

**FIREFIGHTERS'
RETIREMENT SYSTEM**

ACTUARIAL VALUATION AS OF
JUNE 30, 2013

G. S. CURRAN & COMPANY, LTD.

Actuarial Services

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October 31, 2013

Board of Trustees
Firefighters' Retirement System
3100 Brentwood Drive
Baton Rouge, LA 70809

Gentlemen:

We are pleased to present our report on the actuarial valuation of the Firefighters' Retirement System for the fiscal year ending June 30, 2013. Our report is based on the actuarial assumptions specified and relies on the data supplied by the system's administrators and accountants. This report was prepared at the request of the Board of Trustees of the Firefighters' 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, 2014, to recommend the net direct employer contribution rate for fiscal 2015, and to provide information for the system's financial statements. This report was prepared exclusively for the Firefighters' Retirement System for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

Please note that significant changes in the accounting standards affecting retirement systems have been approved by the Governmental Accounting Standards Board. These changes, which are included in GASB Statement 67 will not be effective until the June 30, 2014 valuation. This report was prepared in accordance with the currently effective GASB Statement 25. GASB 67 will require the reporting of an alternative calculation of liabilities based upon a funding method and interest rate that may differ with those used for funding purposes. It is important to note that the liability numbers within this report are not necessarily a reasonable approximation of the liability numbers that will be reported under GASB 67.

This report has been prepared in accordance with generally accepted actuarial principles and practices, and to the best of our knowledge and belief, fairly reflects the actuarial present values and costs stated herein. The undersigned actuaries are members of the American Academy of Actuaries and have met the qualification standards for the American Academy of Actuaries to render the actuarial opinions incorporated in this report, and are available to provide further information or answer any questions with respect to this valuation.

Sincerely,

G. S. CURRAN & COMPANY, LTD.

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


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

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SUMMARY OF VALUATION RESULTS FIREFIGHTERS' RETIREMENT SYSTEM

Valuation Date:	June 30, 2013	June 30, 2012
Census Summary: Active Contributing Members	4,063	4,056
Retired Members and Beneficiaries	1,958	1,875
DROP Participants	221	217
Terminated Due a Deferred Benefit	71	70
Terminated Due a Refund	450	398
Payroll (excludes DROP Participants):	\$ 199,129,982	\$ 198,112,999
Benefits in Payment:	\$ 67,678,016	\$ 62,975,274
Market Value of Assets:	\$ 1,253,213,084	\$ 1,122,864,548 †
Unfunded Actuarial Accrued Liability:	\$ 511,583,537	\$ 482,024,775
Actuarial Value of Assets (AVA):	\$ 1,260,348,240	\$ 1,218,618,308 †
Actuarial Accrued Liability:	\$ 1,771,931,777	\$ 1,700,643,083
Ratio of AVA to Actuarial Accrued Liabilities:	71.13%	71.66%

	FISCAL 2014	FISCAL 2013
Normal Cost as of July 1:	\$ 49,390,618	\$ 49,186,008
Amortization Cost (Credit) as of July 1:	\$ 49,629,071	\$ 45,335,951
Total Actuarially Required Contribution		
Inclusive of Estimated Administrative Costs:	\$ 103,988,293	\$ 99,587,792
Expected Insurance Premium Taxes	\$ 22,849,383	\$ 22,014,834
Net Direct Combined Actuarially Req'd Contributions	\$ 81,138,910	\$ 77,572,958
Actual Net Direct Combined Contribution Rate:	38.25%	34.00%
Actuarially Required Net Direct Combined Cont. Rate:	39.23%	37.77% †

Minimum Recommended Net Direct Employer Cont. Rate		
For Employees with Earnings Below Poverty Level-	Fiscal 2015: 31.25%	Fiscal 2014: 30.25% †
For Employees with Earnings Above Poverty Level -	Fiscal 2015: 29.25%	Fiscal 2014: 28.25% †

Employee Contribution Rate: 8.00% of payroll below poverty level/10.00% of payroll above poverty level

Actuarial Cost Method: Individual Entry Age Normal with allocation of cost based on earnings. Unfunded Accrued Liability (exclusive of liability for mergers) as of June 30, 2002 amortized through June 30, 2029 with level dollar payments. Unfunded Accrued Liability resulting from merged systems amortized over thirty years.

Valuation Interest Rate: 7½% (Net of Investment Expense)

Exclusions from Census: 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: A revision was made to the method of valuing pop-up options for DROP participants and active former-DROP participants.

Method of Recognizing Gains and Losses: Amortized over 15 years prior to fiscal 2010; amortized over 20 years for fiscal 2010 and one less year each year thereafter, but not less than fifteen years.

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

COMMENTS ON DATA

For the valuation, the administrator of the system furnished a census on a USB drive 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 X, there are 4,284 active contributing members in the system of whom 1,971 have vested retirement benefits; in addition, there are 221 participants in the Deferred Retirement Option Plan (DROP); 1,958 former system members or their beneficiaries are receiving retirement benefits. An additional 521 members have contributions remaining on deposit with the system; of this number, 71 have vested rights for future retirement benefits. All individuals submitted were included in the valuation.

Census data submitted to our office is tested for errors. Several types of census data errors are possible; to ensure that the valuation results are as accurate as possible, a significant effort is made to identify and correct these errors. In order to minimize coverage errors (i.e., missing or duplicated individual records) the records are checked for duplicates, and a comparison of the current year's records to those submitted in prior years is made. Changes in status, new records, and previous records, which have no corresponding current record, are identified. This portion of the review indicates the annual flow of members from one status to another and is used to check some of the actuarial assumptions, such as retirement rates, rates of withdrawal, and mortality. In addition, the census is checked for reasonableness in several areas, such as age, service, salary, and current benefits. The records identified by this review as questionable are checked against data from prior valuations; those not recently verified are included in a detailed list of items sent to the system's administrative staff for verification and/or correction. Once the identified data has been researched and verified or corrected, it is returned to us for use in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record.

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. Except as stated below, valuation asset values as well as income and expenses for the fiscal year were based on information furnished by the system's auditor, the firm of 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 \$1,253,213,084 as of June 30, 2013. Net investment income for fiscal 2013 measured on a market value basis amounted to \$118,792,673. Contributions to the system for fiscal 2013 totaled \$90,209,828; benefits and expenses amounted to \$78,653,965.

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

COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

This valuation is based on the Entry Age Normal actuarial cost method. Under the provisions of Louisiana R.S. 11:103 the funding excess for the plan which was determined to be \$239,425 as of June 30, 1989 was amortized over thirty years. Subsequent experience gains and losses were amortized over fifteen years. Contribution gains or losses arising from contributions in excess of or less than the required contributions are amortized over the same period as experience gains and losses. Further changes in the unfunded accrued liability generated by mergers of groups of firefighters into the system are amortized over thirty years. All non-merger amortization bases in existence on June 30, 2002, were combined, offset, and re-amortized through June 30, 2029, in accordance with R.S. 11:103(D). The aggregate value of the bases as of that date was \$175,578,584. Beginning with fiscal 2010, actuarial gains and losses, as well as contribution gains and losses, are amortized over a 20 year period. Each year thereafter, the amortization period will decrease by one year until attaining a 15 year amortization period. All changes in assumptions or the method of valuing assets are amortized over 15 years. All amortization payments are on a level dollar basis.

The current year actuarial assumptions utilized for the report are outlined on pages thirty-seven through forty. In the aggregate the assumptions are within our "best estimate range" of future long-term experience for the fund. A technical change was made in the method of valuing pop-up options for DROP participants and active members who formerly participated in DROP. The effect of this change was a one-time increase in the system's accrued liability of \$1,290,257 with a corresponding interest adjusted amortization payment of \$140,979, or 0.07% of fiscal 2014 payroll.

CHANGES IN PLAN PROVISIONS

The following changes in plan provisions were enacted during the 2013 Regular Session of the Louisiana Legislature:

Act 170 allows statewide retirement system boards to make an irrevocable election to have future benefit increases for retirees that are now governed by R.S. 11:242 (Target Ratio Method) to apply a new method under R.S. 11:243. Under R.S. 11:243 systems may grant a Cost of Living Adjustment (COLA) if any of the following apply: a) The system has a funded ratio of 90% or more and has not granted a COLA in the most recent fiscal year; b) The system has a funded ratio of 80% or more and has not granted a COLA in either of the two most recent fiscal years; c) The system has a funded ratio of 70% or more and has not granted a COLA in any of the three most recent fiscal years.

Act 365 gives members of statewide retirement systems the option to purchase the accrual rate of the receiving system at time of transfer if said accrual rate is greater than the accrual rate of the transferring system. It also allows said members to execute a reverse transfer only one time, at the time of retirement or during active service if submitted to the receiving system on or before December 31, 2013. In addition, this act authorizes the purchase of an accrual rate upgrade for members of the Firefighters' Retirement System who are employees of the St. George Fire Department who applied to transfer service credit from the New Orleans Firefighters' Pension and Relief Fund on or after August 26, 1999 and on or before December 31, 2007.

ASSET EXPERIENCE

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

	<u>Market Value</u>	<u>Actuarial Value</u>
2004	11.0%	8.0%
2005	10.4%	10.4%
2006	12.3%	9.9% *
2007	17.2%	11.6%
2008	- 5.0%	9.0%
2009	-20.8%	-4.9% **
2010	12.2%	6.1%
2011	17.4%	4.5%
2012	-4.1% †	-0.2% †
2013	10.5%	2.5%

* Based on the actuarial value of assets and income and expense including the effect of a change in the method for calculating the actuarial value of assets under a 5-year smoothing of investment earnings above or below the assumed 7.5% rate of return subject to a corridor of 90% to 110% of the market value of assets. Returns for years 1998 through 2005 were based on a 2-year smoothing of recognized realized and unrealized capital gains (losses) on all securities.

** Includes the effect of a change in the method for calculating the actuarial value of assets. 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.

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

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. (Asset and income values for merger notes were excluded from calculations in order to provide a measurement of the return on the portion of the portfolio under management.) 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 2013, the fund earned \$27,781,060 of dividends, interest and other recurring income. Net realized and unrealized capital gains on investments together with other non-recurring income totaled \$100,876,640. Investment expenses amounted to \$9,865,033. The geometric mean of the market value rates of return was 5.4% measured over the last ten years and 5.6% measured over the last twenty years.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 7.5% used for the valuation. This rate 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 over a five-year period. Yields in excess of the 7.5% assumption will reduce future costs; yields below 7.5% will increase future costs. For fiscal 2013, the system experienced net actuarial investment earnings of \$61,647,815 below the actuarial assumed earnings rate of 7.5% which

produced an actuarial loss and increased the interest-adjusted amortization payments on the system's UAL by \$6,504,227 which corresponds to payments of 3.14% of fiscal 2014 payroll.

PLAN DEMOGRAPHICS AND LIABILITY EXPERIENCE

A reconciliation of the census for the system is given in Exhibit X. The average active contributing member is 38 years old with 11.26 years of service credit and an annual salary of \$49,011. The system's active contributing membership experienced an increase during fiscal 2013 of 7 members. The number of DROP participants increased by 4. Over the last five years active membership has increased by 242 members. A review of the active census by age indicates that over the last ten years the population in the thirty-one to forty age group has decreased while the proportion of active members over fifty increased. Over the same ten-year period the system's active census by service remained relatively stable.

