

**SHERIFFS' PENSION & RELIEF FUND**

ACTUARIAL VALUATION AS OF  
JUNE 30, 2009

# **G. S. CURRAN & COMPANY, LTD.**

**Actuarial Services**

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November 12, 2009

Board of Trustees  
Sheriffs Pension & Relief Fund  
1225 Nicholson Drive  
Baton Rouge, Louisiana 70802

Ladies and Gentlemen:

We are pleased to present our report on the actuarial valuation of the Sheriffs' Pension & Relief Fund for the fiscal year ending June 30, 2009. Our report is based on the actuarial assumptions specified and relies on the data supplied by the system's administrator and accountants. This report was prepared at the request of the Board of Trustees of the Sheriffs' Pension & Relief Fund. The primary purposes of the report are to determine the actuarially required contribution for the retirement system for the fiscal year ending June 30, 2010, to recommend the net direct employer contribution rate for fiscal 2011, and to provide information required for the system's financial statements. This report was prepared exclusively for the Sheriffs' Pension & Relief Fund for a specific limited purpose. It is not for the use or benefit of any third party for any purpose.

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.

By: \_\_\_\_\_  
Gregory Curran, F.C.A., M.A.A.A., A.S.A.

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## SUMMARY OF VALUATION RESULTS SHERIFFS' PENSION & RELIEF FUND

Valuation Date:	June 30, 2009	June 30, 2008
Census Summary: Active Members	14,396	14,038
Retired Members and Survivors	3,369	3,140
Terminated Due a Deferred Benefit	306	328
Terminated Due a Refund	4,435	4,156
Payroll:	\$ 577,078,980	\$ 537,082,456
Benefits in Payment:	\$ 71,517,150	\$ 64,309,772
Frozen Unfunded Accrued Liability	\$ 72,846,699	\$ 74,278,468
Actuarial Asset Value:	\$ 1,608,228,363	\$1,628,303,910
Market Value of Assets:	\$ 1,306,974,663	\$1,511,820,016
Actuarial Accrued Liabilities (As defined by GASB-25)	\$ 1,681,075,062	\$1,702,582,378

Ratio of Net AVA to GASB-25 Accrued Liability: 95.67% 95.64%  
 \*\*\*\*\*

	FISCAL 2010	FISCAL 2009
Employer Normal Cost (July 1):	\$ 93,440,211	\$ 67,199,394
Amortization Cost (July 1):	\$ 7,066,795	\$ 6,827,821
Gross Employer Actuarially Required Contribution (Including Estimated Administrative Costs):	\$ 106,039,945	\$ 78,451,339
Projected Revenue Sharing, Ad Valorem, and Insurance Premium Taxes	\$ 31,433,066	\$ 29,074,911
Net Direct Actuarially Required Employer Contributions:	\$ 74,606,879	\$ 49,376,428

Actuarially Required Net Direct Contribution Rate: 12.58% 8.92%  
 Actual Net Direct Employer Contribution Rate: 11.00% 11.00%  
 \*\*\*\*\*

Minimum Recommended Net Direct Employer Cont. Rate: Fiscal 2011: 12.75% Fiscal 2010: 9.00%

Employee Contribution Rate: 10% of payroll

Dedicated Funding: 0.50% of ad valorem taxes plus revenue sharing funds and funds from the state's Insurance Premium Taxes as allocated by the Louisiana Public Retirement Systems' Actuarial Committee.

Actuarial Cost Method: Frozen Attained Age Normal Actuarial Cost Method

Valuation Interest Rate: 8% (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 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.

Changes in Valuation Methods, Assumptions, and/or Amortization Periods: The actuarial value of assets was changed from a four year phase-in of earnings above or below the valuation interest rate subject to a limit of 90% to 110% of the market value of assets to the above described method.

Method of Recognizing Gains and Losses: Under the Frozen Attained Age Normal Method, actuarial gains and losses are spread over future normal costs.

## COMMENTS ON DATA

For the valuation, the administrative staff of the system furnished a census on magnetic diskette derived from the system's master data processing file indicating each active covered employee's sex, date of birth, service credit, annual salary, and accumulated contributions. Information on retirees detailing dates of birth of retirees and beneficiaries, as well as option categories and benefit amounts, was provided in like manner. In addition, data was supplied on former employees who are vested or who have contributions remaining on deposit. As illustrated in Exhibit X, there are 14,396 active members in the system of whom 3,798 have vested retirement benefits; 3,369 former system members or their beneficiaries are receiving retirement benefits. An additional 4,741 terminated members have contributions remaining on deposit with the system; of this number, 306 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 administrator for verification and/or correction. Once the identified data has been researched and verified or corrected, it is returned to us for use in the valuation. Occasionally some requested information is either unavailable or impractical to obtain. In such cases, values may be assigned to missing data. The assigned values are based on information from similar records or based on information implied from other data in the record.

In addition to the statistical information provided on the system's participants, the system's 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 audit report, the net market value of the system's assets was \$1,306,974,663 as of June 30, 2009. Net investment losses for fiscal 2009 measured on a market value basis amounted to \$268,163,023. Contributions to the system for the fiscal year totaled \$157,088,491; benefits and expenses amounted to \$93,770,821.

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

## COMMENTS ON ACTUARIAL METHODS AND ASSUMPTIONS

This valuation is based on the Frozen Attained Age Normal actuarial cost method with the unfunded accrued liability frozen as of June 30, 1989. Under the provisions of Louisiana R.S. 11:103 the unfunded accrued liability which was determined to be \$69,702,461 as of June 30, 1989, was amortized over forty years with payments increasing at 3.50% per year. Payroll growth in excess of 3.50% per year will reduce future amortization payments as a percent of payroll; payroll growth less than 3.50% will increase future payments as a percent of payroll. Under the Frozen Attained Age Normal Cost Method, actuarial gains and losses are spread over future normal costs. Thus, favorable plan experience will lower future normal costs; unfavorable experience will cause future normal costs to increase. In addition, changes in benefits and assumptions are also spread over future normal costs as are contribution surpluses and shortfalls.

Prior to the passage of Act 247 in the 2009 legislative session, in any year in which the net direct employer contribution is scheduled to decrease, the board of trustees could freeze the net direct employer contribution rate and use the excess funds collected, if any, to reduce the frozen unfunded actuarial accrued liability. Notwithstanding such a decrease, payments are made according to the regular amortization schedule, thereby reducing the amortization period. In fiscal 2008 the excess contributions collected from the frozen employer contribution rate reduced the frozen unfunded actuarial accrued liability by \$22,548,024. Based upon the additional contributions collected during fiscal 2008, the current frozen unfunded actuarial accrued liability will be fully amortized by June 30, 2023.

The actuarial assumptions utilized for the report are outlined on pages thirty-five through thirty-eight. In the aggregate the assumptions represent our "best estimate" of future long-term experience for the fund. The assumptions are the same as those used for the prior year. The method used to calculate the Actuarial Value of Assets was changed. In the prior year, the actuarial value of assets was determined by smoothing all earnings above or below the assumed rate of return over a four year period with the resulting value constrained to a corridor of no less than 90% of the market value of assets and no more than 110% of the market value of assets. For this valuation, the smoothing period was increased to five years and the corridor was expanded to a range of 85% to 115% of the market value of assets; the actuarial value of assets was then set equal to the average of the applicable corridor limit and the smoothed value whenever the smoothed value falls outside of the corridor. The effect of this change was to reduce the fund's normal cost accrual rate by 3.2937%.

## CHANGES IN PLAN PROVISIONS

The following changes in plan provisions were enacted during the 2009 Regular Session of the Louisiana Legislature:

**Act 247** creates a funding deposit account for the Sheriffs' Pension and Relief Fund. The beginning balance will be zero as of December 31, 2008. All surplus funds collected will be credited to the account for any fiscal year ending on or after December 31, 2008, in which the board of trustees elects to set the direct employer contribution rate higher than the minimum recommended rate. The funds will earn interest at the board-approved actuarial valuation rate, and the interest will be credited at least once a year. Beginning with the June 30, 2009 valuation, the board may direct the

account funds be charged for the following purposes: (1) to reduce the unfunded accrued liability, (2) to reduce the present value of future normal costs, (3) to pay all or a portion of any future net direct employer contributions. The funds charged from the account may not exceed the outstanding balance. If the board elects to charge funds from the funding deposit account in order to pay a portion of the net direct employer contribution, the percent reduction in the minimum recommended employer contribution rate will be determined by dividing the interest-adjusted value of the charges from the funding deposit account by the projected payroll for the fiscal year for which the contribution rate is to be reduced. For funding purposes, any asset value used in the calculation of the actuarial value of assets will exclude the account balance as of the asset determination date for the calculation. For all purposes other than funding, the funds in the account will be considered assets of the system.

**Act 270** provides that a member of a state or statewide retirement system, upon applying for retirement, may irrevocably elect a retirement payment option whereby his benefit is actuarially reduced, but he receives a 2.5% compounded increase in his benefit annually on each retirement anniversary date. This increase is not available to Back-DROP participants. The adjustment is only payable to retirees who are 55 and older. The adjustment is not based on any other COLAs the system may grant. Any additional COLA granted by the system will be based on the retiree's monthly benefit as it exists when such COLA is granted. Spousal beneficiaries also receive the COLA upon the retiree's death if the retiree chose to have his benefits paid to his spouse upon his death.

## **ASSET EXPERIENCE**

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

	<u>Market Value</u>	<u>Actuarial Value</u>
2000	5.2%	7.3%
2001	-0.8%	3.3%
2002	-3.0%	0.3%
2003	4.2%	0.0%
2004	8.4%	3.0%
2005	8.1%	6.1%
2006	8.5%	* 13.8%
2007	16.0%	10.2%
2008	-6.4%	6.5%
2009	-17.4%	** -5.0%

\* Includes effect of change in asset valuation method. Effective with 2006 valuation the method of calculating the actuarial value of assets was changed from a three-year smoothing of realized and unrealized capital gains and losses to a four-year smoothing of all investment returns above or below the current valuation interest rate.

\*\* Includes effect of change in asset valuation method. Effective with 2009 fiscal year, the smoothing period was increased from four to five years and the corridor limits were increased to 85% to 115% of the market value of assets and the final asset value was determined by averaging the smoothed value and the corridor limit if the smoothed value extends beyond the corridor.

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 and dividends. 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 2009, the fund earned \$24,620,268 of dividends, interest, and other recurring income. This income was offset by realized and unrealized capital losses of \$288,194,862 and investment expenses of \$4,588,429. The geometric mean of the market value rates of return measured over the last ten years was 1.9%.

The actuarial rate of return is presented for comparison to the assumed long-term rate of return of 8% 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 investment income relative to the valuation interest rate. Yields in excess of the 8.0% assumption will reduce future costs; yields below 8.0% will increase future costs. For fiscal 2009, the system experienced net actuarial investment earnings of \$386,697,747 below the actuarial assumed earnings rate of 8.0%, when measured on the prior actuarial funding method. This deficiency in earnings produced an actuarial loss, which increased the normal cost accrual rate by 7.4678% without adjusting for the change in method used to determine the actuarial value of assets.

