Accrued Liability



Plan B – Historical Asset Yield

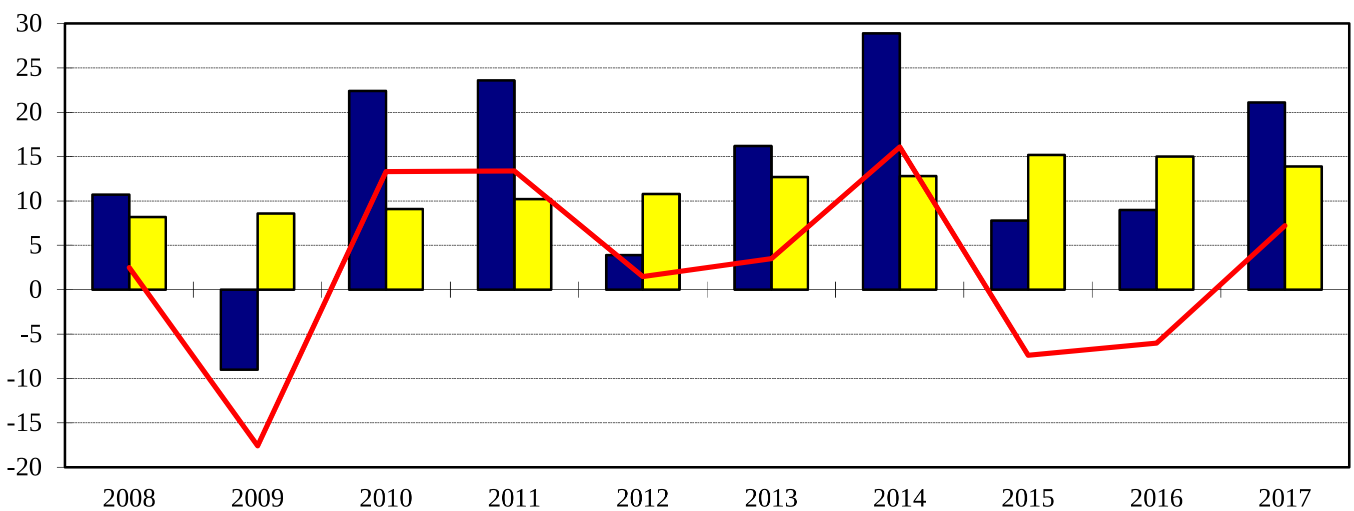


Plan B – Net Non-Investment Income



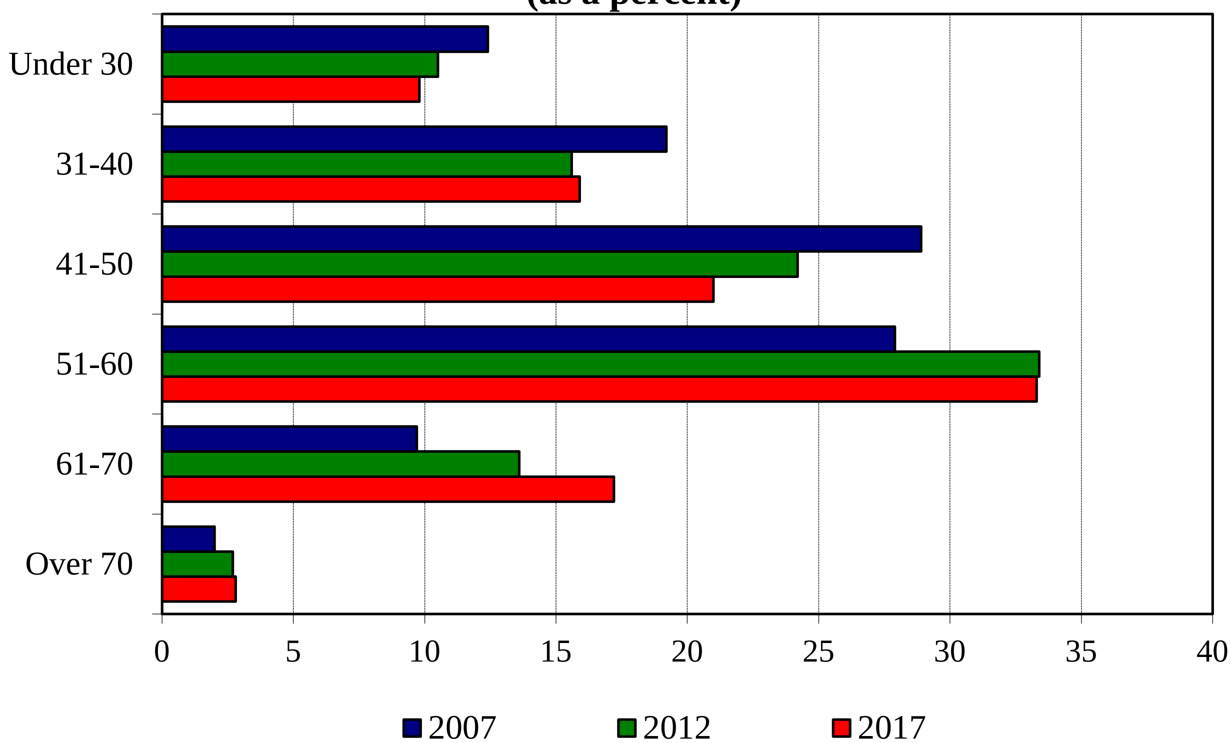
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Non-Investment Income ($Mil)		8.9	9.6	9.6	9.9	10.8	10.6	12.4	12.7	13.3	14.5
Benefits and Expenses ($Mil)		8.2	8.6	9.1	10.2	10.8	12.7	12.8	15.2	15.0	13.9
Net Non-Investment Income ($Mil)		0.7	1.0	0.5	-0.3	0.0	-2.1	-0.4	-2.5	-1.7	0.6

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

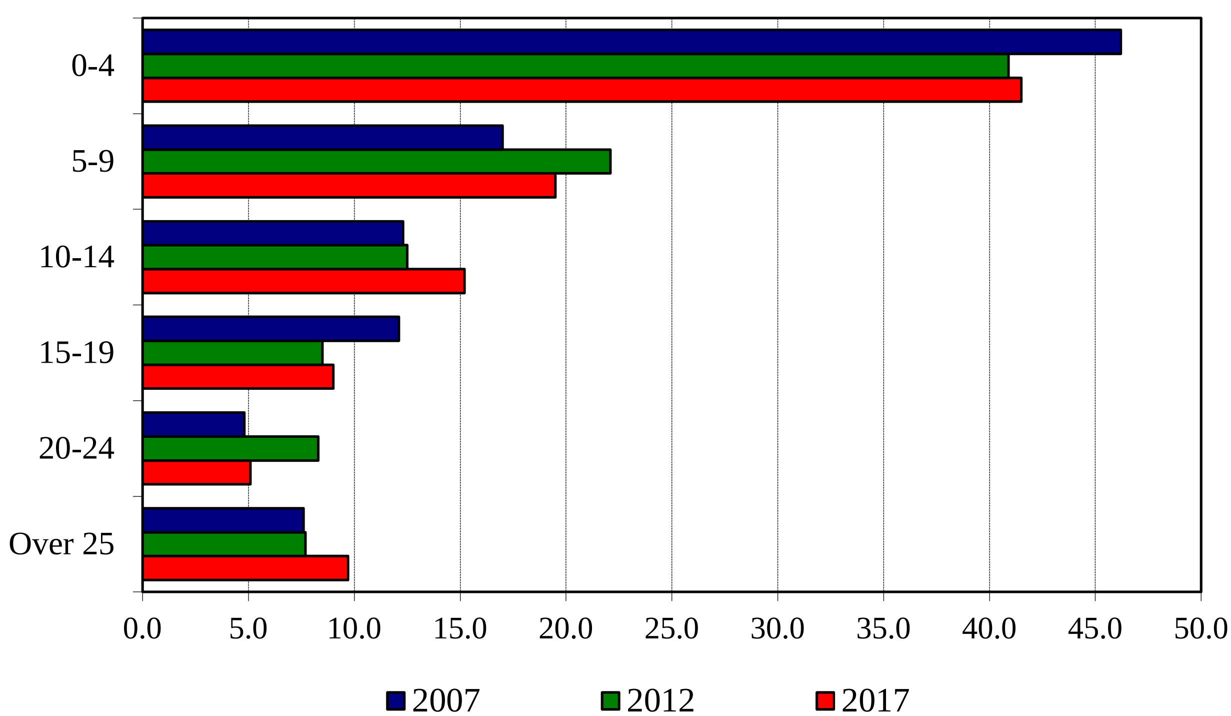


		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Income ($Mil)		10.7	-9.0	22.4	23.6	3.9	16.2	28.9	7.8	9.0	21.1
Benefits and Expenses ($Mil)		8.2	8.6	9.1	10.2	10.8	12.7	12.8	15.2	15.0	13.9
Net Change in MVA ($Mil)		2.5	-17.6	13.3	13.4	1.5	3.5	16.1	-7.4	-6.0	7.2

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



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



EXHIBITS

EXHIBIT I
PLAN A: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	$	1,297,752,340
2.	Funding Deposit Account Credit Balance	$	8,112,406
3.	Frozen Unfunded Actuarial Accrued Liability	$	70,511,316
4.	Actuarial Value of Assets	$	781,417,434
5.	Present Value of Future Employee Contributions	$	109,901,879
6.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4 – 5)	$	344,034,117
7.	Present Value of Future Salaries	$	1,314,528,661
8.	Employer Normal Cost Accrual Rate (6 ÷ 7)		26.171671%
9.	Projected Fiscal 2018 Salary for Current Membership	$	169,184,304
10.	Employer Normal Cost as of July 1, 2017 (8 × 9)	$	44,278,359
11.	Employer Normal Cost Interest Adjusted for Mid-year Payment	$	45,887,422
12.	Amortization Payment on Frozen Unfunded Accrued Liability with Payments Increasing at 4.25% per year	$	6,884,813
13.	Amortization Payment Interest Adjust for Mid-year Payment	$	7,135,005
14.	TOTAL Employer Normal Cost & Amortization Payment (11 + 13)	$	53,022,427
15.	Estimated Administrative Cost for Fiscal 2018	$	1,306,346
16.	Gross Employer Actuarially Required Contribution for Fiscal 2018 (14 + 15)	$	54,328,773
17.	Projected Ad Valorem Tax Contributions for Fiscal 2018	$	6,182,538
18.	Projected Revenue Sharing Funds for Fiscal 2018	$	114,303
19.	Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2018 (16 – 17 – 18)	$	48,031,932
19.	Projected Payroll for Fiscal 2018	$	185,573,045
20.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2018 (18 ÷ 19)		25.88%
21.	Actual Employer Contribution Rate for 2018		24.75%
22.	Contribution Shortfall (Excess) as a Percentage of Payroll (20 – 21)		1.13%
23.	Increase (Reduction) to Following Year Payment for Contribution Shortfall (Excess)		0.15%
24.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2019 (20 + 23, Rounded to the nearest 0.25%)		26.00%