The average service retiree is 64 years old with a monthly benefit of \$3,294. The number of retirees and beneficiaries receiving benefits from the system increased by 83 during the fiscal year. Over the last five years, the number has increased by 327; during the same period, the annual benefits in payment increased by \$19,261,435.

The changes in the makeup of the population and changes in members' salaries increased the interest adjusted normal cost over the last year by \$212,144; the normal cost percentage decreased by 0.07% of payroll. Plan liability experience for fiscal 2013 was favorable. Salary increase rates at most durations were below projections. Disabilities were below projections. Retiree deaths and withdrawals were above projections. These factors decreased costs. Partially offsetting these factors were DROP entries and retirements above projected levels. Net plan liability experience gains totaled \$30,226,604. These gains decreased the interest-adjusted amortization payments on the system's unfunded accrued liability by \$3,189,095, which corresponds to payments of 1.54% of fiscal 2014 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 2013 contributions totaled \$9,431,584 less than required; the interest-adjusted amortization payment on the contribution shortfall for fiscal 2014 is \$995,091, or 0.48% of projected payroll. In addition, for fiscal 2014 the net effect of the change in payroll on amortization costs was to reduce such costs by 0.16% 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 2014 except for those items labeled fiscal 2013.

	Dollars	Percentage of Payroll
Normal Cost for Fiscal 2013	\$ 50,997,139	24.83%
Cost of Demographic and Salary Changes	\$ 212,144	(0.07%)
Normal Cost for Fiscal 2014	\$ 51,209,283	24.76%
UAL Payments for Fiscal 2013	\$ 47,005,314	22.89%
Change due to change in payroll	N/A	(0.16%)
Additional Amortization Expenses for Fiscal 2014:		
Asset Experience Loss (Gain)	\$ 6,504,227	3.14%
Assumption Loss (Gain)	\$ 140,979	0.07%
Contribution Loss (Gain)	\$ 995,091	0.48%
Liability Loss (Gain)	\$ (3,189,095)	(1.54%)
Net Amortization Expense (Credit) for Fiscal 2014	\$ 4,451,202	2.15%
Estimated Administrative Cost for Fiscal 2014	\$ 1,322,494	0.64%
Total Normal Cost & Amortization Payments	\$ 103,988,293	50.28%

The derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for fiscal 2014 as of July 1, 2013 is \$49,390,618. The amortization payments on the system's unfunded actuarial accrued liability as of July 1, 2013 total \$49,629,071. 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 2014 is \$103,988,293. We estimate insurance premium taxes of \$22,849,383 will be paid to the system in fiscal 2014. Hence, the total actuarially required net direct combined contribution (consisting of employee contributions and the net direct employer contribution) for fiscal 2014 amounts to \$81,138,910 or 39.23% of payroll.

Since the actual net direct combined contribution rate for fiscal 2014 is 38.25% of payroll, there will be a contribution shortfall of 0.98% of payroll. The effect of this shortfall will be to increase the required contributions for fiscal 2014 by 0.10% of payroll. 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 39.25% for fiscal 2015. For members with earnings less than or equal to the Department of HHS poverty guidelines, employee contributions will be set equal to 8.00% of payroll. The employer contribution rate to be applied to the earnings of such members will be set equal to 31.25% of payroll. For members with earnings greater than the Department of HHS poverty guidelines, employee contributions will be set equal to 10.00% of payroll. The employer contribution rate to be applied to the earnings of such members will be set equal to 29.25% of payroll.

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 and demographics, for each percentage under (over) the assumed rate of return on the actuarial value of assets, there will be a corresponding increase (reduction) in the actuarially required contribution as a percentage of projected payroll of 0.67%. In addition, we have determined that a 1% reduction in the valuation interest rate for the Fund would increase the actuarially required contribution rate for fiscal 2014 by 15.88%.

COST OF LIVING INCREASES

During fiscal 2013, the actual cost of living (as measured by the US Department of Labor CPI-U) increased by 1.75%. Cost of living provisions for the system are detailed in R.S. 11:2260A(7) and R.S. 11:246. The former statute allows the board to use interest earnings in excess of the normal requirements to grant annual cost of living increases of 3% of each retiree's 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.

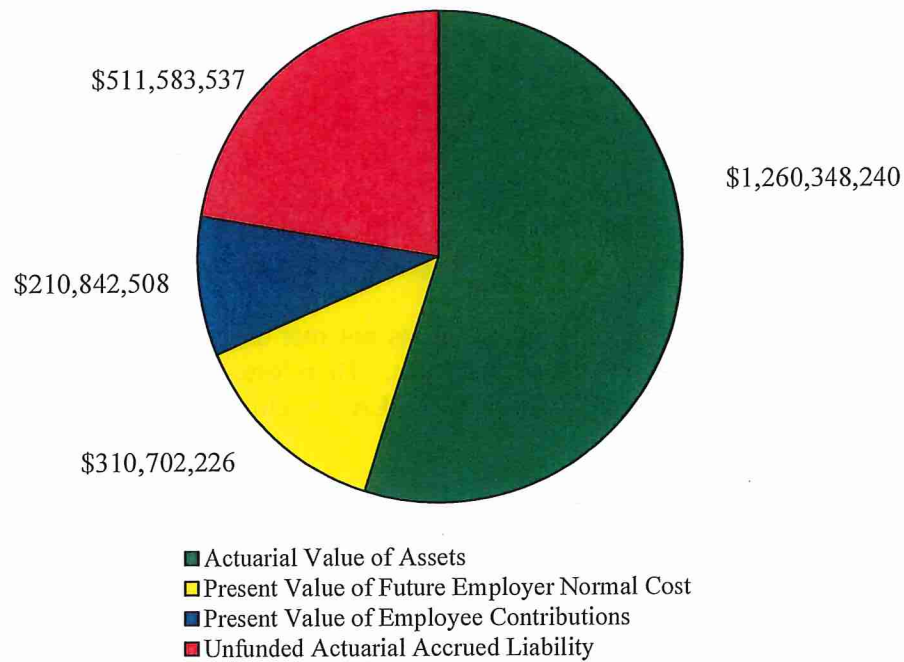
All of the above provisions require that the system earn sufficient excess interest earnings to fund the increases. In addition, unless the Board of Trustees elects prior to December 31, 2013 to fall under the provisions of R. S. 11:243, the ratio of the plan's assets to benefit obligations must meet the criteria established in R.S. 11:242. This section sets forth a minimum "target ratio" of the actuarial value of assets to the Pension Benefit Obligation. For fiscal 2013, the target ratio for the system under R. S. 11:242 was 94.39% and the system's funded ratio under the provisions of R. S. 11:242 was 72.92%. Hence no COLA may be granted based on application of that section.

Should the Board of Trustees elect to have the system covered under the provisions of R. S. 11:243, the system would be exempt from the provisions of R. S. 11:242. Instead, the system would only be authorized to grant a COLA under R. S. 11:241, R.S. 11:246, or R. S. 11: 2260A(7) in fiscal years in which the rate of return on an actuarial basis exceeds the valuation interest rate and one of the following applies:

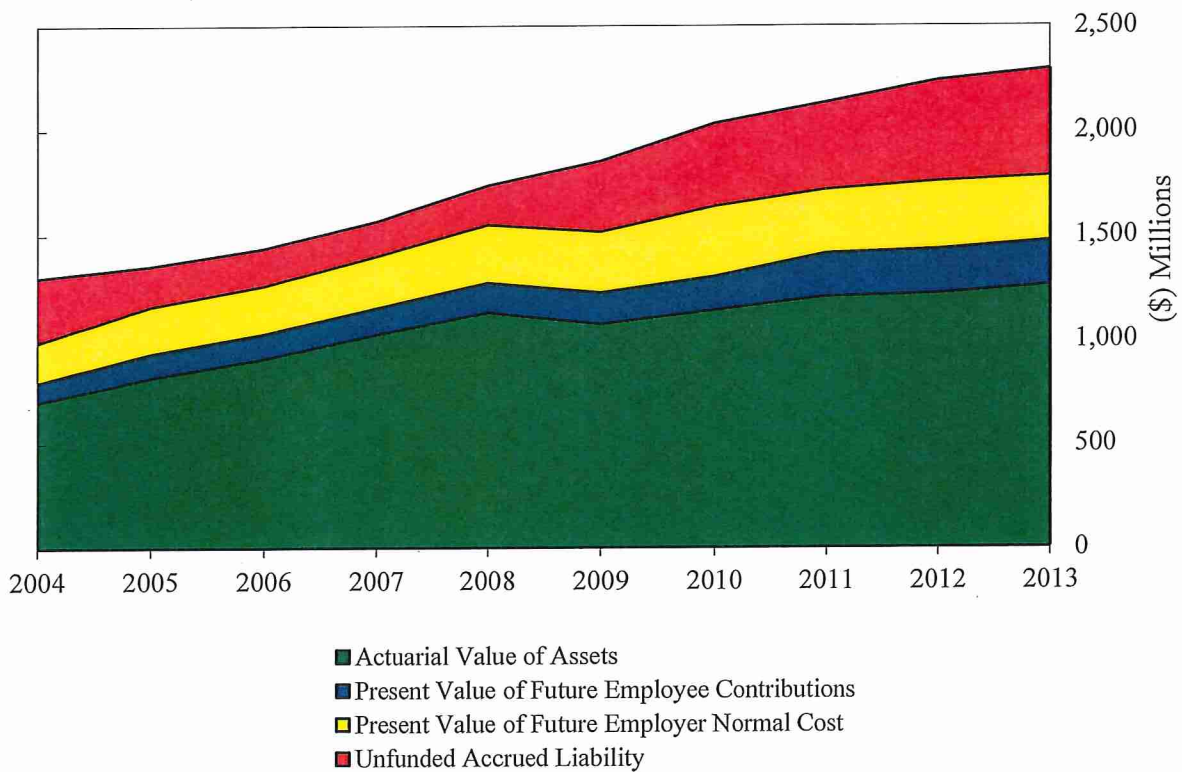
1. The system has a funded ratio of 90% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the most recent fiscal year.
2. The system has a funded ratio of 80% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the two most recent fiscal years.
3. The system has a funded ratio of 70% or more and has not granted a benefit increase to retirees, survivors, and beneficiaries in the three most recent fiscal years.

We have determined that for fiscal 2013 the plan has not met the necessary target ratio under R. S. 11:242 and does not have excess investment earnings. Therefore, regardless of the Board's election relative to R. S. 11:243, the Fund is unable to grant COLAs to retirees at this time.