## **DEMOGRAPHICS AND LIABILITY EXPERIENCE**

A reconciliation of the census for the system is given in Exhibit X. The average active member is 43 years old with 8.4 years of service and an average salary of \$40,086. The system's active contributing membership increased during the fiscal year by 358 members. The plan has experienced an increase in the active plan population of 739 members over the last five years. A review of the active census by age indicates that over the last ten years the population in the under-forty age group has decreased while the proportion of active members over-forty increased. During this ten-year period the plan showed a decrease in the percentage of members with service less than five years.

The average service retiree is 67 years old with a monthly benefit of \$1,980. The retired population increased by 229 during the last fiscal year. Over the last five years the number of retirees increased by 881. During this same period, annual benefits in payment increased by \$32,392,845.

Plan liability experience for fiscal 2009 was unfavorable. Salary increases above projected levels increased plan costs. Withdrawals below projections slightly increased costs. These increases in costs were offset by disabilities below projected levels, retirements below projected levels, and retiree deaths above projected levels. Overall, plan liability experience increased the normal cost accrual rate by 0.1295%.

## **FUNDING ANALYSIS AND RECOMMENDATIONS**

Actuarial funding of a retirement system is a process whereby funds are accumulated over the working lifetimes of employees in such a manner as to have sufficient assets available at retirement to pay for the lifetime benefits accrued by each member of the system. The required contributions

are determined by an actuarial valuation based on rates of mortality, termination, disability, and retirement, as well as investment return and other statistical measures specific to the particular group. Each year a determination is made of two cost components, and the actuarially required contributions are based on the sum of these two components plus administrative expenses.

These two components are the normal cost and the amortization payment on the unfunded actuarial accrued liability. The normal cost refers to the portion of annual cost based on the salary of active participants. The term unfunded accrued liability (UAL) refers to the excess of the present value of plan benefits over the sum of current assets and future normal costs. Each year the UAL grows with interest and is reduced by payments. Under the funding method used for the plan, changes in plan experience, benefits, or assumptions do not affect the frozen unfunded actuarial accrued liability. These items increase or decrease future normal costs.

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

The derivation of the actuarially required contribution for the current fiscal year is given in Exhibit I. The normal cost for fiscal 2010 as of July 1, 2009, is \$93,440,211. The amortization payment on the fund's frozen unfunded actuarial accrued liability as of July 1, 2009, is \$7,066,795. The total actuarially required contribution is determined by adjusting these two values for interest (since payments are made throughout the fiscal year) and adding estimated administrative expenses. As given on line 15 of Exhibit I the total actuarially required contribution for fiscal 2010 is \$106,039,945. When this amount is reduced by projected ad valorem tax contributions, revenue sharing funds, and insurance premium taxes the remaining portion to be funded by direct employer contributions for fiscal 2010 is \$74,606,879. This is 12.58% of projected payroll for the fiscal year.

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

The effects of various factors on the fund's cost structure are outlined below:

Normal Cost Accrual Rate – Fiscal 2009	13.3165%
Factors Increasing the Normal Cost Accrual Rate:	
Liability Experience	0.1295%
Asset Experience	7.4678%
Factors Decreasing the Normal Cost Accrual Rate:	
Change in Asset Valuation Method	3.2937%
New Members	0.4204%
Normal Cost Accrual Rate – Fiscal 2010	17.2000%

In addition to the above factors, payroll growth affects plan costs to the extent that payments on the system's unfunded liability are on a schedule that varies from actual trends in payroll growth or decline. If payroll changes at rates not consistent with the amortization schedule the result will be costs that change as a percentage of payroll. For fiscal 2009, the net effect of the change in payroll on amortization costs was to decrease this cost by 0.04% of projected payroll. Required net direct employer contributions are also affected by the available ad valorem taxes, revenue sharing funds, and insurance premium taxes which the system receives each year. When these funds change as a percentage of payroll, net direct employer contributions are adjusted accordingly. We estimate that these funds collected in fiscal 2010 will increase by 0.05% of projected payroll.

Although the actuarially required net direct employer contribution rate for fiscal 2010 is 12.58%, the actual employer contribution rate for fiscal 2010 is 11.00% of payroll. Since the contribution rate for fiscal 2010 was 11.00%, any deficit in employer contributions collected in the fiscal year will increase the Fund's normal cost accrual rate. We estimate this deficit will result in an increase of 0.17% to the normal cost accrual rate in fiscal 2011. R.S. 11:103 requires that the net direct employer contributions be rounded to the nearest 0.25%, hence we are recommending a minimum net direct employer contribution rate of 12.75% for fiscal 2011.

Recent capital market conditions have resulted in asset experience losses for the fund that will significantly increase its cost structure. These market conditions may be temporary or may indicate that future return expectations should be reduced. Contribution rates to the fund as given in this report are a function of the assumed long-term rate of return on assets used for the valuation. That rate of return should be consistent with long-term capital market expectations and the asset allocation utilized by the fund. The sensitivity of each plan's contribution rate with regard to the assumed rate of return is unique. For the Sheriffs' Pension and Relief Fund, we have determined that a decrease in the long-term assumed rate of return of 1% would lead to an increase in the required employer contribution rate of 7.15% of payroll. Please note that the above results are only intended to serve as an illustration of the impact of a change in the valuation interest rate. Any actual change in the valuation interest rate should only be effected with a review of all other plan assumptions. The impact of such other changes in assumptions are not reflected in the above the results.

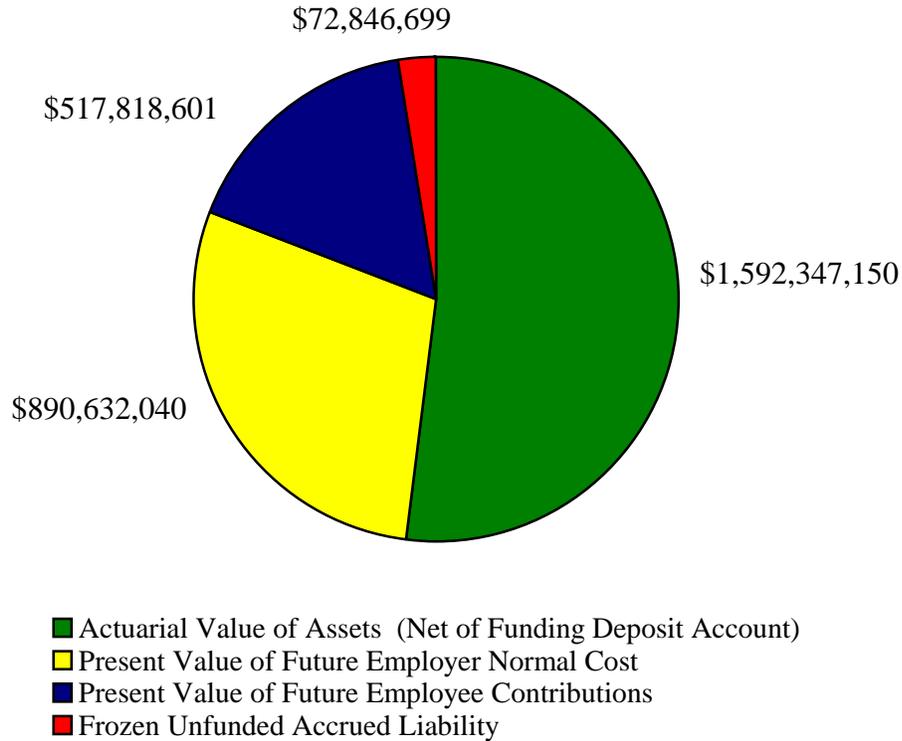
## **COST OF LIVING INCREASES**

During fiscal 2009 the actual cost of living (as measured by the U. S. Department of Labor CPI-U) decreased by 1.43%. Cost of living provisions for the system are detailed in R.S. 11:2178(K) and R.S. 11:246. The former statute allows the board to grant annual cost of living increases of between 2% and 3% of each retiree's benefit with a minimum benefit of \$20 per month.

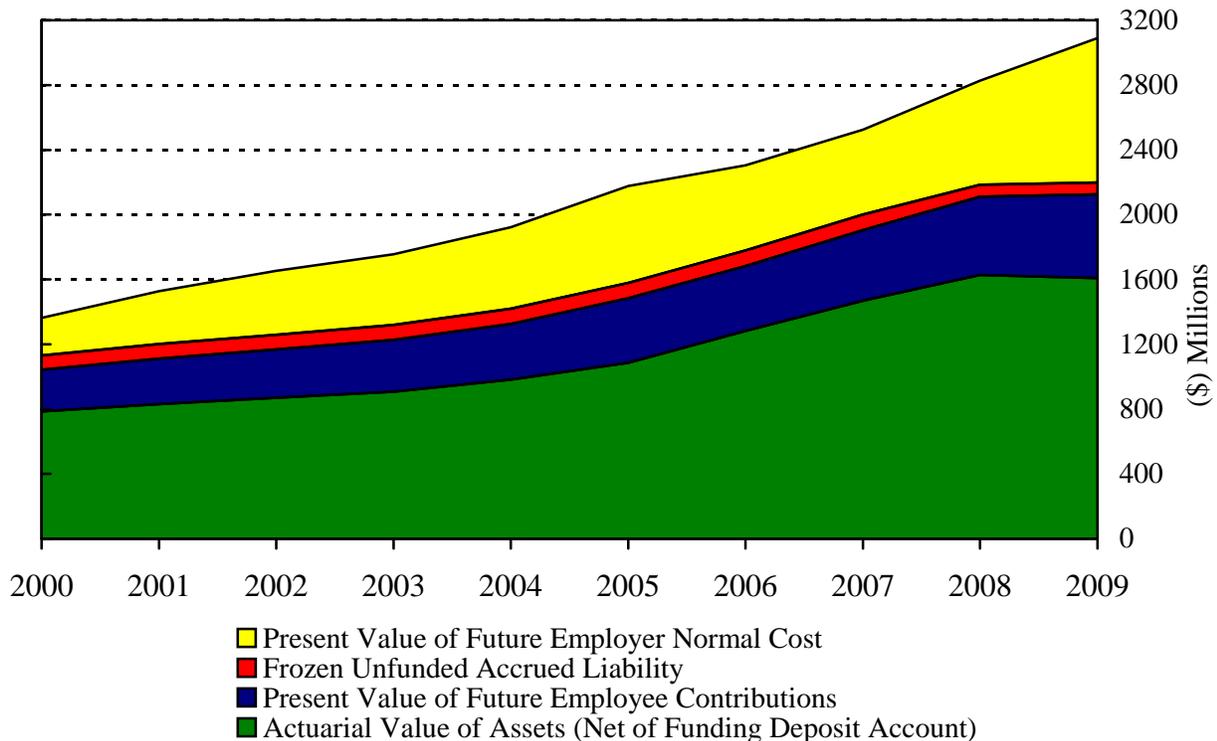
R.S. 11:246 provides cost of living increases of retirees and beneficiaries over the age of 65 equal to 2% of the benefit in payment on October 1, 1977, or the date the benefit was originally received if retirement commenced after that date. R.S. 11:241 provides that cost of living benefits shall be in the form (unless the board otherwise specifies) of  $\$X \times (A+B)$  where X is at most \$1 and "A" represents the number of years of credited service accrued at retirement or at death of the member or retiree and "B" is equal to the number of years since retirement or since death of the member or retiree to June 30<sup>th</sup> 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, 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. We have determined that for fiscal 2009 the fund has not met the necessary target ratio and that the plan's investment experience was below assumptions. Therefore, the Fund is unable to grant COLAs to retirees at this time.

