MUNICIPAL POLICE EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL VALUATION AS OF
JUNE 30, 2015

G. S. CURRAN & COMPANY, LTD.

Actuarial Services

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December 10, 2015

Board of Trustees
Municipal Police Employees' Retirement System
7722 Office Park Boulevard, Suite 200
Baton Rouge, Louisiana 70809

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Municipal Police Employees' Retirement System for the fiscal year ending June 30, 2015. 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 Municipal Police Employees' Retirement System of the State of Louisiana. The primary purposes of the report are to determine the actuarially required contribution for the retirement system for the fiscal year ending June 30, 2016 and to recommend the net direct employer contribution rate for fiscal 2017. This report was prepared exclusively for Municipal Police 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 POLICE EMPLOYEES' RETIREMENT SYSTEM

Valuation Date:		June 30, 2015	June 30, 2014
Census Summary:	Active Members (excluding DROP)	5,535	5,468
	Retired Members and Survivors	4,538	4,444
	DROP Participants	228	271
	Terminated Due a Deferred Benefit	168	159
	Terminated Due a Refund	1,320	1,272
Payroll (excluding DROP participants):		$ 265,089,428	$ 259,594,435
Benefits in Payment (excluding DROP accruals):		$ 128,050,009	$ 118,522,277
Unfunded Actuarial Accrued Liability:		$ 805,312,224	$ 801,359,380
Actuarial Asset Value (AVA):		$ 1,871,160,542	$ 1,711,268,285
Market Value of Assets (MVA):		$ 1,893,077,295	$ 1,887,019,463
Actuarial Accrued Liability:		$ 2,676,472,766	$ 2,512,627,665
Funded Ratio (AVA/Entry Age Normal Accrued Liability):		69.91%	68.11%

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	FISCAL 2016	FISCAL 2015
Total Normal Cost (July 1):	$ 48,835,622	$ 43,010,879
Amortization Cost (July 1):	$ 75,489,583	$ 73,122,882
Total Interest Adjusted Actuarially Required Contributions Including Estimated Administrative Costs:	$ 130,307,241	$ 121,848,176
Expected Insurance Premium Taxes	$ 18,605,064	$ 17,704,000
Net Direct Combined Actuarially Required Contributions	$ 111,702,177	$ 104,144,176
Total Actuarially Required Net Direct Combined Contribution Rate	41.63%	39.80%
Total Actual Net Direct Combined Contribution Rate:	39.50%	41.50%

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Minimum Recommended Net Direct Employer Cont. Rate **:**

For Employees with Earnings Above Poverty Level-	**Fiscal 2017:** 31.75%	**Fiscal 2016:** 29.50%
For Employees with Earnings Below Poverty Level -	**Fiscal 2017:** 34.25%	**Fiscal 2016:** 32.00%
For Employees in the Non-Hazardous Subplan -	**Fiscal 2017**: 33.75%	**Fiscal 2016**: 31.50%

Employee Contribution Rate: 7.50% of payroll below poverty level/10.00% above poverty level/8.00% Non-Hazardous

Actuarial Cost Method: Individual Entry Age Normal with allocation of cost based on earnings.

Valuation Interest Rate: 7.50% (Net of Investment Expense)

Census Exclusions: None

Basis of Actuarial Asset Value: The actuarial value of assets is based on the market value of assets adjusted to phase in asset earnings above or below the assumed rate of return over a five-year period with limits set at 85% and 115% of the market value of assets. When the adjusted value falls outside of the limits, the actuarial value is set equal to the average of the limited and adjusted value.

Changes in Valuation Methods, Assumptions, and/or Amortization Periods: Changes were made to the salary scale, mortality, retirement, DROP entry, and withdrawal rates. In addition, family statistics and the vesting election percentage were updated.

Method of Recognizing Gains and Losses: All bases and gains and losses through June 30, 2014 are amortized over 20 years; effective with fiscal 2015, gains and losses are amortized over 15 years.

COMMENTS ON DATA

For the valuation, the administrator of the system furnished a census on CD 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, sex, 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 5,535 active contributing members in the system of whom 2,525 have vested retirement benefits; in addition, there are 228 participants in the Deferred Retirement Option Plan (DROP); 4,538 former members or their beneficiaries are receiving retirement benefits. An additional 1,488 terminated members have contributions remaining on deposit with the system; of this number 168 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 that 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 with imputed data is de minimis.

In addition to the statistical information provided on the system's participants, the system's administrator furnished general information related to other aspects of the system's expenses, benefits and funding. Valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of Duplantier, Hrapmann, Hogan & Maher, Certified Public Accountants. As indicated in the system's financial statements, the net market value of the system's assets was $1,893,077,295 as of June 30, 2015. Net investment income for fiscal 2015 measured on a market value basis was $26,639,525. Contributions to the system for the fiscal year totaled $128,152,378; benefits and expenses amounted to $148,734,071.

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.

A significant error in salaries submitted by the system for use in the actuarial valuation was detected by our validation process. The error appears to be limited to the salary for employees of the New Orleans Police Department for April and May of 2014 which were not posted on the system's computer database until August 2014 due to errors in the reports filed by the employer. The data related to salaries for these records incorrectly included these salaries for fiscal 2014 in the salary reported for fiscal 2015. Such an overstatement in salaries, if not corrected, would have caused a significant additional increase in the minimum actuarially required employer contribution rate. Replacement salary data, excluding these salaries from fiscal 2014, was requested and received for the affected records. The results contained within this report are based on the updated salary information.

COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

This valuation is based on the Entry Age Normal actuarial cost method. Prior to fiscal 2002, experience gains and losses as well as contribution gains and losses were amortized over fifteen years with level amortization payments. Act 1079 of 2003 explicitly changed the amortization period for experience gains and losses, changes in assumptions, changes in methods, cost of living increases, and changes in plan benefit provisions to thirty years with level amortization payments. Act 402 of 2014 was introduced to improve the long-term health of the system and to reduce the likelihood for intergenerational cost shifting due to long amortization periods. The act changed the amortization period for all the existing outstanding unfunded liability bases from various periods ranging from one to thirty years to twenty years. The act also sets the period to amortize all future actuarial gains and losses as well as changes in assumptions and benefits at fifteen years.

The cost method used for this valuation generally produces normal costs which are level as a percentage of pay if assumptions are met and the composition of the active group with regard to age, sex, and service is stable. Overall costs may increase or decrease depending on payroll growth. Since payments on all of the funds amortization bases are level any payroll growth will reduce future amortization payments as a percentage of payroll. Should overall payroll contract, amortization payments will increase as a percentage of payroll.

The current year actuarial assumptions utilized for this report are based on the results of an actuarial experience study for the period July 1, 2010 – June 30, 2014, unless otherwise specified in this report. Based on the results of the actuarial experience study and expectations of future experience, mortality, retirement, DROP entry, and withdrawal rates were changed. Family statistics were also updated based on more recent measures available from the United States Census Bureau and the salary scale assumption was decreased. The new assumptions are listed in the back of this report.

In the case of mortality, the data was assigned credibility weighting and combined with a standard table to produce current levels of mortality. This mortality was then projected forward to a period equivalent to the estimated duration of the fund's liabilities. The RP-2000 Combined Healthy with Blue Collar Adjustment Sex Distinct Tables projected to 2029 using Scale AA as published by the Society of Actuaries (set-back 1 year for females) were selected for annuitant and beneficiary mortality. For employees, the RP-2000 Employee table setback 4 years for males and setback 3 years for females were selected. The RP-2000 Disabled Lives Mortality Table set back 5 years for males and set back 3 years for females was selected for disabled annuitants. Setbacks in these tables were used to approximate mortality improvement.

In determining the valuation interest rate, consideration was given to several factors. First, consensus estimates of rates of return, standard deviations, and correlation coefficients for asset classes derived from various asset consulting firms were developed. These factors were used to derive forward estimates of the Fund's portfolio earnings rate. Consideration was also given to the 2015 report of New England Pension Consultants on future expected rates of return for the current portfolio asset allocation. Based on the results of this interest rate assumption review, the assumed rate of return for the valuation was left unchanged. Finally, the salary increase rate for the valuation was reduced based on forward estimates of future increases in pay resulting from three sources; inflation, merit, and productivity. An inflation rate of 2.875% was implicit in both the assumed rate of return and rate of salary increases. Additional details are given in the complete Experience Report for fiscal years 2010 through 2014.

Although the board of trustees has authority to grant ad hoc Cost of Living 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 thirty-seven through forty-four. All assumptions used are based on estimates of future long-term experience for the fund. All calculations, recommendations, and conclusions are based on the assumptions specified. To the extent that prospective experience differs from that assumed, adjustments to contribution levels will be required. Such differences will be revealed in future actuarial valuations. The net effect of the changes in assumptions increased the interest-adjusted amortization payments on the system’s UAL by $9,958,567 which corresponds to payments of 3.71% of fiscal 2016 projected payroll.

CHANGES IN PLAN PROVISIONS

The following changes in plan provisions were enacted during the 2015 Regular Session of the Louisiana Legislature:

Act 43 requires employers who fully or partially terminate participation in the Municipal Police Employees' Retirement System to pay the portion of the system's unfunded accrued liability attributable to the employer's participation in the system.

Act 368 provides that certain litter fines collected by municipal police departments could result in additional contributions to the retirement system which will be used to reduce the system’s unfunded accrued liability without resetting payment amounts.

ASSET EXPERIENCE

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

	Market Value	Actuarial Value	
2006	8.7%	13.2%	
2007	16.5%	13.6%	
2008	- 7.6%	6.4%	
2009	-24.2%	-16.7%	
2010	12.4%	-0.8%	
2011	23.5%	3.9%	*
2012	-2.1%	7.8%	

2013	13.7%	11.2%
2014	18.6%	11.9%
2015	1.4 %	10.6%

* Includes the effect of transition to a new method for calculating the actuarial value of assets. The new method for calculating the actuarial value of assets is based on the market value of investment securities adjusted to phase in asset earnings above or below the assumed rate of return over a five-year period with limits set at 85% and 115% of the market value of assets. When the adjusted value falls outside of the limits, the actuarial value is set equal to the average of the limited and adjusted value.

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 2015, the fund earned $34,783,554 of dividends, interest and other recurring income. In addition, the Fund had net realized and unrealized capital losses on investments of $1,666,056. The Fund also had investment expenses of $6,477,973. The geometric mean of the market value rate of return measured over the last ten years was 5.1%.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 7.5% used for the valuation. For fiscal 2015, this rate adjusted for elimination of the effect of merger payments was 10.6%. DROP accounts should be credited with 10.1% (i.e. 10.6% less 0.5%). The actuarial rate of return is calculated based on the actuarial value of assets and all interest, dividends, and recognized capital gains as given in Exhibit VI. Investment income used to calculate this yield is based upon a smoothing of investment returns above or below the valuation interest rate over a five year period subject to constraints. The difference between rates of return on an actuarial and market value basis results from the smoothing of gains or losses on investments relative to the valuation interest rate. Yields in excess of the 7.5% assumption will reduce future costs; yields below 7.5% will increase future costs. For fiscal 2015, the system experienced net actuarial investment earnings of $52,886,689 above the actuarial assumed earnings rate of 7.5% which produced an actuarial gain and decreased the interest-adjusted amortization payments on the system's UAL by $5,778,606 or 2.15% of projected payroll.

DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the system is given in Exhibit IX. The average active contributing member is 40 years old with 11.12 years of service credit and an annual salary of $47,893. The system's active contributing membership experienced an increase of 67 members during fiscal 2015. The number of DROP participants decreased by 43. Over the last five years active membership has decreased by 662 members.

The average service retiree is 66 years old with a monthly benefit of $2,815. The number of retirees and beneficiaries receiving benefits from the system increased by 94 during the fiscal year. Over the last five years, the number of retirees increased by 510 with annual benefits in payment increasing by $34,667,029.

Liability experience for the year was favorable. The number of disabilities, retirements, and DROP entries were below projected levels. Salary increases were also below expected levels. Withdrawals and deaths were above projected levels. These factors tend to reduce costs. Net plan liability experience gains totaled $9,412,440. The interest adjusted amortization payment on this gain was $1,028,440, or 0.38% of projected payroll.