EXHIBIT II
PLAN A: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$ 625,516,467		
Survivor Benefits	10,549,229		
Disability Benefits	11,367,354		
Vested Termination Benefits	30,948,160		
Refunds of Contributions	18,857,873		
TOTAL Present Value of Future Benefits for Active Members			$ 697,239,083

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$ 16,034,888		
Terminated Members with Reciprocals Due Benefits at Retirement	1,202,945		
Terminated Members Due a Refund	3,632,018		
TOTAL Present Value of Future Benefits for Terminated Members			$ 20,869,851

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees			
Maximum	$ 215,213,834		
Option 2	216,015,832		
Option 3	72,187,983		
Option 4	2,938,144		
TOTAL Regular Retirees		$ 506,355,793	
Disability Retirees		12,657,274	
Survivors & Widows		55,497,408	
Reserve for Accrued Retiree DROP Account Balances		5,132,931	
TOTAL Present Value of Future Benefits for Retirees & Survivors			$ 579,643,406
TOTAL Present Value of Future Benefits			$ 1,297,752,340

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

CURRENT ASSETS:				
Cash in Banks	$	27,928,126		
Contributions and Taxes Receivable		4,995,400		
Accrued Interest and Dividends		819,259		
Investments Receivable		7,859,987		
Due (to) from Other Funds		4,509,556		
Other Current Assets		2,279		
TOTAL CURRENT ASSETS			$	46,114,607
Property, Plant & Equipment			$	1,507,695
INVESTMENTS:				
Cash Equivalents	$	4,890,265		
Equities		337,100,345		
Fixed Income		226,802,298		
Real Estate		36,504,894		
Alternative Investments		44,702,162		
TOTAL INVESTMENTS			$	649,999,964
TOTAL ASSETS			$	697,622,266
CURRENT LIABILITIES:				
Accounts Payable	$	167,940		
Refunds Payable		308,170		
Other Current Liabilities		88,217		
TOTAL CURRENT LIABILITIES			$	564,327
MARKET VALUE OF ASSETS			$	697,057,939

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

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

Fiscal year 2017	$	(18,915,901)
Fiscal year 2016		(72,602,401)
Fiscal year 2015		(79,045,238)
Fiscal year 2014		29,763,811
Fiscal year 2013		(21,849,970)
Total for Five Years	$	(162,649,699)

Deferral of Excess (Shortfall) of Invested Income:

Fiscal year 2017 (80%)	$	(15,132,721)
Fiscal year 2016 (60%)		(43,561,441)
Fiscal year 2015 (40%)		(31,618,095)
Fiscal year 2014 (20%)		5,952,762
Fiscal year 2013 (0%)		0
Total Deferred for Year	$	(84,359,495)

Market Value of Plan Net Assets, End of Year	$	697,057,939
Preliminary Actuarial Value of Plan Assets, End of Year	$	781,417,434

Actuarial Value of Assets Corridor

85% of Market Value, End of Year	$	592,499,248
115% of Market Value, End of Year	$	801,616,630

Final Actuarial Value of Plan Net Assets, End of Year	$	781,417,434

EXHIBIT IV
PLAN A: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	109,901,879
Employer Normal Contributions to the Pension Accumulation Fund		344,034,117
Employer Amortization Payments to the Pension Accumulation Fund		70,511,316
Funding Deposit Account Debit (Credit) Balance		(8,112,406)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	516,334,906

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

Prior Year Frozen Unfunded Accrued Liability			$	72,227,730
Interest on Frozen Unfunded Accrued Liability	$	5,417,080		
TOTAL Interest Adjusted Cost Elements			$	5,417,080
Amortization Payment on the Unfunded Accrued Liability	$	6,635,808		
Interest on Amortization Payment		497,686		
Credited Withdrawals from Funding Deposit Account		0		
TOTAL Interest Adjusted Employer Contributions			$	7,133,494
NET Change in Frozen Unfunded Accrued Liability			$	(1,716,414)
CURRENT YEAR FROZEN UNFUNDED ACCRUED LIABILITY			$	70,511,316

EXHIBIT VI
PLAN A: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (June 30, 2016)			$	769,849,744
INCOME:				
Member Contributions	$	16,336,439		
Employer Contributions		41,480,630		
Irregular Contributions		483,433		
Ad Valorem Taxes and Revenue Sharing		6,155,079		
Transfers from Other Plan/Systems		919,474		
Total Contributions			$	65,375,055
Net Appreciation in Fair Value of Investments	$	32,466,018		
Interest & Dividend Income		855,865		
Investment Expense		(2,070,563)		
Net Investment Income			$	31,251,320
TOTAL Income			$	96,626,375
EXPENSES:				
Retirement Benefits	$	59,078,325		
DROP Disbursements		6,399,404		
Refunds of Contributions		3,455,854		
Funds Transferred to another System		1,514,258		
Transfer between Plans		73,965		
Administrative Expenses		922,840		
TOTAL Expenses			$	71,444,646
Net Market Value Income for Fiscal 2017 (Income – Expenses)			$	25,181,729
Unadjusted Fund Balance as of June 30, 2017 (Fund Balance Previous Year + Net Income)			$	795,031,473
Adjustment for Actuarial Smoothing			$	(13,614,039)
Actuarial Value of Assets: (June 30, 2017)			$	781,417,434

EXHIBIT VII
PLAN A: FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of June 30, 2016	$	8,421,235
Interest on Opening Balance at 7.50%		631,593
Contributions to the Funding Deposit Account		0
Withdrawals from the Funding Deposit Account		(940,422)
Funding Deposit Account Balance as of June 30, 2017	$	8,112,406

EXHIBIT VIII – SCHEDULE A
PLAN A: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees	$	479,257,926
Present Value of Benefits Payable to Terminated Employees		20,869,851
Present Value of Benefits Payable to Current Retirees and Beneficiaries		579,643,406
TOTAL PENSION BENEFIT OBLIGATION	$	1,079,771,183
NET ACTUARIAL VALUE OF ASSETS	$	781,417,434
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation		72.37%

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

Accrued Liability for Active Employees	$	496,103,661
Accrued Liability for Terminated Employees		20,869,851
Accrued Liability for Current Retirees and Beneficiaries		579,643,406
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	$	1,096,616,918
ACTUARIAL VALUE OF ASSETS	$	781,417,434
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability		71.26%

EXHIBIT IX
CENSUS DATA – PLAN A

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2016	4,682	3,012	230	3,345	11,269
Additions to Census					
Initial membership	588	43			631
Omitted in error last year				5	5
Death of another member			(1)	36	35
Adjustment for multiple records	3		(3)	13	13
Change in Status during Year					
Actives terminating service	(165)	165			
Actives who retired	(92)			92	
Actives entering DROP	(74)		74		
Term. members rehired	16	(16)			
Term. members who retire		(13)		13	
Retirees who are rehired	5			(5)	
Refunded who are rehired	20				20
DROP participants retiring			(44)	44	
DROP returned to work	32		(32)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(292)	(115)			(407)
Deaths	(10)	(7)		(126)	(143)
Included in error last year					
Adjustment for multiple records					
Number of members as of June 30, 2017	4,713	3,069	224	3,417	11,423

PLAN A - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	18	3	21	22,809	478,996
21 - 25	155	56	211	25,169	5,310,625
26 - 30	247	145	392	29,976	11,750,684
31 - 35	285	150	435	34,180	14,868,162
36 - 40	276	163	439	34,265	15,042,467
41 - 45	274	164	438	35,984	15,760,948
46 - 50	416	202	618	38,722	23,930,023
51 - 55	489	248	737	38,793	28,590,426
56 - 60	503	268	771	40,076	30,898,258
61 - 65	365	180	545	40,463	22,052,514
66 - 70	150	63	213	40,962	8,724,806
71 - 75	53	24	77	41,576	3,201,343
76 - 80	26	4	30	35,953	1,078,592
81 - 85	6	2	8	39,137	313,092
86 - 90	1	1	2	21,992	43,983
TOTAL	3,264	1,673	4,937	36,874	182,044,919

THE ACTIVE CENSUS INCLUDES 1,820 ACTIVES WITH VESTED BENEFITS, INCLUDING 224 DROP PARTICIPANTS AND 189 ACTIVE FORMER DROP PARTICIPANTS.

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	2	0	2	16,231	32,461
36 - 40	7	3	10	13,522	135,220
41 - 45	7	4	11	13,803	151,838
46 - 50	17	9	26	15,246	396,405
51 - 55	31	23	54	14,457	780,674
56 - 60	27	34	61	13,994	853,657
61 - 65	2	9	11	8,308	91,392
66 - 70	2	1	3	12,016	36,047
71 - 75	1	1	2	4,004	8,007
76 - 80	2	2	4	3,822	15,287
TOTAL	98	86	184	13,592	2,500,988

PLAN A - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From		To	Number	Total Contributions
0	-	99	1,844	103,123
100	-	499	399	101,359
500	-	999	170	121,277
1000	-	1999	136	198,665
2000	-	4999	138	446,980
5000	-	9999	102	723,133
10000	-	19999	60	832,009
20000	-	99999	36	997,342
		TOTAL	2,885	3,523,888

PLAN A - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	1	0	1	17,174	17,174
41 - 45	3	1	4	16,729	66,914
46 - 50	7	6	13	30,872	401,335
51 - 55	74	36	110	28,293	3,112,271
56 - 60	162	92	254	28,406	7,215,193
61 - 65	332	135	467	24,876	11,617,294
66 - 70	361	165	526	20,966	11,028,147
71 - 75	326	133	459	16,398	7,526,667
76 - 80	249	102	351	15,943	5,595,827
81 - 85	162	64	226	14,716	3,325,715
86 - 90	91	35	126	13,517	1,703,117
91 - 99	39	29	68	12,052	819,509
TOTAL	1,807	798	2,605	20,126	52,429,163

PLAN A - DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	1	0	1	10,379	10,379
41 - 45	4	0	4	11,418	45,670
46 - 50	8	1	9	12,735	114,615
51 - 55	11	3	14	13,119	183,659
56 - 60	26	6	32	12,714	406,863
61 - 65	17	6	23	11,270	259,220
66 - 70	13	4	17	8,523	144,894
71 - 75	3	4	7	5,937	41,556
76 - 80	6	1	7	7,420	51,937
81 - 85	2	0	2	8,950	17,900
86 - 90	1	2	3	5,073	15,220
TOTAL	92	27	119	10,856	1,291,913