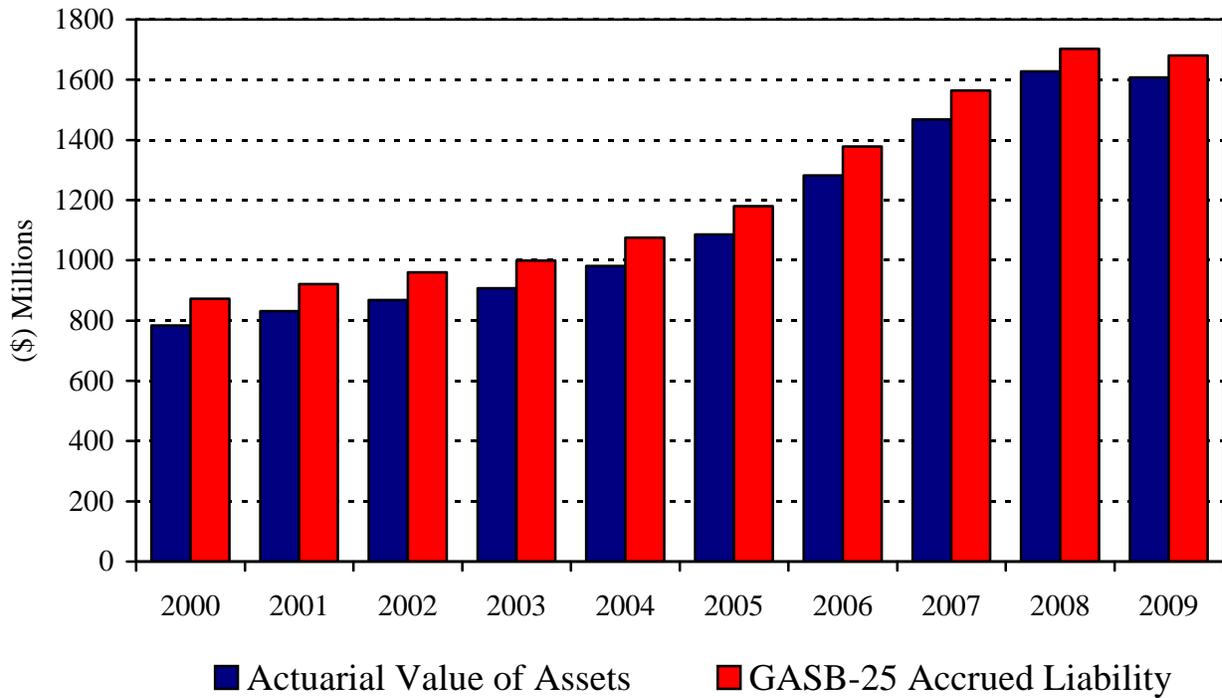
## Components of Present Value of Future Benefits June 30, 2009



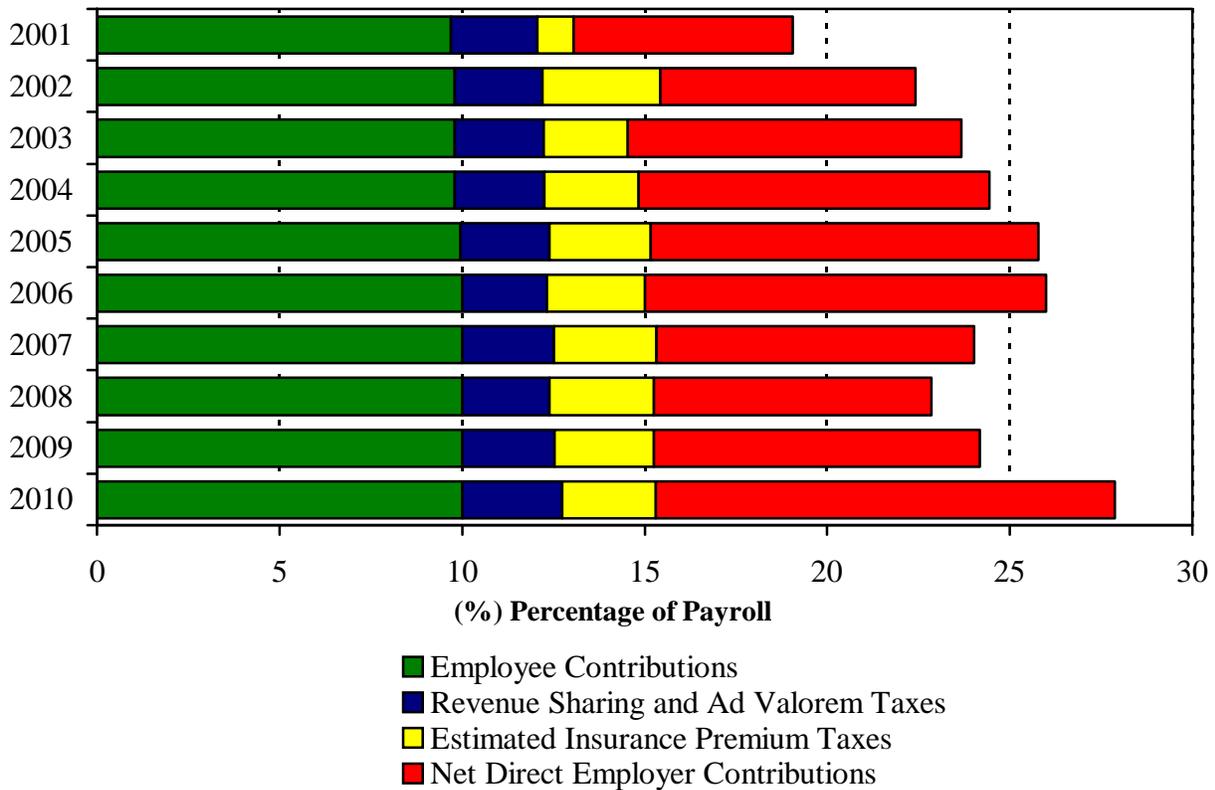
## Components of Present Value of Future Benefits



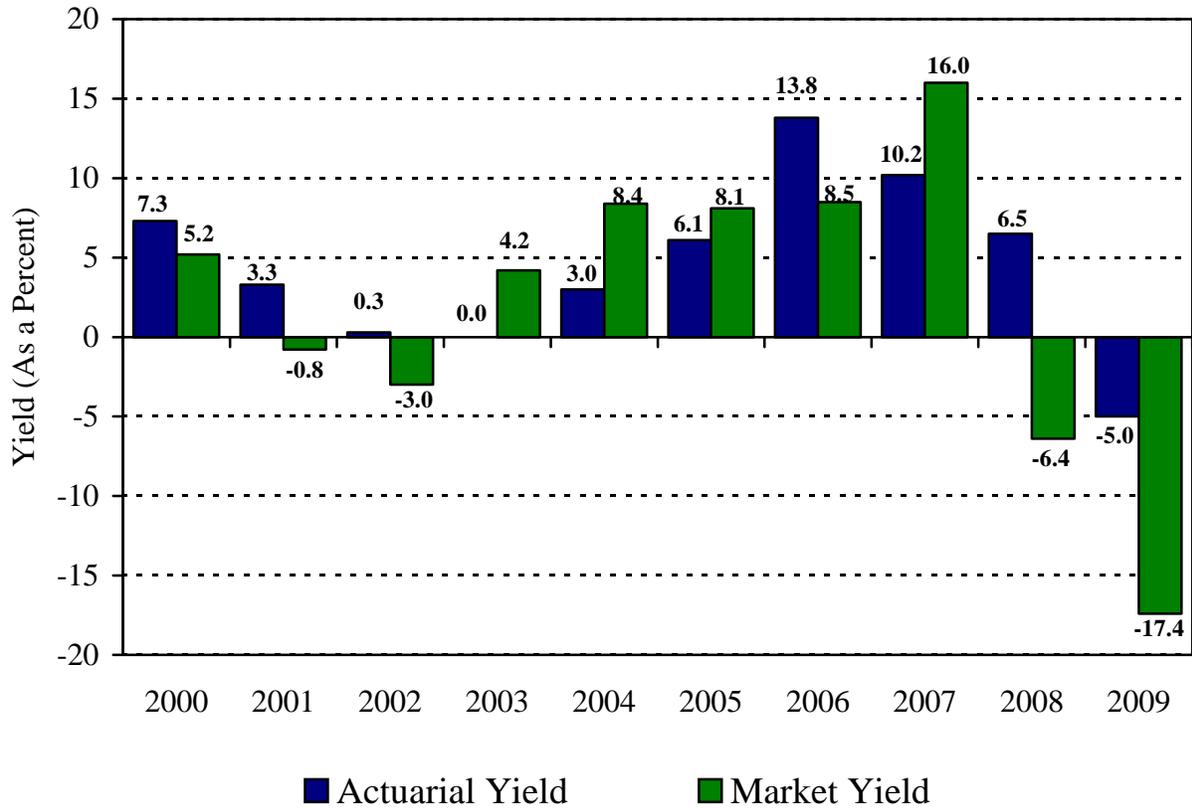
# Actuarial Value of Assets vs. GASB-25 Accrued Liability