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 payments on the unfunded actuarial accrued liability. The normal cost refers to the annual cost for active members allocated to each year by the particular cost method utilized. 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. In addition it may be increased or diminished by plan experience, changes in assumptions, or changes in benefits including COLA's. Contributions in excess of or less than the actuarially required amount can also decrease or increase the UAL balance. New entrants to the system can also increase or lower costs as a percent of payroll depending upon their demographic distribution. Finally, payroll growth affects plan costs since payments on the system's unfunded liability are on a fixed, level schedule. If payroll increases, these costs are reduced as a percentage of payroll.

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.

An explanation of the change in costs related to asset and liability gains and losses as well as changes in demographics and assumptions is given in prior sections of the report. In addition to these components, variances in contribution levels and payroll also affect costs. For fiscal 2015 contributions totaled $6,385,205 more than required; the interest-adjusted amortization credit on the contribution surplus for fiscal 2016 is $697,672, or 0.26% of projected payroll. In addition, for fiscal 2016 the net effect of the change in payroll on amortization costs was to reduce such costs by 0.72% of projected payroll.

A reconciliation of the change in costs is given below. Values listed in dollars are interest adjusted for payment throughout the fiscal year. Percentages are based on the projected payroll for fiscal 2016 except for those items labeled fiscal 2015.

	Dollars	Percentage of Payroll
Normal Cost for Fiscal 2015	$ 44,594,628	17.04%
Cost of Demographic and Salary Changes	$ 6,039,223	1.83%
Normal Cost for Fiscal 2016	$ 50,633,851	18.87%
UAL Payments for Fiscal 2015	$ 75,815,418	28.98%

Change due to change in payroll	N/A	(0.72%)
Additional Amortization Expenses for Fiscal 2016:		
Assumption Loss (Gain)	$ 9,958,567	3.71%
Asset Experience Loss (Gain)	$ (5,778,606)	(2.15%)
Liability Loss (Gain)	$ (1,028,442)	(0.38%)
Contribution Loss (Gain)	$ (697,672)	(0.26%)
Net Amortization Expense (Credit) for Fiscal 2016	$ 2,453,847	0.92%
Estimated Administrative Cost for Fiscal 2016	$ 1,404,125	0.52%
Total Normal Cost & Amortization Payments	$ 130,307,241	48.57%

The derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for fiscal 2016 as of July 1, 2016 is $48,835,622. The amortization payments on the system's unfunded actuarial accrued liability as of July 1, 2016 total $75,489,583. The total actuarially required contribution is determined by adjusting the sum of these two values for interest (since payments are made throughout the fiscal year) and adding estimated administrative expenses. As given in line 11 of Exhibit I, the total actuarially required contribution for fiscal 2016 is $130,307,241. We estimate insurance premium taxes of $18,605,064, or 6.93% of payroll will be paid to the system in fiscal 2016. This level of Insurance Premium Taxes represents a 0.16% increase over the prior year as a percentage of payroll. Hence, the total actuarially required net direct combined contribution (consisting of employee contributions and the net direct employer contribution) for fiscal 2016 amounts to $111,702,177 or 41.63% of payroll.

Since the actual net direct combined contribution rate for fiscal 2016 is 39.50% of payroll, there will be a contribution shortfall of 2.13% of payroll. This shortfall will increase the actuarially required contribution by 0.22% for fiscal 2017. The statutes require rounding the net direct employer contribution rate to the nearest 0.25%. Therefore, we recommend a combined employee and net direct employer contribution rate of 41.75% for fiscal 2017. For members with earnings greater than the Department of HHS poverty guidelines, employee contributions will be set equal to 10.00% of payroll. The recommended employer contribution rate to be applied to the earnings of such members is 31.75% of payroll. For members with earnings less than or equal to the Department of HHS poverty guidelines, employee contributions will be set equal to 7.50% of payroll. The recommended employer contribution rate to be applied to the earnings of such members is 34.25% of payroll. The employee contribution rate for members of the Nonhazardous Subplan is 8.00%; hence the employer contribution rate for this group for fiscal 2017 is 33.75%.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, completion of amortization payments or credit schedules, and changes in plan provisions or applicable law. Analysis of the effect of all these factors is beyond the scope of this report. We have, however, calculated the sensitivity of the plan's costs to a change in two factors. First, we have determined that based on current assets, demographics, and amortization periods, for each percentage under (over) the assumed rate of return on the actuarial value of assets, there will be a corresponding increase (reduction) in the actuarially required contribution as a percentage of projected payroll of 0.76% for the fund. We have also determined that a 1% reduction in the valuation interest rate for the Fund would increase the actuarially required contribution rate for fiscal 2016 by 14.27% of payroll.

In addition to calculating the actuarially required contribution to the fund, we have also calculated the ratio of the system's assets to liabilities. When the actuarial value of assets is divided by the entry age normal accrued liability for the fund the result is 69.91% as of June 30, 2015. This value in isolation does not give a measure of the ability of the fund to pay benefits in the future or indicate that future contributions are likely to be greater or less than current contributions. In addition, the ratio cannot be used 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 the underlying trends in this value.

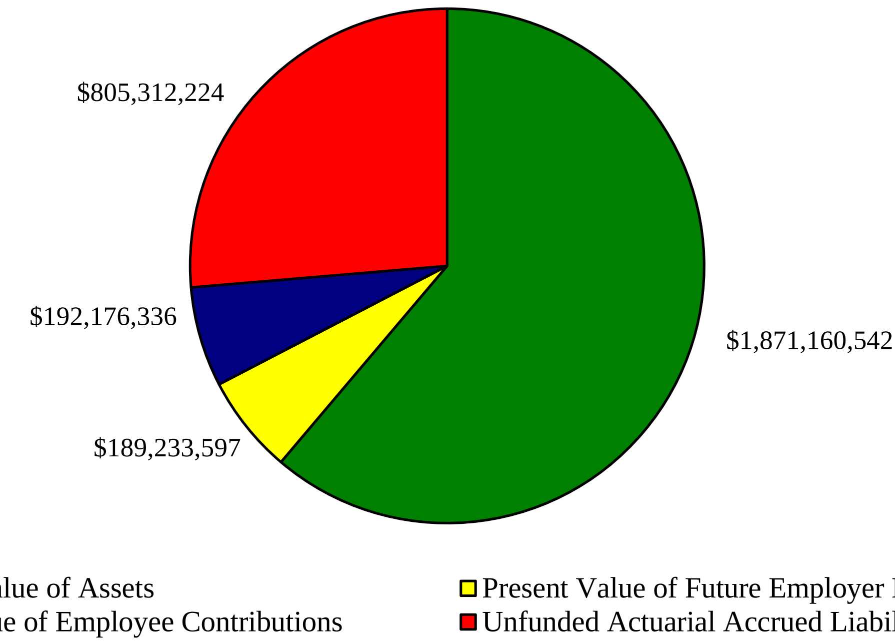
COST OF LIVING INCREASES

During fiscal 2015, the actual cost of living (as measured by the US Department of Labor CPI-U) increased by 0.12%. Cost of living provisions for the system are detailed in R.S. 11:2225(A)(7)(b), R.S. 11:246, and R.S. 11:241. R.S. 11:2225(A)(7)(b) allows the board to use interest earnings in excess of the normal requirements to grant annual cost of living increases of 3% of each retiree's original or current benefit. R.S. 11:246 provides cost of living increases to retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. R.S. 11:241 provides that cost of living benefits shall be in the form (unless the board otherwise specifies) of $\$X \times (A+B)$ where X is at most \$1 and "A" represents the number of years of credited service accrued at retirement or at death of the member or retiree and "B" is equal to the number of years since retirement or since death of the member or retiree to 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.

All of the above provisions require that the system's investments produce sufficient excess interest earnings to fund the increases. R.S. 11:243 sets forth the funding criteria necessary in order to grant cost of living adjustments to regular retirees and beneficiaries (who are neither the surviving spouse nor children of the retiree.) The criteria for the fund to qualify as eligible to grant any such increase is as follows: a funded ratio of at least 70% if the system has not granted a benefit increase to retirees, survivors, or beneficiaries in any of the three most recent fiscal years; a funded ratio of at least 80% if the system has not granted such an increase in any of the two most recent fiscal years; or a funded ratio of at least 90% if the system has not granted such an increase in the most recent fiscal year. The funded ratio at any fiscal year end is the ratio of the actuarial value of assets to the actuarial accrued liability under the funding method prescribed by the legislative auditor (currently the Entry Age Normal Method for this system).

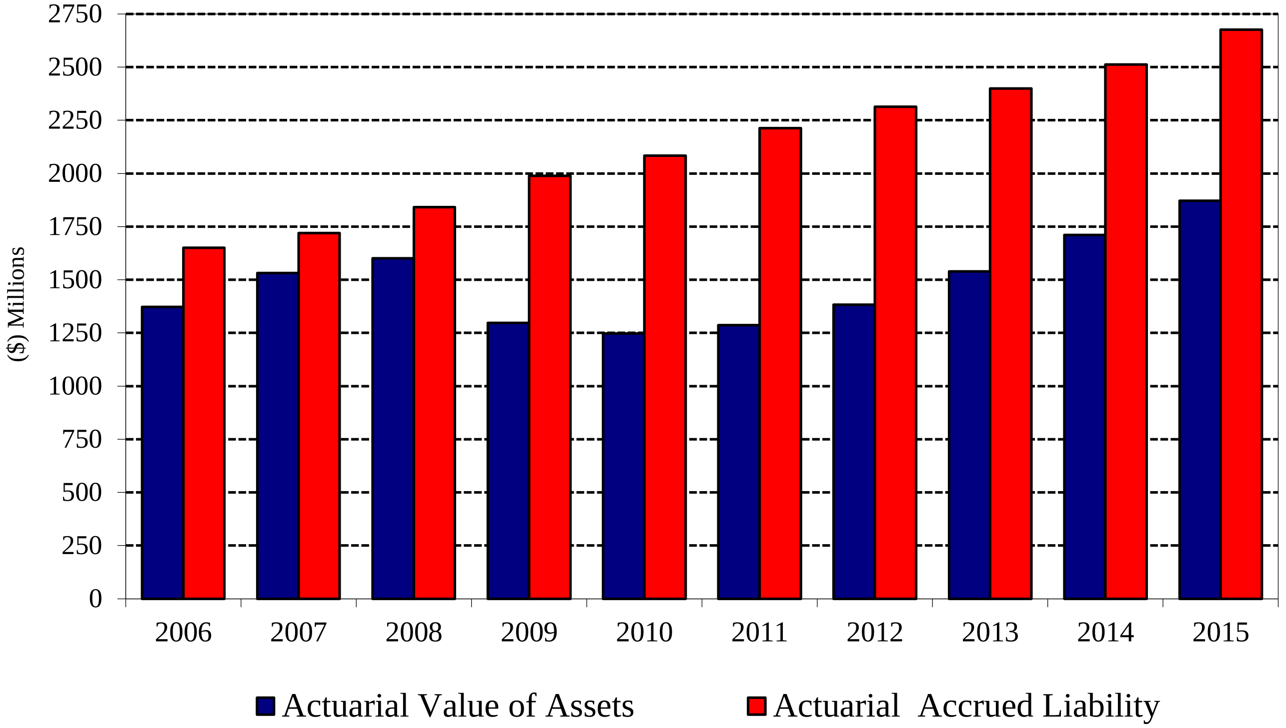
With a funded ratio (as measured by the Actuarial Value of Assets divided by the Entry Age Normal Accrued Liability) of 69.91%, the fund does not meet the criteria under R. S. 11:243 to grant a cost of living increase.