PLAN A - SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 25	4	3	7	11,871	83,098
26 - 30	1	0	1	7,577	7,577
31 - 35	1	2	3	7,296	21,889
36 - 40	1	3	4	6,420	25,681
41 - 45	2	2	4	8,531	34,123
46 - 50	3	8	11	8,504	93,546
51 - 55	6	25	31	8,116	251,590
56 - 60	6	43	49	11,675	572,077
61 - 65	4	61	65	11,910	774,138
66 - 70	8	66	74	11,625	860,286
71 - 75	8	94	102	10,080	1,028,165
76 - 80	9	131	140	10,320	1,444,769
81 - 85	1	90	91	9,095	827,675
86 - 90	0	77	77	9,147	704,298
91 - 99	2	32	34	6,286	213,727
TOTAL	56	637	693	10,018	6,942,639

PLAN A - ACTIVE MEMBERS:

Attained Ages	Completed Years of Service 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 20	20	1										21
21 - 25	89	59	33	14	8	8						211
26 - 30	106	75	53	47	36	72	3					392
31 - 35	60	76	61	42	33	125	36	2				435
36 - 40	65	55	54	36	33	94	59	41	2			439
41 - 45	43	45	44	34	23	87	60	62	38	2		438
46 - 50	60	56	41	37	31	104	64	70	91	63	1	618
51 - 55	64	67	58	45	44	122	87	74	72	70	34	737
56 - 60	59	59	41	34	35	147	101	82	88	65	60	771
61 - 65	28	33	24	26	20	126	70	66	51	57	44	545
66 - 70	16	9	10	6	14	46	30	23	24	14	21	213
71 & Over	5	3	4	2	1	19	22	14	19	11	17	117
Totals	615	538	423	323	278	950	532	434	385	282	177	4937

PLAN A - AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Salary
0 - 20	22,765	23,700										22,809
21 - 25	24,436	24,711	23,785	27,557	31,825	31,571						25,169
26 - 30	26,622	29,075	30,983	32,384	33,454	31,284	42,392					29,976
31 - 35	26,839	31,579	32,472	31,154	35,598	40,244	36,356	27,240				34,180
36 - 40	27,625	31,279	30,262	32,662	34,948	35,308	40,629	42,766	46,884			34,265
41 - 45	24,470	30,740	33,137	34,409	34,426	35,949	39,062	41,007	47,231	48,586		35,984
46 - 50	25,480	30,243	30,745	28,985	31,495	37,366	40,509	43,926	50,171	51,394	41,394	38,722
51 - 55	29,292	33,723	33,041	33,225	31,994	36,819	38,635	42,075	42,542	52,242	57,364	38,793
56 - 60	31,815	30,383	33,689	32,120	38,366	37,301	38,181	41,916	44,769	49,856	57,591	40,076
61 - 65	28,564	34,054	39,135	37,275	33,622	35,885	40,242	39,071	46,621	48,592	56,446	40,463
66 - 70	25,094	28,224	31,480	37,710	27,367	43,259	45,310	39,167	43,839	56,543	50,062	40,962
71 & Over	29,096	33,574	33,373	46,600	51,899	31,112	43,076	47,108	30,499	46,314	48,528	39,633
Average	26,890	30,465	31,787	32,540	33,860	36,785	39,682	41,739	45,366	50,721	55,407	36,874

PLAN A - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Attained Ages	Years Until Retirement Eligibility 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 30												0
31 - 35										2		2
36 - 40									10			10
41 - 45								11				11
46 - 50							26					26
51 - 55						54						54
56 - 60	12	14	15	7	13							61
61 - 65	11											11
66 - 70	3											3
71 - 75	2											2
76 - 80	4											4
81 & Over												0
Totals	32	14	15	7	13	54	26	11	10	2	0	184

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

Attained Ages	Years Until Retirement Eligibility 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 30												0
31 - 35										16,230		16,230
36 - 40									13,522			13,522
41 - 45								13,803				13,803
46 - 50							15,246					15,246
51 - 55						14,457						14,457
56 - 60	14,116	14,276	14,549	11,755	14,145							13,994
61 - 65	8,308											8,308
66 - 70	12,016											12,016
71 - 75	4,003											4,003
76 - 80	3,822											3,822
81 & Over												0
Average	10,004	14,276	14,549	11,755	14,145	14,457	15,246	13,803	13,522	16,230	0	13,592

PLAN A - SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 50	4	5	6			3						18
51 - 55	15	20	13	12	14	27	7	2				110
56 - 60	24	22	27	24	22	82	46	6		1		254
61 - 65	51	61	46	53	35	106	89	15	6	4	1	467
66 - 70	32	36	44	34	39	199	85	48	5	3	1	526
71 - 75	12	6	21	16	21	150	160	52	17	4		459
76 - 80	3	2	6	4	5	51	102	109	45	19	5	351
81 - 85		1	3	1	3	17	31	60	71	26	13	226
86 - 90	1	2	1			3	12	17	39	37	14	126
91 & Over			1				6	2	4	22	33	68
Totals	142	155	168	144	139	638	538	311	187	116	67	2605

PLAN A - AVERAGE ANNUAL BENEFITS PAYABLE TO SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 50	31,379	23,967	26,985			26,054						26,968
51 - 55	37,531	32,351	34,502	28,346	23,025	24,037	16,116	14,713				28,293
56 - 60	29,061	37,122	35,950	29,936	36,247	26,609	20,576	13,889		2,753		28,406
61 - 65	25,212	21,153	24,343	29,262	27,625	28,205	22,888	18,771	10,922	7,102	1,344	24,876
66 - 70	22,777	19,579	19,996	18,990	21,802	20,326	24,087	20,858	19,150	7,133	8,115	20,966
71 - 75	18,062	24,025	21,313	15,127	19,474	14,131	15,318	21,390	18,128	19,064		16,398
76 - 80	15,238	7,059	19,389	14,397	12,267	14,755	14,196	15,707	19,996	23,124	9,802	15,943
81 - 85		14,499	19,376	2,787	27,495	11,598	11,584	10,658	15,749	21,920	21,843	14,716
86 - 90	14,593	18,415	49,262			14,918	11,072	10,896	12,340	13,431	18,670	13,517
91 & Over			43,929				7,331	13,751	7,547	12,507	12,083	12,052
Average	25,899	24,441	25,571	24,705	25,106	20,467	17,804	16,309	16,037	16,467	14,963	20,126

PLAN A - DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 35												0
36 - 40		1										1
41 - 45	3							1				4
46 - 50	2	1		1		2	2		1			9
51 - 55	2	1	1	1	1	4		2	2			14
56 - 60	3	2	2	1	4	6	6	6	2			32
61 - 65	2		2		2	6	3	5	3			23
66 - 70	1	1			1	4	3	4	2		1	17
71 - 75							2	3	1		1	7
76 - 80					1	2	1		2		1	7
81 - 85					1		1					2
86 - 90									1	2		3
91 & Over												0
Totals	13	6	5	3	10	24	18	21	14	2	3	119

PLAN A - AVERAGE ANNUAL BENEFITS PAYABLE TO DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 35												0
36 - 40		10,379										10,379
41 - 45	12,391							8,496				11,418
46 - 50	13,117	16,873		11,499		14,073	10,156		11,550			12,735
51 - 55	13,295	9,088	12,102	12,927	16,685	17,357		10,207	8,213			13,118
56 - 60	9,014	15,032	13,075	5,937	12,745	15,710	15,455	10,478	8,415			12,714
61 - 65	6,605		13,200		9,346	16,256	8,661	9,962	9,197			11,270
66 - 70	7,583	10,607			6,473	9,377	5,733	8,390	14,598		2,767	8,523
71 - 75							4,510	7,652	6,039		3,541	5,937
76 - 80					8,368	5,564	4,877		9,204		9,154	7,419
81 - 85					8,244		9,656					8,950
86 - 90									5,992	4,614		5,073
91 & Over												0
Average	10,603	12,835	12,930	10,121	10,944	14,084	9,988	9,434	9,431	4,614	5,154	10,856

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		2	1	1		3						7
21 - 25												0
26 - 30						1						1
31 - 35			1	1			1					3
36 - 40						4						4
41 - 45						1	1	1		1		4
46 - 50	1			1	1	3	2	2			1	11
51 - 55	1	1		1		4	9	7	3	2	3	31
56 - 60	2	2	5	1		11	14	4	4	4	2	49
61 - 65	1	4	1	2	2	8	16	15	8	7	1	65
66 - 70			3	2	2	13	18	17	7	8	4	74
71 - 75			2	2		14	27	22	19	9	7	102
76 - 80	1		2	1		11	22	36	32	21	14	140
81 - 85						2	6	21	21	21	20	91
86 - 90						3	4	9	7	30	24	77
91 & Over						1		1	1	6	25	34
Totals	6	9	15	12	5	79	120	135	102	109	101	693

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		17,461	7,133	18,188		7,618						11,871
21 - 25												0
26 - 30						7,577						7,577
31 - 35			4,229	7,862			9,798					7,296
36 - 40						6,420						6,420
41 - 45						19,969	5,025	1,874		7,255		8,531
46 - 50	12,839			8,999	3,997	5,633	21,045	3,951			821	8,504
51 - 55	7,121	20,493		23,878		10,173	10,904	4,606	5,955	2,337	2,164	8,116
56 - 60	22,395	19,298	12,933	31,851		13,433	11,811	7,020	6,210	3,666	5,734	11,675
61 - 65	12,019	29,120	18,113	14,215	20,915	11,840	13,297	10,551	6,499	4,944	4,925	11,910
66 - 70			21,199	2,888	17,118	15,468	10,426	13,702	11,711	4,931	3,390	11,625
71 - 75			8,070	11,561		11,665	11,294	12,338	8,294	5,545	5,958	10,080
76 - 80	7,428		6,166	46,965		8,315	10,468	10,091	10,907	10,856	8,286	10,320
81 - 85						5,954	6,317	8,487	9,997	10,835	8,108	9,095
86 - 90						6,628	12,172	11,614	9,641	10,339	6,397	9,147
91 & Over						7,469		3,637	8,169	7,654	5,941	6,286
Average	14,033	23,388	12,414	16,256	16,013	11,029	11,189	10,240	9,499	8,827	6,527	10,018