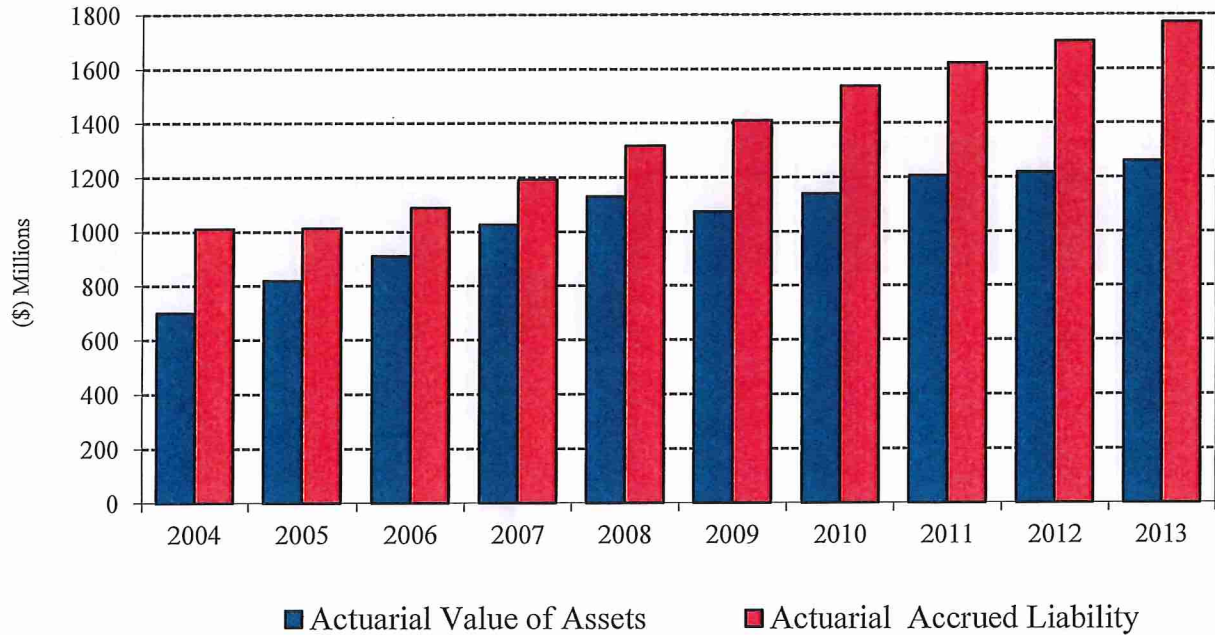
Components of Present Value of Future Benefits June 30, 2013



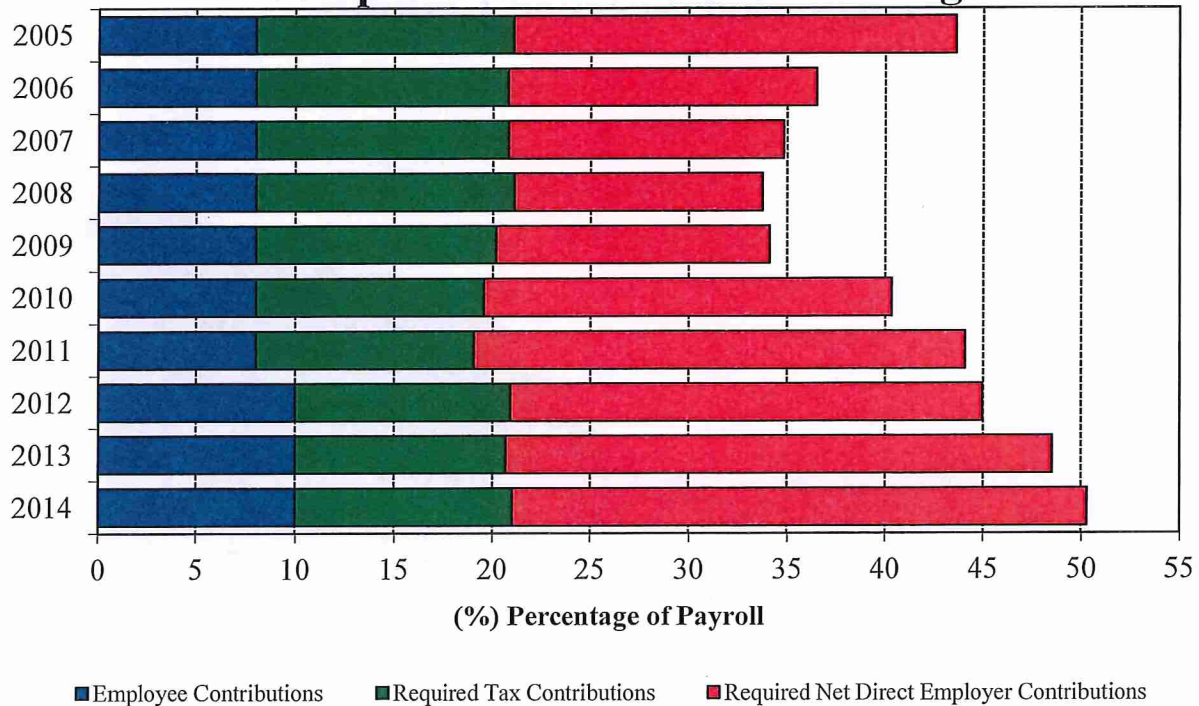
Components of Present Value of Future Benefits Historical



Actuarial Value of Assets vs. Actuarial Accrued Liability

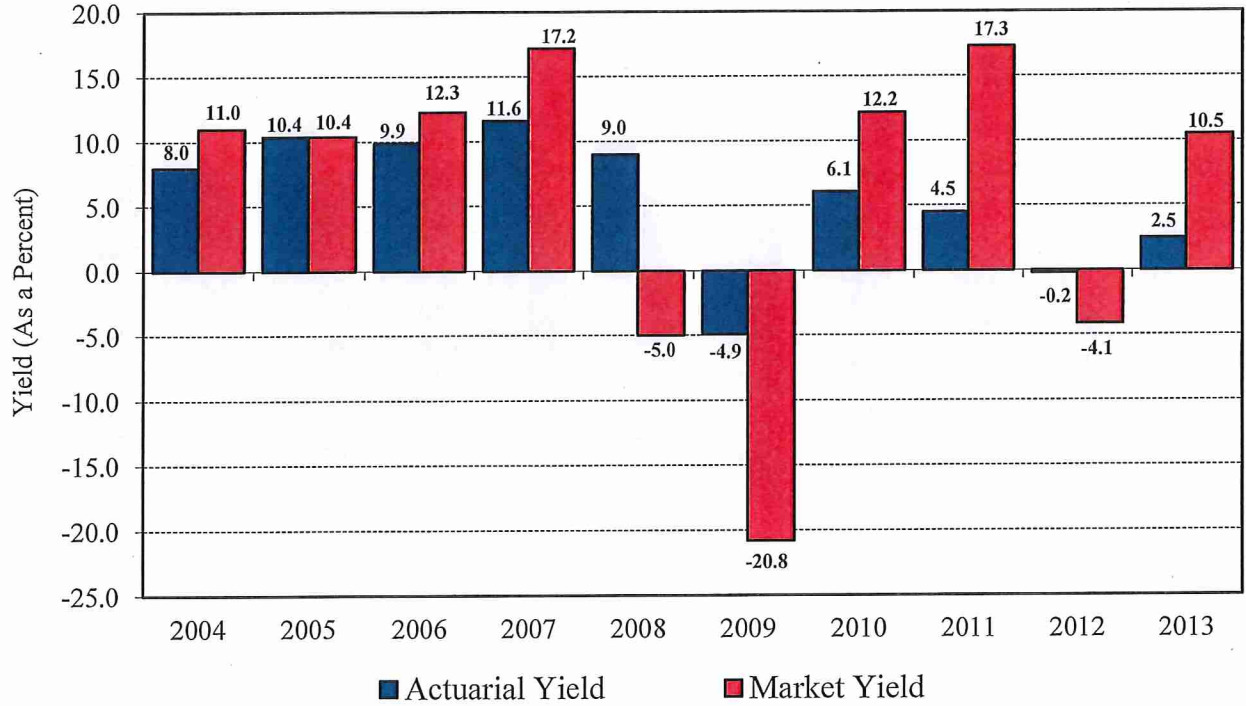


Components of Actuarial Funding

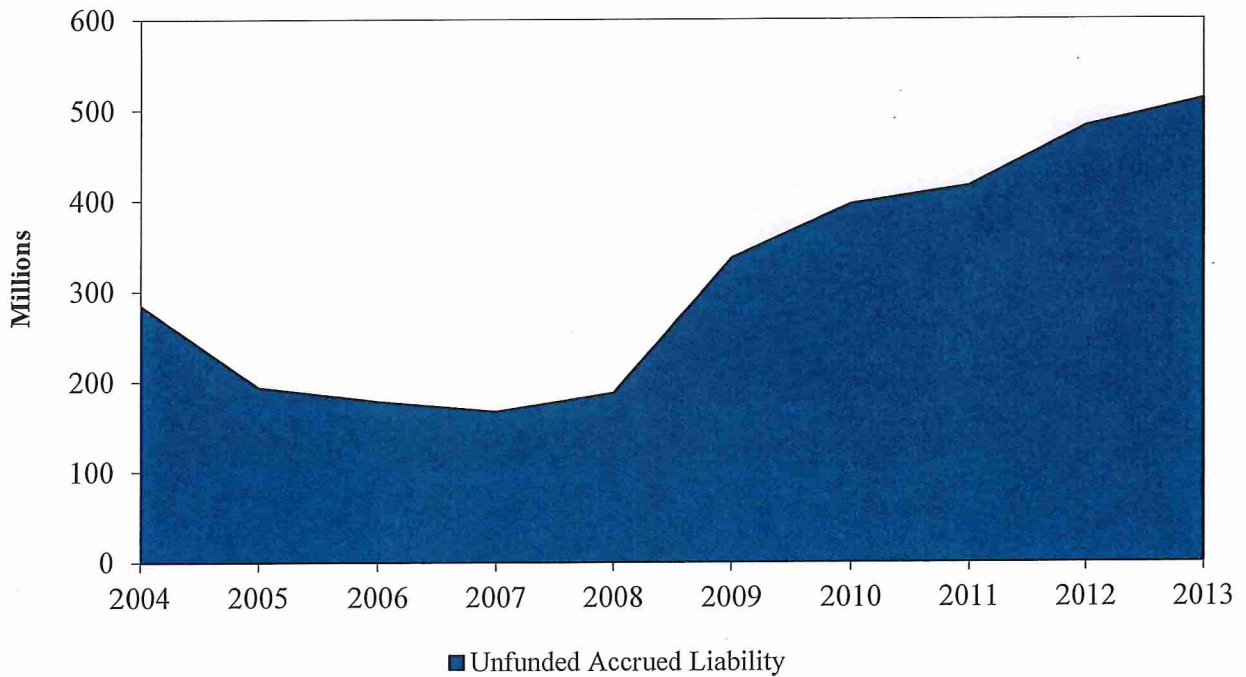


(2012 and later employee contribution level is based on members with earnings above the poverty level)