Components of Present Value of Future Benefits
June 30, 2015

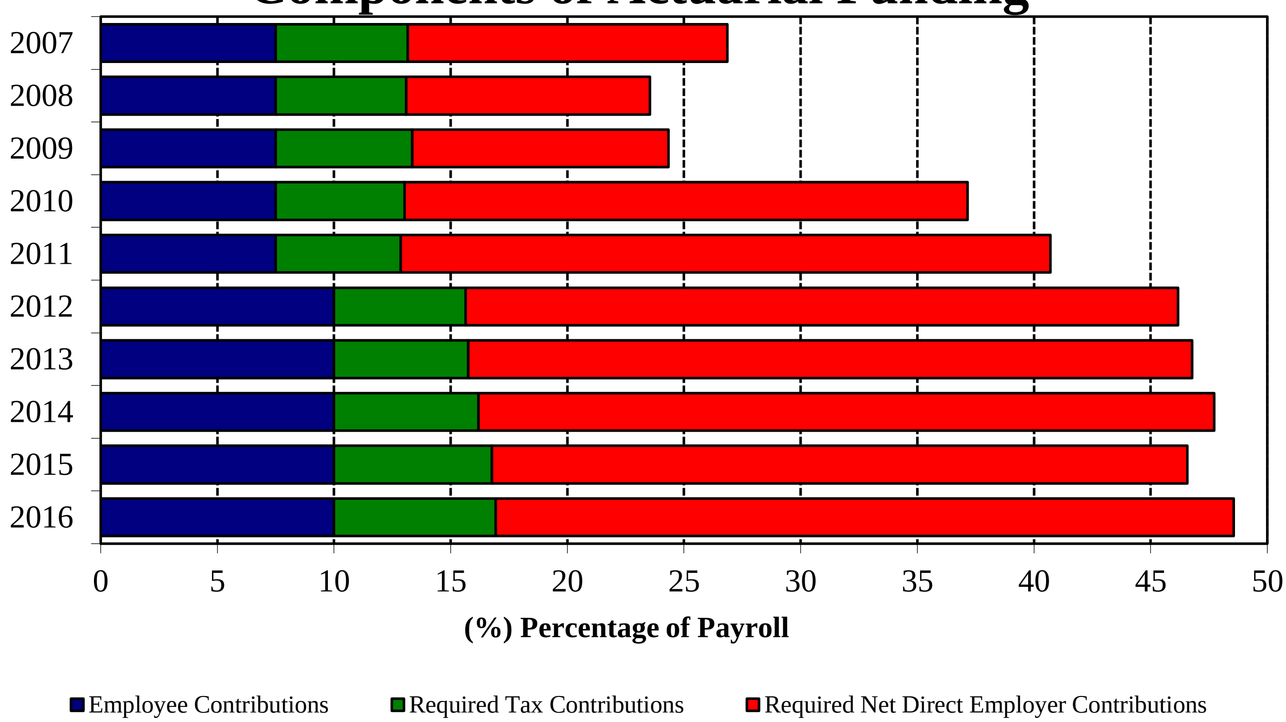


Unfunded Accrued Liability

Actuarial Value of Assets vs. Actuarial Accrued Liability

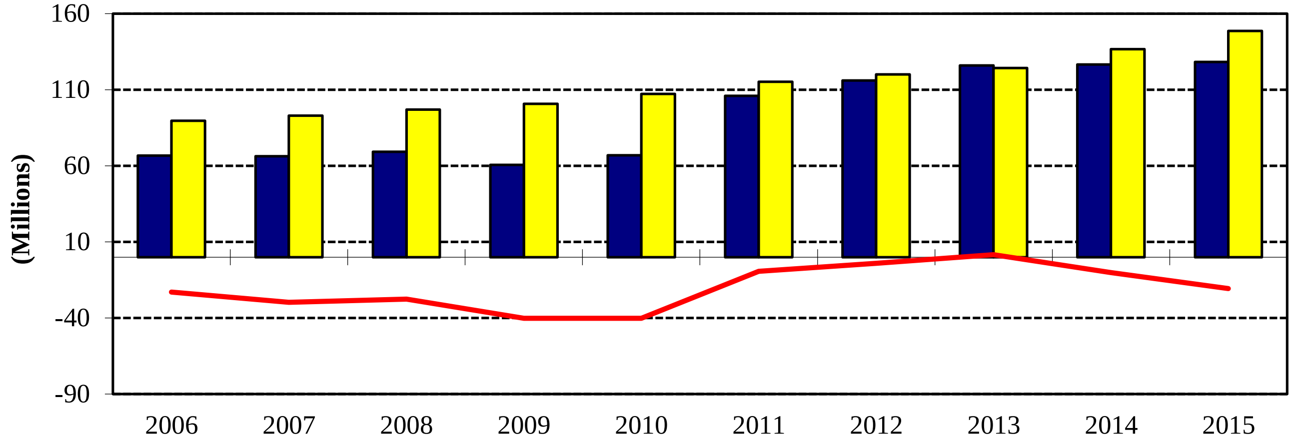


Components of Actuarial Funding



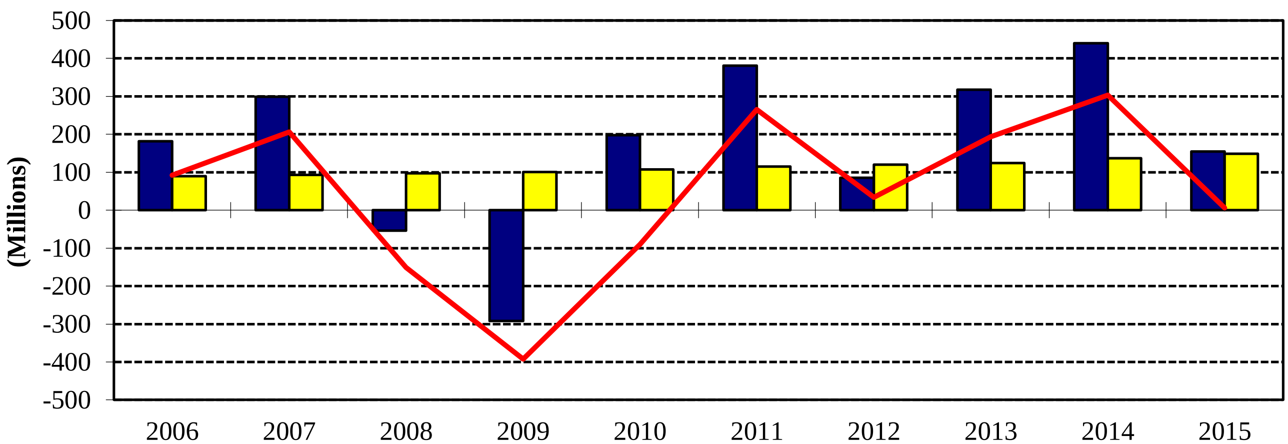
(2012 and later employee contribution level is based on members with earnings above the poverty level)

Net Non-Investment Income



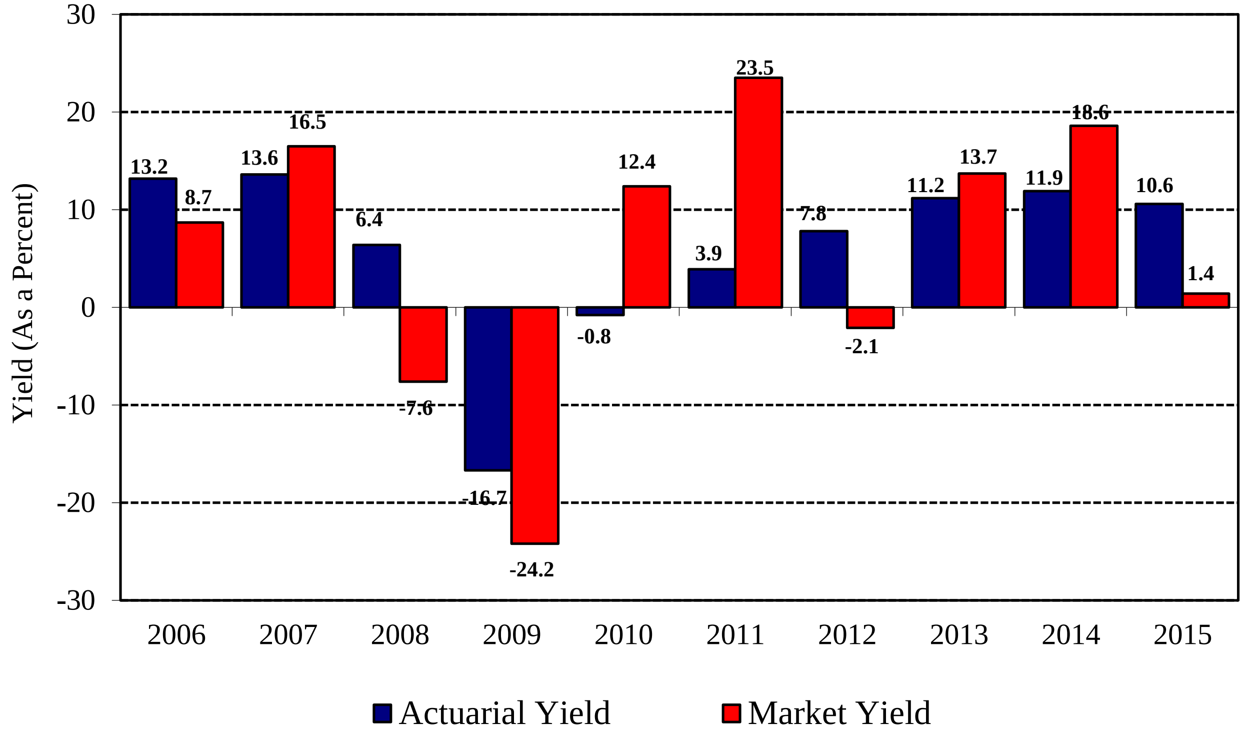
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Non-Investment Income ($Mil)	66.7	66.3	69.3	60.6	67.0	106.1	116.0	125.9	126.6	128.2
Benefits and Expenses ($Mil)	89.6	92.9	96.9	100.7	107.2	115.3	120.0	124.2	136.7	148.7
Net Non-Investment Income ($Mil)	-22.9	-29.6	-27.6	-40.1	-40.2	-9.2	-4.0	1.7	-10.1	-20.5

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



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Income ($Mil)	181.6	299.2	-53.6	-291.8	198.1	381.0	85.9	318.0	439.9	154.8
Benefits and Expenses ($Mil)	89.6	92.9	96.9	100.7	107.2	115.3	120.0	124.2	136.7	148.7
Net Change in MVA ($Mil)	92.0	206.3	-150.5	-392.5	90.9	265.7	34.1	193.8	303.2	6.1

Historical Asset Yields



EXHIBITS

EXHIBIT I
ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1.	Normal Cost of Retirement Benefits	$	35,638,406
2.	Normal Cost of Death Benefits	$	1,221,146
3.	Normal Cost of Disability Benefits	$	3,369,615
4.	Normal Cost of Deferred Retirement Benefits	$	3,436,038
5.	Normal Cost of Contribution Refunds	$	5,170,417
6.	TOTAL Normal Cost as of July 1, 2015 (1 + 2 + 3 + 4 + 5)	$	48,835,622
7.	Amortization of Unfunded Accrued Liability of $805,312,224	$	75,489,583
8.	TOTAL Normal Cost & Amortization Payments (6 + 7)		124,325,205
9.	Normal Cost and Amortization Payments Interest Adjusted for Midyear Payment	$	128,903,116
10.	Estimated Administrative Cost for Fiscal 2016	$	1,404,125
11.	TOTAL Administrative and Interest Adjusted Actuarial Costs (9 + 10)	$	130,307,241
12.	Expected Insurance Premium Taxes due in Fiscal 2016	$	18,605,064
13.	Net Direct Combined Actuarially Req'd Contributions for Fiscal 2016 (11-12)	$	111,702,177
14.	Projected Payroll for Contributing Members July 1, 2015 through June 30, 2016	$	268,299,658
15.	Net Direct Combined Actuarially Required Contributions as a % of Projected Payroll for Fiscal 2016 (13 ÷ 14)		41.63%
16.	Actual Net Direct Combined Contribution Rate for Fiscal 2016		39.50%
17.	Contribution Gain (Loss) as a Percentage of Payroll (16 – 15)		(2.13%)
18.	Adjustment to Following Year Payment for Contribution Gain (Loss)		(0.22%)
19.	Recommended Net Direct Combined Contribution Rate for Fiscal 2017 (15 – 18) (Rounded to nearest 0.25%)		41.75%
20.	Net Direct Employee Contribution Rate (for members with earnings more than the Department of HHS poverty guidelines)		10.00%
21.	Recommended Net Direct Employer Contribution Rate (for members with earnings more than the Department of HHS poverty guidelines)		31.75%
22.	Net Direct Employee Contribution Rate (for members with earnings less than or equal to the Department of HHS poverty guidelines)		7.50%
23.	Recommended Net Direct Employer Contribution Rate (for members with earnings less than or equal to the Department of HHS poverty guidelines)		34.25%
24	Net Direct Employee Contribution Rate (Non-Hazardous Subplan)		8.00%
25.	Recommended Net Direct Employer Contribution Rate (Non-Hazardous Subplan)		33.75%