EXHIBIT X
PLAN A: YEAR-TO-YEAR COMPARISON

	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
Number of Active Members	4,937	4,912	4,926	4,894
Number of Retirees & Survivors	3,417	3,345	3,262	3,177
Number of Terminated Due Deferred Benefits	184	186	182	184
Number Terminated Due Refunds	2,885	2,826	2,731	2,667
Active Lives Payroll	$ 182,044,919	$ 177,777,678	$ 172,033,158	$ 167,852,836
Retiree Benefits in Payment	$ 60,663,715	$ 57,895,282	$ 54,791,332	$ 51,636,071
Market Value of Assets (MVA)	$ 697,057,939	$ 671,876,210	$ 698,984,365	$ 730,072,543
Actuarial Value of Assets (AVA)	$ 781,417,434	$ 769,849,744	$ 770,402,847	$ 751,235,484
Entry Age Normal Accrued Liability	$ 1,096,616,918	$ 1,063,558,257	$ 1,038,155,304	$ 967,584,136
Ratio of AVA to EAN Accrued Liability	71.26%	72.38%	74.21%	77.64%
Frozen Unfunded Actuarial Accrued Liability	$ 70,511,316	$ 72,227,730	$ 73,553,869	$ 74,454,702
Present Value of Future Employer Normal Cost	$ 344,034,117	$ 315,256,488	$ 287,312,026	$ 235,357,990
Present Value of Future Employee Contrib.	$ 109,901,879	$ 105,774,692	$ 101,854,569	$ 97,716,362
Funding Deposit Account Balance	$ 8,112,406	$ 8,421,235	$ 7,833,707	$ 8,930,139
Present Value of Future Benefits	$ 1,297,752,340	$ 1,254,687,419	$ 1,225,289,604	$ 1,149,834,399

	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
Employee Contribution Rate	9.50%	9.50%	9.50%	9.50%
Estimated Tax Contribution as a % of Payroll	3.39%	3.40%	3.64%	3.52%
Actuarially Required Net Direct Employer Contribution Rate	25.88%	24.64%	22.92%	19.48%
Actual Employer Contribution Rate	24.75%	23.25%*	19.75%	20.75%†

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

	Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008
	4,939	5,021	5,029	5,068	5,052	5,030
	3,106	3,040	3,001	2,907	2,861	2,794
	193	181	174	183	172	184
	2,672	2,632	2,594	2,590	2,596	2,561
	$ 167,422,222	$ 167,511,550	$ 164,262,655	$ 162,546,523	$ 157,082,727	$ 148,644,512
	$ 48,994,132	$ 46,224,138	$ 44,218,709	$ 41,527,971	$ 39,834,118	$ 37,650,335
	$ 657,723,192	$ 639,209,518	$ 679,285,361	$ 624,427,505	$ 568,167,813	$ 666,534,551
	$ 717,816,409	$ 721,475,280	$ 723,942,801	$ 704,735,602	$ 670,910,030	$ 671,721,084
	$ 948,970,683	$ 925,638,084	$ 903,431,729	$ 876,252,316	$ 812,467,140	$ 770,668,381
	75.64%	77.94%	80.13%	80.43%	82.58%	87.16%
	$ 75,038,341	$ 75,337,890	$ 75,313,546	$ 75,064,492	$ 74,616,607	$ 73,993,478
	$ 249,506,497	$ 225,090,618	$ 201,003,138	$ 192,786,430	$ 154,002,240	$ 102,751,307
	$ 97,624,041	$ 95,445,659	$ 92,535,571	$ 92,383,724	$ 88,362,181	$ 84,164,497
	$ 8,287,832	$ 7,691,723	$ 7,121,966	$ 6,594,413	$ 6,105,938	$ N/A
	$ 1,131,697,456	$ 1,109,657,724	$ 1,085,673,090	$ 1,058,375,835	$ 981,785,120	$ 932,630,366

	Fiscal 2014	Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009
	9.50%	9.25%	9.25%	9.25%	9.25%	9.25%
	3.36%	3.13%	3.09%	3.07%	3.07%	2.82%
	20.62%	18.67%	17.08%	16.41%	13.78%	10.25%
	18.75%	17.00%	16.75%	14.25%	13.50%	13.50%

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EXHIBIT XI
PLAN B: ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Present Value of Future Benefits	$	282,707,864
2.	Funding Deposit Account Credit Balance	$	3,286,730
3.	Frozen Unfunded Actuarial Accrued Liability	$	2,382,456
4.	Actuarial Value of Assets	$	168,698,012
5.	Present Value of Future Employee Contributions	$	23,664,481
6.	Present Value of Future Employer Normal Costs (1 + 2 – 3 – 4 – 5)	$	91,249,645
7.	Present Value of Future Salaries	$	535,132,644
8.	Employer Normal Cost Accrual Rate (6 ÷ 7)		17.051781%
9.	Projected Fiscal 2018 Salary for Current Membership	$	67,919,120
10.	Employer Normal Cost as of July 1, 2017 (8 × 9)	$	11,581,420
11.	Employer Normal Cost Interest Adjusted for Mid-year Payment	$	12,002,285
12.	Amortization Payment on Frozen Unfunded Accrued Liability with Payments Decreasing at 2% per year	$	513,810
13.	Amortization Payment Interest Adjust for Mid-year Payment	$	532,482
14.	TOTAL Employer Normal Cost & Amortization Payment (11 + 13)	$	12,534,767
15.	Estimated Administrative Cost for Fiscal 2018	$	525,820
16.	Gross Employer Actuarially Required Contribution for Fiscal 2018 (14 + 15)	$	13,060,587
17.	Projected Ad Valorem Tax Contributions for Fiscal 2018	$	2,488,548
18.	Projected Revenue Sharing Funds for Fiscal 2018	$	46,008
19.	Employers' Minimum Net Direct Actuarially Required Contribution for Fiscal 2018 (16 – 17 – 18)	$	10,526,031
19.	Projected Payroll for Fiscal 2018	$	75,165,500
20.	Employers' Minimum Net Direct Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2018 (18 ÷ 19)		14.00%
21.	Actual Employer Contribution Rate for 2018		13.25%
22.	Contribution Shortfall (Excess) as a Percentage of Payroll (20 – 21)		0.75%
23.	Increase (Reduction) to Following Year Payment for Contribution Shortfall (Excess)		0.10%
24.	Minimum Recommended Net Direct Employer Contribution Rate for Fiscal 2019 (20 + 23, Rounded to the nearest 0.25%)		14.00%

EXHIBIT XII
PLAN B: PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$	155,008,305		
Survivor Benefits		3,070,962		
Disability Benefits		7,571,190		
Vested Termination Benefits		7,951,306		
Refunds of Contributions		3,998,381		
TOTAL Present Value of Future Benefits for Active Members			$	177,600,144

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$	5,124,183		
Terminated Members with Reciprocals Due Benefits at Retirement		1,078,374		
Terminated Members Due a Refund		969,355		
TOTAL Present Value of Future Benefits for Terminated Members			$	7,171,912

PRESENT VALUE OF FUTURE BENEFITS FOR PENSIONERS:

Regular Retirees by Option Selected:						
Maximum	$	37,987,856				
Option 2		31,139,070				
Option 3		10,406,990				
TOTAL Regular Retirees			$	79,533,916		
TOTAL Disability Retirees			$	4,241,604		
TOTAL Survivors & Widows			$	13,461,460		
Reserve for Accrued Retiree DROP Account Balances			$	698,828		
TOTAL Present Value of Future Benefits for Retirees & Survivors					$	97,935,808

TOTAL Present Value of Future Benefits	$	282,707,864

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

CURRENT ASSETS:				
Cash in Banks	$	9,465,778		
Contributions and Taxes Receivable		1,019,407		
Accrued Interest and Dividends		177,515		
Investments Receivable		1,667,270		
Due to Other Funds		(4,509,556)		
Other Current Assets		921		
TOTAL CURRENT ASSETS			$	7,821,335
Property, Plant & Equipment			$	571,629
INVESTMENTS:				
Cash Equivalents	$	5,331,679		
Equities		71,506,134		
Fixed Income		48,109,578		
Real Estate		7,737,145		
Alternative Investments		9,482,276		
TOTAL INVESTMENTS			$	142,166,812
TOTAL ASSETS			$	150,559,776
CURRENT LIABILITIES:				
Accounts Payable	$	10,000		
Benefits Payable		55,240		
Other Current Liabilities		26,578		
TOTAL CURRENT LIABILITIES			$	91,818
MARKET VALUE OF ASSETS			$	150,467,958

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

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

Fiscal year 2017	$	(4,100,380)
Fiscal year 2016		(15,463,450)
Fiscal year 2015		(16,980,623)
Fiscal year 2014		5,602,846
Fiscal year 2013		(4,984,469)
Total for Five Years	$	(35,926,076)

Deferral of Excess (Shortfall) of Invested Income:

Fiscal year 2017 (80%)	$	(3,280,304)
Fiscal year 2016 (60%)		(9,278,070)
Fiscal year 2015 (40%)		(6,792,249)
Fiscal year 2014 (20%)		1,120,569
Fiscal year 2013 (0%)		0
Total Deferred for Year	$	(18,230,054)

Market Value of Plan Net Assets, End of Year	$	150,467,958
Preliminary Actuarial Value of Plan Assets, End of Year	$	168,698,012

Actuarial Value of Assets Corridor

85% of Market Value, End of Year	$	127,897,764
115% of Market Value, End of Year	$	173,038,152

Final Actuarial Value of Plan Net Assets, End of Year	$	168,698,012

EXHIBIT XIV
PLAN B: PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	23,664,481
Employer Normal Contributions to the Pension Accumulation Fund		91,249,645
Employer Amortization Payments to the Pension Accumulation Fund		2,382,456
Funding Deposit Account Credit Balance		(3,286,730)
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	114,009,852

EXHIBIT XV
PLAN B: CHANGE IN FROZEN UNFUNDED ACTUARIAL ACCRUED LIABILITY

Prior Year Frozen Unfunded Accrued Liability			$	2,742,698
Interest on Frozen Unfunded Accrued Liability	$	205,702		
TOTAL Interest Adjusted Cost Elements			$	205,702
Amortization Payment on the Unfunded Accrued Liability	$	526,460		
Interest on Amortization Payment		39,484		
Credited Withdrawals from Funding Deposit Account		0		
TOTAL Interest Adjusted Employer Contributions			$	565,944
NET Change in Frozen Unfunded Accrued Liability			$	(360,242)
CURRENT YEAR FROZEN UNFUNDED ACCRUED LIABILITY			$	2,382,456

EXHIBIT XVI
PLAN B: ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (June 30, 2016)			$	164,516,476
INCOME:				
Member Contributions	$	3,507,946		
Employer Contributions		8,187,348		
Irregular Contributions		4,116		
Ad Valorem Taxes and Revenue Sharing		2,489,694		
Transfers from Other Plan/Systems		276,313		
Total Contributions			$	14,465,417
Net Appreciation in Fair Value of Investments	$	6,886,731		
Interest & Dividend Income		214,472		
Investment Expense		(439,210)		
Net Investment Income			$	6,661,993
TOTAL Income			$	21,127,410
EXPENSES:				
Retirement Benefits	$	10,652,086		
DROP Disbursements		1,134,878		
Refunds of Contributions		1,008,206		
Funds Transferred to another System		85,501		
Transfers between Plans		(73,965)		
Administrative Expenses		1,054,332		
TOTAL Expenses			$	13,861,038
Net Market Value Income for Fiscal 2017 (Income – Expenses)			$	7,266,372
Unadjusted Fund Balance as of June 30, 2017 (Fund Balance Previous Year + Net Income)			$	171,782,848
Adjustment for Actuarial Smoothing			$	(3,084,836)
Actuarial Value of Assets: (June 30, 2017)			$	168,698,012