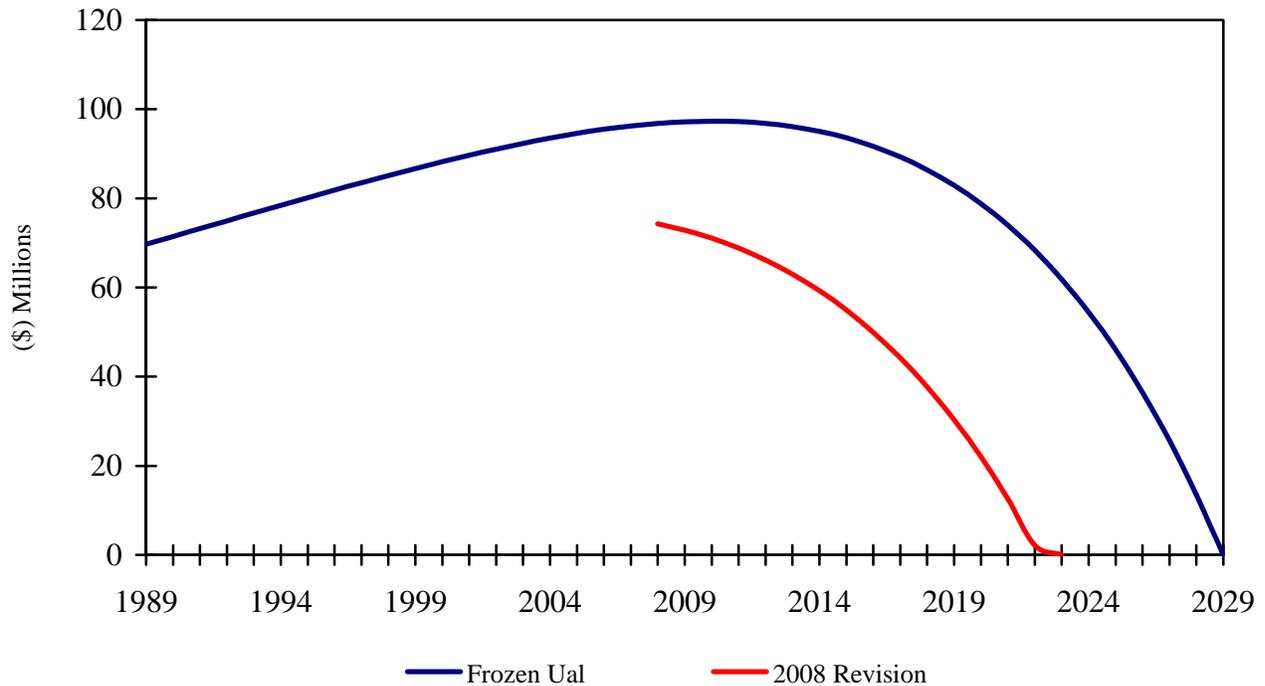
## Components of Actuarial Funding



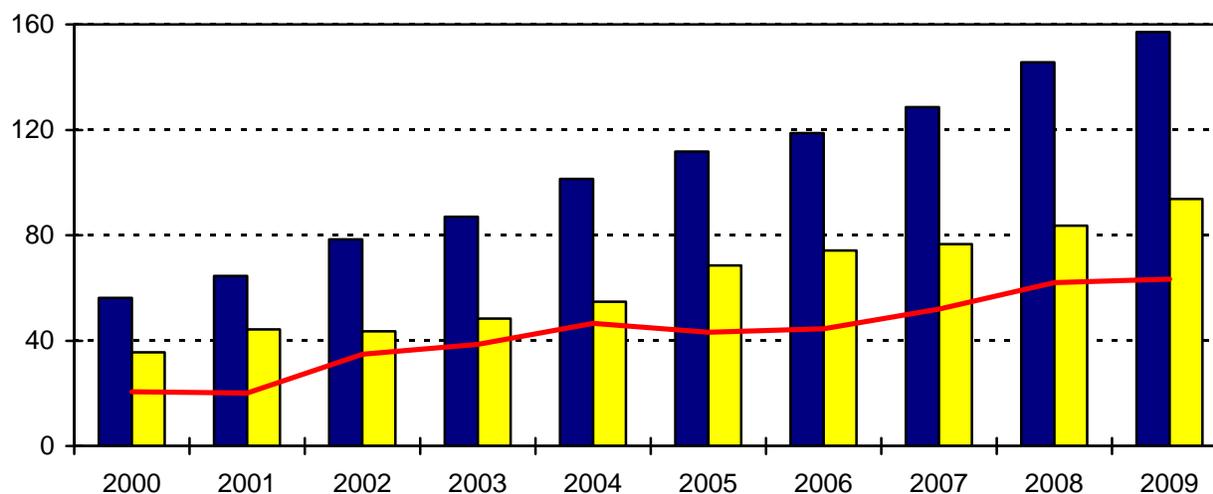
## Historical Asset Yields



## Frozen Unfunded Actuarial Accrued Liability

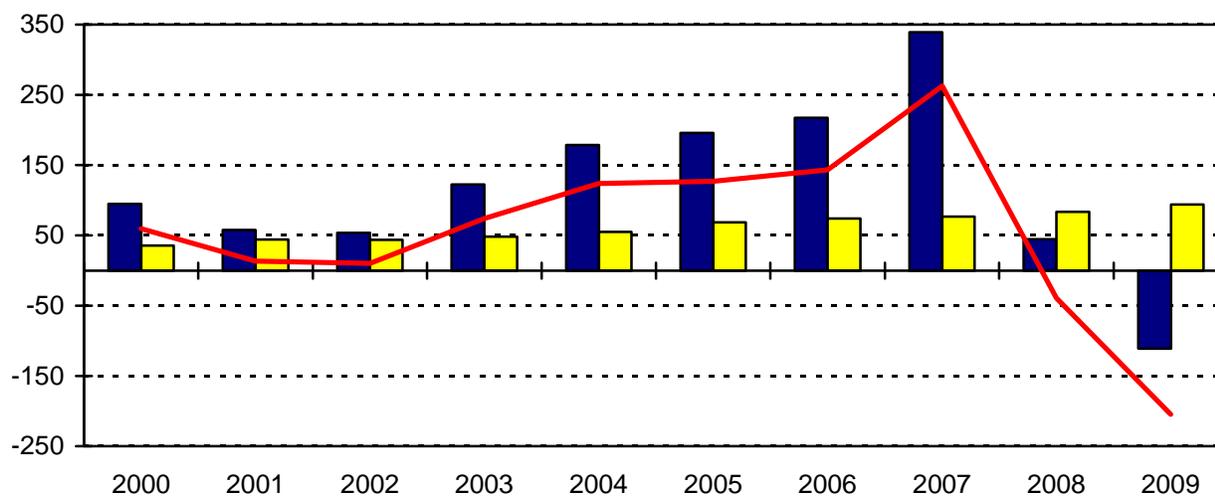


## Net Non-Investment Income



		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Non-Investment Income (\$Mil)	■	56.2	64.5	78.4	87.0	101.4	111.7	118.7	128.6	145.7	157.1
Benefits and Expenses (\$Mil)	■	35.6	44.3	43.5	48.4	54.8	68.5	74.2	76.6	83.6	93.8
Net Non-Investment Income (\$Mil)	—	20.6	20.2	34.9	38.6	46.6	43.2	44.5	52.0	62.1	63.3

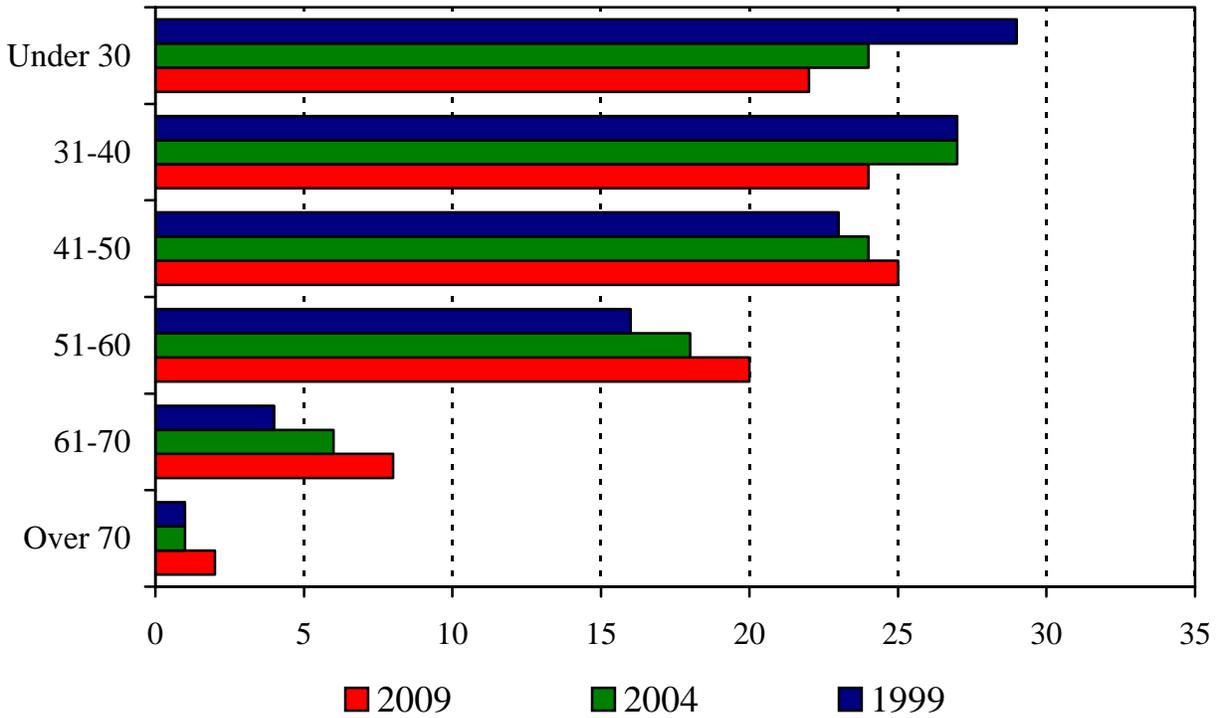
## Total Income vs. Expenses



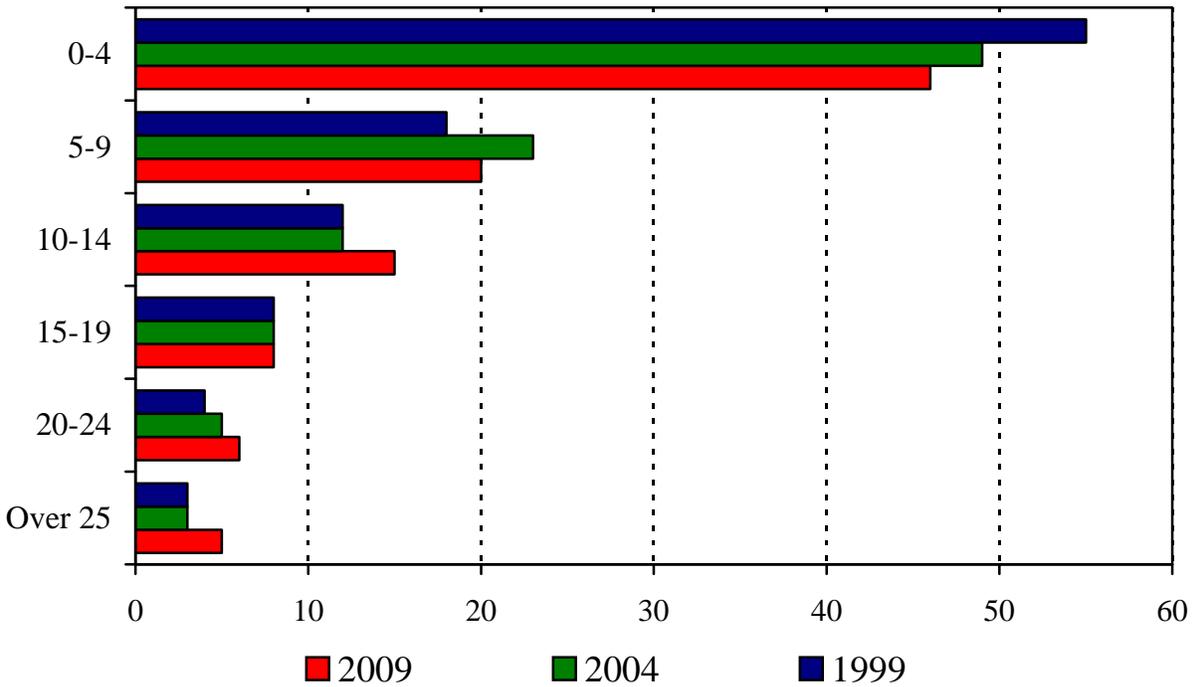
**(Based on Market Value of Assets)**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Income (\$Mil)	■	95.0	57.8	53.5	122.4	178.4	195.5	217.5	339.3	<del>243.6</del>	-111.0
Benefits and Expenses (\$Mil)	■	35.6	44.3	43.5	48.4	54.8	68.5	74.2	76.6	<b>83.6</b>	93.8
Net Change in MVA (\$Mil)	—	59.4	13.5	10.0	74.0	123.6	127.0	143.3	262.7	<b>139.6</b>	-204.8