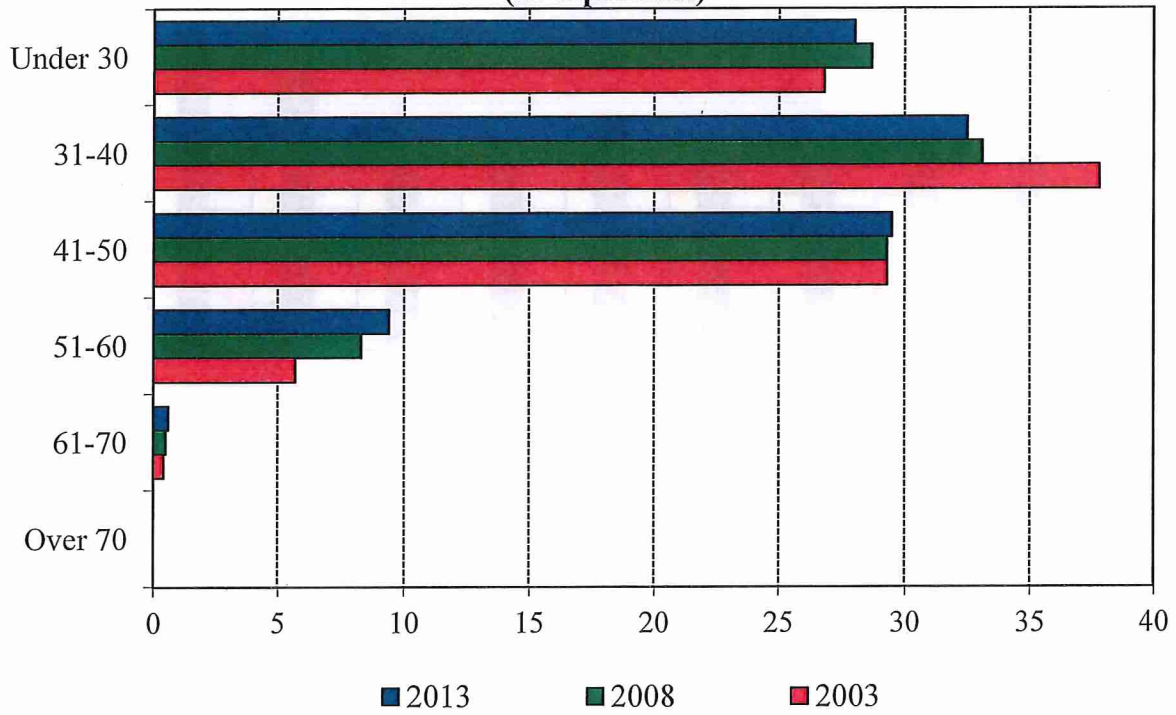
Historical Asset Yields



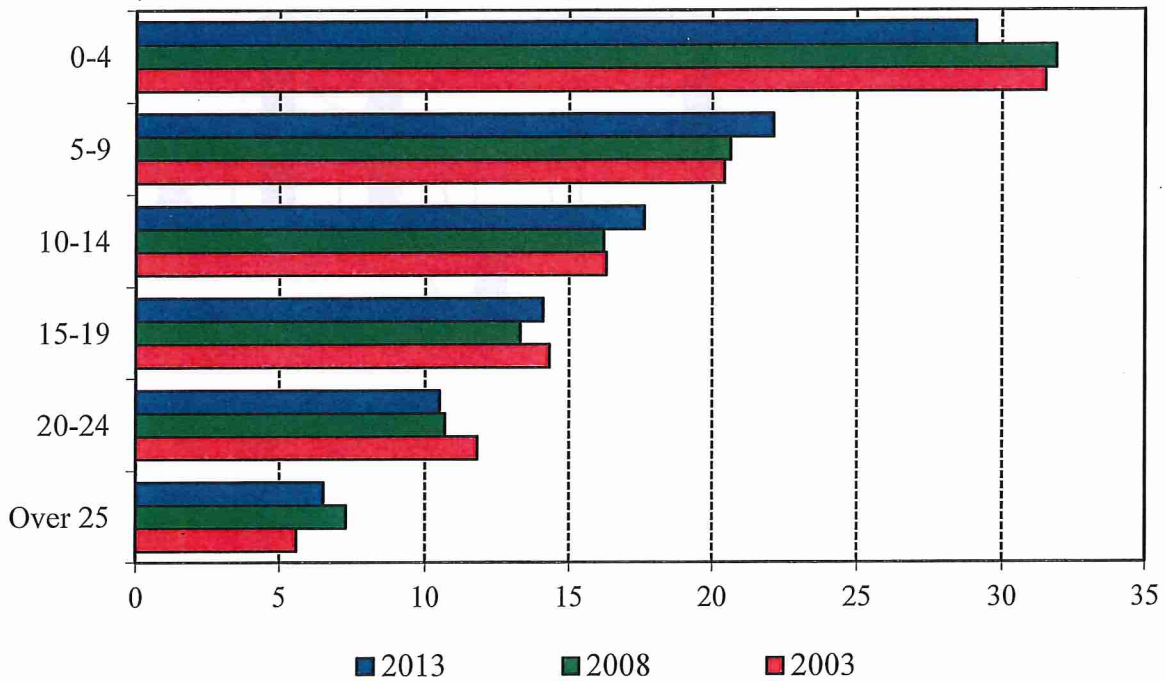
Unfunded Accrued Liability



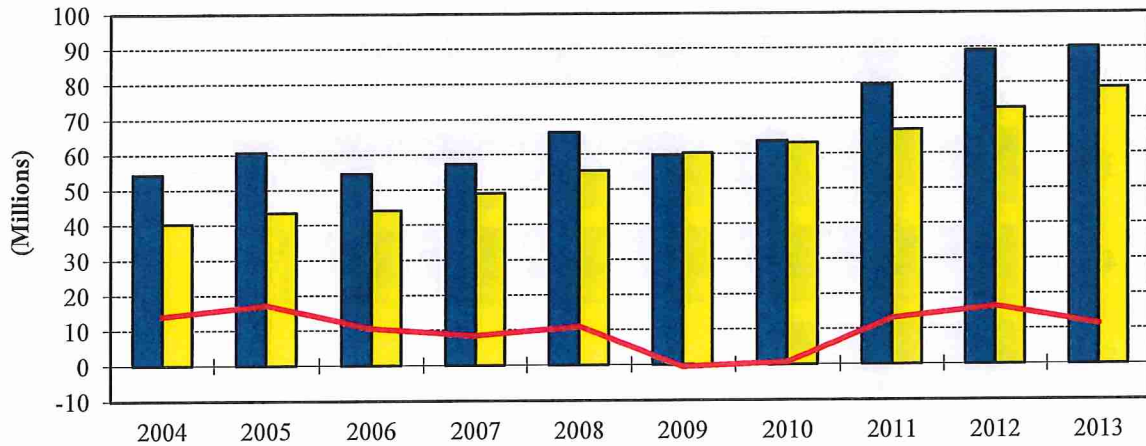
Active – Census By Age (as a percent)



Active – Census By Service (as a percent)

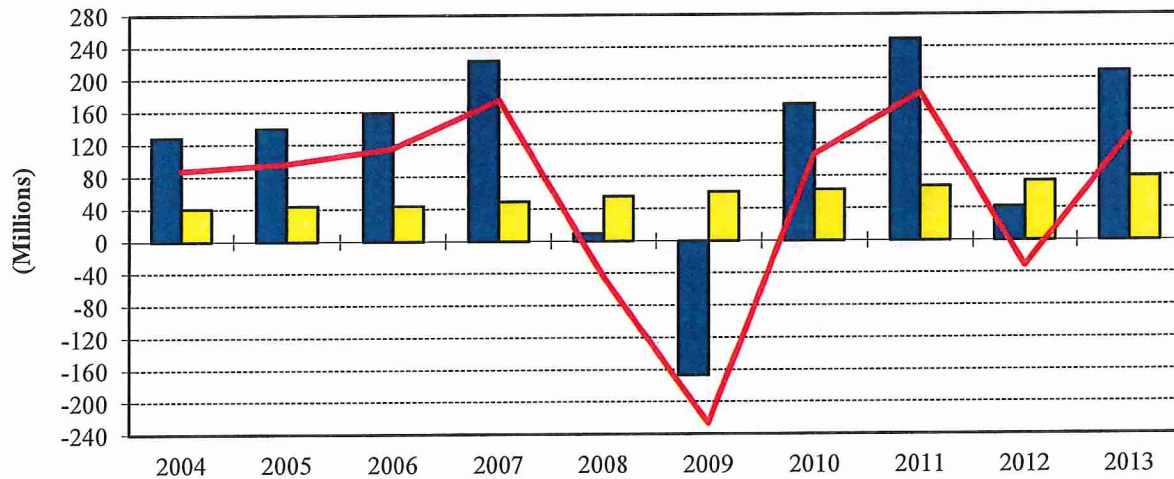


Net Non-Investment Income



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Non-Investment Income (\$Mil) ■	54.4	60.8	54.7	57.4	66.3	59.8	63.7	79.7	89.2	90.2
Benefits and Expenses (\$Mil) ■	40.4	43.6	44.2	48.9	55.3	60.3	63.1	66.7	72.8	78.7
Net Non-Investment Income (\$Mil) —	14.4	17.2	10.5	8.5	11.0	-0.5	0.6	13.0	16.4	11.5

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



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Income (\$Mil) ■	128.1	139.8	159.5	223.3	9.5	-166.6	169.3	249.4	41.2	209.0
Benefits and Expenses (\$Mil) ■	40.4	43.6	44.2	48.9	55.3	60.3	63.1	66.7	72.8	78.7
Net Change in MVA (\$Mil) —	87.7	96.2	115.3	174.4	-45.8	-226.9	106.2	182.7	-31.6	130.3

EXHIBITS

EXHIBIT I
ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS

1. Normal Cost of Retirement Benefits.....	\$ 43,872,066
2. Normal Cost of Death Benefits.....	\$ 1,304,204
3. Normal Cost of Disability Benefits.....	\$ 1,173,225
4. Normal Cost of Deferred Retirement Benefits	\$ 1,479,088
5. Normal Cost of Contribution Refunds.....	\$ 1,562,035
6. TOTAL Normal Cost as of July 1, 2013 (1+2+3+4+5).....	\$ 49,390,618
7. Amortization of Unfunded Accrued Liability of \$511,583,537	\$ 49,629,071
8. TOTAL Normal Cost & Amortization Payments (6+7).....	\$ 99,019,689
9. Normal Cost and Amortization Payments Interest Adjusted for Midyear Payment	\$ 102,665,799
10. Estimated Administrative Cost for Fiscal 2014.....	\$ 1,322,494
11. TOTAL Administrative and Interest Adjusted Actuarial Costs (9+10).....	\$ 103,988,293
12. Expected Insurance Premium Taxes due in Fiscal 2014.....	\$ 22,849,383
13. Net Direct Combined Actuarially Req'd Contributions for Fiscal 2014 (11-12) ..	\$ 81,138,910
14. Projected Payroll For Contributing Members July 1, 2013 through June 30, 2014	\$ 206,818,456
15. Net Direct Combined Actuarially Required Contributions as a % of Projected Payroll for Fiscal 2014 (13 ÷ 14)	39.23%
16. Actual Net Direct Combined Contribution Rate for Fiscal 2014.....	38.25%
17. Contribution Gain (Loss) as a Percentage of Payroll (16 – 15)	(0.98%)
18. Adjustment to Following Year Payment for Contribution Gain (Loss).....	(0.10%)
19. Recommended Net Direct Combined Contribution Rate for Fiscal 2015 (15 – 18) (Rounded to nearest 0.25%)	39.25%
20. Recommended Net Direct Employee Contribution Rate (for members with earnings less than or equal to the Department of HHS poverty guidelines)	8.00%
21. Recommended Net Direct Employer Contribution Rate (for members with earnings less than or equal to the Department of HHS poverty guidelines)	31.25%
22. Recommended Net Direct Employee Contribution Rate (for members with earnings more than the Department of HHS poverty guidelines)	10.00%
23. Recommended Net Direct Employer Contribution Rate (for members with earnings more than the Department of HHS poverty guidelines)	29.25%