EXHIBIT XVII
PLAN B: FUNDING DEPOSIT ACCOUNT

Funding Deposit Account Balance as of June 30, 2016	$	3,233,725
Interest on Opening Balance at 7.50%		242,529
Contributions to the Funding Deposit Account		0
Withdrawals from the Funding Deposit Account		(189,524)
Funding Deposit Account Balance as of June 30, 2017	$	3,286,730

EXHIBIT XVIII – SCHEDULE A
PLAN B: PENSION BENEFIT OBLIGATION

Present Value of Credited Projected Benefits Payable to Current Employees	$	120,498,608
Present Value of Benefits Payable to Terminated Employees		7,171,912
Present Value of Benefits Payable to Current Retirees and Beneficiaries		97,935,808
TOTAL PENSION BENEFIT OBLIGATION	$	225,606,328
NET ACTUARIAL VALUE OF ASSETS	$	168,698,012
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation		74.78%

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

Accrued Liability for Active Employees	$	127,318,196
Accrued Liability for Terminated Employees		7,171,912
Accrued Liability for Current Retirees and Beneficiaries		97,935,808
TOTAL ENTRY AGE NORMAL ACCRUED LIABILITY	$	232,425,916
ACTUARIAL VALUE OF ASSETS	$	168,698,012
Ratio of Net Actuarial Value of Assets to Entry Age Normal Accrued Liability		72.58%

EXHIBIT XIX
CENSUS DATA – PLAN B

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2016	2,053	1,329	89	975	4,446
Additions to Census					
Initial membership	273	48			321
Omitted in error last year					
Death of another member				19	19
Adjustment for multiple records	1			3	4
Change in Status during Year					
Actives terminating service	(97)	97			
Actives who retired	(45)			45	
Actives entering DROP	(27)		27		
Term. members rehired	9	(9)			
Term. members who retire		(6)		6	
Retirees who are rehired					
Refunded who are rehired	13	4			17
DROP participants retiring			(11)	11	
DROP returned to work	20		(20)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(144)	(46)			(190)
Deaths	(13)	(4)	(2)	(34)	(53)
Included in error last year					
Adjustment for multiple records			(1)		(1)
Number of members as of June 30, 2017	2,043	1,413	82	1,025	4,563

PLAN B - ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	9	0	9	21,028	189,250
21 - 25	55	20	75	22,310	1,673,245
26 - 30	93	32	125	25,668	3,208,512
31 - 35	97	49	146	29,218	4,265,758
36 - 40	124	68	192	33,289	6,391,557
41 - 45	124	66	190	34,955	6,641,521
46 - 50	162	94	256	35,267	9,028,465
51 - 55	213	89	302	36,382	10,987,422
56 - 60	258	147	405	36,137	14,635,403
61 - 65	176	80	256	37,918	9,706,935
66 - 70	74	36	110	39,381	4,331,898
71 - 75	27	10	37	39,971	1,478,916
76 - 80	13	0	13	24,278	315,615
81 - 85	6	3	9	46,759	420,827
TOTAL	1,431	694	2,125	34,483	73,275,324

THE ACTIVE CENSUS INCLUDES 830 ACTIVES WITH VESTED BENEFITS, INCLUDING 82 DROP PARTICIPANTS AND 86 ACTIVE FORMER DROP PARTICIPANTS.

PLAN B - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	2	0	2	9,949	19,897
36 - 40	2	1	3	7,984	23,952
41 - 45	2	5	7	11,038	77,265
46 - 50	9	3	12	9,560	114,724
51 - 55	12	7	19	11,118	211,248
56 - 60	20	11	31	13,021	403,636
61 - 65	4	1	5	6,220	31,099
71 - 75	2	0	2	3,549	7,097
81 - 85	1	0	1	630	630
TOTAL	54	28	82	10,848	889,548

PLAN B - TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From		To	Number	Total Contributions
0	-	99	775	23,140
100	-	499	282	67,522
500	-	999	83	58,046
1000	-	1999	79	109,129
2000	-	4999	66	216,732
5000	-	9999	31	217,468
10000	-	19999	10	122,625
20000	-	99999	5	126,811
		TOTAL	1,331	941,473

PLAN B - REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
51 - 55	4	1	5	25,734	128,671
56 - 60	16	10	26	19,119	497,096
61 - 65	87	33	120	14,329	1,719,478
66 - 70	116	55	171	13,152	2,249,015
71 - 75	110	34	144	11,511	1,657,650
76 - 80	87	37	124	9,954	1,234,342
81 - 85	59	28	87	9,267	806,218
86 - 90	29	14	43	8,723	375,093
91 - 99	18	1	19	6,547	124,393
TOTAL	526	213	739	11,897	8,791,956

PLAN B - DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	1	0	1	6,324	6,324
46 - 50	2	0	2	7,483	14,966
51 - 55	7	1	8	10,050	80,401
56 - 60	14	5	19	11,644	221,236
61 - 65	5	1	6	12,296	73,775
66 - 70	1	0	1	12,210	12,210
TOTAL	30	7	37	11,052	408,912

PLAN B - SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	0	1	1	2,245	2,245
36 - 40	1	1	2	6,815	13,630
41 - 45	0	1	1	4,280	4,280
46 - 50	0	1	1	6,909	6,909
51 - 55	3	11	14	5,486	76,806
56 - 60	1	14	15	7,667	115,002
61 - 65	4	24	28	8,891	248,947
66 - 70	2	21	23	7,320	168,371
71 - 75	0	26	26	6,197	161,119
76 - 80	2	47	49	6,695	328,061
81 - 85	0	41	41	7,698	315,626
86 - 90	1	27	28	6,843	191,592
91 - 99	1	19	20	5,656	113,115
TOTAL	15	234	249	7,011	1,745,703

PLAN B - ACTIVE MEMBERS:

Attained Ages	Completed Years of Service: 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 20	7	2										9
21 - 25	31	24	12	5	3							75
26 - 30	37	24	16	17	6	23	2					125
31 - 35	27	20	25	5	12	40	15	2				146
36 - 40	30	17	25	14	9	41	31	23	2			192
41 - 45	25	20	12	14	9	38	40	19	11	2		190
46 - 50	28	21	21	7	13	45	47	33	25	14	2	256
51 - 55	29	29	22	20	14	66	50	31	12	16	13	302
56 - 60	38	22	34	11	19	70	61	46	23	43	38	405
61 - 65	13	15	14	15	7	57	40	23	22	27	23	256
66 - 70	7	6	6	5	4	25	26	8	7	10	6	110
71 & Over	2	3	3	3	4	8	12	6	7	6	5	59
Totals	274	203	190	116	100	413	324	191	109	118	87	2125

PLAN B - AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service: 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Salary
0 - 20	21,051	20,948										21,028
21 - 25	21,577	23,184	21,338	23,378	24,999							22,310
26 - 30	23,570	23,260	25,361	28,048	30,473	28,386	29,932					25,668
31 - 35	25,210	27,180	28,823	29,351	31,106	31,541	30,512	40,789				29,218
36 - 40	25,008	27,754	29,782	29,937	31,067	36,470	40,578	38,922	38,921			33,289
41 - 45	25,155	29,387	30,864	27,418	37,050	37,521	39,860	42,289	39,400	40,064		34,955
46 - 50	26,618	28,103	32,937	30,565	35,026	35,076	34,281	42,750	39,115	47,197	46,547	35,267
51 - 55	27,751	26,090	31,331	31,603	35,843	33,423	45,474	37,567	38,582	53,488	49,222	36,382
56 - 60	30,936	26,646	29,869	32,641	27,855	32,620	37,982	37,441	37,634	42,685	51,214	36,137
61 - 65	30,277	24,881	35,539	32,525	30,144	32,193	39,990	40,338	38,514	47,611	54,285	37,918
66 - 70	42,266	24,186	22,526	28,524	31,525	34,964	47,666	45,605	35,120	45,175	51,867	39,381
71 & Over	36,118	24,798	50,146	34,406	31,862	30,964	42,959	46,831	37,770	39,978	27,831	37,548
Average	26,407	26,037	29,879	30,019	31,951	33,560	39,895	40,060	38,305	45,841	50,322	34,483

PLAN B - TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Attained Ages	Years Until Retirement Eligibility 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 30												0
31 - 35										2		2
36 - 40									3			3
41 - 45								7				7
46 - 50							12					12
51 - 55						19						19
56 - 60	5	5	4	9	8							31
61 - 65	5											5
66 - 70												0
71 - 75	2											2
76 - 80												0
81 - 85	1											1
86 & Over												0
Totals	13	5	4	9	8	19	12	7	3	2	0	82

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

Attained Ages	Years Until Retirement Eligibility 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 30												0
31 - 35										9,948		9,948
36 - 40									7,984			7,984
41 - 45								11,038				11,038
46 - 50							9,560					9,560
51 - 55						11,118						11,118
56 - 60	12,046	9,249	11,197	18,140	11,139							13,021
61 - 65	6,220											6,220
66 - 70												0
71 - 75	3,549											3,549
76 - 80												0
81 - 85	630											630
86 & Over												0
Average	7,620	9,249	11,197	18,140	11,139	11,118	9,560	11,038	7,984	9,948	0	10,848

PLAN B - SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement: 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 50												0
51 - 55	2	1			1	1						5
56 - 60	5	4	3	3	1	9	1					26
61 - 65	24	17	25	5	12	26	8	3				120
66 - 70	17	13	28	14	19	63	9	6	1	1		171
71 - 75	4	4	12	3	10	54	47	7	2		1	144
76 - 80	8	1	4	2	2	18	43	35	8	2	1	124
81 - 85	1		1	1		9	12	38	20	4	1	87
86 - 90	1				1	2	4	4	20	10	1	43
91 & Over						1	1		2	7	8	19
Totals	62	40	73	28	46	183	125	93	53	24	12	739