## Active – Census By Age (as a percent)



## Active – Census By Service (as a percent)



# **EXHIBITS**

**EXHIBIT I**  
**ANALYSIS OF ACTUARIALLY REQUIRED CONTRIBUTIONS**

1. Present Value of Future Benefits.....	\$ 3,073,644,490
2. Present Value of Future Employee Contributions.....	\$ 517,818,601
3. Unfunded Actuarial Accrued Liability .....	\$ 72,846,699
4. Actuarial Value of Assets .....	\$ 1,608,228,363
5. Funding Deposit Account Credit Balance .....	\$ 15,881,213
6. Present Value of Future Employer Normal Costs (1 – 2 – 3 – 4 + 5) .....	\$ 890,632,040
7. Present Value of Future Salaries .....	\$ 5,178,186,016
8. Employer Normal Cost Accrual Rate (6 ÷ 7) .....	17.199692%
9. Projected Fiscal 2010 Salary for Current Membership .....	\$ 543,266,770
10. Employer Normal Cost as of July 1, 2009 (8 x 9).....	\$ 93,440,211
11. Amortization Payment on Frozen Unfunded Accrued Liability of \$ 72,846,699 with Payments increasing at 3.5% per year.....	\$ 7,066,795
12. Total Employer Normal Cost & Amortization Payment (10+ 11) .....	\$ 100,507,006
13. Normal Cost and Amortization Payment Interest Adjusted for Midyear Payment.....	\$ 104,449,945
14. Estimated Administrative Cost for Fiscal 2010 .....	\$ 1,590,000
15. Gross Employer Actuarially Required Contribution for Fiscal 2010 (13 + 14).....	\$ 106,039,945
16. Projected Income from Ad Valorem Taxes for Fiscal 2010.....	\$ 15,894,930
17. Projected Income from Revenue Sharing Funds for Fiscal 2010.....	\$ 425,656
18. GROSS Employer Actuarially Required Contribution to be funded by direct employer contributions and Insurance Premium Taxes for Fiscal 2010 (15 - 16 - 17).....	\$ 89,719,359
19. Estimated Insurance Premium Taxes due for fiscal 2010 .....	\$ 15,112,480
20. Employer's Net Direct Actuarially Required Contribution (18 – 19).....	\$ 74,606,879
21. Projected Payroll (July 1, 2009 through June 30, 2010) .....	\$ 593,084,107
22. Net Direct Employer Actuarially Required Contribution as a % of Projected Payroll for Fiscal 2010 (20 ÷ 21).....	12.58%
23. Actual Employer Contribution Rate for Fiscal 2010.....	11.00%
24. Contribution Shortfall (Excess) as a Percentage of Payroll (22 – 23).....	1.58%
25. Increase (Reduction) to Following Year Payment for Contribution Shortfall (Excess) .....	0.17%
26. Recommended Net Direct Employer Contribution Rate for 2011 (Rounded to nearest .25%) .....	12.75%

**EXHIBIT II**  
**PRESENT VALUE OF FUTURE BENEFITS**

Present Value of Future Benefits for Active Members:

Retirement Benefits .....	\$ 2,001,864,215
Survivor Benefits .....	131,725,630
Disability Benefits .....	80,294,680
Vested Deferred Termination Benefits .....	63,203,833
Contribution Refunds.....	76,922,522

TOTAL Present Value of Future Benefits for Active Members ..... \$ 2,354,010,880

Present Value of Future Benefits for Terminated Members:

Terminated Vested Members Due Benefits at Retirement .....	\$ 28,872,428
Terminated Members with Reciprocals Due Benefits at Retirement ...	1,297,896
Terminated Members Due a Refund.....	11,820,968

TOTAL Present Value of Future Benefits for Terminated Members ..... \$ 41,991,292

Present Value of Future Benefits for Pensioners:

Regular Retirees

Maximum .....	\$ 155,591,440
Option 1.....	62,287,021
Option 2.....	105,360,642
Option 2a.....	125,798,373
Option 3.....	27,838,817
Option 3a.....	49,540,401
Option 4.....	1,278,996
Option 5.....	34,232,577

TOTAL Regular Retirees ..... \$ 561,928,267

Disability Retirees ..... 23,440,381

Survivors & Widows..... 81,368,366

Annuities Certain Payable to Retirees..... 3,017,718

DROP and Back-DROP Account Balances ..... 7,887,586

TOTAL Present Value of Future Benefits for Pensioners ..... \$ 677,642,318

TOTAL Present Value of Future Benefits ..... \$ 3,073,644,490

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

Current Assets:

Cash in Banks .....	\$ 8,455,905
Contributions Receivable from Members.....	3,553,761
Contributions Receivable from Employers .....	3,946,639
Accrued Interest and Dividends on Investments .....	4,610,528
Sold Investment Receivables.....	47,393,131
Miscellaneous Receivables.....	187,378

TOTAL CURRENT ASSETS ..... \$ 68,147,342

Property, Plant and Equipment (Net of accumulated depreciation)..... \$ 2,974,888

Investments:

Common Stock .....	\$ 549,600,565
U. S. Government Obligations and Mortgage Backed Securities .....	225,377,347
International Equities.....	174,540,611
Corporate Bonds .....	212,404,404
Cash Equivalents.....	118,976,623
Diversified Alternatives.....	53,634,733
Foreign Government Bonds.....	2,092,651

TOTAL INVESTMENTS..... \$ 1,336,626,934

TOTAL ASSETS..... \$ 1,407,749,164

Current Liabilities:

Purchased Investments Payables .....	\$ 97,660,382
Refunds Payable .....	1,733,358
Accounts Payable .....	1,184,717
Accrued Leave Payables.....	126,089
Pensions Payable .....	39,026
Other Payables.....	30,929

TOTAL CURRENT LIABILITIES..... \$ 100,774,501

NET MARKET VALUE OF ASSETS..... \$ 1,306,974,663

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

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

Fiscal year 2009 .....	\$ (391,592,607)
Fiscal year 2008 .....	(227,585,992)
Fiscal year 2007 .....	105,612,001
Fiscal year 2006 .....	5,598,399
Fiscal year 2005 .....	<u>697,413</u>
 Total for five years.....	 \$ (507,270,786)

Deferral of excess (shortfall) of invested income:

Fiscal year 2009 (80%) .....	\$ (313,274,086)
Fiscal year 2008 (60%) .....	(136,551,595)
Fiscal year 2007 (40%) .....	42,244,800
Fiscal year 2006 (20%) .....	1,119,680
Fiscal year 2005 (0%) .....	<u>0</u>
 Total deferred for year .....	 \$ (406,461,201)

Market value of plan net assets, end of year ..... \$ 1,306,974,663

Preliminary actuarial value of plan assets, end of year ..... \$ 1,713,435,864

Actuarial value of assets corridor

85% of market value, end of year .....	\$ 1,110,928,464
115% of market value, end of year .....	\$ 1,503,020,862

Final actuarial value of plan net assets, end of year ..... \$ 1,608,228,363

**EXHIBIT IV**  
**PRESENT VALUE OF FUTURE CONTRIBUTIONS**

Employee Contributions to the Annuity Savings Fund.....	\$ 517,818,601
Employer Normal Contributions to the Pension Accumulation Fund .....	890,632,040
Employer Amortization Payments to the Pension Accumulation Fund.....	72,846,699
Funding Deposit Account Credit.....	(15,881,213)
 TOTAL PRESENT VALUE OF FUTURE CONTRIBUTIONS .....	 \$ 1,465,416,127

**EXHIBIT V**  
**CHANGE IN FROZEN UNFUNDED ACTUARIAL ACCRUED LIABILITY**

Prior Year Frozen Unfunded Accrued Liability.....	\$ 74,278,468
Interest on Frozen Unfunded Accrued Liability .....	\$ 5,942,277
Normal Cost for Prior Year .....	67,199,394
Interest on the Normal Cost .....	5,375,952
Administrative Expense .....	1,708,269
Interest on Administrative Expenses.....	67,016
Credit to Funding Deposit Account .....	15,881,213
 TOTAL Increases to Frozen Unfunded Accrued Liability .....	 \$ 96,174,121
Direct Employer Contributions .....	\$ 64,219,484
Interest on Employer Contributions .....	2,519,360
Ad Valorem, Revenue Sharing, and Insurance Premium Taxes ....	29,701,830
Interest on Taxes .....	1,165,216
 TOTAL Decreases to Frozen Unfunded Accrued Liability .....	 \$ 97,605,890
 Net Change in Frozen Unfunded Accrued Liability .....	 (1,431,769)
 CURRENT YEAR FROZEN UNFUNDED ACCRUED LIABILITY .....	 \$ 72,846,699

**EXHIBIT VI**  
**ANALYSIS OF INCREASE IN ASSETS**

Actuarial Value of Assets (June 30, 2008).....		\$ 1,628,303,910
Income:		
Member Contributions .....	\$ 58,375,210	
Employer Contributions.....	64,219,484	
Ad Valorem Taxes .....	14,195,115	
Revenue Sharing Funds .....	434,747	
Funds Transferred into the System.....	4,791,600	
Other.....	367	
State Insurance Premium Taxes .....	15,071,968	
Total Contribution Income.....		\$ 157,088,491
Interest Income .....	\$ 23,936,377	
Dividend Income .....	683,891	
Net Change in Fair Values of Investments.....	(288,194,862)	
Investment Expense .....	(4,588,429)	
Total Investment Income.....		\$ (268,163,023)
TOTAL Income.....		\$ (111,074,532)
Expenses:		
Retirement Benefits.....	\$ 78,404,525	
Refunds of Contributions .....	12,448,588	
Administrative Expenses & Depreciation.....	1,708,269	
Funds Transferred To Another System .....	1,209,439	
TOTAL Expenses.....		\$ 93,770,821
Net Market Income for Fiscal 2009 (Income - Expenses) .....		\$ (204,845,353)
Adjustment for Actuarial Smoothing .....		\$ 184,769,806
Actuarial Value of Assets (June 30, 2009).....		\$ 1,608,228,363

**EXHIBIT VII  
FUND BALANCE**

Present Assets of the System Creditable to:

Annuity Savings Fund.....	\$ 377,352,848
Annuity Reserve Fund.....	669,754,732
Pension Accumulation Fund .....	234,548,581
DROP and Back-DROP Accounts .....	9,437,289
Funding Deposit Account .....	15,881,213
MARKET VALUE OF ASSETS.....	\$ 1,306,974,663
ADJUSTMENT FOR ACTUARIAL SMOOTHING .....	301,253,700
ACTUARIAL VALUE OF ASSETS .....	\$ 1,608,228,363

**EXHIBIT VIII  
PENSION BENEFIT OBLIGATION**

Present Value of Credited Projected Benefits Payable to Current Employees .....	\$ 1,290,198,556
Present Value of Benefits Payable to Terminated Employees .....	41,991,292
Present Value of Benefits Payable to Current Retirees and Beneficiaries .....	677,642,318
TOTAL PENSION BENEFIT OBLIGATION .....	2,009,832,166
ACTUARIAL VALUE OF ASSETS .....	1,608,228,363
Ratio of Net Actuarial Value of Assets to Pension Benefit Obligation.....	80.02%