EXHIBIT II
PRESENT VALUE OF FUTURE BENEFITS

Present Value of Future Benefits for Active Members:

Retirement Benefits.....	\$ 1,432,274,462
Survivor Benefits	22,080,873
Disability Benefits.....	17,330,154
Vested Deferred Termination Benefits	27,734,571
Contribution Refunds.....	11,409,797
 TOTAL Present Value of Future Benefits for Active Members.....	 \$ 1,510,829,857

Present Value of Future Benefits for Terminated Members:

Terminated Vested Members Due Benefits at Retirement.....	\$ 11,197,346
Terminated Members with Reciprocal Due Benefits at Retirement.....	0
Terminated Members Due a Refund.....	2,072,736
 TOTAL Present Value of Future Benefits for Terminated Members.....	 \$ 13,270,082

Present Value of Future Benefits for Retirees:

Regular Retirees.....	\$ 593,787,915
Disability Retirees	46,324,180
Survivors & Widows	52,675,793
Retiree DROP Account Balance.....	74,590,699
IBO Retirees' Account Balance.....	3,300,268
 TOTAL Present Value of Future Benefits for Retirees & Survivors	 \$ 770,678,855
 TOTAL Present Value of Future Benefits.....	 \$ 2,294,778,794

**EXHIBIT III – Schedule A
MARKET VALUE OF ASSETS**

Current Assets:

Cash & Cash Equivalents in Banks	\$ 7,799,684
Contributions Receivable from Members	1,664,147
Contributions Receivable from Employers.....	3,998,057
Accrued Interest and Dividends on Investments	3,247,395
Receivable on Currency Contracts	17,350,947
Investments Receivables.....	3,432,850
Prepaid Expenses	810,759

TOTAL CURRENT ASSETS \$ 38,303,839

Property, Plant and Equipment (Net of accumulated depreciation) \$ 765,139

Investments:

Mutual Funds	\$ 441,833,155
Domestic Equities	192,333,463
Foreign Equities	130,174,339
Private Equity	107,740,548
Hedge Funds	112,200,242
Private Real Estate	94,561,780
Cash & Cash Equivalents.....	78,896,659
Corporate Bonds	41,291,615
U. S. Government Securities.....	16,153,278
Asset Backed Securities	18,696,452

TOTAL INVESTMENTS \$ 1,233,881,531

MERGER NOTES \$ 2,850,291

TOTAL ASSETS \$ 1,275,800,800

Current Liabilities:

Payable on Currency Contracts.....	19,039,281
Investment Payables.....	2,829,031
Accounts Payable.....	719,404

TOTAL CURRENT LIABILITIES \$ 22,587,716

NET MARKET VALUE OF ASSETS \$ 1,253,213,084

**EXHIBIT III – SCHEDULE B
ACTUARIAL VALUE OF ASSETS**

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

Fiscal year 2013	\$ 34,152,321
Fiscal year 2012	\$ (135,213,355)
Fiscal year 2011	96,347,506
Fiscal year 2010	40,659,988
Fiscal year 2009	<u>(308,277,876)</u>
Total for five years	\$ (272,331,416)

Deferral of excess (shortfall) of invested income:

Fiscal year 2013 (80%)	\$ 27,321,857
Fiscal year 2012 (60%)	(81,128,013)
Fiscal year 2011 (40%)	38,539,002
Fiscal year 2010 (20%)	8,131,998
Fiscal year 2009 (0%)	<u>0</u>
Total deferred for year	\$ (7,135,156)

Market value of plan net assets, end of year..... \$ 1,253,213,084

Preliminary actuarial value of plan assets, end of year \$ 1,260,348,240

Actuarial value of assets corridor

85% of market value, end of year	\$ 1,065,231,121
115% of market value, end of year	\$ 1,441,195,047

Final actuarial value of plan net assets, end of year \$ 1,260,348,240

**EXHIBIT IV
PRESENT VALUE OF FUTURE CONTRIBUTIONS**

Employee Contributions to the Annuity Savings Fund	\$ 210,842,508
Employer Normal Contributions to the Pension Accumulation Fund	312,004,509
Employer Payments on the Unfunded Actuarial Accrued Liability	511,583,537
TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS	\$ 1,034,430,554

**EXHIBIT V - SCHEDULE A
ACTUARIAL ACCRUED LIABILITIES**

LIABILITY FOR ACTIVE MEMBERS	
Accrued Liability for Retirement Benefits	\$ 967,856,659
Accrued Liability for Survivor Benefits	8,272,637
Accrued Liability for Disability Benefits	4,908,378
Accrued Liability for Vested Termination Benefits	12,075,054
Accrued Liability for Refunds of Contributions	(5,129,888)
TOTAL Actuarial Accrued Liability for Active Members	\$ 987,982,840
LIABILITY FOR TERMINATED MEMBERS	\$ 13,270,082
LIABILITY FOR RETIREES AND SURVIVORS	\$ 770,678,855
TOTAL ACTUARIAL ACCRUED LIABILITY	\$ 1,771,931,777
ACTUARIAL VALUE OF ASSETS	\$ 1,260,348,240
UNFUNDED ACTUARIAL ACCRUED LIABILITY	\$ 511,583,537

**EXHIBIT V - SCHEDULE B
CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY**

Prior Year Unfunded Accrued Liability	\$ 482,024,775
Interest on Unfunded Accrued Liability	\$ 36,151,858
Normal Cost for Prior Year	49,186,008
Interest on the Normal Cost	3,688,951
Normal Cost for Merged Systems with Accrued Interest	0
Administrative Expenses	1,304,002
Interest on Expenses	48,017
TOTAL Increases to Unfunded Accrued Liability	\$ 90,378,836
Required Contributions for Prior Year with interest	\$ 102,963,124
Contribution Excess (Shortfall) with accrued interest	(9,431,582)
Cost of Living Adjustment Gains (Losses)	0
Merger Gains (Losses)	0
Investment Gains (Losses)	(61,647,815)
Liability Experience Gains (Losses)	30,226,604
Liability Assumption Gains (Losses)	(1,290,257)
TOTAL Decreases to Unfunded Accrued Liability	\$ 60,820,074
CURRENT YEAR UNFUNDED ACCRUED LIABILITY	\$ 511,583,537

EXHIBIT V - SCHEDULE C
AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY - JUNE 30, 2013

FISCAL YEAR	DESCRIPTION	AMORT. PERIOD	INITIAL BALANCE	YEARS REMAINING	REMAINING BALANCE	AMORT. PAYMENTS
1993	Merger Loss (Gain)	30	13,485,002	10	7,730,597	1,047,664
1995	Merger Loss (Gain)	30	41,779,611	12	27,064,319	3,254,713
1996	Merger Loss (Gain)	30	1,772,399	13	1,207,663	138,251
1997	Merger Loss (Gain)	30	890,324	14	634,554	69,534
1998	Merger Loss (Gain)	30	1,602,435	15	1,188,986	125,299
1999	Merger Loss (Gain)	30	14,104,876	16	10,850,940	1,104,183
2001	Merger Loss (Gain)	30	3,117,590	18	2,552,070	244,593
2002	Cumulative Prior Non-Merger Bases	27	175,578,584	16	139,832,426	14,229,238
2003	Contribution Loss (Gain)	15	2,678,010	5	1,223,553	281,320
2003	Assumption Loss (Gain)	15	(3,248,077)	5	(1,484,010)	(341,205)
2003	Experience Loss (Gain)	15	44,477,780	5	20,321,401	4,672,310
2004	Contribution Loss (Gain)	15	2,129,874	6	1,130,791	224,102
2004	Experience Loss (Gain)	15	1,570,785	6	833,960	165,275
2005	Experience Loss (Gain)	15	(24,922,321)	7	(14,954,323)	(2,626,401)
2005	Assumption Loss (Gain)	15	(57,207,831)	7	(34,326,834)	(6,028,760)
2005	Contribution Loss (Gain)	15	(2,457,193)	7	(1,474,407)	(258,948)
2006	Experience Loss (Gain)	15	(30,043,731)	8	(19,935,750)	(3,166,113)
2006	Benefits/COLA Loss (Gain)	15	12,495,729	8	8,291,638	1,316,843
2006	Assumption Loss (Gain)	15	7,880,410	8	5,229,107	830,465
2006	Contribution Loss (Gain)	15	(3,044,474)	8	(2,020,184)	(320,837)
2007	Contribution Loss (Gain)	15	(3,684,696)	9	(2,662,733)	(388,306)
2007	Merger Loss (Gain)	30	1,065,812	24	991,143	83,948
2007	Experience Loss (Gain)	15	(19,348,466)	9	(13,982,101)	(2,039,009)
2007	Benefits/COLA Loss (Gain)	15	13,421,495	9	9,698,996	1,414,404
2008	Assumption Loss (Gain)	15	(138,425)	10	(107,641)	(14,588)
2008	Contribution Loss (Gain)	15	(4,399,499)	10	(3,421,107)	(463,635)
2008	Merger Loss (Gain)	30	1,556,324	25	1,468,899	122,582
2008	Experience Loss (Gain)	15	11,244,458	10	8,743,834	1,184,980
2008	Benefits/COLA Loss (Gain)	15	15,006,752	10	11,669,442	1,581,464
2009	Asset Assumption Loss (Gain)	15	(121,695,690)	11	(100,854,595)	12,824,715)
2009	Asset Experience Loss (Gain)	20	261,874,151	16	234,825,283	23,895,637
2009	COLA Loss (Gain)	20	15,784,880	16	14,154,467	1,440,347
2009	Experience Loss (Gain)	20	(3,921,422)	16	(3,516,380)	(357,824)
2009	Contribution Loss (Gain)	20	993,536	16	890,914	90,659
2010	Liability Assumption Loss(Gain)	15	37,843,942	12	33,162,960	3,988,126
2010	Asset Experience Loss (Gain)	19	14,930,089	16	13,704,432	1,394,552
2010	Experience Loss (Gain)	19	985,441	16	904,543	92,046
2010	Contribution Loss (Gain)	19	11,264,571	16	10,339,828	1,052,173
2011	Merger Loss (Gain)	30	329,132	28	322,527	25,924
2011	Asset Experience Loss (Gain)	18	34,204,316	16	32,214,990	3,278,172
2011	Experience Loss (Gain)	18	(13,197,519)	16	(12,429,950)	(1,264,862)
2011	Contribution Loss (Gain)	18	6,777,563	16	6,383,379	649,568
2012	Asset Experience Loss (Gain)	17	93,583,915	16	90,682,811	9,227,812
2012	Experience Loss (Gain)	17	(21,072,289)	16	(20,419,047)	(2,077,826)
2012	Contribution Loss (Gain)	17	2,867,982	16	2,779,074	282,796
2013	Asset Experience Loss (Gain)	16	61,647,815	16	61,647,815	6,273,233
2013	Experience Loss (Gain)	16	(30,226,604)	16	(30,226,604)	(3,075,836)
2013	Contribution Loss (Gain)	16	9,431,584	16	9,431,584	959,751
2013	Assumption Loss (Gain)	15	1,290,257	15	1,290,257	135,972
TOTAL Unfunded Actuarial Accrued Liability					\$ 511,583,537	
TOTAL Fiscal 2014 Amortization Payments						\$ 49,629,071