PLAN B - AVERAGE ANNUAL BENEFITS PAYABLE TO SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement: 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 50												0
51 - 55	29,434	20,831			29,114	19,858						25,734
56 - 60	14,437	23,471	21,232	22,059	950	21,240	9,042					19,119
61 - 65	12,992	9,194	13,332	18,373	16,378	18,408	15,384	9,335				14,329
66 - 70	10,026	14,225	17,188	11,230	15,224	11,245	18,877	12,872	5,784	4,605		13,152
71 - 75	5,443	10,159	7,688	22,309	9,713	12,426	11,225	16,646	8,821		6,183	11,511
76 - 80	14,383	9,381	8,995	17,546	17,369	8,183	10,170	7,940	15,962	5,130	3,616	9,954
81 - 85	17,448		836	13,738		8,164	12,112	8,915	7,805	11,647	13,908	9,267
86 - 90	26,284				4,876	4,496	7,090	10,315	9,802	6,235	6,941	8,723
91 & Over						5,364	4,396		9,711	7,072	5,713	6,547
Average	12,804	12,649	13,799	15,393	14,187	12,591	11,560	9,459	9,862	7,221	6,363	11,897

PLAN B - DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement											
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 40												0
41 - 45						1						1
46 - 50					1		1					2
51 - 55	2		1	1	1	1	2					8
56 - 60	1	1	2	4	3	4	2		1	1		19
61 - 65		2				1	2	1				6
66 - 70										1		1
71 & Over												0
Totals	3	3	3	5	5	7	7	1	1	2	0	37

PLAN B - AVERAGE ANNUAL BENEFITS PAYABLE TO DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement											
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 40												0
41 - 45						6,324						6,324
46 - 50					8,094		6,872					7,483
51 - 55	13,035		8,016	10,215	11,013	6,138	9,474					10,050
56 - 60	19,062	12,618	14,775	13,352	6,944	14,418	9,128		4,766	5,071		11,644
61 - 65		16,433				9,734	12,677	5,821				12,296
66 - 70										12,210		12,210
71 & Over												0
Average	15,044	15,161	12,522	12,725	7,987	11,410	9,918	5,821	4,766	8,640	0	11,052

PLAN B - SURVIVING BENEFICIARIES OF FORMER MEMBERS:

Attained Ages	Completed Years Since Retirement											
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 30												0
31 - 35								1				1
36 - 40						1		1				2
41 - 45									1			1
46 - 50			1									1
51 - 55	1	1	1	1		2	4	1	1	2		14
56 - 60		1		2	1	4	2	2	2		1	15
61 - 65	2					10	6	4	4	1	1	28
66 - 70	1	1			2	7	4	3	1	2	2	23
71 - 75						3	10	7	5	1		26
76 - 80	1			1		1	11	15	13	7		49
81 - 85			1	1		4	6	8	6	10	5	41
86 - 90						1	1	3	6	9	8	28
91 & Over							1	2	1	6	10	20
Totals	5	3	3	5	3	33	45	47	40	38	27	249

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

Attained Ages	Completed Years Since Retirement											Average Benefit
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 30												0
31 - 35								2,245				2,245
36 - 40						10,042		3,588				6,815
41 - 45									4,280			4,280
46 - 50			6,909									6,909
51 - 55	1,415	5,756	6,270	6,079		12,005	6,768	2,242	1,677	1,142		5,486
56 - 60		7,809		10,090	5,426	5,403	10,095	6,488	10,826		5,159	7,667
61 - 65	14,570					11,189	9,430	6,462	3,941	6,888	2,836	8,891
66 - 70	7,104	4,105			6,278	8,266	5,886	13,073	5,024	5,544	3,933	7,321
71 - 75						6,765	6,712	5,497	6,207	4,196		6,197
76 - 80	11,112			5,590		6,464	9,161	5,226	5,553	7,649		6,695
81 - 85			29,105	5,341		6,926	6,235	9,557	4,945	7,798	6,392	7,698
86 - 90						4,586	507	5,388	8,180	8,234	5,894	6,843
91 & Over							12,789	2,273	1,343	6,852	5,332	5,656
Average	9,754	5,890	14,095	7,438	5,994	8,620	7,689	6,386	5,793	7,137	5,492	7,011

EXHIBIT XX
PLAN B: YEAR-TO-YEAR COMPARISON

	Fiscal 2017	Fiscal 2016	Fiscal 2015	Fiscal 2014
Number of Active Members	2,125	2,142	2,200	2,168
Number of Retirees & Survivors	1,025	975	959	916
Number of Terminated Due Deferred Benefits	82	71	71	74
Number Terminated Due Refunds	1,331	1,258	1,218	1,170
Active Lives Payroll	$ 73,275,324	$ 71,918,938	$ 69,909,530	$ 67,939,158
Retiree Benefits in Payment	$ 10,946,571	$ 10,254,964	$ 9,917,688	$ 9,141,803
Market Value of Assets (MVA)	$ 150,467,958	$ 143,201,586	$ 149,268,995	$ 156,659,396
Actuarial Value of Assets (AVA)	$ 168,698,012	$ 164,516,476	$ 165,154,609	$ 161,992,280
Entry Age Normal Accrued Liability	$ 232,425,916	$ 221,633,353	$ 212,961,895	$ 199,762,726
Ratio of AVA to EAN Accrued Liability	72.58%	74.23%	77.55%	81.09%
Frozen Unfunded Actuarial Accrued Liability	$ 2,382,456	$ 2,742,698	$ 3,088,551	$ 3,421,001
Present Value of Future Employer Normal Cost	$ 91,249,645	$ 82,911,008	$ 72,948,195	$ 60,613,662
Present Value of Future Employee Contrib.	$ 23,664,481	$ 23,119,585	$ 22,770,216	$ 21,982,912
Funding Deposit Account Balance	$ 3,286,730	$ 3,233,725	$ 3,008,116	$ 3,126,521
Present Value of Future Benefits	$ 282,707,864	$ 270,056,042	$ 260,953,455	$ 244,883,334

	Fiscal 2018	Fiscal 2017	Fiscal 2016	Fiscal 2015
Employee Contribution Rate	5.00%	5.00%	5.00%	5.00%
Estimated Tax Contribution as a % of Payroll	3.37%	3.41%	3.64%	3.41%
Actuarially Required Net Direct Employer Contribution Rate	14.00%	13.06%	11.04%	9.60%
Actual Employer Contribution Rate	13.25%	11.25% *	9.50%	10.00% †

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

Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008
2,128	2,155	2,175	2,197	2,269	2,191
900	879	865	836	833	793
61	61	62	72	67	68
1,155	1,100	1,062	1,062	1,022	998
$ 65,928,929	$ 66,409,896	$ 65,427,477	$ 65,241,810	$ 64,816,945	$ 59,233,705
$ 8,793,050	$ 8,285,257	$ 7,953,795	$ 7,339,269	$ 7,149,177	$ 6,625,934
$ 140,744,063	$ 137,164,489	$ 144,028,034	$ 130,596,777	$ 117,258,410	$ 134,832,148
$ 153,851,774	$ 154,451,871	$ 152,966,837	$ 147,046,143	$ 138,441,127	$ 136,207,119
$ 192,160,973	$ 187,178,650	$ 181,142,563	$ 175,023,271	$ 159,960,891	$ 149,264,791
80.06%	82.52%	84.45%	84.02%	86.55%	91.25%
$ 3,740,857	$ 4,049,257	$ 4,346,525	$ 4,633,960	$ 4,912,541	$ 5,183,177
$ 60,012,141	$ 54,153,087	$ 49,451,626	$ 48,645,557	$ 38,895,181	$ 26,827,388
$ 21,589,199	$ 21,845,625	$ 21,582,459	$ 21,546,957	$ 21,769,886	$ 19,992,613
$ 2,901,644	$ 2,692,941	$ 2,493,464	$ 2,308,763	$ 1,806,555	$ N/A
$ 236,292,327	$ 231,806,899	$ 225,853,983	$ 219,563,854	$ 202,212,180	$ 188,210,297

Fiscal 2014	Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009
5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
3.38%	3.14%	3.10%	3.07%	3.06%	2.82%
9.82%	8.72%	7.89%	7.78%	5.95%	4.50%
8.75%	8.00%	8.00%	6.75%	6.75%	6.75%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

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

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

PLAN A PROVISIONS:

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

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

RETIREMENT BENEFITS (Tier 2) – Employees whose first employment making them eligible for membership occurs on or after January 1, 2013 become members of Tier 2. Normal retirement eligibility in Tier 2 is at age 65 with seven years of service credit, at age 62 with ten years of service credit, or age 55 with thirty years of service credit. Members are eligible for an actuarially reduced early retirement at twenty-five years of service credit. Retirement benefits are based on a 3% accrual rate. Employee contributions are set by the Board of Trustees within a range of 8% to 10%.

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

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

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

PLAN B PROVISIONS:

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

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

RETIREMENT BENEFITS (Tier 2) – Employees whose first employment making them eligible for membership occurs on or after January 1, 2013 will become members of Tier 2. Normal retirement eligibility in Tier 2 is at age 65 with seven years of service credit, at age 62 with ten years of service credit, or age 55 with thirty years of service credit. Members are eligible for an actuarially reduced early retirement at twenty-five years of service credit. Retirement benefits are based on a 2% accrual rate. Employee contributions are set by the Board of Trustees within a range of 4% to 6%.

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

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

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

PROVISIONS APPLICABLE TO BOTH PLAN A AND B:

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

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

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

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

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

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

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

A member may also elect to receive an actuarially reduced benefit which provides for an automatic 2 ½% annual compound increase in monthly retirement benefits based on the reduced benefit and commencing on the later of age fifty-five or retirement anniversary; this COLA is in addition to any ad hoc COLAs which are payable.

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

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

COST OF LIVING INCREASES – The Board of Trustees is authorized to grant retired members, and widows of members, who have been retired for at least one full year an annual cost of living increase of two percent of their original benefit and all retired members and widows who are sixty-five years of age and older a two percent increase in their original benefit (or their benefit as of October 1, 1977, if they retired prior to that time). In order for the Board to grant either of these increases the system must meet certain criteria detailed in the statute related to funding status and interest earnings on investments. In lieu of other cost of living increases the Board may grant an increase to retirees in the form "X×(A&B)" where "A" is equal to the number of years of credited service accrued as retirement or death of the member or retiree and "B" is equal to the number of years since death of the member or retiree to June 30 of the initial year of increase and "X" is equal to any amount available for funding such increase up to a maximum of $1.00.

ACTUARIAL ASSUMPTIONS

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

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

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

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: 7.4% (Net of Investment Expense)

ANNUAL SALARY INCREASE RATE: 5.0% (including 2.775% Inflation)

ACTIVE MEMBER MORTALITY: RP 2000 Employee Table for set back two years for males and females

ANNUITANT, AND BENEFICIARY MORTALITY: RP 2000 Healthy Annuitant Table set forward 2 years and projected to 2028 using Scale AA for males and set forward 1 year and projected to 2028 using Scale AA for females

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

RATES OF RETIREMENT: The table of these rates is included later in the report. These rates apply only to those individuals eligible to retire. Members are assumed to retire no earlier than normal retirement age.

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

DROP ENTRY RATES: The table of these rates is included later in the report. These rates apply only to those individuals eligible to participate in DROP.

DROP PARTICIPATION PERIOD: DROP participants are assumed to participate for 3 years. At the end of the DROP participation period, one half of participants are assumed to retire; the other half are assumed to work one additional year.

RETIREMENT RATES FOR ACTIVE FORMER DROP PARTICIPANTS: Retirement rates for active former DROP participants are as follows:

Ages	Plan A	Plan B
Below 86	0.21	0.17
86 & Above	1.00	1.00

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

Service	Plan A	Plan B
0	0.20	0.23
1	0.17	0.20
2	0.14	0.15
3	0.12	0.13
4	0.10	0.10
5	0.09	0.09
6	0.08	0.08
7	0.07	0.07
8	0.06	0.06
9	0.06	0.05
10	0.05	0.04
11	0.05	0.04
12	0.04	0.03

13	0.04	0.03
14	0.03	0.03
15	0.03	0.03
16	0.02	0.03
17	0.02	0.03
18	0.02	0.03
Over 18	0.02	0.02

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

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

RATES OF DISABILITY – Plan B: 60% of the disability rates used for the 21st valuation of the Railroad Retirement System for individuals with 10 – 19 years of service.

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

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

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

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

VESTING ELECTING PERCENTAGE – Plan A: Tier 1 - 60% of members with less than 20 years of service are assumed to elect a deferred benefit in lieu of a refund of contributions. 100% of members with 20 or more years of service are assumed to elect the deferred benefit.

Tier 2 – 60% of members with less than 25 years of service are assumed to elect a deferred benefit in lieu of a refund of contributions. 100% of members with 25 or more years of service are assumed to elect the deferred benefit.

VESTING ELECTING PERCENTAGE – Plan B:	Tier 1 - 66% of members are assumed to elect a deferred benefit in lieu of a refund of contributions. Tier 2 – 60% of members with less than 25 years of service are assumed to elect a deferred benefit in lieu of a refund of contributions. 100% of members with 25 or more years of service are assumed to elect the deferred benefit.

PLAN A – ACTUARIAL TABLES AND RATES

Age	Retired Male Mortality Rates	Retired Female Mortality Rates	Active Male Mortality Rates	Active Female Mortality Rates	Male Disabled Mortality Rates	Female Disabled Mortality Rates	Retirement Rates Tier 1	Retirement Rates Tier 2
18	0.00020	0.00013	0.00028	0.00018	0.02257	0.00745	0.00000	0.00000
19	0.00021	0.00013	0.00030	0.00018	0.02257	0.00745	0.00000	0.00000
20	0.00021	0.00012	0.00032	0.00019	0.02257	0.00745	0.00000	0.00000
21	0.00022	0.00012	0.00033	0.00019	0.02257	0.00745	0.00000	0.00000
22	0.00023	0.00012	0.00035	0.00019	0.02257	0.00745	0.00000	0.00000
23	0.00025	0.00013	0.00036	0.00019	0.02257	0.00745	0.00000	0.00000
24	0.00026	0.00014	0.00037	0.00019	0.02257	0.00745	0.00000	0.00000
25	0.00029	0.00014	0.00037	0.00020	0.02257	0.00745	0.00000	0.00000
26	0.00033	0.00016	0.00038	0.00020	0.02257	0.00745	0.00000	0.00000
27	0.00036	0.00017	0.00038	0.00021	0.02257	0.00745	0.00000	0.00000
28	0.00039	0.00018	0.00038	0.00021	0.02257	0.00745	0.00000	0.00000
29	0.00043	0.00019	0.00038	0.00022	0.02257	0.00745	0.00000	0.00000
30	0.00049	0.00023	0.00039	0.00024	0.02257	0.00745	0.00000	0.00000
31	0.00055	0.00028	0.00041	0.00025	0.02257	0.00745	0.00000	0.00000
32	0.00061	0.00031	0.00044	0.00026	0.02257	0.00745	0.00000	0.00000
33	0.00067	0.00034	0.00050	0.00031	0.02257	0.00745	0.00000	0.00000
34	0.00073	0.00036	0.00056	0.00035	0.02257	0.00745	0.00000	0.00000
35	0.00079	0.00038	0.00063	0.00039	0.02257	0.00745	0.00000	0.00000
36	0.00084	0.00040	0.00070	0.00044	0.02257	0.00745	0.00000	0.00000
37	0.00089	0.00041	0.00077	0.00047	0.02257	0.00745	0.00000	0.00000
38	0.00091	0.00044	0.00084	0.00051	0.02257	0.00745	0.00000	0.00000
39	0.00094	0.00046	0.00090	0.00055	0.02257	0.00745	0.00000	0.00000
40	0.00097	0.00051	0.00096	0.00060	0.02257	0.00745	0.00000	0.00000
41	0.00101	0.00056	0.00102	0.00065	0.02257	0.00745	0.06000	0.00000
42	0.00105	0.00061	0.00108	0.00071	0.02257	0.00745	0.06000	0.00000
43	0.00111	0.00067	0.00114	0.00077	0.02257	0.00745	0.06000	0.00000
44	0.00115	0.00074	0.00122	0.00085	0.02257	0.00745	0.06000	0.00000
45	0.00120	0.00078	0.00130	0.00094	0.02257	0.00745	0.06000	0.00000
46	0.00125	0.00082	0.00140	0.00103	0.02257	0.00745	0.06000	0.00000
47	0.00131	0.00086	0.00151	0.00112	0.02257	0.00745	0.06000	0.00000
48	0.00340	0.00093	0.00162	0.00122	0.02257	0.00745	0.06000	0.00000
49	0.00342	0.00141	0.00173	0.00133	0.02257	0.00818	0.06000	0.00000
50	0.00339	0.00152	0.00186	0.00143	0.02257	0.00896	0.06000	0.00000
51	0.00334	0.00169	0.00200	0.00155	0.02385	0.00978	0.06000	0.00000
52	0.00329	0.00195	0.00214	0.00168	0.02512	0.01063	0.06000	0.00000
53	0.00335	0.00228	0.00229	0.00181	0.02640	0.01154	0.06000	0.00000
54	0.00348	0.00266	0.00245	0.00197	0.02769	0.01248	0.06000	0.00000
55	0.00377	0.00313	0.00262	0.00213	0.02897	0.01346	0.06000	0.06000
56	0.00415	0.00370	0.00281	0.00232	0.03027	0.01446	0.06000	0.06000
57	0.00463	0.00428	0.00303	0.00253	0.03156	0.01550	0.06000	0.06000
58	0.00522	0.00481	0.00331	0.00276	0.03286	0.01654	0.06000	0.06000
59	0.00573	0.00539	0.00363	0.00301	0.03415	0.01760	0.06000	0.06000
60	0.00631	0.00601	0.00400	0.00329	0.03544	0.01865	0.12000	0.12000
61	0.00717	0.00668	0.00441	0.00360	0.03673	0.01971	0.12000	0.12000
62	0.00794	0.00739	0.00488	0.00393	0.03803	0.02077	0.12000	0.12000
63	0.00904	0.00816	0.00538	0.00429	0.03933	0.02184	0.12000	0.12000
64	0.01002	0.00901	0.00592	0.00466	0.04067	0.02294	0.12000	0.12000
65	0.01109	0.00992	0.00647	0.00504	0.04204	0.02408	0.18000	0.18000
66	0.01262	0.01090	0.00703	0.00543	0.04347	0.02529	0.18000	0.18000
67	0.01394	0.01197	0.00757	0.00582	0.04498	0.02660	0.18000	0.18000
68	0.01496	0.01317	0.00810	0.00621	0.04658	0.02803	0.18000	0.18000
69	0.01656	0.01455	0.00860	0.00658	0.04831	0.02959	0.18000	0.18000
70	0.01787	0.01615	0.00907	0.00695	0.05017	0.03132	0.18000	0.18000
71	0.01990	0.01746	0.00951	0.00729	0.05221	0.03323	0.18000	0.18000
72	0.02220	0.01941	0.00992	0.00761	0.05445	0.03533	0.12000	0.12000
73	0.02478	0.02091	0.02457	0.01858	0.05691	0.03764	0.12000	0.12000
74	0.02762	0.02309	0.02728	0.02067	0.05961	0.04014	0.12000	0.12000
75	0.03161	0.02473	0.03039	0.02297	0.06258	0.04285	0.12000	0.12000

PLAN A – ACTUARIAL TABLES AND RATES (Continued)

Age	DROP Entry Rates Tier 1	DROP Entry Rates Tier 2	Disability Rates	Remarriage Rates
18	0.00000	0.00000	0.00038	0.06124
19	0.00000	0.00000	0.00038	0.06124
20	0.00000	0.00000	0.00038	0.06124
21	0.00000	0.00000	0.00038	0.05818
22	0.00000	0.00000	0.00038	0.05524
23	0.00000	0.00000	0.00038	0.05242
24	0.00000	0.00000	0.00038	0.04971
25	0.00000	0.00000	0.00038	0.04566
26	0.00000	0.00000	0.00038	0.04335
27	0.00000	0.00000	0.00038	0.04114
28	0.00000	0.00000	0.00038	0.03902
29	0.00000	0.00000	0.00038	0.03698
30	0.00000	0.00000	0.00038	0.03502
31	0.00000	0.00000	0.00038	0.03314
32	0.00000	0.00000	0.00038	0.03134
33	0.00000	0.00000	0.00038	0.02961
34	0.00000	0.00000	0.00038	0.02795
35	0.00000	0.00000	0.00043	0.02636
36	0.00000	0.00000	0.00048	0.02483
37	0.00000	0.00000	0.00053	0.02336
38	0.00000	0.00000	0.00060	0.02195
39	0.00000	0.00000	0.00068	0.02060
40	0.00000	0.00000	0.00078	0.01930
41	0.18000	0.00000	0.00088	0.01805
42	0.18000	0.00000	0.00098	0.01686
43	0.18000	0.00000	0.00110	0.01571
44	0.18000	0.00000	0.00125	0.01461
45	0.18000	0.00000	0.00143	0.01355
46	0.18000	0.00000	0.00163	0.01253
47	0.18000	0.00000	0.00183	0.01156
48	0.18000	0.00000	0.00208	0.01063
49	0.18000	0.00000	0.00235	0.00973
50	0.27000	0.00000	0.00268	0.00887
51	0.27000	0.00000	0.00305	0.00804
52	0.27000	0.00000	0.00345	0.00725
53	0.27000	0.00000	0.00392	0.00649
54	0.27000	0.00000	0.00445	0.00576
55	0.27000	0.27000	0.00505	0.00000
56	0.27000	0.27000	0.00575	0.00000
57	0.27000	0.27000	0.00653	0.00000
58	0.27000	0.27000	0.00740	0.00000
59	0.27000	0.27000	0.00843	0.00000
60	0.24000	0.24000	0.01220	0.00000
61	0.16000	0.16000	0.01220	0.00000
62	0.16000	0.16000	0.01220	0.00000
63	0.16000	0.16000	0.01220	0.00000
64	0.16000	0.16000	0.01220	0.00000
65	0.16000	0.16000	0.01220	0.00000
66	0.16000	0.16000	0.01220	0.00000
67	0.16000	0.16000	0.01220	0.00000
68	0.16000	0.16000	0.01220	0.00000
69	0.16000	0.16000	0.01220	0.00000
70	0.09000	0.09000	0.01220	0.00000
71	0.09000	0.09000	0.01220	0.00000
72	0.09000	0.09000	0.01220	0.00000
73	0.09000	0.09000	0.01220	0.00000
74	0.09000	0.09000	0.01220	0.00000
75	0.09000	0.09000	0.01220	0.00000

PLAN B – ACTUARIAL TABLES AND RATES

Age	Retired Male Mortality Rates	Retired Female Mortality Rates	Active Male Mortality Rates	Active Female Mortality Rates	Male Disabled Mortality Rates	Female Disabled Mortality Rates	Retirement Rates Tier 1	Retirement Rates Tier 2
18	0.00020	0.00013	0.00028	0.00018	0.02257	0.00745	0.00000	0.00000
19	0.00021	0.00013	0.00030	0.00018	0.02257	0.00745	0.00000	0.00000
20	0.00021	0.00012	0.00032	0.00019	0.02257	0.00745	0.00000	0.00000
21	0.00022	0.00012	0.00033	0.00019	0.02257	0.00745	0.00000	0.00000
22	0.00023	0.00012	0.00035	0.00019	0.02257	0.00745	0.00000	0.00000
23	0.00025	0.00013	0.00036	0.00019	0.02257	0.00745	0.00000	0.00000
24	0.00026	0.00014	0.00037	0.00019	0.02257	0.00745	0.00000	0.00000
25	0.00029	0.00014	0.00037	0.00020	0.02257	0.00745	0.00000	0.00000
26	0.00033	0.00016	0.00038	0.00020	0.02257	0.00745	0.00000	0.00000
27	0.00036	0.00017	0.00038	0.00021	0.02257	0.00745	0.00000	0.00000
28	0.00039	0.00018	0.00038	0.00021	0.02257	0.00745	0.00000	0.00000
29	0.00043	0.00019	0.00038	0.00022	0.02257	0.00745	0.00000	0.00000
30	0.00049	0.00023	0.00039	0.00024	0.02257	0.00745	0.00000	0.00000
31	0.00055	0.00028	0.00041	0.00025	0.02257	0.00745	0.00000	0.00000
32	0.00061	0.00031	0.00044	0.00026	0.02257	0.00745	0.00000	0.00000
33	0.00067	0.00034	0.00050	0.00031	0.02257	0.00745	0.00000	0.00000
34	0.00073	0.00036	0.00056	0.00035	0.02257	0.00745	0.00000	0.00000
35	0.00079	0.00038	0.00063	0.00039	0.02257	0.00745	0.00000	0.00000
36	0.00084	0.00040	0.00070	0.00044	0.02257	0.00745	0.00000	0.00000
37	0.00089	0.00041	0.00077	0.00047	0.02257	0.00745	0.00000	0.00000
38	0.00091	0.00044	0.00084	0.00051	0.02257	0.00745	0.00000	0.00000
39	0.00094	0.00046	0.00090	0.00055	0.02257	0.00745	0.00000	0.00000
40	0.00097	0.00051	0.00096	0.00060	0.02257	0.00745	0.00000	0.00000
41	0.00101	0.00056	0.00102	0.00065	0.02257	0.00745	0.00000	0.00000
42	0.00105	0.00061	0.00108	0.00071	0.02257	0.00745	0.00000	0.00000
43	0.00111	0.00067	0.00114	0.00077	0.02257	0.00745	0.00000	0.00000
44	0.00115	0.00074	0.00122	0.00085	0.02257	0.00745	0.00000	0.00000
45	0.00120	0.00078	0.00130	0.00094	0.02257	0.00745	0.00000	0.00000
46	0.00125	0.00082	0.00140	0.00103	0.02257	0.00745	0.08000	0.00000
47	0.00131	0.00086	0.00151	0.00112	0.02257	0.00745	0.08000	0.00000
48	0.00340	0.00093	0.00162	0.00122	0.02257	0.00745	0.08000	0.00000
49	0.00342	0.00141	0.00173	0.00133	0.02257	0.00818	0.08000	0.00000
50	0.00339	0.00152	0.00186	0.00143	0.02257	0.00896	0.08000	0.00000
51	0.00334	0.00169	0.00200	0.00155	0.02385	0.00978	0.08000	0.00000
52	0.00329	0.00195	0.00214	0.00168	0.02512	0.01063	0.08000	0.00000
53	0.00335	0.00228	0.00229	0.00181	0.02640	0.01154	0.08000	0.00000
54	0.00348	0.00266	0.00245	0.00197	0.02769	0.01248	0.08000	0.00000
55	0.00377	0.00313	0.00262	0.00213	0.02897	0.01346	0.20000	0.20000
56	0.00415	0.00370	0.00281	0.00232	0.03027	0.01446	0.08000	0.08000
57	0.00463	0.00428	0.00303	0.00253	0.03156	0.01550	0.08000	0.08000
58	0.00522	0.00481	0.00331	0.00276	0.03286	0.01654	0.08000	0.08000
59	0.00573	0.00539	0.00363	0.00301	0.03415	0.01760	0.08000	0.08000
60	0.00631	0.00601	0.00400	0.00329	0.03544	0.01865	0.08000	0.08000
61	0.00717	0.00668	0.00441	0.00360	0.03673	0.01971	0.08000	0.08000
62	0.00794	0.00739	0.00488	0.00393	0.03803	0.02077	0.12000	0.12000
63	0.00904	0.00816	0.00538	0.00429	0.03933	0.02184	0.12000	0.12000
64	0.01002	0.00901	0.00592	0.00466	0.04067	0.02294	0.12000	0.12000
65	0.01109	0.00992	0.00647	0.00504	0.04204	0.02408	0.12000	0.12000
66	0.01262	0.01090	0.00703	0.00543	0.04347	0.02529	0.12000	0.12000
67	0.01394	0.01197	0.00757	0.00582	0.04498	0.02660	0.12000	0.12000
68	0.01496	0.01317	0.00810	0.00621	0.04658	0.02803	0.12000	0.12000
69	0.01656	0.01455	0.00860	0.00658	0.04831	0.02959	0.12000	0.12000
70	0.01787	0.01615	0.00907	0.00695	0.05017	0.03132	0.12000	0.12000
71	0.01990	0.01746	0.00951	0.00729	0.05221	0.03323	0.12000	0.12000
72	0.02220	0.01941	0.00992	0.00761	0.05445	0.03533	0.12000	0.12000
73	0.02478	0.02091	0.02457	0.01858	0.05691	0.03764	0.12000	0.12000
74	0.02762	0.02309	0.02728	0.02067	0.05961	0.04014	0.12000	0.12000
75	0.03161	0.02473	0.03039	0.02297	0.06258	0.04285	0.12000	0.12000

PLAN B – ACTUARIAL TABLES AND RATES (Continued)

Age	DROP Entry Rates Tier 1	DROP Entry Rates Tier 2	Disability Rates	Remarriage Rates
18	0.00000	0.00000	0.00090	0.06124
19	0.00000	0.00000	0.00090	0.06124
20	0.00000	0.00000	0.00090	0.06124
21	0.00000	0.00000	0.00090	0.05818
22	0.00000	0.00000	0.00090	0.05524
23	0.00000	0.00000	0.00090	0.05242
24	0.00000	0.00000	0.00090	0.04971
25	0.00000	0.00000	0.00090	0.04566
26	0.00000	0.00000	0.00090	0.04335
27	0.00000	0.00000	0.00090	0.04114
28	0.00000	0.00000	0.00090	0.03902
29	0.00000	0.00000	0.00090	0.03698
30	0.00000	0.00000	0.00090	0.03502
31	0.00000	0.00000	0.00090	0.03314
32	0.00000	0.00000	0.00090	0.03134
33	0.00000	0.00000	0.00090	0.02961
34	0.00000	0.00000	0.00090	0.02795
35	0.00000	0.00000	0.00102	0.02636
36	0.00000	0.00000	0.00114	0.02483
37	0.00000	0.00000	0.00126	0.02336
38	0.00000	0.00000	0.00144	0.02195
39	0.00000	0.00000	0.00162	0.02060
40	0.00000	0.00000	0.00186	0.01930
41	0.00000	0.00000	0.00210	0.01805
42	0.00000	0.00000	0.00234	0.01686
43	0.00000	0.00000	0.00264	0.01571
44	0.00000	0.00000	0.00300	0.01461
45	0.00000	0.00000	0.00342	0.01355
46	0.33000	0.00000	0.00390	0.01253
47	0.33000	0.00000	0.00438	0.01156
48	0.33000	0.00000	0.00498	0.01063
49	0.33000	0.00000	0.00564	0.00973
50	0.33000	0.00000	0.00642	0.00887
51	0.33000	0.00000	0.00732	0.00804
52	0.33000	0.00000	0.00828	0.00725
53	0.33000	0.00000	0.00942	0.00649
54	0.33000	0.00000	0.01068	0.00576
55	0.25000	0.25000	0.01212	0.00000
56	0.25000	0.25000	0.01380	0.00000
57	0.25000	0.25000	0.01566	0.00000
58	0.25000	0.25000	0.01776	0.00000
59	0.25000	0.25000	0.02022	0.00000
60	0.40000	0.40000	0.02928	0.00000
61	0.20000	0.20000	0.02928	0.00000
62	0.20000	0.20000	0.02928	0.00000
63	0.20000	0.20000	0.02928	0.00000
64	0.20000	0.20000	0.02928	0.00000
65	0.20000	0.20000	0.02928	0.00000
66	0.10000	0.10000	0.02928	0.00000
67	0.10000	0.10000	0.02928	0.00000
68	0.10000	0.10000	0.02928	0.00000
69	0.10000	0.10000	0.02928	0.00000
70	0.10000	0.10000	0.02928	0.00000
71	0.10000	0.10000	0.02928	0.00000
72	0.10000	0.10000	0.02928	0.00000
73	0.10000	0.10000	0.02928	0.00000
74	0.10000	0.10000	0.02928	0.00000
75	0.10000	0.10000	0.02928	0.00000

PRIOR YEAR ASSUMPTIONS

VALUATION INTEREST RATE:	7.5% (Net of investment expense)
INFLATION RATE:	2.875%

GLOSSARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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