EXHIBIT II
PRESENT VALUE OF FUTURE BENEFITS

PRESENT VALUE OF FUTURE BENEFITS FOR ACTIVE MEMBERS:

Retirement Benefits	$ 1,410,007,313	
Survivor Benefits	16,484,190	
Disability Benefits	67,195,291	
Vested Termination Benefits	73,103,636	
Refunds of Contributions	31,162,386	
TOTAL Present Value of Future Benefits for Active Members		$ 1,597,952,816

PRESENT VALUE OF FUTURE BENEFITS FOR TERMINATED MEMBERS:

Terminated Vested Members Due Benefits at Retirement	$ 28,637,625	
Terminated Members with Reciprocals Due Benefits at Retirement	113,764	
Terminated Members Due a Refund	6,210,524	
TOTAL Present Value of Future Benefits for Terminated Members		$ 34,961,913

PRESENT VALUE OF FUTURE BENEFITS FOR RETIREES:

Regular Retirees	$ 1,167,048,252	
Disability Retirees	49,905,033	
Survivors & Widows	132,653,533	
DROP Account Balances Payable to Retirees	74,425,071	
IBO Retirees' Account Balance	936,081	
TOTAL Present Value of Future Benefits for Retirees & Survivors		$ 1,424,967,970

TOTAL Present Value of Future Benefits	$ 3,057,882,699

EXHIBIT III – SCHEDULE A
MARKET VALUE OF ASSETS

CURRENT ASSETS:

Cash in Banks	$	39,024,824		
Contributions and Taxes Receivable		8,784,597		
Accrued Interest and Dividends		3,562,021		
Investments Receivable		5,531,334		
TOTAL CURRENT ASSETS			$	56,902,776
Property Plant & Equipment			$	2,107,465

INVESTMENTS:

Cash Equivalents	$	42,023,615		
Equities		1,040,700,011		
Fixed Income		371,269,139		
Real Estate		179,717,790		
Alternative Investments		118,136,240		
Tactical Allocation		91,733,005		
Collateral for Securities Lending		20,945,942		
TOTAL INVESTMENTS			$	1,864,525,742
TOTAL ASSETS			$	1,923,535,983

CURRENT LIABILITIES:

Accounts Payable	$	997,504		
Refunds Payable		362,830		
Investments Payable		6,345,263		
Securities Lending Obligations		20,945,942		
Other Post-Employment Benefits		596,041		
Payable on Currency Contracts		1,211,108		
TOTAL CURRENT LIABILITIES			$	30,458,688
MARKET VALUE OF ASSETS			$	1,893,077,295

EXHIBIT III – SCHEDULE B
ACTUARIAL VALUE OF ASSETS

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

Fiscal year 2015	$ (114,129,074)
Fiscal year 2014	176,967,651
Fiscal year 2013	86,627,167
Fiscal year 2012	(138,057,227)
Fiscal year 2011	187,118,241
Total for five years	$ 198,526,758

Deferral of excess (shortfall) of invested income:

Fiscal year 2015 (80%)	$ (91,303,260)
Fiscal year 2014 (60%)	106,180,591
Fiscal year 2013 (40%)	34,650,867
Fiscal year 2012 (20%)	(27,611,445)
Fiscal year 2011 (0%)	0
Total deferred for year	$ 21,916,753

Market value of plan net assets, end of year	$ 1,893,077,295
Preliminary actuarial value of plan assets, end of year	$ 1,871,160,542

Actuarial value of assets corridor

85% of market value, end of year	$ 1,609,115,701
115% of market value, end of year	$ 2,177,038,889

Final actuarial value of plan net assets, end of year	$ 1,871,160,542

EXHIBIT IV
PRESENT VALUE OF FUTURE CONTRIBUTIONS

Employee Contributions to the Annuity Savings Fund	$	192,176,336
Employer Normal Contributions to the Pension Accumulation Fund		189,233,597
Employer Amortization Payments to the Pension Accumulation Fund		805,312,224
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	$	1,186,722,157

EXHIBIT V - SCHEDULE A
ACTUARIAL ACCRUED LIABILITIES

LIABILITY FOR ACTIVE MEMBERS			
Accrued Liability for Retirement Benefits	$1,128,619,223		
Accrued Liability for Survivor Benefits	7,240,447		
Accrued Liability for Disability Benefits	41,416,773		
Accrued Liability for Vested Termination Benefits	46,759,653		
Accrued Liability for Refunds of Contributions	(7,493,213)		
TOTAL Actuarial Accrued Liability for Active Members		$	1,216,542,883
LIABILITY FOR TERMINATED MEMBERS		$	34,961,913
LIABILITY FOR RETIREES AND SURVIVORS		$	1,424,967,970
TOTAL ACTUARIAL ACCRUED LIABILITY		$	2,676,472,766
ACTUARIAL VALUE OF ASSETS		$	1,871,160,542
UNFUNDED ACTUARIAL ACCRUED LIABILITY		$	805,312,224

EXHIBIT V - SCHEDULE B
CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

Prior Year Unfunded Accrued Liability			$	801,359,380
Interest on Unfunded Accrued Liability	$	60,101,954		
Normal Cost for Prior Year		43,010,879		
Interest on the Normal Cost		3,225,815		
Administrative Expenses		1,577,279		
Interest on Expenses		58,079		
TOTAL Increases to Unfunded Accrued Liability			$	107,974,006
Required Contributions for Prior Year with interest	$	126,479,151		
Contribution Excess (Shortfall) with accrued interest		6,385,205		
Liability Assumption Gains (Losses)		(91,142,323)		
Liability Experience Gains (Losses)		9,412,440		
Investment Gains (Losses)		52,886,689		
TOTAL Decreases to Unfunded Accrued Liability			$	104,021,162
NET Change in Unfunded Accrued Liability			$	3,952,844
CURRENT YEAR UNFUNDED ACCRUED LIABILITY			$	805,312,224

EXHIBIT V - SCHEDULE C
AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
JUNE 30, 2015

FISCAL YEAR	DESCRIPTION	AMORT. PERIOD	INITIAL BALANCE	YEARS REMAINING	REMAINING BALANCE	AMORT. PAYMENTS
2014	Cumulative Bases	20	801,359,380	19	782,854,235	73,122,882
2015	Liability Assumption Loss	15	91,142,323	15	91,142,323	9,604,895
2015	Liability Experience Gain	15	(9,412,440)	15	(9,412,440)	(991,916)
2015	Asset Experience Gain	15	(52,886,689)	15	(52,886,689)	(5,573,383)
2015	Contribution Gain	15	(6,385,205)	15	(6,385,205)	(672,895)
	TOTAL Unfunded Actuarial Accrued Liability				$ 805,312,224	
	TOTAL Fiscal 2015 Amortization Payments					$ 75,489,583

EXHIBIT VI
ANALYSIS OF CHANGE IN ASSETS

Actuarial Value of Assets (June 30, 2014)		$	1,711,268,285
INCOME:			
Member Contributions	$ 26,117,636		
Employer Contributions	84,324,128		
Irregular Contributions	6,614		
Insurance Premium Taxes	17,704,000		
Total Contributions		$	128,152,378
Net (Depreciation) of Investments	$ (1,788,092)		
Interest & Dividends	24,011,051		
Alternative Investment Income	10,772,503		
Securities Litigation Income	122,036		
Investment Expense	(6,477,973)		
Net Investment Income		$	26,639,525
TOTAL Income		$	154,791,903
EXPENSES:			
Retirement Benefits	$ 123,759,640		
DROP Disbursements	17,180,717		
Refunds of Contributions	4,257,860		
Transfers to Other Systems	1,958,575		
Administrative Expenses	1,577,279		
TOTAL Expenses		$	148,734,071
Net Market Value Income for Fiscal 2015 (Income – Expenses)		$	6,057,832
Unadjusted Fund Balance as of June 30, 2015 (Fund Balance Previous Year + Net Income)		$	1,717,326,117
Adjustment for Actuarial Smoothing		$	153,834,425
Actuarial Value of Assets: (June 30, 2015)		$	1,871,160,542

EXHIBIT VII
CENSUS DATA

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2014	5,468	1,431	271	4,444	11,614
Additions to Census					
Initial membership	518	57			575
Omitted in error last year				3	3
Death of another member			(1)	43	42
Adjustment for multiple records				6	6
Change in Status during Year					
Actives terminating service	(191)	191			
Actives who retired	(83)			83	
Actives entering DROP	(64)		64		
Term. members rehired	50	(50)			
Term. members who retire		(9)		9	
Retirees who are rehired	4			(4)	
Refunded who are rehired	22	2			24
DROP participants retiring			(72)	72	
DROP returned to work	33		(33)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(218)	(134)			(352)
Deaths	(4)		(1)	(118)	(123)
Included in error last year					
Adjustment for multiple records					
Number of members as of June 30, 2015	5,535	1,488	228	4,538	11,789

ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	11	1	12	29,318	351,812
21 - 25	252	85	337	31,910	10,753,522
26 - 30	555	164	719	38,926	27,987,545
31 - 35	694	225	919	43,396	39,880,976
36 - 40	714	220	934	47,267	44,147,212
41 - 45	763	215	978	51,364	50,234,025
46 - 50	692	170	862	55,788	48,088,839
51 - 55	364	109	473	55,656	26,325,372
56 - 60	138	58	196	56,671	11,107,542
61 - 65	56	22	78	57,999	4,523,888
66 - 70	19	2	21	64,689	1,358,467
71 - 75	3	1	4	48,976	195,904
81 - 85	2	0	2	67,162	134,324
TOTAL	4,263	1,272	5,535	47,893	265,089,428

THE ACTIVE CENSUS INCLUDES 2,525 ACTIVES WITH VESTED BENEFITS, INCLUDING 137 ACTIVE FORMER DROP PARTICIPANTS. THE 228 CURRENT DROP PARTICIPANTS ARE EXCLUDED.

DROP PARTICIPANTS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	1	0	1	38,429	38,429
46 - 50	29	5	34	53,709	1,826,109
51 - 55	100	14	114	54,058	6,162,589
56 - 60	43	18	61	48,299	2,946,210
61 - 65	10	7	17	36,865	626,701
66 - 70	1	0	1	77,114	77,114
TOTAL	184	44	228	51,216	11,677,152

TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
36 - 40	21	3	24	24,367	584,816
41 - 45	47	8	55	24,393	1,341,618
46 - 50	49	6	55	27,983	1,539,074
51 - 55	25	8	33	19,698	650,040
56 - 60	0	1	1	16,455	16,455
TOTAL	142	26	168	24,595	4,132,003

TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From		To	Number	Total Contributions
0	-	99	197	8,487
100	-	499	331	84,579
500	-	999	172	122,558
1000	-	1999	135	196,444
2000	-	4999	140	456,134
5000	-	9999	124	896,964
10000	-	19999	128	1,880,899
20000	-	99999	93	2,535,577
		TOTAL	1,320	6,181,642

REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	3	0	3	35,417	106,251
46 - 50	44	2	46	41,647	1,915,744
51 - 55	258	46	304	48,920	14,871,575
56 - 60	482	101	583	42,195	24,599,422
61 - 65	642	111	753	35,346	26,615,523
66 - 70	614	68	682	29,621	20,201,251
71 - 75	369	38	407	24,772	10,082,063
76 - 80	203	16	219	24,826	5,436,931
81 - 85	112	7	119	22,963	2,732,552
86 - 90	63	3	66	19,880	1,312,073
91 - 99	19	3	22	15,323	337,095
TOTAL	2,809	395	3,204	33,774	108,210,480

DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	2	0	2	28,483	56,965
36 - 40	6	5	11	18,182	200,005
41 - 45	16	7	23	17,464	401,662
46 - 50	25	10	35	17,469	611,427
51 - 55	33	13	46	18,643	857,584
56 - 60	36	9	45	18,144	816,485
61 - 65	38	14	52	15,008	780,439
66 - 70	34	4	38	16,053	610,015
71 - 75	18	3	21	14,954	314,030
76 - 80	6	1	7	11,861	83,029
81 - 85	4	0	4	11,548	46,191
TOTAL	218	66	284	16,823	4,777,832

SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 25	41	57	98	7,187	704,331
31 - 35	1	2	3	11,807	35,420
36 - 40	0	13	13	20,336	264,366
41 - 45	0	16	16	17,521	280,336
46 - 50	1	26	27	18,965	512,061
51 - 55	0	49	49	19,801	970,264
56 - 60	10	53	63	20,216	1,273,586
61 - 65	6	97	103	17,050	1,756,196
66 - 70	5	129	134	16,444	2,203,508
71 - 75	7	151	158	13,774	2,176,356
76 - 80	6	131	137	13,625	1,866,574
81 - 85	6	112	118	12,086	1,426,161
86 - 90	4	82	86	12,710	1,093,024
91 - 99	3	42	45	11,100	499,514
TOTAL	90	960	1,050	14,344	15,061,697

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	11	1										12
21 - 25	183	75	49	20	8	2						337
26 - 30	138	99	122	67	67	220	6					719
31 - 35	96	52	67	59	44	436	164	1				919
36 - 40	62	36	34	29	20	255	347	149	2			934
41 - 45	43	28	27	21	18	154	229	331	126	1		978
46 - 50	14	13	12	14	10	109	120	190	306	70	4	862
51 - 55	3	3	6	7	7	55	76	101	106	84	25	473
56 - 60	1			1		15	34	42	37	26	40	196
61 - 65	1					4	10	14	12	6	31	78
66 - 70	1						2	1	2	3	12	21
71 & Over								1	2		3	6
Totals	553	307	317	218	174	1250	988	830	593	190	115	5535

AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service: 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Salary
0 - 20	29,657	25,588										29,318
21 - 25	30,145	32,047	35,780	35,484	37,122	36,821						31,910
26 - 30	30,449	34,495	40,002	40,153	38,996	45,120	43,485					38,926
31 - 35	31,228	33,232	39,050	39,697	37,576	46,252	50,839	39,905				43,396
36 - 40	31,510	33,489	38,081	38,053	41,338	45,321	51,250	55,762	56,932			47,267
41 - 45	30,152	31,648	36,299	39,001	38,194	44,999	50,431	57,062	64,643	53,715		51,364
46 - 50	31,460	36,401	40,281	43,179	44,345	44,713	47,913	56,374	62,655	68,170	91,298	55,788
51 - 55	63,257	32,858	32,388	28,638	38,268	40,809	46,345	54,854	61,651	68,222	72,068	55,656
56 - 60	47,759			37,201		45,413	43,606	50,647	60,133	63,408	71,452	56,671
61 - 65	52,213					38,240	49,217	45,578	51,421	61,022	71,138	57,999
66 - 70	26,504						65,154	58,073	49,482	62,145	71,515	64,689
71 & Over								33,211	42,930		70,386	55,038
Average	30,831	33,341	38,493	39,022	39,015	45,284	49,907	55,836	62,383	67,144	72,170	47,893

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 - 35												0
36 - 40								24				24
41 - 45						4	50	1				55
46 - 50	1	5	2	4	2	41						55
51 - 55	7	6	8	6	6							33
56 - 60	1											1
61 & Over												0
Totals	9	11	10	10	8	45	50	25	0	0	0	168

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 - 35												0
36 - 40								24,367				24,367
41 - 45						37,256	23,021	41,545				24,393
46 - 50	41,771	47,061	38,397	35,508	44,235	23,285						27,983
51 - 55	21,885	17,910	18,981	21,231	18,358							19,698
56 - 60	16,455											16,455
61 & Over												0
Average	23,491	31,160	22,865	26,942	24,827	24,527	23,021	25,054	0	0	0	24,595

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	19	13	10	3	1	3						49
51 - 55	55	66	39	43	43	58						304
56 - 60	48	67	53	44	68	225	72	6				583
61 - 65	19	30	31	43	49	228	273	69	10	1		753
66 - 70	6	9	8	9	14	86	227	234	65	9	15	682
71 - 75	2	3	1	1	3	24	52	104	162	9	46	407
76 - 80	1			1	1	6	11	19	42	68	70	219
81 - 85						2		11	20	22	64	119
86 - 90							2	1	3	5	55	66
91 & Over							1		1	1	19	22
Totals	150	188	142	144	179	632	638	444	303	115	269	3204

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	44,780	46,274	34,957	43,374	17,412	24,171						41,265
51 - 55	53,084	56,806	47,683	49,874	46,485	37,926						48,920
56 - 60	47,312	46,235	48,720	47,797	42,471	41,014	32,742	11,987				42,195
61 - 65	38,370	47,814	48,127	39,563	39,889	34,545	34,446	26,330	18,874	18,747		35,346
66 - 70	38,704	46,124	36,089	37,092	38,605	35,521	28,299	27,958	29,296	29,897	13,114	29,621
71 - 75	21,941	30,800	33,985	20,788	24,424	28,190	26,059	23,243	27,520	27,104	14,492	24,772
76 - 80	23,517			22,087	23,980	37,145	23,552	24,755	31,603	28,492	16,432	24,826
81 - 85						60,459		23,985	26,299	28,312	18,734	22,963
86 - 90							22,443	567	21,485	28,682	19,250	19,880
91 & Over							6,605		36,608	22,350	14,291	15,323
Average	47,134	49,949	46,521	44,831	41,880	37,107	31,114	26,087	28,071	28,329	16,888	33,774

DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 30												0
31 - 35						2						2
36 - 40	1		3		5	2						11
41 - 45	1	2	1	3	3	6	5	2				23
46 - 50	4	2	1	1	3	9	8	7				35
51 - 55		2	3	2	4	6	12	12	3	2		46
56 - 60		1	2			7	12	13	5	4	1	45
61 - 65						4	8	10	16	9	5	52
66 - 70						2	4	6	12	8	6	38
71 - 75								2	3	3	13	21
76 - 80								1		3	3	7
81 - 85											4	4
86 & Over												0
Totals	6	7	10	6	15	38	49	53	39	29	32	284

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 - 30												0
31 - 35						28,483						28,483
36 - 40	23,278		19,670		16,850	16,733						18,182
41 - 45	17,486	23,451	23,686	17,875	19,017	19,232	13,174	10,824				17,464
46 - 50	16,047	22,790	12,740	37,061	14,847	24,732	13,599	10,848				17,469
51 - 55		27,611	20,732	26,622	28,888	32,598	13,990	11,770	15,526	10,042		18,643
56 - 60		9,620	22,243			22,413	21,643	17,659	14,320	9,513	6,560	18,144
61 - 65						14,255	19,153	16,663	15,341	11,306	11,270	15,008
66 - 70						12,790	14,235	16,033	18,596	14,618	15,200	16,053
71 - 75								7,678	13,952	17,822	15,642	14,954
76 - 80								12,341		9,735	13,828	11,861
81 - 85											11,548	11,548
86 & Over												0
Average	17,492	22,475	20,212	23,989	20,093	22,724	16,580	14,319	16,119	12,397	13,910	16,823

SURVIVING BENEFICIARIES OF FORMER MEMBERS:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Total
0 - 20	9	1	2	5	4	30	10	7	2	1		71
21 - 25	1		1		3	6	6	4	6			27
26 - 30												0
31 - 35				1				1	1			3
36 - 40	2			1	1	6	1				2	13
41 - 45				1	1	4	4	5	1			16
46 - 50				1	1	8	8	3	3	1	2	27
51 - 55		2			1	7	7	14	12	4	2	49
56 - 60		2	1	1	2	11	15	8	11	6	6	63
61 - 65	2		2		1	10	14	22	21	13	18	103
66 - 70	1	1	2		1	6	15	35	33	10	30	134
71 - 75	1	2	1		1	3	6	21	30	25	68	158
76 - 80	1		1				4	6	10	25	90	137
81 - 85	2			1		1	2	3	3	13	93	118
86 - 90				1			1		2	8	74	86
91 & Over									1	1	43	45
Totals	19	8	10	12	16	92	93	129	136	107	428	1050

AVERAGE ANNUAL BENEFITS PAYABLE TO SURVIVORS OF FORMER MEMBERS:

Attained Ages	Completed Years Since Retirement 0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	Average Benefit
0 - 20	8,985	20,507	14,587	7,917	3,556	6,627	5,688	4,528	3,131	2,640		6,770
21 - 25	19,701		19,822		4,138	9,020	11,447	3,025	6,140			8,284
26 - 30												0
31 - 35				17,552				2,043	15,825			11,807
36 - 40	29,664			25,933	13,718	21,944	27,184				3,269	20,336
41 - 45				15,620	31,986	31,985	13,566	8,019	10,429			17,521
46 - 50				10,959	19,204	32,430	14,045	12,244	14,068	3,619	13,771	18,965
51 - 55		42,995			39,369	32,254	30,383	14,046	11,128	15,334	7,463	19,801
56 - 60		15,316	8,318	14,118	25,331	35,154	23,580	19,685	13,981	11,722	7,977	20,216
61 - 65	16,374		13,614		17,006	19,475	22,722	22,075	15,127	13,983	10,070	17,050
66 - 70	6,240	37,886	10,824		14,098	33,548	19,099	17,358	17,760	16,730	9,165	16,444
71 - 75	6,000	11,946	1,069		20,181	33,239	15,442	14,004	19,590	17,892	8,879	13,774
76 - 80	6,000		6,240				17,997	18,340	17,059	18,432	11,566	13,625
81 - 85	7,741			5,040		62,379	14,180	25,006	17,043	22,910	9,580	12,086
86 - 90				5,040			5,136		31,058	24,255	11,172	12,710
91 & Over									30,662	17,818	10,489	11,100
Average	11,914	24,863	11,350	11,154	14,554	21,115	18,156	15,885	16,212	17,802	10,202	14,344

EXHIBIT VIII
YEAR-TO-YEAR COMPARISON

	Fiscal 2015	Fiscal 2014	Fiscal 2013	Fiscal 2012
Number of Active Members	5,535	5,468	5,602	5,779
Number of Retirees & Survivors	4,538	4,444	4,340	4,230
DROP Participants	228	271	314	284
Number of Terminated Due Deferred Benefits	168	159	145	130
Number Terminated Due Refunds	1,320	1,272	1,252	1,176
Active Lives Payroll (excludes DROP participants)	$ 265,089,428	$ 259,594,435	$ 264,711,491	$ 272,606,934
Retiree Benefits in Payment	$ 128,050,009	$ 118,522,277*	$ 110,735,234	$ 104,998,503
Market Value of Assets	$ 1,893,077,295	$ 1,887,019,463	$1,600,532,779	$ 1,406,662,003
Ratio of Actuarial Value of Assets to Actuarial Accrued Liability	69.91%	68.11%	64.15%	59.75%
Actuarial Accrued Liability	$ 2,676,472,766	$ 2,512,627,665	$ 2,399,375,820	$ 2,313,751,839
Actuarial Value of Assets	$ 1,871,160,542	$ 1,711,268,285	$ 1,539,218,085	$ 1,382,503,860
UAL (Funding Excess)	$ 805,312,224	$ 801,359,380	$ 860,157,735	$ 931,247,979

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	Fiscal 2016	Fiscal 2015	Fiscal 2014	Fiscal 2013
Employee Contribution Rate (for employees with earnings above the poverty level)	10.00%	10.00%	10.00%	10.00%
Required Tax Contributions as a Percentage of Projected Payroll	6.93%	6.77%	6.19%	5.75%
Actuarially Required Employer Contribution as a Percentage of Projected Payroll (for employees with earnings above the poverty level)	31.63%	29.80%	31.53%	31.03%
Actual Employer Contribution Rate (for employees with earnings above the poverty level)	29.50%	31.50%	31.00%	31.00%

* COLA not included

Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008	Fiscal 2007	Fiscal 2006
5,933	6,197	6,071	5,908	5,840	5,769
4,165	4,028	3,984	3,896	3,834	3,739
231	194	185	213	217	227
128	112	112	114	108	99
1,251	1,198	1,197	1,095	993	926
$ 273,348,634	$ 280,977,278	$ 270,236,561	$ 252,562,020	$ 229,145,048	$ 223,213,661
$ 99,863,547	$ 93,382,980	$ 90,285,300	$ 85,848,060	$ 81,976,596	$ 77,538,204
$ 1,440,795,586	$1,175,083,706	$ 1,084,169,309	$ 1,476,652,461	$ 1,627,120,612	$ 1,420,792,356
58.05%	59.87%	65.23%	86.95%	89.05%	83.10%
$ 2,215,674,343	$2,083,809,321	$ 1,988,394,358	$1,841,234,995	$ 1,719,536,371	$1,651,055,550
$1,286,287,651	$1,247,546,395	$1,297,128,398	$ 1,600,941,810	$ 1,531,297,284	$ 1,371,981,645
$ 929,386,692	$ 836,262,926	$ 691,265,960	$ 240,293,185	$ 188,239,087	$ 279,073,905

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Fiscal 2012	Fiscal 2011	Fiscal 2010	Fiscal 2009	Fiscal 2008	Fiscal 2007
10.00%	7.50%	7.50%	7.50%	7.50%	7.50%
5.65%	5.36%	5.52%	5.85%	5.59%	5.66%
30.52%	27.84%	24.13%	10.98%	10.45%	13.70%
26.50%	25.00%	11.00%	9.50%	13.75%	15.50%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

The Municipal Police Employees' Retirement System was established as of July 1, 1973, for the purpose of providing retirement allowances and other benefits as described under R.S. 11:2211 - 11:2235. The following summary of plan provisions is for general informational purposes only and does not constitute a guarantee of benefits. The provisions contained within this section are as of June 30, 2013.

MEMBERSHIP - All full-time police officers empowered to make arrests, all full-time police officers decommissioned due to illness or injury, empowered by a municipality of the state of Louisiana, and engaged in law enforcement, all individuals in a position as defined in the municipal fire and police civil service system who are employed on a full-time basis by a police department of any municipality of this state, and are under the direction of a chief of police, and are paid from the budget of the applicable police department are required to become members of this retirement system, if they earn at least $375 per month excluding state supplemental pay. All elected chiefs of police, whose salary is at least $100 per month, all academy recruits who are participating in or awaiting participation in a formal training program, required prior to commission as a municipal police officer, with complete law enforcement office authority, all full-time secretaries to an appointed chief or elected chief of police, and all full-time employees of the system are required to become members of this retirement system. Persons must be under the age of fifty on their date of employment to be eligible for system membership. Certain restrictions to membership apply to those who are receiving disability or regular retirement benefits from another system.

For employees whose first employment making them eligible for membership in the system occurred on or after January 1, 2013, membership will be in the Hazardous Duty Subplan if they are eligible to receive state supplemental pay by virtue of their employment or the Nonhazardous Duty Subplan if they are not eligible for state supplemental pay.

CONTRIBUTION RATES - The fund is financed by employee and employer contributions together with funds from dedicated insurance premium taxes as allocated by the Public Retirement Systems' Actuarial Committee in accordance with R.S. 11:62, R.S 11:103, and R.S. 22:1476A(3). For employees hired prior to January 1, 2013, the employee contribution rate is at least 7.5% but not greater than 10% based on the total contribution expressed as a percentage of payroll after applying all required tax contributions. The employee rate, when such contributions total 25% or less, is set at 7.5%. The employee rate then increases 0.25% for each 0.75% increase in the total rate, and an additional 0.25% when the rate exceeds 28.75%, subject to a maximum rate of 10%. Regardless of the total contribution rate, members whose earnable compensation is less than or equal to the poverty guidelines issued by the U.S. Department of Health and Human Services have an employee contribution rate of 7.5%. Net direct employer contributions are nine percent (9.0%) of earnable compensation unless the funds allocated from dedicated taxes are insufficient to provide the actuarially required contributions or the actuarially required contributions are less than 9.0%. Members are not required to contribute to the system once they have enough service to have accrued 100% of final average compensation, but the employer is required to continue to contribute the employer's contribution until the member retires or enters DROP.

For employees hired on or after January 1, 2013 who are members of the Hazardous Duty Subplan, the employee contribution rate is the same as that for employees hired before January 1, 2013. For employees hired on or after January 1, 2013 who are members of the Nonhazardous Duty Subplan, the employee contribution rate is 8%.

CONTRIBUTION REFUNDS - Upon withdrawal from service, members not entitled to a retirement allowance may receive a refund of accumulated contributions. Refunds are payable thirty days after the effective date of withdrawal from service, if the member's employer has submitted all contributions.

AVERAGE FINAL COMPENSATION –

For employees hired prior to January 1, 2013: The average annual earned compensation of an employee for the highest period of thirty-six successive or joined months of service as an employee.

For employees hired on or after January 1, 2013: The average annual earned compensation of an employee for the highest period of sixty successive or joined months of service as an employee.

The twelve month salaries used to compute the average final compensation are subject to a limit in the rate of increase of 15% per year with certain exceptions.

NORMAL RETIREMENT BENEFITS –

For employees hired prior to January 1, 2013: Members with twelve years of creditable service may retire at age fifty-five; members with twenty years of service may retire at age fifty; members with twenty-five years of service may retire regardless of age. The retirement allowance is equal to three and one-third percent of the member's average final compensation multiplied by his years of creditable service, not to exceed one hundred percent of his average final compensation.

For employees hired on or after January 1, 2013 who participate in the Hazardous Duty Subplan: Members with twelve years of creditable service may retire at age fifty-five; members with twenty-five years of service may retire at any age. The retirement allowance is equal to three percent of the member's average final compensation multiplied by his years of creditable service, not to exceed one hundred percent of his average final compensation. Members in this subplan who retire with thirty or more years of creditable service receive benefits according to a three and one-third percent retirement allowance.

For employees hired on or after January 1, 2013 who participate in the Nonhazardous Duty Subplan: Members with ten years of creditable service may retire at age sixty; members with twenty-five years of creditable service may retire at age fifty-five; members with thirty years of service may retire at any age. The retirement allowance is equal to two and one-half percent of the member's average final compensation multiplied by his years of creditable service, not to exceed one hundred percent of his average final compensation.

EARLY RETIREMENT –

For employees hired prior to January 1, 2013: Members with twenty or more years of creditable service who leave employment before age fifty may elect to receive early retirement benefits equal to an actuarially reduced accrued normal retirement benefit.

For employees hired on or after January 1, 2013: Members with twenty or more years of creditable service may elect to receive early retirement benefits equal to an actuarially reduced accrued normal retirement benefit.

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

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

Option 2 - Upon retirement, the member receives a reduced benefit. Upon the member's death, the 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.

Initial Benefit Option – This option is available only to regular retirees who have not participated in the Deferred Retirement Option Plan. Under this option members may receive an initial benefit plus a reduced monthly retirement allowance which, when combined, equal the actuarially equivalent amount of the maximum retirement allowance. The initial benefit may not exceed an amount equal to thirty-six payments of the member's maximum retirement allowance. The initial benefit can be paid either as a lump-sum payment or placed in an account called an "initial benefit account" with interest credited thereto and monthly payments made from the account.

DISABILITY BENEFITS - Any member who has been officially certified as totally disabled solely as the result of injuries sustained in the performance of his official duties, or for any cause, provided the member has a least ten years of creditable service and provided that the disability was incurred while the member was an active contributing member, is entitled to disability benefits.

For employees hired prior to January 1, 2013: Disability retirees will receive a benefit equal to three percent of final average compensation multiplied by the number of years of service, subject to a minimum of 40% of final compensation and a maximum of 60% of final compensation. Any disability retiree who is in a coma or paraplegic, or who is blinded or loses the total use of a limb, solely as a result of injuries sustained in the line of duty will receive a benefit equal to 100% of final average compensation. Disability retirees who retired with a service-connected disability benefit have the option, at normal retirement age, to continue receiving a disability benefit or to convert to receiving their vested retirement benefit. All other disability retirees, at normal retirement age, will receive the greater of their disability retirement benefit or their vested benefit.

For employees hired on or after January 1, 2013 who participate in the Hazardous Duty Subplan: Disability retirees who are disabled in the line of duty or who have 10 years of service credit will receive a benefit equal to two and three-quarters percent of final average compensation multiplied by the number of years of service, subject to a minimum of 33% of final compensation and a maximum of 55% of final compensation. Any disability retiree who is in a coma or paraplegic, or who is blinded or loses the total use of a limb, solely as a result of injuries sustained in the line of duty will receive a benefit equal to 100% of final average compensation. Disability retirees who retired with a service-connected disability benefit have the option, at normal retirement age, to continue receiving a disability benefit or to convert to receiving their vested retirement benefit. All other disability retirees, at normal retirement age, will receive the greater of their disability retirement benefit or their vested benefit.

For employees hired on or after January 1, 2013 who participate in the Nonhazardous Duty Subplan: Disability retirees who have at least 10 years of service credit will receive a benefit equal to two and one-quarter percent of final average compensation multiplied by the number of years of service, subject to a minimum of 25% of final compensation and a maximum of 50% of final compensation. Any disability retiree who is in a coma or paraplegic, or who is blinded or loses the total use of a limb, solely as a result of injuries sustained in the line of duty will receive a benefit equal to 100% of final average compensation. At normal retirement age, disability retirees will receive the greater of their disability retirement benefit or their vested benefit.

SURVIVOR BENEFITS – Benefits are payable to survivors of any active contributing member who dies before retirement, or disability retirees who die after retirement as follows.

For employees hired prior to January 1, 2013: If he leaves a surviving spouse, she will receive an annual benefit equal to 3 1/3% of the deceased member's average final compensation multiplied by his total years of creditable service; however, in no event is the annual benefit less than 40% nor more than 60% of the deceased member's average final compensation. If the surviving spouse remarries, the benefits shall cease unless the remarriage occurs after age fifty-five. If the member dies as a result of injuries sustained in the line of duty, the surviving spouse receives a benefit equal to 100% of final average compensation, which shall not cease due to remarriage, less any benefits payable to surviving children. Unmarried children of the deceased member who are under the age of eighteen years are entitled to the greater of $200 per month or 10% of average final compensation (not to exceed 100% of average final compensation when combined with the surviving spouse's benefit) until reaching the age of eighteen, or until the age of twenty-three, assuming they remain unmarried, if enrolled full-time in an institution of higher learning, high school, or vocational-technical school, unless the surviving child is physically handicapped or mentally retarded in which case the benefit is payable regardless of age. If a deceased member dies leaving no surviving spouse, but at least one minor child, each child is entitled to receive forty percent of the deceased's average final compensation, not to exceed an aggregate of sixty percent of average final compensation, subject to the same age restrictions as in the case of a surviving spouse with minor children. If a member dies after he is eligible for retirement but before actual retirement, his surviving spouse will be paid the greater of the surviving spouse benefits detailed above, or an automatic option 2 benefit. Members who have terminated employment with at least twelve years of service credit are eligible for the benefits detailed in this paragraph.