EXHIBIT VI
ANALYSIS OF INCREASE IN ASSETS

Actuarial Value of Assets (June 30, 2012)		\$ 1,218,618,308
Income:		
Regular Member Contributions.....	\$ 20,055,665	
Regular Employer Contributions.....	48,139,329	
Insurance Premium Taxes	22,014,834	
Irregular Contributions.....	0	
Contributions from Mergers.....	0	
TOTAL CONTRIBUTIONS.....		\$ 90,209,828
Interest and Dividends	\$ 27,567,337	
Legal Settlements.....	19,332,333	
Interest from Merger Notes	213,723	
Net Appreciation of Fair Value of Investments.....	81,544,313	
Investment Expenses	(9,865,033)	
SUBTOTAL OF ALL MARKET INVESTMENT INCOME		\$ 118,792,673
TOTAL Income		\$ 209,002,501
Expenses:		
Retirement/Survivor Benefits/DROP Disbursements.....	\$ 70,531,393	
Refunds of Contributions.....	1,600,664	
Disability Benefits	5,017,056	
Administrative Expenses	1,304,002	
Funds Transferred to Another System.....	200,850	
TOTAL Expenses		\$ 78,653,965
Net Market Income for Fiscal 2013 (Income - Expenses).....		\$ 130,348,536
Adjustment for Actuarial Smoothing.....		\$ (88,618,604)
Actuarial Value of Assets (June 30, 2013)		\$ 1,260,348,240

**EXHIBIT VII
FUND BALANCE**

Present Assets of the System Creditable to:

Annuity Savings Fund	\$ 148,419,791
Annuity Reserve Fund	692,787,888
Pension Accumulation Fund.....	304,649,423
Deferred Retirement Option Plan Account	104,055,714
Initial Benefit Option Plan Account	3,300,268
NET MARKET VALUE OF ASSETS.....	\$ 1,253,213,084
ADJUSTMENT FOR ACTUARIAL SMOOTHING	7,135,156
NET ACTUARIAL VALUE OF ASSETS	\$ 1,260,348,240

**EXHIBIT VIII
PENSION BENEFIT OBLIGATION**

Present Value of Credited Projected Payable to Current Employees	\$ 942,771,679
Present Value of Benefits Payable to Terminated Employees	13,270,082
Present Value of Benefits Payable to Current Retirees and Beneficiaries	770,678,855
TOTAL PENSION BENEFIT OBLIGATION	\$1,726,720,616
NET ACTUARIAL VALUE OF ASSETS	\$1,260,348,240
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.....	72.99%

EXHIBIT IX
COST OF LIVING ADJUSTMENTS - TARGET RATIO

Actuarial Value of Assets Divided by PBO as of Fiscal 1986:		99.35%
Amortization of Unfunded Balance over 30 years:		0.59%
Adjustments in Funded Ratio Due to Mergers or Changes in Assumption(s):		
Changes for Fiscal 1987	(0.72%)	
Changes for Fiscal 1988	(3.24%)	
Changes for Fiscal 1989	(3.80%)	
Changes for Fiscal 1992	1.34%	
Changes for Fiscal 1993	(1.25%)	
Changes for Fiscal 1994	(0.03%)	
Changes for Fiscal 1995	(1.73%)	
Changes for Fiscal 1996	(16.29%)	
Changes for Fiscal 1997	(3.65%)	
Changes for Fiscal 1998	(0.27%)	
Changes for Fiscal 1999	(0.97%)	
Changes for Fiscal 2000	(2.97%)	
Changes for Fiscal 2001	(0.23%)	
Changes for Fiscal 2003	0.45%	
Changes for Fiscal 2005	4.16%	
Changes for Fiscal 2006	(0.71%)	
Changes for Fiscal 2007	(0.09%)	
Changes for Fiscal 2008	(0.01%)	
Changes for Fiscal 2009	8.88%	
Changes for Fiscal 2010	(2.00%)	
Changes for Fiscal 2011	(0.02%)	
Changes for Fiscal 2013	(0.05%)	
TOTAL Adjustments		(23.20%)
Amortization of Adjustments in Funded Ratio over 30 years:		
Changes for Fiscal 1987	0.62%	
Changes for Fiscal 1988	2.70%	
Changes for Fiscal 1989	3.04%	
Changes for Fiscal 1992	(0.94%)	
Changes for Fiscal 1993	0.83%	
Changes for Fiscal 1994	0.02%	
Changes for Fiscal 1995	1.04%	
Changes for Fiscal 1996	9.23%	
Changes for Fiscal 1997	1.95%	
Changes for Fiscal 1998	0.14%	
Changes for Fiscal 1999	0.45%	
Changes for Fiscal 2000	1.29%	
Changes for Fiscal 2001	0.09%	
Changes for Fiscal 2003	(0.15%)	
Changes for Fiscal 2005	(1.11%)	
Changes for Fiscal 2006	0.17%	
Changes for Fiscal 2007	0.02%	
Changes for Fiscal 2008	0.00%	
Changes for Fiscal 2009	(1.18%)	
Changes for Fiscal 2010	0.20%	
Changes for Fiscal 2011	0.00%	
Changes for Fiscal 2013	0.00%	
TOTAL Amortization of Adjustments		18.41%
Target Ratio for Current Fiscal Year		95.15%
Actuarial Value of Assets Divided by PBO as of Fiscal 2013		72.99%

**EXHIBIT X
CENSUS DATA**

	Active	Terminated with Funds on Deposit	DROP	Retired	Total
Number of members as of June 30, 2012	4,056	468	217	1,875	6,616
Additions to Census					
Initial membership	264	22			286
Death of another member				20	20
Omitted in error last year					
Adjustment for multiple records				6	6
Change in Status during Year					
Actives terminating service	(103)	103			
Actives who retired	(47)			47	
Actives entering DROP	(84)		84		
Term. members rehired	23	(23)			
Term. members who retire		(4)		4	
Retirees who are rehired					
Refunded who are rehired	6				6
DROP participants retiring			(54)	54	
DROP returned to work	24		(24)		
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(76)	(44)			(120)
Deaths		(1)	(2)	(48)	(51)
Included in error last year					
Suspended Benefits					
Adjustment for Multiple Records					
Number of members as of June 30, 2013	4,063	521	221	1,958	6,763

ACTIVES CENSUS BY AGE:

Age	Number Male	Number Female	Total Number	Average Salary	Total Salary
16 - 20	30	0	30	30,251	907,532
21 - 25	404	8	412	34,371	14,160,727
26 - 30	665	30	695	39,057	27,144,362
31 - 35	651	39	690	43,706	30,157,222
36 - 40	604	27	631	49,569	31,277,906
41 - 45	614	37	651	55,331	36,020,217
46 - 50	508	41	549	60,162	33,029,070
51 - 55	235	37	272	64,213	17,466,054
56 - 60	99	9	108	67,875	7,330,518
61 - 65	22	1	23	66,170	1,521,918
66 - 70	1	1	2	57,228	114,456
TOTAL	3,833	230	4,063	49,011	199,129,982

THE ACTIVE CENSUS INCLUDES 1,971 ACTIVES WITH VESTED BENEFITS, INCLUDING 56 ACTIVE FORMER DROP PARTICIPANTS. THE 221 CURRENT DROP PARTICIPANTS ARE EXCLUDED.

DROP PARTICIPANTS BY AGE:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	0	1	1	45,849	45,849
46 - 50	38	2	40	56,506	2,260,242
51 - 55	106	4	110	57,003	6,270,345
56 - 60	59	1	60	60,356	3,621,367
61 - 65	8	0	8	67,022	536,172
66 - 70	1	1	2	68,890	137,779
TOTAL	212	9	221	58,243	12,871,754

TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	1	0	1	23,190	23,190
36 - 40	11	0	11	23,357	256,929
41 - 45	20	1	21	21,144	444,025
46 - 50	23	0	23	29,056	668,277
51 - 55	14	0	14	20,256	283,588
66 - 70	1	0	1	23,393	23,393
TOTAL	70	1	71	23,935	1,699,402

TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:

Contributions Ranging From	To	Number	Total Contributions
0	99	48	2,230
100	499	120	31,413
500	999	53	38,311
1000	1999	43	60,681
2000	4999	58	191,355
5000	9999	56	421,612
10000	19999	44	605,545
20000	119999	28	721,589
	TOTAL	450	2,072,736

REGULAR RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
46 - 50	45	0	45	43,605	1,962,208
51 - 55	198	7	205	46,624	9,558,007
56 - 60	264	10	274	43,587	11,942,808
61 - 65	331	8	339	41,077	13,925,114
66 - 70	230	5	235	36,283	8,526,403
71 - 75	156	2	158	36,467	5,761,766
76 - 80	78	0	78	30,198	2,355,454
81 - 85	60	0	60	25,214	1,512,812
86 - 90	31	0	31	29,095	901,933
91 - 99	6	0	6	19,605	117,628
TOTAL	1,399	32	1,431	39,528	56,564,133

DISABILITY RETIREES:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
31 - 35	1	0	1	14,719	14,719
36 - 40	0	1	1	25,457	25,457
41 - 45	13	0	13	22,319	290,153
46 - 50	19	4	23	22,468	516,770
51 - 55	28	3	31	23,811	738,149
56 - 60	31	1	32	32,446	1,038,263
61 - 65	35	2	37	30,465	1,127,190
66 - 70	25	0	25	33,543	838,581
71 - 75	11	0	11	24,052	264,572
76 - 80	10	0	10	14,819	148,194
81 - 85	3	0	3	18,828	56,484
86 - 90	1	0	1	13,530	13,530
TOTAL	177	11	188	26,979	5,072,062

SURVIVORS:

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 25	17	19	36	5,492	197,696
26 - 30	0	1	1	13,521	13,521
31 - 35	0	3	3	18,351	55,054
36 - 40	1	3	4	15,324	61,295
41 - 45	1	8	9	23,015	207,137
46 - 50	0	12	12	26,811	321,726
51 - 55	0	18	18	23,263	418,734
56 - 60	2	21	23	26,435	608,000
61 - 65	1	28	29	21,490	623,214
66 - 70	1	25	26	20,669	537,406
71 - 75	0	44	44	22,369	984,245
76 - 80	0	46	46	15,999	735,938
81 - 85	1	55	56	15,746	881,779
86 - 90	0	18	18	12,426	223,661
91 - 99	0	14	14	12,315	172,415
TOTAL	24	315	339	17,822	6,041,821

ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Total	
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over		
0 - 20	19	10	1										30
21 - 25	123	77	65	78	37	32							412
26 - 30	71	58	74	95	82	305	10						695
31 - 35	30	35	31	51	47	287	201	8					690
36 - 40	19	23	23	22	20	127	222	172	3				631
41 - 45	5	7	13	18	10	83	146	214	154	1			651
46 - 50	2	5	5	8	7	33	79	116	192	97	5		549
51 - 55	2	1		7	3	24	34	37	61	76	27		272
56 - 60						7	23	17	14	26	21		108
61 - 65								7	4	3	9		23
66 - 70												1	2
71 & Over													0
Totals	271	216	212	279	206	898	715	572	428	203	63		4063

AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Average Salary	
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over		
0 - 20	29,539	30,782	38,475										30,251
21 - 25	29,178	32,003	36,955	38,047	39,128	40,317							34,371
26 - 30	29,334	32,381	37,356	38,965	39,320	42,712	46,603						39,057
31 - 35	29,874	32,648	39,044	38,878	40,438	44,228	49,227	54,568					43,706
36 - 40	29,825	35,215	42,648	39,371	43,861	44,351	51,481	57,737	61,633				49,569
41 - 45	33,306	31,689	39,561	40,591	43,398	44,051	52,937	60,322	62,286	66,976			55,331
46 - 50	28,305	36,430	36,608	44,484	37,334	45,016	53,352	60,136	63,241	69,820	79,797		60,162
51 - 55	32,407	45,290		48,845	45,623	42,513	56,733	65,379	63,947	70,570	83,141		64,213
56 - 60						51,411	60,040	56,372	62,811	76,019	84,549		67,875
61 - 65								59,575	51,149	82,936	72,387		66,170
66 - 70												62,360	57,228
71 & Over													0
Average	29,460	32,648	38,177	39,235	40,204	43,614	51,808	59,613	62,860	71,075	81,479		49,011

TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:

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

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

Attained Ages	Years Until Retirement Eligibility											Average Benefit
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 30												0
31 - 35									23,190			23,190
36 - 40								23,357				23,357
41 - 45						41,265	20,138					21,144
46 - 50	41,584		40,119		43,629	25,625						29,056
51 - 55	19,228	20,906	13,577	26,935	19,943							20,256
56 - 60												0
61 - 65												0
66 - 70	23,393											23,393
71 & Over												0
Average	31,448	20,906	26,848	26,935	23,890	26,448	20,138	23,357	23,190	0	0	23,935

SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement											Total
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 50	15	8	5	4	3	10						45
51 - 55	44	35	23	24	30	49						205
56 - 60	22	38	23	27	22	114	24	4				274
61 - 65	17	10	7	15	11	104	134	28	11	2		339
66 - 70	1	1	4	4	2	37	87	70	12	16	1	235
71 - 75		3	1			11	23	57	33	15	15	158
76 - 80						2	4	9	18	22	23	78
81 - 85							1	2	8	8	41	60
86 - 90							2		3	5	21	31
91 & Over								1			5	6
Totals	99	95	63	74	68	327	275	171	85	68	106	1431

AVERAGE ANNUAL BENEFITS PAYABLE TO SERVICE RETIREES:

Attained Ages	Completed Years Since Retirement											Average Benefit
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 50	41,509	49,860	48,345	45,794	47,744	37,256						43,605
51 - 55	54,201	49,428	47,665	43,374	43,861	40,615						46,624
56 - 60	53,980	52,681	41,956	42,861	42,447	40,616	40,135	25,974				43,587
61 - 65	50,579	46,020	54,734	44,990	50,612	43,432	39,022	32,914	24,812	24,958		41,077
66 - 70	38,984	28,753	46,182	37,228	42,463	35,894	39,898	35,653	27,599	24,760	17,759	36,283
71 - 75		39,483	67,686			46,498	36,307	42,619	32,874	25,021	22,643	36,467
76 - 80						21,458	41,845	41,377	35,008	32,971	18,142	30,198
81 - 85							5,996	39,396	34,678	42,451	19,780	25,214
86 - 90							9,562		55,621	41,148	24,296	29,095
91 & Over								26,346			18,256	19,605
Average	51,453	49,875	46,644	43,313	44,626	40,955	38,876	37,591	32,511	30,766	20,634	39,528

DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement											Total
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 30												0
31 - 35							1					1
36 - 40			1									1
41 - 45	2	1	1	2	2	3	2					13
46 - 50			3	3	1	8	5	3				23
51 - 55	1			1		15	7	3	4			31
56 - 60		3	1	1	1	10	5	4	3	4		32
61 - 65					1	8	6	4	12	3	3	37
66 - 70				1		1	7	7	2	4	3	25
71 - 75							1	4	2		4	11
76 - 80							2		2	1	5	10
81 - 85								1			2	3
86 - 90											1	1
91 & Over												0
Totals	3	4	6	8	5	45	36	26	25	12	18	188

AVERAGE ANNUAL BENEFITS PAYABLE TO DISABILITY RETIREES:

Attained Ages	Completed Years Since Retirement											Average Benefit
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 30												0
31 - 35							14,719					14,719
36 - 40			25,457									25,457
41 - 45	26,266	24,855	25,499	40,196	15,419	17,968	11,066					22,319
46 - 50			31,985	25,196	22,175	23,651	17,163	16,011				22,468
51 - 55	9,202			43,320		29,303	21,514	11,685	15,109			23,811
56 - 60		57,298	19,360	27,324	64,943	46,605	15,306	20,722	14,668	21,318		32,446
61 - 65					82,746	46,263	42,860	19,801	19,051	22,095	14,357	30,465
66 - 70				33,784		28,548	47,836	40,287	21,899	20,537	11,149	33,543
71 - 75							9,737	43,179	20,735		10,162	24,052
76 - 80							9,192		20,888	21,638	13,279	14,819
81 - 85								33,466			11,509	18,828
86 - 90											13,530	13,530
91 & Over												0
Average	20,578	49,187	27,712	32,551	40,141	34,386	26,942	28,206	18,404	21,279	12,228	26,979

SURVIVING BENEFICIARIES OF FORMER MEMBERS:

Attained Ages	Completed Years Since Retirement											Total
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 20		1	4	10	1	10	1	3				30
21 - 25			1			2		3				6
26 - 30						1						1
31 - 35			2			1						3
36 - 40				1		1		1	1			4
41 - 45				2		3	2	2				9
46 - 50	1	1	3			3	2	1	1			12
51 - 55		3	1	1		6	2	5				18
56 - 60	1			1		10	3	1	3	3	1	23
61 - 65			1		1	2	9	8	6	1	1	29
66 - 70		2				2	3	8	2	3	6	26
71 - 75		3				2	7	3	9	6	14	44
76 - 80		1					4	5	9	3	24	46
81 - 85		3							4	9	40	56
86 - 90									1	1	16	18
91 & Over							1			3	10	14
Totals	2	14	12	15	2	43	34	40	36	29	112	339

AVERAGE ANNUAL BENEFITS PAYABLE TO SURVIVORS OF FORMER MEMBERS:

Attained Ages	Completed Years Since Retirement											Average Benefit
	0	1	2	3	4	5- 9	10-14	15-19	20-24	25-29	30&Over	
0 - 20		3,675	4,890	5,512	2,745	6,374	3,116	3,649				5,297
21 - 25			5,217			11,270		3,679				6,466
26 - 30						13,521						13,521
31 - 35			14,457			26,141						18,351
36 - 40				27,363		23,204		8,977	1,752			15,324
41 - 45				39,968		23,603	16,601	11,596				23,015
46 - 50	85,899	3,673	33,143			32,024	12,237	2,698	9,482			26,811
51 - 55		35,855	15,050	17,723		24,542	17,826	19,099				23,263
56 - 60	41,967			36,492		30,025	23,404	42,200	20,565	15,027	10,107	26,435
61 - 65			35,590		11,496	15,978	23,300	21,269	23,609	19,706	2,955	21,490
66 - 70		21,591				53,621	15,990	24,382	24,850	17,638	6,890	20,669
71 - 75		24,716				36,377	25,668	47,208	28,907	16,282	11,299	22,369
76 - 80		27,138					4,671	32,868	23,682	18,802	10,676	15,999
81 - 85		25,378							16,919	22,887	13,300	15,746
86 - 90									4,959	24,342	12,148	12,426
91 & Over							2,898			23,364	9,942	12,315
Average	63,933	23,966	16,980	14,442	7,121	22,685	18,399	21,643	22,506	19,732	11,559	17,822

**EXHIBIT XI
YEAR-TO-YEAR COMPARISON**

	Fiscal 2013	Fiscal 2012	Fiscal 2011	Fiscal 2010
Number of Active Contributing Members	4,063	4,056	4,020	3,989
Number of Retirees & Survivors	1,958	1,875	1,802	1,749
DROP Participants	221	217	225	162
Number Terminated Due Deferred Benefits	71	70	68	59
Number of Terminated Due Refund	450	398	418	442
Active Lives Payroll (excludes DROP participants)	\$ 199,129,982	\$ 198,112,999	\$ 193,136,985	\$ 189,542,210
Retiree Benefits in Payment	\$ 67,678,016	\$ 62,975,274	\$ 58,699,965	\$ 56,056,554
Market Value of Assets	\$ 1,253,213,084	\$ 1,122,864,548	\$ 1,154,482,040	\$ 971,775,080
Ratio of Actuarial Value of Assets to Actuarial Accrued Liability	71.13%	71.66%	74.33%	74.21%
Actuarial Accrued Liability	\$ 1,771,931,777	\$ 1,700,643,083	\$ 1,621,007,988	\$ 1,536,258,543
Actuarial Value of Assets	\$ 1,260,348,240	\$ 1,218,618,308	\$ 1,204,830,245	\$ 1,140,054,175
UAL (Funding Excess)	\$ 511,583,537	\$ 482,024,775	\$ 416,177,743	\$ 396,204,368
P.V. of Future Employer Normal Contributions	\$ 310,702,226	\$ 325,616,184	\$ 305,540,215	\$ 335,984,027
P.V. of Future Employee Contributions	\$ 210,842,508	\$ 211,015,125	\$ 206,989,105	\$ 160,939,180
Present Value of Future Benefits	\$ 2,294,778,794	\$ 2,223,486,329	\$ 2,133,537,308	\$ 2,033,181,750

	Fiscal 2014	Fiscal 2013	Fiscal 2012	Fiscal 2011
Employee Contribution Rate (For employees with earnings above the poverty level)	10.00%	10.00%	10.00%	8.00%
Required Tax Contributions as a Percentage of Projected Payroll	11.05%	10.72%	10.93%	11.09%
Actuarially Required Employer Contribution as a Percentage of Projected Payroll (For employees with earnings above the poverty level)	29.23%	27.77%	24.02%	24.97%
Actual Employer Contribution Rate (For employees with earnings above the poverty level)	28.25%	24.00%	23.25%	21.50%