**EXHIBIT IX**  
**COST OF LIVING ADJUSTMENTS - TARGET RATIO**

Actuarial Value of Assets Divided by PBO as of Fiscal 1986:..... 51.50%

Amortization of Unfunded Balance over 30 years:..... 37.18%

Adjustments in Funded Ratio Due to Mergers or Changes in Assumption(s):

Changes for Fiscal 1988 .....	9.71%
Changes for Fiscal 1994 .....	(2.60%)
Changes for Fiscal 1996 .....	2.93%
Changes for Fiscal 1997 .....	(3.69%)
Changes for Fiscal 1998 .....	(3.72%)
Changes for Fiscal 2000 .....	0.13%
Changes for Fiscal 2001 .....	(2.09%)
Changes for Fiscal 2003 .....	1.34%
Changes for Fiscal 2005 .....	(0.19%)
Changes for Fiscal 2006 .....	5.34%
Changes for Fiscal 2009 .....	8.49%

TOTAL Adjustments..... 15.65%

Amortization of Adjustments in Funded Ratio over 30 years:

Changes for Fiscal 1988 .....	(6.80%)
Changes for Fiscal 1994 .....	1.30%
Changes for Fiscal 1996 .....	(1.27%)
Changes for Fiscal 1997 .....	1.48%
Changes for Fiscal 1998 .....	1.36%
Changes for Fiscal 2000 .....	(0.04%)
Changes for Fiscal 2001 .....	0.56%
Changes for Fiscal 2003 .....	(0.27%)
Changes for Fiscal 2005 .....	0.03%
Changes for Fiscal 2006 .....	(0.53%)
Changes for Fiscal 2009 .....	(0%)

TOTAL Amortization of Adjustments..... (4.18%)

Target Ratio for Current Fiscal Year..... 100.00%

Actuarial Value of Assets Divided by PBO as of Fiscal 2009..... 80.02%

**EXHIBIT X  
CENSUS DATA**

	<b>Active</b>	<b>Terminated with Funds on Deposit</b>	<b>DROP</b>	<b>Retired</b>	<b>Total</b>
Number of members as of June 30, 2008	14,038	4,484	0	3,140	21,662
Additions to Census					
Initial membership	1,901	221			2,122
Death of another member	(14)	(1)		31	16
Omitted in error last year					
Change in Status during Year					
Actives terminating service	(432)	432			
Actives who retired	(239)			239	
Suspended Benefits Reinstated					
Term. members rehired	107	(107)			
Term. members who retire		(32)		32	
Retirees who are rehired	9			(9)	
Refunded who are rehired	89	14			103
DROP participants retiring					
DROP returned to work					
Omitted in error last year					
Eliminated from Census					
Refund of contributions	(1,049)	(268)			(1,317)
Deaths	(14)	(2)		(64)	(80)
Included in error last year					
Adjustment for multiple records					
Number of members as of June 30, 2009	14,396	4,741	0	3,369	22,506

**ACTIVES CENSUS BY AGE:**

Age	Number		Total Number	Average Salary	Total Salary
	Male	Female			
16 - 20	83	27	110	23,862	2,624,802
21 - 25	829	369	1,198	30,841	36,947,343
26 - 30	1,146	630	1,776	35,456	62,969,064
31 - 35	1,115	542	1,657	39,321	65,155,678
36 - 40	1,269	623	1,892	41,997	79,458,518
41 - 45	1,208	664	1,872	43,095	80,673,332
46 - 50	1,005	688	1,693	43,456	73,571,189
51 - 55	923	600	1,523	43,892	66,847,690
56 - 60	818	471	1,289	42,764	55,123,112
61 - 65	560	241	801	41,671	33,378,146
66 - 70	265	102	367	37,132	13,627,541
71 - 75	140	24	164	31,968	5,242,807
76 - 80	35	9	44	26,248	1,154,911
81 - 85	6	1	7	28,216	197,510
86 - 90	3	0	3	35,779	107,337
<b>TOTAL</b>	<b>9,405</b>	<b>4,991</b>	<b>14,396</b>	<b>40,086</b>	<b>577,078,980</b>

THE ACTIVE CENSUS INCLUDES 3798 ACTIVES WITH VESTED BENEFITS, INCLUDING 24 ACTIVE FORMER DROP PARTICIPANTS. THE 0 CURRENT DROP PARTICIPANTS ARE EXCLUDED.

**TERMINATED MEMBERS DUE A DEFERRED RETIREMENT BENEFIT:**

Age	Number		Total Number	Average Benefit	Total Benefit
	Male	Female			
31 - 35	2	0	2	18,951	37,902
36 - 40	17	8	25	16,722	418,051
41 - 45	58	19	77	17,521	1,349,146
46 - 50	84	18	102	17,010	1,735,062
51 - 55	52	22	74	16,512	1,221,893
56 - 60	9	4	13	10,547	137,117
61 - 65	4	3	7	9,760	68,318
66 - 70	3	0	3	3,438	10,313
71 - 75	1	0	1	1,881	1,881
81 - 85	1	0	1	2,081	2,081
86 - 90	1	0	1	399	399
<b>TOTAL</b>	<b>232</b>	<b>74</b>	<b>306</b>	<b>16,282</b>	<b>4,982,163</b>

**TERMINATED MEMBERS DUE A REFUND OF CONTRIBUTIONS:**

Contributions Ranging		Number	Total Contributions
From	To		
0	- 99	1,199	50,393
100	- 499	1,291	327,768
500	- 999	486	348,701
1000	- 1999	371	535,873
2000	- 4999	437	1,408,044
5000	- 9999	293	2,090,101
10000	- 19999	229	3,311,450
20000	- 99999	129	3,496,672
<b>TOTAL</b>		<b>4,435</b>	<b>11,569,002</b>

**REGULAR RETIREES:**

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
41 - 45	1	0	1	10,823	10,823
46 - 50	2	1	3	36,409	109,227
51 - 55	84	36	120	34,028	4,083,331
56 - 60	310	129	439	30,376	13,334,972
61 - 65	403	147	550	25,277	13,902,310
66 - 70	441	126	567	22,368	12,682,532
71 - 75	283	109	392	18,203	7,135,521
76 - 80	171	55	226	18,404	4,159,201
81 - 85	97	38	135	20,634	2,785,635
86 - 90	38	20	58	17,787	1,031,662
91 - 99	2	5	7	14,774	103,420
<b>TOTAL</b>	<b>1,832</b>	<b>666</b>	<b>2,498</b>	<b>23,754</b>	<b>59,338,634</b>

**DISABILITY RETIREES:**

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
26 - 30	0	2	2	12,382	24,764
31 - 35	0	1	1	18,221	18,221
36 - 40	3	1	4	9,300	37,201
41 - 45	9	5	14	15,820	221,476
46 - 50	18	3	21	21,778	457,334
51 - 55	20	10	30	18,415	552,445
56 - 60	28	5	33	12,748	420,685
61 - 65	17	3	20	11,865	237,298
66 - 70	15	5	20	10,329	206,575
71 - 75	9	1	10	11,952	119,519
76 - 80	6	3	9	14,257	128,310
81 - 85	5	0	5	11,289	56,444
<b>TOTAL</b>	<b>130</b>	<b>39</b>	<b>169</b>	<b>14,676</b>	<b>2,480,272</b>

**SURVIVORS:**

Age	Number Male	Number Female	Total Number	Average Benefit	Total Benefit
0 - 25	15	40	55	4,759	261,727
26 - 30	0	6	6	8,513	51,076
31 - 35	2	6	8	12,687	101,497
36 - 40	1	10	11	16,278	179,056
41 - 45	0	7	7	14,057	98,400
46 - 50	4	24	28	15,210	425,872
51 - 55	1	28	29	18,809	545,456
56 - 60	4	61	65	18,792	1,221,468
61 - 65	3	67	70	16,142	1,129,913
66 - 70	5	83	88	15,076	1,326,710
71 - 75	3	84	87	13,147	1,143,776
76 - 80	0	86	86	15,633	1,344,404
81 - 85	3	82	85	12,765	1,084,998
86 - 90	2	54	56	10,387	581,661
91 - 99	0	21	21	9,630	202,230
<b>TOTAL</b>	<b>43</b>	<b>659</b>	<b>702</b>	<b>13,815</b>	<b>9,698,244</b>

ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Total			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over				
0 - 20	86	23													110
21 - 25	429	361	212	107	52	37									1,198
26 - 30	338	331	277	199	170	430	31								1,776
31 - 35	219	202	178	104	111	508	326	9							1,657
36 - 40	197	183	167	97	100	438	467	228	15						1,892
41 - 45	165	182	143	85	92	340	355	307	187	16					1,872
46 - 50	130	129	110	78	74	309	271	182	221	180	9				1,693
51 - 55	100	110	85	70	57	287	253	165	161	157	78				1,523
56 - 60	90	111	67	72	70	280	210	128	118	128	80				1,289
61 - 65	42	58	48	38	56	179	160	76	71	37	36				801
66 - 70	36	34	25	21	16	65	68	48	28	18	8				367
71 & Over	13	21	17	11	6	54	57	16	11	9	3				218
Totals	1845	1745	1330	882	804	2927	2198	1159	812	497	197				14396

AVERAGE ANNUAL SALARY OF ACTIVE MEMBERS:

Attained Ages	Completed Years of Service											Average Salary			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30&Over				
0 - 20	22,699	28,160	24,980	36,523	34,579	39,743									23,862
21 - 25	25,618	31,251	35,374	37,780	38,941	40,817	43,270								30,841
26 - 30	26,791	33,284	35,616	36,688	39,492	42,730	47,292								35,456
31 - 35	27,842	32,774	37,258	36,437	40,077	42,183	48,192	53,634							39,321
36 - 40	30,593	33,766	34,347	36,347	39,813	42,493	46,674	52,905	52,111						41,997
41 - 45	27,897	32,035	33,484	36,347	38,020	38,941	43,892	50,792	55,882	61,952					43,095
46 - 50	25,128	31,699	33,677	34,731	38,020	38,941	43,892	50,792	57,083	58,977	65,055				43,456
51 - 55	27,269	32,506	33,797	33,645	39,250	37,895	41,582	50,085	51,930	62,411	67,442				43,892
56 - 60	28,406	36,011	34,516	33,874	35,240	39,338	41,589	47,423	54,092	58,265	71,249				42,764
61 - 65	26,213	28,314	34,439	32,876	34,644	37,916	40,279	49,913	51,147	58,565	82,402				41,671
66 - 70	37,929	30,534	24,524	24,039	26,381	34,227	39,225	38,790	50,587	55,580	64,139				37,132
71 & Over	22,943	23,667	24,946	24,991	25,997	28,140	33,198	36,302	42,631	47,899	53,204				30,746
Average	27,122	32,330	34,683	35,598	37,945	40,351	44,580	50,690	54,319	59,689	70,933				40,086

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									2				2
36 - 40								25					25
41 - 45							73	4					77
46 - 50						100	2						102
51 - 55	10	18	14	15	11	6							74
56 - 60	6	1	3	2	1								13
61 - 65	7												7
66 - 70	3												3
71 - 75	1												1
76 - 80													0
81 - 85	1												1
86 - 90	1												1
91 & Over													0
Totals	29	19	17	17	12	106	75	29	2	0	0	0	306

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									18,951				18,951
36 - 40								16,722					16,722
41 - 45							18,291	3,484					17,521
46 - 50						17,295	2,800						17,010
51 - 55	17,795	16,487	15,582	16,753	21,802	6,318							16,512
56 - 60	20,037	2,418	2,893	2,046	1,705								10,547
61 - 65	9,760												9,760
66 - 70	3,438												3,438
71 - 75	1,881												1,881
76 - 80													0
81 - 85	2,081												2,081
86 - 90	399												399
91 & Over													0
Average	13,144	15,747	13,343	15,022	20,127	16,673	17,877	14,896	18,951	0	0	0	16,282

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	2	1											4
51 - 55	49	17	21	14	14	4	1						120
56 - 60	94	73	67	77	61	65	2						439
61 - 65	52	44	49	51	68	249	35	2					550
66 - 70	49	41	28	41	61	202	127	17	1				567
71 - 75	11	4	10	9	26	112	107	83	30				392
76 - 80	3	3	9	4	3	33	54	57	47	13			226
81 - 85	1			2	5	10	17	26	35	33	6		135
86 - 90				1		1	1	4	27	9	15		58
91 & Over									1	1	5		7
Totals	261	183	185	199	238	676	344	189	141	56	26		2498

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	27,475	54,278	10,823										30,012
51 - 55	35,012	36,013	37,312	28,445	35,392	15,913	14,598						34,028
56 - 60	30,752	27,656	29,264	31,177	34,498	23,605	17,697						30,376
61 - 65	27,809	25,320	27,731	24,201	29,717	24,453	17,227	18,324					25,277
66 - 70	23,562	24,263	21,703	21,467	33,703	20,984	18,285	23,943	21,504				22,368
71 - 75	22,777	15,404	28,111	16,777	26,708	21,431	15,169	14,591	15,413	18,203			18,404
76 - 80	12,453	30,034	15,216	18,421	25,331	26,214	16,721	18,429	15,329	15,861			18,404
81 - 85	6,448			21,673	20,279	40,828	20,195	21,637	21,699	15,018	10,867		20,634
86 - 90				17,486		10,417	57,500	9,103	21,119	18,466	11,563		17,787
91 & Over									19,208	17,416	13,359		14,774
Average	28,951	27,027	27,782	26,124	31,715	23,668	17,157	17,483	18,108	15,811	11,748		23,754

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	1	1										2
31 - 35			1									1
36 - 40			1	1	2	5	1					4
41 - 45	2	3	2	1	1	2	2	2	1			14
46 - 50	3	2	2	1	1	7	4	3	1			21
51 - 55	1	3	1	1	3	13	8	3	1			30
56 - 60	1	2	1	1	3	8	12	3	3	1		33
61 - 65	2	1			2	2	7	4	3	1		20
66 - 70	1	1	1	1	1	2	5	5	4	1		20
71 - 75				1	1	2	1	1	3	2		10
76 - 80									3	4		9
81 - 85					1				1	2		5
86 & Over									1	2		0
Totals	11	12	7	4	14	37	32	18	17	12	5	169

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	13,302	11,462										12,382
31 - 35												18,221
36 - 40			3,619	18,221	13,171	11,112	7,239					9,300
41 - 45	18,453	27,298	9,645	14,947	12,878	16,500	12,822	11,536	9,475			15,820
46 - 50	49,934	22,647	27,358	30,486	16,918	20,786	13,071	9,483	12,906			21,778
51 - 55	7,928	21,413	11,420	13,538	14,678	13,322	12,188	11,289	12,450	13,770		18,415
56 - 60	14,221	9,904				10,541	12,714	11,155	10,925	8,799		12,748
61 - 65	14,931	11,157	13,576	13,792	13,631	8,002	8,579	9,143	15,046	9,787		11,865
66 - 70	4,783				9,269	5,820	5,820	18,625	11,897	12,159	11,820	10,329
71 - 75									14,117	17,225	8,530	14,257
76 - 80									14,020	12,630	11,100	11,289
81 - 85						6,063						0
86 & Over												0
Average	23,346	19,488	14,660	15,124	16,965	15,939	11,536	10,797	12,998	13,583	10,360	14,676

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	3	5	5	3	18	4						39
21 - 25	1	1	2	1	1	8							16
26 - 30		1				2							6
31 - 35	2	1	4			2							8
36 - 40			4			4							11
41 - 45			4			4							7
46 - 50	2	2	2	2	3	5	10		1				28
51 - 55	4	1	1	1	1	15	3		2				29
56 - 60	6	6	5	3	6	12	14		6				65
61 - 65	5	7	4	6	6	24	9		1				70
66 - 70	14	6	8	5	10	17	15		3				88
71 - 75	7	3	6	3	7	22	20		1				87
76 - 80	5	4	3	6	4	24	12		2				86
81 - 85	3	1	1	2	1	17	18		10				85
86 - 90	1	3	1	1	1	13	10		6				56
91 & Over				1	1	3	3		3				21
Totals	50	37	45	39	37	188	126	68	54	23	35		702

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	7,589	6,931	4,854	6,168	3,865	4,544	4,969						5,045
21 - 25		7,621	3,261	3,717	3,742	3,759	6,603						4,061
26 - 30		25,196				4,619	5,548						8,513
31 - 35	14,031		13,577			8,792	10,336						12,687
36 - 40			22,168			14,060	14,549						16,278
41 - 45				19,692		12,509	14,969		6,520			5,044	14,057
46 - 50	25,005	26,083	23,157	15,247	14,062	14,487	10,894	11,663					15,210
51 - 55	28,615	24,493		45,016	14,686	18,262	7,656	13,151	15,877				18,809
56 - 60	26,234	10,608	30,119	35,895	30,168	17,561	14,799	16,947	12,732	4,798			18,792
61 - 65	22,637	22,317	16,382	23,161	13,602	13,742	16,424	14,081	7,560				16,142
66 - 70	19,461	16,642	16,049	14,290	11,527	15,048	13,706	15,209	4,725				15,076
71 - 75	11,898	8,492	18,842	10,396	15,855	13,981	13,609	7,230	9,914				13,147
76 - 80	18,859	34,137	8,914	18,653	11,067	14,943	11,146	16,101	17,592	10,730			15,633
81 - 85	11,488		8,702	15,416		16,958	11,806	11,450	12,642	11,947			12,765
86 - 90	5,989	8,356	2,905	10,728	4,487	10,528	12,299	14,611	11,149	12,658			10,387
91 & Over				24,503		9,522	14,556	9,558	7,299	5,821			9,630
Average	19,224	17,218	15,911	17,627	13,413	13,225	12,501	12,834	13,371	10,635	8,556		13,815

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

	Fiscal 2009	Fiscal 2008	Fiscal 2007	Fiscal 2006
Number of Active Members	14,396	14,038	13,530	12,835
Number of Retirees and Survivors	3,369	3,140	2,995	2,859
Number Terminated Due Deferred Benefits	306	328	340	329
Number Terminated Due Refund	4,435	4,156	3,939	3,722
Active Lives Payroll	\$ 577,078,980	\$ 537,082,456	\$ 481,418,484	\$ 436,370,158
Retiree Benefits in Payment	\$ 71,517,150	\$ 64,309,775	\$ 55,471,909	\$ 50,612,587
Market Value of Assets	\$1,306,974,663	\$1,511,820,016	\$1,550,829,081	\$1,288,100,175
Ratio of AVA to GASB-25 Accrued Liability	95.67%	95.64%	93.85%	93.07%
Accrued Liability (as Defined by GASB-25)	\$1,681,075,062	\$1,702,582,378	\$1,564,897,616	\$1,378,133,705
Actuarial Value of Assets	\$1,608,228,363	\$1,628,303,910	\$1,468,646,528	\$1,282,638,484
Frozen Unfunded Actuarial Accrued Liability	\$ 72,846,699	\$ 74,278,468	\$ 96,251,088	\$ 95,495,221
Present Value of Future Employer Normal Cost	\$ 890,632,040	\$ 641,924,601	\$ 524,216,581	\$ 527,090,828
Present Value of Future Employee Contributions	\$ 517,818,601	\$ 482,053,768	\$ 436,275,292	\$ 400,515,989
Funding Deposit Account	\$ 15,881,213	\$ 0	\$ 0	\$ 0
Present Value of Future Benefits	\$3,073,644,490	\$2,826,560,747	\$2,525,389,489	\$2,305,740,522

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	Fiscal 2010	Fiscal 2009	Fiscal 2008	Fiscal 2007
Employee Contribution Rate	10.00%	10.00%	10.00%	10.00%
Projected Ad Valorem and Revenue Sharing Funds as a % of Projected Payroll	2.75%	2.53%	2.39%	2.47%
Estimated Insurance Premium Taxes as a % of Projected Payroll	2.55%	2.72%	2.87%	2.77%
Actuarially Required Net Direct Employer Contributions as a % of Projected Payroll	12.58%	8.92%	7.59%	8.69%
Actual Net Direct Employer Contribution Rate	11.00%	11.00%	11.00%	11.00%

Fiscal 2005	Fiscal 2004	Fiscal 2003	Fiscal 2002	Fiscal 2001	Fiscal 2000
13,863	13,657	13,595	13,267	12,898	12,331
2,693	2,488	2,325	2,195	2,128	1,953
279	299	280	263	234	206
3,152	2,977	2,793	2,560	2,312	2,116
\$ 432,019,757	\$ 406,020,215	\$ 383,388,474	\$ 360,267,884	\$ 337,229,788	\$ 311,639,821
\$ 45,968,384	\$ 39,124,305	\$ 35,381,798	\$ 32,217,500	\$ 30,310,754	\$ 26,177,028
\$1,144,751,928	\$1,017,722,292	\$ 894,112,820	\$ 820,104,918	\$ 810,072,839	\$ 796,524,139
91.99%	91.30%	90.76%	90.51%	90.26%	89.89%
\$1,180,095,189	\$1,075,107,796	\$ 999,746,836	\$ 959,788,254	\$ 920,761,605	\$ 872,527,063
\$1,085,515,384	\$ 981,583,851	\$ 907,401,749	\$ 868,729,107	\$ 831,080,974	\$ 784,304,316
\$ 94,579,805	\$ 93,523,945	\$ 92,345,087	\$ 91,059,147	\$ 89,680,631	\$ 88,222,747
\$ 598,357,461	\$ 503,285,937	\$ 435,520,804	\$ 393,484,597	\$ 326,385,219	\$ 230,534,416
\$ 399,070,734	\$ 344,408,426	\$ 319,054,283	\$ 298,862,302	\$ 279,892,787	\$ 258,653,567
\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
\$2,177,523,384	\$1,922,802,159	\$1,754,321,923	\$1,652,135,153	\$1,527,039,611	\$1,361,715,046

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Fiscal 2006	Fiscal 2005	Fiscal 2004	Fiscal 2003	Fiscal 2002	Fiscal 2001
10.00%	10.00%/9.80%*	9.80%	9.80%	9.80%	9.70%
2.32%	2.44%	2.45%	2.43%	2.41%	2.36%
2.68%	2.78%	2.58%	2.30%	3.21%	0.99%
10.99%	10.62%	9.61%	9.15%	7.00%	6.00%
10.75%	9.75%	9.25%	7.75%	7.00%	6.00%

\* Increase effective October 1, 2004

## **SUMMARY OF PRINCIPAL PLAN PROVISIONS**

The Sheriffs' Pension & Relief Fund is a defined benefit pension plan that provides retirement allowances and other benefits. The following summary of plan provisions is for general informational purposes only and does not constitute a guarantee of benefits.

**MEMBERSHIP-** Any sheriff elected or deputy employed, who is otherwise eligible for membership must become a participating member of the fund. All salaried employees of the Sheriffs' Pension and Relief Fund and the Louisiana Sheriffs' Association who meet certain requirements are also eligible to become members of the retirement system.

**CONTRIBUTION RATES** - The fund is financed by a combination of employee contributions, employer contributions, dedicated ad valorem taxes, revenue sharing funds, and insurance premium taxes. The employee contribution rate is determined by the Board of Trustees but cannot be less than 9.8% nor more than 10.25%. Gross employer contributions are determined by actuarial valuation and are subject to change each year in accordance with R. S. 11:103 and R. S. 11:105. Also, the fund annually receives revenue sharing funds and ad valorem taxes equal to 0.5% of the aggregate amount of the tax shown to be collected by the tax roll of each respective parish, and additional funds as indicated by valuation and apportioned by the Public Employees' Retirement Systems' Actuarial Committee from available insurance premium taxes described in R. S. 22:1419.

**CONTRIBUTION REFUNDS** - Upon withdrawal from service, members not entitled to a retirement allowance who have remained out of service for a period of thirty days are paid a refund of accumulated contributions upon request. Receipt of such a refund cancels all accrued benefits in the system.

**NORMAL RETIREMENT BENEFITS** – Members with twelve years of creditable service may retire at age fifty-five; members with thirty years of creditable service may retire at any 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 (after reduction for optional payment form) 100% of average final compensation.

**EARLY RETIREMENT BENEFITS** – Active, contributing members with at least ten years of creditable service may retire at age sixty. The accrued normal retirement benefit is reduced actuarially for each month or fraction thereof that retirement begins prior the member's earliest normal retirement date assuming continuous service. In addition, members with twenty or more years of service may retire with a reduced retirement at age fifty.

**FINAL AVERAGE COMPENSATION** – For a member whose first employment making him eligible for membership in the system began on or before June 30, 2006, final average compensation is based on the average monthly earnings during the highest thirty-six consecutive months or joined months if service was interrupted. The earnings to be considered for each twelve month period within the thirty-six month period shall not exceed 125% of the preceding twelve month period.

For a member whose first employment making him eligible for membership in the system began after June 30, 2006, final average compensation is based on the average monthly earnings during the highest sixty consecutive months or joined months if service was interrupted.

**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 spouse to whom the member was married and living with at the time of retirement will continue to receive the same reduced benefit.

**Option 2A** - Upon retirement, the member receives a reduced benefit. Upon the member's death, the spouse to whom the member was married and living with at the time of retirement will continue to receive the same reduced benefit. If the member's spouse dies before the member, the member's benefit will revert to the maximum.

**Option 3** - Upon retirement, the member receives a reduced benefit. Upon the member's death, the spouse to whom the member was married and living with at the time of retirement will receive one-half of the member's reduced benefit.

**Option 3A** - Upon retirement, the member receives a reduced benefit. Upon the member's death, the spouse to whom the member was married and living with at the time of retirement will receive one-half of the member's reduced benefit. If the member's spouse dies before the member, the member's benefit will revert to the maximum.

**Option 4** - Upon retirement, the member elects to receive a board-approved benefit that is actuarially equivalent to the maximum benefit.

**Option 5** - Upon retirement, the member may receive ninety percent of the maximum benefit. Upon the member's death, if survived by a surviving spouse to whom the member was married and living with at the time of retirement, fifty percent of the member's benefit shall be paid to the spouse during said spouse's lifetime.

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. Back-DROP participants are not eligible for this benefit.

**DISABILITY BENEFITS** - Ten years of creditable service are required in order to be eligible for disability benefits when a non-service related disability is incurred; there are no service requirements for a service related disability. Totally disabled members receive the lesser of their accrued retirement benefit (with a minimum of 45%) or their accrued retirement benefit assuming continued service to their earliest normal retirement age. Members who become partially disabled receive 75% of the amount payable for total disability.

**SURVIVOR BENEFITS** - Survivor benefits for death solely as a result of injuries received in the line of duty are based on the following. For a spouse alone, a sum equal to 50% of the member's final average compensation with a minimum of \$150 per month. If a spouse is entitled to benefits

and has a child or children under eighteen years of age (or over said age if physically or mentally incapacitated and dependent upon the member at the time of his death), an additional sum of 15% of the member's final average compensation is paid to each child with total benefits paid to spouse and children not to exceed 100%. If a member dies with no surviving spouse, surviving children under age eighteen receive monthly benefits of 15% of the member's final average compensation up to a maximum of 60% of final average compensation if there are more than four children. If a member is eligible for normal retirement at the time of death, the surviving spouse receives an automatic option 2 benefit; the additional benefit payable to children is the same as those available for members who die in the line of duty. In lieu of receiving option 2 benefits, the surviving spouse may receive a refund of the member's accumulated contributions. Benefits payable to surviving children are extended through age twenty-two, if the child is a full time student in good standing enrolled at a board approved or accredited school, college, or university.

**Back-DROP** – In lieu of receiving a service retirement allowance any member of the fund who has more than sufficient service for a regular service retirement may elect to receive a “Back-DROP” benefit. The Back-DROP benefit is based upon the Back-DROP period selected and the final average compensation prior to the period selected. The Back-DROP period is the lesser of three years or the service accrued between the time a member first becomes eligible for retirement and his actual date of retirement. Members who have thirty or more years of service may elect a Back-DROP period not to exceed the lesser of forty-eight months or the number of months of creditable service accrued after the member first became eligible for regular retirement. At retirement the member’s maximum monthly retirement benefit is based upon his service, final average compensation, and plan provisions in effect on the last day of creditable service immediately prior to the commencement of the Back-DROP period. In addition to the monthly benefit at retirement, the member receives a lump-sum payment equal to the maximum monthly benefit as calculated above multiplied by the number of months in the Back-DROP period. In addition, the member’s Back-DROP account is credited with employee contributions received by the retirement fund during the Back-DROP period. Any DROP or Back-DROP balances left on deposit are managed by a third party, fixed income investment manager. Participants have the option to opt out of this program and take a distribution, if eligible, or to rollover the assets to another qualified plan.

**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 between 2% and 3% of their current benefit, (not less than twenty dollars per month). When such a cost of living increase is granted in any fiscal year, no such cost-of-living increase may be granted in the immediately following fiscal year. Members retiring on or after July 1, 2007, who have not attained the age of sixty years, may not receive this cost-of-living increase until they have been retired for three years. Those who have attained the age of sixty years may not receive this cost-of-living increase until they have been retired for one year. Different waiting periods applied to retirements prior to July 1, 2007. In addition, the board may grant retired members and widows who are sixty-five years of age and older a 2% increase in their original benefit (or the benefit being received on October 1, 1977 if retirement had commenced prior to that date). In order for the board to grant either of these increases the system must meet certain criteria in the statutes 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. The board may only grant such COLA’s in years in which the fund meets certain funding and investment earnings targets.

## 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:** Frozen Attained Age Normal actuarial cost method with allocation based on earnings. The frozen actuarial accrued liabilities were calculated on the projected unit credit cost method.

**VALUATION INTEREST RATE:** 8%

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

**ANNUAL SALARY INCREASE RATE:** 6% (3.25% Inflation; 2.75% Merit)

**ANNUITANT MORTALITY:** 1983 Group Annuity Basic Mortality Table (Female mortality equal to male mortality set back six years)

Back-DROP: Members eligible for Back-DROP are assumed to take the benefit with the greatest present value.

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

RATES OF RETIREMENT: The table of these rates is included later in the report. These rates apply only to those individuals eligible to retire. Retirement rates for members who have completed DROP participation and are currently active are 0.3.

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

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

Service	Factor	Service	Factor
<1	0.260	15	0.025
1	0.170	16	0.025
2	0.130	17	0.025
3	0.120	18	0.025
4	0.100	19	0.015
5	0.080	20	0.015
6	0.070	21	0.015
7	0.070	22	0.015
8	0.060	23	0.015
9	0.040	24	0.015
10	0.040	25	0.015
11	0.040	26	0.015
12	0.040	27	0.015
13	0.025	28	0.015
14	0.025	29	0.015

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

MARRIAGE STATISTICS: 85% of the members are assumed to be married; husbands are assumed to be three years older than wives.

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

SERVICE RELATED DEATHS: 15% of total deaths

RATES OF DISABILITY: 20% of the disability rates used for the 21<sup>st</sup> valuation of the Railroad Retirement System for individuals with 10 – 19 years of service.

PARTIAL DISABILITIES: 20% of Total Disabilities

SERVICE RELATED DISABILITIES: 20% of Total Disabilities

VESTING ELECTING PERCENTAGE: 60% of those members under age 50 who are terminated vested elect deferred benefits in lieu of contribution refunds. 80% of those who are at least age 50 who are terminated vested elect deferred benefits in lieu of contribution refunds.

## ACTUARIAL TABLES AND RATES

Age	Mortality Rates	Retirement Rates	Disability Rates
18	0.00039	0.00000	0.00030
19	0.00040	0.00000	0.00030
20	0.00042	0.00000	0.00030
21	0.00043	0.00000	0.00030
22	0.00045	0.00000	0.00030
23	0.00047	0.00000	0.00030
24	0.00049	0.00000	0.00030
25	0.00052	0.00000	0.00030
26	0.00054	0.00000	0.00030
27	0.00057	0.00000	0.00030
28	0.00060	0.00000	0.00030
29	0.00064	0.00000	0.00030
30	0.00067	0.00000	0.00030
31	0.00072	0.00000	0.00030
32	0.00076	0.00000	0.00030
33	0.00081	0.00000	0.00030
34	0.00087	0.00000	0.00030
35	0.00095	0.00000	0.00034
36	0.00101	0.00000	0.00038
37	0.00107	0.00000	0.00042
38	0.00115	0.00000	0.00048
39	0.00125	0.00000	0.00054
40	0.00138	0.00000	0.00062
41	0.00152	0.00000	0.00070
42	0.00170	0.00000	0.00078
43	0.00191	0.00000	0.00088
44	0.00215	0.00000	0.00100
45	0.00243	0.00000	0.00114
46	0.00275	0.16000	0.00130
47	0.00310	0.16000	0.00146
48	0.00349	0.16000	0.00166
49	0.00390	0.16000	0.00188
50	0.00434	0.07000	0.00214
51	0.00480	0.07000	0.00244
52	0.00528	0.07000	0.00276
53	0.00578	0.07000	0.00314
54	0.00629	0.07000	0.00356
55	0.00681	0.16000	0.00404
56	0.00735	0.16000	0.00460
57	0.00793	0.16000	0.00522
58	0.00858	0.16000	0.00592
59	0.00932	0.16000	0.00674
60	0.01018	0.16000	0.00976
61	0.01118	0.16000	0.00976
62	0.01237	0.16000	0.00976
63	0.01377	0.16000	0.00976
64	0.01541	0.16000	0.00976
65	0.01732	0.26000	0.00976

## 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