For employees hired on or after January 1, 2013 who participate in the Hazardous Duty Subplan: The surviving spouse of a deceased active contributing member or disability retiree with at least ten years of creditable service not killed in the line of duty will receive an annual benefit equal to the benefit calculated using the regular retirement formula; however, in no event is the annual benefit less than 33% nor more than 55% of the deceased member's average final compensation. If the surviving spouse remarries, the benefits shall cease unless the remarriage occurs after age sixty. If the member dies as a result of injuries sustained in the line of duty, the surviving spouse receives a benefit equal to 100% of final average compensation, which shall not cease due to remarriage, less any benefits payable to surviving children. Unmarried children of the deceased member who are under the age of eighteen years are entitled to the greater of $200 per month or 10% of average final compensation (not to exceed 100% of average final compensation when combined with the surviving spouse's benefit) until reaching the age of eighteen, or until the age of twenty-three, assuming they remain unmarried, if enrolled full-time in an institution of higher learning, high school, or vocational-technical school, unless the surviving child is physically handicapped or mentally retarded in which case the benefit is payable regardless of age. If a deceased member dies leaving no surviving spouse, but at least one minor child, each child is entitled to receive twenty-five percent of the deceased's average final compensation, not to exceed an aggregate of fifty percent of average final compensation, subject to the same age restrictions as in the case of a surviving spouse with minor children. If a member dies after he is eligible for retirement but before actual retirement, his surviving spouse will be paid the greater of the surviving spouse benefits detailed above, or an automatic option 2 benefit. Members who have terminated employment with at least twelve years of service credit are eligible for the benefits detailed in this paragraph.

For employees hired on or after January 1, 2013 who participate in the Nonhazardous Duty Subplan: The surviving spouse of a deceased active contributing member or disability retiree with at least ten years of creditable service not killed in the line of duty will receive an annual benefit equal to the benefit calculated using the regular retirement formula; however, in no event is the annual benefit less than 25% nor more than 50% of the deceased member's average final compensation. If the surviving spouse remarries, the benefits shall cease unless the remarriage occurs after age sixty. If the member dies as a result of injuries sustained in the line of duty, the surviving spouse receives a benefit equal to 100% of final average compensation, which shall not cease due to remarriage, less any benefits payable to surviving children. Unmarried children of the deceased member who are under the age of eighteen years are entitled to the greater of $200 per month or 10% of average final compensation (not to exceed 100% of average final compensation when combined with the surviving spouse's benefit) until reaching the age of eighteen, or until the age of twenty-three, assuming they remain unmarried, if enrolled full-time in an institution of higher learning, high school, or vocational-technical school, unless the surviving child is physically handicapped or mentally retarded in which case the benefit is payable regardless of age. If a deceased member dies leaving no surviving spouse, but at least one minor child, each child is entitled to receive twenty percent (twenty-five percent in the case of one minor child) of the deceased's average final compensation, not to exceed an aggregate of fifty percent of average final compensation, subject to the same age restrictions as in the case of a surviving spouse with minor children. If a member dies after he is eligible for retirement but before actual retirement, his surviving spouse will be paid the greater of the surviving spouse benefits detailed above, or an automatic option 2 benefit. Members who have terminated employment with at least twelve years of service credit are eligible for the benefits detailed in this paragraph.

DEFERRED RETIREMENT OPTION PLAN - In lieu of terminating employment and accepting a service retirement allowance, any member of the system who is eligible to receive a regular retirement allowance may elect to participate in the Deferred Retirement Option Plan for up to thirty-six months and defer the receipt of benefits. Upon commencement of participation in the plan, membership in the system terminates and neither the employee nor employer contributions are payable. Compensation and creditable service will remain as they existed on the effective date of commencement of participation in the plan. The monthly retirement benefits that would have been payable, had the member elected to cease employment and receive a service retirement allowance, are paid into the deferred retirement option plan account. Upon termination of employment at the end of the specified period of participation, a participant in the program may receive, at his option, a lump sum payment from the account equal to the payments to the account, or a true annuity based upon his account, or he may elect any other method of payment if approved by the board of trustees. The monthly benefits that were being paid into the fund during the period of participation will begin to be paid to the retiree. If employment is not terminated at the end of the thirty-six months, payments into the account cease and the member resumes active contributing membership in the system. Such members may accumulate an additional benefit for service rendered after completion of the Deferred Retirement Option Plan. If the participant dies during the period of participation in the program, a lump sum payment equal to his account balance is paid to his named beneficiary or, if none, to his estate; in addition, normal survivor benefits are payable to survivors of retirees.

COST OF LIVING INCREASES – Pursuant to R.S. 11:2225, the board of trustees is authorized to use interest earnings in excess of the normal requirements to grant annual cost of living increases of 3% of each retiree's original or current benefit. R.S. 11:246 provides cost of living increases to retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. In lieu of these cost of living adjustments, the board may grant an increase under R.S. 11:241 in the form 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.

All of the above provisions require that the system earn sufficient excess interest earnings to fund the increases and to meet certain other criteria detailed in the statutes related to funding status.

R. S. 11:2225(A)(7)(c) and (d) provide that the board of trustees is authorized to provide a one-time cost of living adjustment of 3% of each retiree's normal monthly benefit (not to be less than \$20 per month) from excess interest earnings without regard to the provisions of R.S. 11:242 (which describes the target ratio).

ACTUARIAL ASSUMPTIONS

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

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

ACTUARIAL COST METHOD: Individual Entry Age Normal With Allocation of Cost Based on Earnings. Entry and Attained Ages Calculated on an Age Near Birthday Basis.

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

ACTUARIAL ASSET VALUES: All 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.

ACTIVE MEMBER MORTALITY: RP 2000 Sex Distinct Employee Tables set back 4 years for males and set back 3 years for females.

ANNUITANT AND BENEFICIARY MORTALITY: RP-2000 Combined Healthy with Blue Collar Adjustment Sex Distinct Tables Projected to 2029 for males and set back 1 year and Projected to 2029 for females. (Projections based on Scale AA as published by the Society of Actuaries)

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.

ANNUAL SALARY INCREASE RATE: The gross rates including inflation and merit increases are as follows:

Years of Service	Salary Growth Rate
1-2	9.75%
3-23	4.75%
Above 23	4.25%

RETIREMENT RATES: The table of these rates through age 75 is included later in the report. These rates apply only to those individuals eligible to retire.

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

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

DROP PARTICIPATION PERIOD: All DROP participants are assumed to participate for 3 years and retire at the end of this participation period.

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

Ages	Retirement Rates
74 & Under	0.24
75 & Over	1.00

DISABILITY RATES: 55% of the disability rates used for the 21st valuation of the Railroad Retirement System for individuals with 10-19 years of service. The table of these rates is included later in the report.

WITHDRAWAL RATES: The rates of withdrawal are applied based upon the attained age with a multiplier applied based upon the member's completed years of service. A table of the age based rates is included later in the report. Those rates are multiplied by the following factors based on the member's completed years of service.

Service	Factor
<1	4.5
1	3.3
2-3	2.6
4	2.5
5-6	2.0
7-9	1.6
10-13	1.4
14-16	1.2
>16	1.0

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

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

SERVICE RELATED DEATH: 20% of Total Deaths

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	2%	1.45	15

SERVICE RELATED DISABILITY: 20% of Total Disabilities

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: 55% of vested participants with less than 21 years of service and 90% of vested participants with more than 20 years of service elect deferred benefits in lieu of contribution refunds.

ACTUARIAL TABLES AND RATES

Age	Disability Rates	Retirement Rates	DROP Entry Rates	Withdrawal Rates	Remarriage Rates
18	0.00083	0.00000	0.00000	0.04750	0.06124
19	0.00083	0.00000	0.00000	0.04750	0.06124
20	0.00083	0.00000	0.00000	0.04750	0.06124
21	0.00083	0.00000	0.00000	0.04750	0.05818
22	0.00083	0.00000	0.00000	0.04750	0.05524
23	0.00083	0.00000	0.00000	0.04750	0.05242
24	0.00083	0.00000	0.00000	0.04500	0.04971
25	0.00083	0.00000	0.00000	0.04500	0.04566
26	0.00083	0.00000	0.00000	0.04500	0.04335
27	0.00083	0.00000	0.00000	0.04000	0.04114
28	0.00083	0.00000	0.00000	0.04000	0.03902
29	0.00083	0.00000	0.00000	0.04000	0.03698
30	0.00083	0.00000	0.00000	0.04000	0.03502
31	0.00083	0.00000	0.00000	0.03500	0.03314
32	0.00083	0.00000	0.00000	0.03500	0.03134
33	0.00083	0.00000	0.00000	0.03500	0.02961
34	0.00083	0.00000	0.00000	0.03500	0.02795
35	0.00094	0.00000	0.00000	0.03500	0.02636
36	0.00105	0.00000	0.00000	0.03000	0.02483
37	0.00116	0.00000	0.00000	0.03000	0.02336
38	0.00132	0.00000	0.00000	0.03000	0.02195
39	0.00149	0.00000	0.00000	0.02300	0.02060
40	0.00171	0.00000	0.00000	0.02300	0.01930
41	0.00193	0.08000	0.23000	0.02300	0.01805
42	0.00215	0.08000	0.23000	0.02300	0.01686
43	0.00242	0.08000	0.23000	0.02300	0.01571
44	0.00275	0.08000	0.23000	0.02300	0.01461
45	0.00314	0.08000	0.23000	0.02300	0.01355
46	0.00358	0.08000	0.23000	0.02300	0.01253
47	0.00402	0.08000	0.23000	0.02500	0.01156
48	0.00457	0.08000	0.23000	0.02500	0.01063
49	0.00517	0.08000	0.23000	0.02500	0.00973
50	0.00589	0.08000	0.15000	0.03000	0.00887
51	0.00671	0.08000	0.23000	0.03000	0.00804
52	0.00759	0.08000	0.23000	0.03000	0.00725
53	0.00864	0.08000	0.23000	0.03000	0.00649
54	0.00979	0.08000	0.23000	0.03000	0.00576
55	0.01111	0.08000	0.20000	0.03000	0.00000
56	0.01265	0.05000	0.20000	0.03000	0.00000
57	0.01436	0.05000	0.20000	0.03000	0.00000
58	0.01628	0.05000	0.20000	0.03000	0.00000
59	0.01854	0.05000	0.20000	0.03000	0.00000
60	0.02684	0.12000	0.20000	0.03000	0.00000
61	0.02684	0.12000	0.20000	0.03000	0.00000
62	0.02684	0.12000	0.20000	0.03000	0.00000
63	0.02684	0.12000	0.20000	0.03000	0.00000
64	0.02684	0.12000	0.20000	0.03000	0.00000
65	0.02684	0.12000	0.20000	0.03000	0.00000
66	0.02684	0.12000	0.20000	0.03000	0.00000
67	0.02684	0.12000	0.20000	0.03000	0.00000
68	0.02684	0.12000	0.20000	0.03000	0.00000
69	0.02684	0.12000	0.20000	0.03000	0.00000
70	0.02684	0.12000	0.20000	0.03000	0.00000
71	0.02684	0.12000	0.20000	0.03000	0.00000
72	0.02684	0.12000	0.20000	0.03000	0.00000
73	0.02684	0.12000	0.20000	0.03000	0.00000
74	0.02684	0.12000	0.20000	0.03000	0.00000
75	0.02684	1.00000	0.00000	0.03000	0.00000

ACTUARIAL TABLES AND RATES (Continued)

Age	Male Employee Mortality Rates	Female Employee Mortality Rates	Male Retired Mortality Rates	Female Retired Mortality Rates	Male Disabled Mortality Rates	Female Disabled Mortality Rates
18	0.00025	0.00017	0.00018	0.00012	0.02257	0.00745
19	0.00027	0.00018	0.00019	0.00012	0.02257	0.00745
20	0.00028	0.00018	0.00020	0.00012	0.02257	0.00745
21	0.00030	0.00019	0.00021	0.00012	0.02257	0.00745
22	0.00032	0.00019	0.00022	0.00012	0.02257	0.00745
23	0.00033	0.00019	0.00024	0.00012	0.02257	0.00745
24	0.00035	0.00019	0.00026	0.00013	0.02257	0.00745
25	0.00036	0.00019	0.00028	0.00013	0.02257	0.00745
26	0.00037	0.00020	0.00032	0.00015	0.02257	0.00745
27	0.00037	0.00020	0.00033	0.00015	0.02257	0.00745
28	0.00038	0.00021	0.00034	0.00016	0.02257	0.00745
29	0.00038	0.00021	0.00036	0.00017	0.02257	0.00745
30	0.00038	0.00022	0.00038	0.00019	0.02257	0.00745
31	0.00038	0.00024	0.00043	0.00021	0.02257	0.00745
32	0.00039	0.00025	0.00049	0.00024	0.02257	0.00745
33	0.00041	0.00026	0.00055	0.00027	0.02257	0.00745
34	0.00044	0.00031	0.00061	0.00029	0.02257	0.00745
35	0.00050	0.00035	0.00067	0.00032	0.02257	0.00745
36	0.00056	0.00039	0.00073	0.00033	0.02257	0.00745
37	0.00063	0.00044	0.00078	0.00035	0.02257	0.00745
38	0.00070	0.00047	0.00081	0.00037	0.02257	0.00745
39	0.00077	0.00051	0.00083	0.00039	0.02257	0.00745
40	0.00084	0.00055	0.00085	0.00042	0.02257	0.00745
41	0.00090	0.00060	0.00088	0.00046	0.02257	0.00745
42	0.00096	0.00065	0.00091	0.00050	0.02257	0.00745
43	0.00102	0.00071	0.00094	0.00055	0.02257	0.00745
44	0.00108	0.00077	0.00098	0.00060	0.02257	0.00745
45	0.00114	0.00085	0.00103	0.00064	0.02257	0.00745
46	0.00122	0.00094	0.00107	0.00068	0.02257	0.00745
47	0.00130	0.00103	0.00112	0.00072	0.02257	0.00745
48	0.00140	0.00112	0.00117	0.00078	0.02257	0.00745
49	0.00151	0.00122	0.00121	0.00085	0.02257	0.00818
50	0.00162	0.00133	0.00316	0.00094	0.02257	0.00896
51	0.00173	0.00143	0.00317	0.00147	0.02385	0.00978
52	0.00186	0.00155	0.00314	0.00163	0.02512	0.01063
53	0.00200	0.00168	0.00318	0.00187	0.02640	0.01154
54	0.00214	0.00181	0.00323	0.00216	0.02769	0.01248
55	0.00229	0.00197	0.00339	0.00253	0.02897	0.01346
56	0.00245	0.00213	0.00362	0.00297	0.03027	0.01446
57	0.00262	0.00232	0.00392	0.00339	0.03156	0.01550
58	0.00281	0.00253	0.00432	0.00379	0.03286	0.01654
59	0.00303	0.00276	0.00469	0.00426	0.03415	0.01760
60	0.00331	0.00301	0.00513	0.00478	0.03544	0.01865
61	0.00363	0.00329	0.00581	0.00536	0.03673	0.01971
62	0.00400	0.00360	0.00640	0.00598	0.03803	0.02077
63	0.00441	0.00393	0.00728	0.00665	0.03933	0.02184
64	0.00488	0.00429	0.00805	0.00736	0.04067	0.02294
65	0.00538	0.00466	0.00892	0.00812	0.04204	0.02408
66	0.00592	0.00504	0.01017	0.00896	0.04347	0.02529
67	0.00647	0.00543	0.01126	0.00987	0.04498	0.02660
68	0.00703	0.00582	0.01209	0.01084	0.04658	0.02803
69	0.00757	0.00621	0.01336	0.01191	0.04831	0.02959
70	0.00810	0.00658	0.01433	0.01310	0.05017	0.03132
71	0.00860	0.00695	0.01585	0.01406	0.05221	0.03323
72	0.00907	0.00729	0.01760	0.01560	0.05445	0.03533
73	0.00951	0.00761	0.01960	0.01686	0.05691	0.03764
74	0.00992	0.01858	0.02187	0.01874	0.05961	0.04014
75	0.02457	0.02067	0.02514	0.02017	0.06258	0.04285

PRIOR YEAR ASSUMPTIONS

ACTIVE MEMBER MORTALITY: RP 2000 Sex Distinct Employee Tables set back 1 year for males and set back 1 year for females.

ANNUITANT AND BENEFICIARY MORTALITY: RP 2000 Sex Distinct Healthy Annuitant Tables set back 1 year for males and set back 1 year for females.

ANNUAL SALARY INCREASE RATE: The gross rates including inflation and merit increases are as follows:

Years of Service	Salary Growth Rate
1	10%
2	6%
3-19	4.3%
20-29	5.5%
Above 30	4%

DROP ENTRY RATES: These rates apply only to those individuals eligible to participate.

Age	Rate
54 & Under	22%
55	40%
56 – 66	22%
67 & Over	40%

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

Age	Rate
49 & Under	25%
50-53	27%
54	30%
55	45%
56-59	25%
60-66	30%
67 & Above	99%

WITHDRAWAL RATES: The rates of withdrawal are applied based upon the attained age and are given later in the report. Those rates are multiplied by the following factors based on the member's completed years of service.

Service	Factor
<1	1.25
1	1.20
2	1.15
3	1.10
>3	1.00

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

MARRIAGE STATISTICS: 80% 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 are listed below.

Member's Age	% With Children	Number of Children	Average Age
25	62%	1.66	6
35	82%	2.06	10
45	66%	1.75	13
55	19%	1.35	15
65	2%	1.35	15

DISABLED LIVES MORTALITY: RP-2000 Disabled Lives Mortality Tables for Males and Females

VESTING ELECTING PERCENTAGE: 20% of those vested elect deferred benefits in lieu of contribution refunds.

PRIOR YEAR ACTUARIAL TABLES AND RATES

Age	Male Employee Mortality	Female Employee Mortality	Male Retiree Mortality	Female Retiree Mortality	Retirement Rates	Disability Rates	Remarriage Rates	Withdrawal Rates
18	0.00030	0.00018	0.00030	0.00018	0.00000	0.00060	0.02476	0.08500
19	0.00032	0.00019	0.00032	0.00019	0.00000	0.00060	0.02476	0.08500
20	0.00033	0.00019	0.00033	0.00019	0.00000	0.00060	0.02476	0.08500
21	0.00035	0.00019	0.00035	0.00019	0.00000	0.00060	0.05657	0.08500
22	0.00036	0.00019	0.00036	0.00019	0.00000	0.00060	0.06698	0.08500
23	0.00037	0.00019	0.00037	0.00019	0.00000	0.00060	0.07211	0.08500
24	0.00037	0.00020	0.00037	0.00020	0.00000	0.00060	0.06124	0.08000
25	0.00038	0.00020	0.00038	0.00020	0.00000	0.00060	0.04566	0.08000
26	0.00038	0.00021	0.00038	0.00021	0.00000	0.00060	0.04335	0.08000
27	0.00038	0.00021	0.00038	0.00021	0.00000	0.00060	0.04114	0.07000
28	0.00038	0.00022	0.00038	0.00022	0.00000	0.00060	0.03902	0.07000
29	0.00039	0.00024	0.00039	0.00024	0.00000	0.00060	0.03698	0.07000
30	0.00041	0.00025	0.00041	0.00025	0.00000	0.00060	0.03502	0.07000
31	0.00044	0.00026	0.00044	0.00026	0.00000	0.00060	0.03314	0.06000
32	0.00050	0.00031	0.00050	0.00031	0.00000	0.00060	0.03134	0.06000
33	0.00056	0.00035	0.00056	0.00035	0.00000	0.00060	0.02961	0.06000
34	0.00063	0.00039	0.00063	0.00039	0.00000	0.00060	0.02795	0.06000
35	0.00070	0.00044	0.00070	0.00044	0.00000	0.00068	0.02636	0.06000
36	0.00077	0.00047	0.00077	0.00047	0.00000	0.00076	0.03483	0.05000
37	0.00084	0.00051	0.00084	0.00051	0.00000	0.00084	0.02336	0.05000
38	0.00090	0.00055	0.00090	0.00055	0.00000	0.00096	0.02195	0.05000
39	0.00096	0.00060	0.00096	0.00060	0.00000	0.00108	0.02060	0.03600
40	0.00102	0.00065	0.00102	0.00065	0.00000	0.00124	0.01930	0.03600
41	0.00108	0.00071	0.00108	0.00071	0.08000	0.00140	0.01805	0.03600
42	0.00114	0.00077	0.00114	0.00077	0.08000	0.00156	0.01686	0.03600
43	0.00122	0.00085	0.00122	0.00085	0.08000	0.00176	0.01571	0.03600
44	0.00130	0.00094	0.00130	0.00094	0.08000	0.00200	0.01461	0.03600
45	0.00140	0.00103	0.00140	0.00103	0.08000	0.00228	0.01355	0.03600
46	0.00151	0.00112	0.00151	0.00112	0.08000	0.00260	0.01253	0.03600
47	0.00162	0.00122	0.00162	0.00122	0.08000	0.00292	0.01156	0.04000
48	0.00173	0.00133	0.00173	0.00133	0.08000	0.00332	0.01063	0.04000
49	0.00186	0.00143	0.00186	0.00143	0.08000	0.00376	0.00973	0.04000
50	0.00200	0.00155	0.00200	0.00155	0.08000	0.00428	0.00887	0.05000
51	0.00214	0.00168	0.00535	0.00234	0.08000	0.00488	0.00804	0.05000
52	0.00229	0.00181	0.00553	0.00246	0.08000	0.00552	0.00725	0.05000
53	0.00245	0.00197	0.00564	0.00265	0.08000	0.00628	0.00649	0.05000
54	0.00262	0.00213	0.00572	0.00290	0.08000	0.00712	0.00576	0.05000
55	0.00281	0.00232	0.00580	0.00319	0.15000	0.00808	0.00506	0.05000
56	0.00303	0.00253	0.00590	0.00353	0.08000	0.00920	0.00438	0.05000
57	0.00331	0.00276	0.00612	0.00393	0.08000	0.01044	0.00374	0.05000
58	0.00363	0.00301	0.00644	0.00438	0.08000	0.01184	0.00312	0.05000
59	0.00400	0.00329	0.00690	0.00492	0.08000	0.01348	0.00252	0.05000
60	0.00441	0.00360	0.00749	0.00553	0.08000	0.01952	0.00000	0.05000
61	0.00488	0.00393	0.00820	0.00620	0.08000	0.01952	0.00000	0.05000
62	0.00538	0.00429	0.00900	0.00692	0.08000	0.01952	0.00000	0.05000
63	0.00592	0.00466	0.00991	0.00769	0.08000	0.01952	0.00000	0.05000
64	0.00647	0.00504	0.01095	0.00851	0.08000	0.01952	0.00000	0.00000
65	0.00703	0.00543	0.01212	0.00939	0.08000	0.01952	0.00000	0.05000
66	0.00757	0.00582	0.01342	0.01036	0.08000	0.01952	0.00000	0.05000
67	0.00810	0.00621	0.01487	0.01141	0.15000	0.01952	0.00000	0.00000
68	0.00860	0.00658	0.01646	0.01254	0.15000	0.01952	0.00000	0.00000
69	0.00907	0.00695	0.01820	0.01377	0.15000	0.01952	0.00000	0.00000
70	0.00951	0.00729	0.02011	0.01515	0.15000	0.01952	0.00000	0.00000
71	0.00992	0.00761	0.02221	0.01674	0.15000	0.01952	0.00000	0.00000
72	0.02457	0.01858	0.02457	0.01858	0.15000	0.01952	0.00000	0.00000
73	0.02728	0.02067	0.02728	0.02066	0.15000	0.01952	0.00000	0.00000
74	0.03039	0.02297	0.03039	0.02297	0.15000	0.01952	0.00000	0.00000
75	0.03390	0.02546	0.03390	0.02546	0.15000	0.01952	0.00000	0.00000

GLOSSARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

NOTES