Fiscal 2009	Fiscal 2008	Fiscal 2007	Fiscal 2006	Fiscal 2005	Fiscal 2004
3,882	3,821	3,632	3,534	3,532	3,431
1,688	1,631	1,555	1,477	1,434	1,379
147	130	134	111	103	114
55	55	54	52	45	42
407	350	298	249	189	181
\$ 178,913,097	\$ 169,401,716	\$ 150,960,665	\$ 140,175,740	\$ 134,313,739	\$ 128,144,746
\$ 53,031,851	\$ 48,416,581	\$ 43,972,738	\$ 39,649,619	\$ 36,510,489	\$ 34,076,169
\$ 865,547,030	\$ 1,092,459,674	\$ 1,138,227,081	\$ 963,805,222	\$ 848,499,924	\$ 752,274,788
76.13%	85.78%	86.02%	83.66%	80.88%	71.84%
\$1,410,559,615	\$1,317,161,382	\$1,192,323,327	\$1,089,280,137	\$1,012,901,863	\$1,010,016,864
\$1,073,797,423	\$1,129,809,421	\$1,025,656,019	\$ 911,329,622	\$ 819,240,156	\$ 725,615,787
\$ 336,762,192	\$ 187,351,961	\$ 166,667,308	\$ 177,950,515	\$ 193,661,707	\$ 284,401,078
\$ 292,585,945	\$ 277,566,364	\$ 247,631,617	\$ 230,234,335	\$ 226,307,495	\$ 192,151,099
\$ 150,094,699	\$ 142,412,175	\$ 126,968,955	\$ 118,092,552	\$ 114,703,708	\$ 94,736,659
\$1,853,240,259	\$1,737,139,921	\$1,566,923,899	\$1,437,607,024	\$1,353,913,066	\$1,296,904,623

Fiscal 2010	Fiscal 2009	Fiscal 2008	Fiscal 2007	Fiscal 2006	Fiscal 2005
8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
11.56%	12.20%	13.16%	12.83%	12.82%	13.11%
20.79%	13.89%	12.56%	14.01%	15.66%	22.51%
14.00%	12.50%	13.75%	15.50%	18.00%	24.00%

SUMMARY OF PRINCIPAL PLAN PROVISIONS

The Firefighters' Retirement System was established as of January 1, 1980, for the purpose of providing retirement allowances and other benefits as described under R.S. 11:2256 - 11:2259. The following summary of plan provisions is for general informational purposes only and does not constitute a guarantee of benefits.

MEMBERSHIP - All full time firefighters or any person in a position as defined in the municipal fire and police civil service system who is employed by a fire department of any municipality, parish, or fire protection district of the State of Louisiana, except Orleans, and East Baton Rouge Parishes, who earns at least three hundred seventy-five dollars per month excluding state supplemental pay are required to be members of this retirement system. Employees of the system are eligible, at their option to become members of the system. Persons must be under the age of fifty to be eligible for system membership unless they become members through merger.

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. 22:1476A(3). The employee contribution rate is at least 8% 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 8%. The employee rate then increases 0.25% for each 0.75% increase in the total rate, subject to a maximum rate of 10%. The rate is fixed at 8% for members whose earnable compensation is less than or equal to the poverty guidelines issued by the U. S. Department of Health and Human Services. Net direct employer contributions are nine percent (9%) 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%.

CONTRIBUTION REFUNDS - Upon withdrawal from service, members not entitled to a retirement allowance may receive a refund of accumulated contributions. Refunds are payable ninety days after the effective date of withdrawal from service.

RETIREMENT BENEFITS - 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, provided that they have been a member of this system for at least one year. 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.

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 five years of creditable service and provided that the disability was incurred while the member was an active contributing member, is entitled to disability benefits. Any member under the age of fifty who becomes totally disabled will receive a disability benefit equal to 60% of final compensation for an injury received in the line of duty; or 75% of his accrued retirement benefit with a minimum of 25% of average salary for any injury received, even though not in the line of duty. Any member age fifty or older who becomes totally disabled from an injury sustained in the line of duty is entitled to a disability benefit equal to the greater of 60% of final compensation or his accrued retirement benefit. Any member age fifty or older who becomes totally disabled as a result of any injury, even though not in the line of duty, is entitled to a disability benefit equal to his accrued retirement benefit with a minimum of 25% of average salary. The surviving spouse of a member who was on disability retirement at the time of death receives a benefit of \$200 per month. When the member takes disability retirement, he may in addition take an actuarially reduced benefit in which case the member's surviving spouse receives 50% of the disability benefit being paid immediately prior to the death of the disability retiree. The retirement system may reduce benefits paid to a disability retiree who is also receiving workers compensation payments.

SURVIVOR BENEFITS - Benefits are payable to survivors of a deceased member who dies and is not eligible for retirement as follows. If any member is killed in the line of duty and leaves a surviving eligible spouse, the spouse is entitled to an annual benefit equal to two-thirds of the deceased member's final compensation. If any member dies from a cause not in the line of duty, the surviving spouse is entitled to an annual benefit equal to 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. 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) until reaching the age of eighteen or until the age of twenty-two if enrolled full-time in an institution of higher learning, 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.

DEFERRED RETIREMENT OPTION PLAN - In lieu of terminating employment and accepting a service retirement allowance, any member of the system who has at least twenty years of creditable service and who is eligible to receive a service 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. 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 - The board of trustees is authorized to grant retired members and widows of members who have retired an annual cost of living increase of up to 3% of their current benefit, and all retired members and widows who are sixty-five years of age and older a 2% increase in their original benefit. In order for the board to grant either of these increases the system must meet certain criteria detailed in the statute related to funding status and interest earnings. In lieu of these cost of living adjustments the board may also grant an increase in the form of " $X \times (A+B)$ " where "X" is any amount up to \$1 per month, and "A" is equal to 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 thirtieth of the initial year of such increase.

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, ANNUITANT, AND BENEFICIARY MORTALITY: RP 2000 Combined Healthy Table set back 1 years for males and 1 year for females

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

ANNUAL SALARY INCREASE RATE: Salary increases include 3.00% inflation and merit increases. The gross rates including inflation and merit increases are as follows:

Years of Service	Salary Growth Rate
1 – 2	15.000%
3 – 14	6.500%
15 & over	5.500%

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

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	0.20
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. 20% of total disabilities are assumed to be in the line of duty.

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

<u>Service</u>	<u>Factor</u>	<u>Service</u>	<u>Factor</u>
<1	0.100	7	0.020
1	0.060	8	0.020
2	0.060	9	0.020
3	0.060	10	0.020
4	0.035	11	0.020
5	0.035	>11	0.010
6	0.035		

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.

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 2000 U. S. Census:

<u>Member's Age</u>	<u>% With Children</u>	<u>Number of Children</u>	<u>Average Age</u>
25	62%	1.7	6
35	82%	2.1	10
45	66%	1.8	13
55	19%	1.4	15
65	2%	1.4	15

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

VESTING ELECTING PERCENTAGE: 70% of those vested elect deferred benefits in lieu of contribution refunds.

ACTUARIAL TABLES AND RATES

Age	Active Male Mortality	Active Female Mortality	Retired Male Mortality	Retired Female Mortality	Retirement Rates	DROP Entry Rates	Disability Rates
18	0.00030	0.00018	0.00030	0.00018	0.00000	0.00000	0.00083
19	0.00032	0.00019	0.00032	0.00019	0.00000	0.00000	0.00083
20	0.00033	0.00019	0.00033	0.00019	0.00000	0.00000	0.00083
21	0.00035	0.00019	0.00035	0.00019	0.00000	0.00000	0.00083
22	0.00036	0.00019	0.00036	0.00019	0.00000	0.00000	0.00083
23	0.00037	0.00019	0.00037	0.00019	0.00000	0.00000	0.00083
24	0.00037	0.00020	0.00037	0.00020	0.00000	0.00000	0.00083
25	0.00038	0.00020	0.00038	0.00020	0.00000	0.00000	0.00083
26	0.00038	0.00021	0.00038	0.00021	0.00000	0.00000	0.00083
27	0.00038	0.00021	0.00038	0.00021	0.00000	0.00000	0.00083
28	0.00038	0.00022	0.00038	0.00022	0.00000	0.00000	0.00083
29	0.00039	0.00024	0.00039	0.00024	0.00000	0.00000	0.00083
30	0.00041	0.00025	0.00041	0.00025	0.00000	0.00000	0.00083
31	0.00044	0.00026	0.00044	0.00026	0.00000	0.00000	0.00083
32	0.00050	0.00031	0.00050	0.00031	0.00000	0.00000	0.00083
33	0.00056	0.00035	0.00056	0.00035	0.00000	0.00000	0.00083
34	0.00063	0.00039	0.00063	0.00039	0.00000	0.00000	0.00083
35	0.00070	0.00044	0.00070	0.00044	0.00000	0.00000	0.00094
36	0.00077	0.00047	0.00077	0.00047	0.00000	0.00000	0.00105
37	0.00084	0.00051	0.00084	0.00051	0.00000	0.00000	0.00116
38	0.00090	0.00055	0.00090	0.00055	0.00000	0.00000	0.00132
39	0.00096	0.00060	0.00096	0.00060	0.00000	0.00000	0.00149
40	0.00102	0.00065	0.00102	0.00065	0.00000	0.00000	0.00171
41	0.00108	0.00071	0.00108	0.00071	0.08000	0.15000	0.00193
42	0.00114	0.00077	0.00114	0.00077	0.08000	0.15000	0.00215
43	0.00122	0.00085	0.00122	0.00085	0.08000	0.15000	0.00242
44	0.00130	0.00094	0.00130	0.00094	0.08000	0.15000	0.00275
45	0.00140	0.00103	0.00140	0.00103	0.08000	0.15000	0.00314
46	0.00151	0.00112	0.00151	0.00112	0.08000	0.15000	0.00358
47	0.00151	0.00112	0.00162	0.00122	0.08000	0.15000	0.00402
48	0.00173	0.00133	0.00173	0.00133	0.08000	0.15000	0.00457
49	0.00186	0.00143	0.00186	0.00143	0.08000	0.15000	0.00517
50	0.00200	0.00155	0.00200	0.00155	0.08000	0.15000	0.00589
51	0.00214	0.00168	0.00535	0.00234	0.04000	0.15000	0.00671
52	0.00229	0.00181	0.00553	0.00246	0.04000	0.25000	0.00759
53	0.00245	0.00197	0.00564	0.00265	0.04000	0.25000	0.00864
54	0.00262	0.00213	0.00572	0.00290	0.04000	0.25000	0.00979
55	0.00281	0.00232	0.00580	0.00319	0.14000	0.25000	0.01111
56	0.00303	0.00253	0.00590	0.00353	0.14000	0.25000	0.01265
57	0.00331	0.00276	0.00612	0.00393	0.14000	0.25000	0.01436
58	0.00363	0.00301	0.00644	0.00438	0.14000	0.11000	0.01628
59	0.00400	0.00329	0.00690	0.00492	0.14000	0.11000	0.01854
60	0.00441	0.00360	0.00749	0.00553	0.14000	0.11000	0.02684
61	0.00488	0.00393	0.00820	0.00620	0.14000	0.11000	0.02684
62	0.00538	0.00429	0.00900	0.00692	0.14000	0.38000	0.02684
63	0.00592	0.00466	0.00991	0.00769	0.14000	0.38000	0.02684
64	0.00647	0.00504	0.01095	0.00851	0.50000	0.38000	0.02684
65	0.00703	0.00543	0.01212	0.00939	0.50000	0.38000	0.02684

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.

Actuarially Required Net Direct Combined Contribution – The sum of the actuarially required employee contributions and net direct employer contributions after reduction for projected Insurance Premium Taxes due to the system.

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:

