

**REPORT ON THE SIXTY-FIFTH ANNUAL VALUATION
OF THE TEACHERS' AND STATE EMPLOYEES'
RETIREMENT SYSTEM OF NORTH CAROLINA
PREPARED AS OF DECEMBER 31, 2007**



October 6, 2008

Board of Trustees
Teachers' and State Employees'
Retirement System of North Carolina
325 North Salisbury Street
Raleigh, NC 27603

Members of the Board:

We submit herewith our report on the sixty-fifth annual valuation of the Teachers' and State Employees' Retirement System of North Carolina prepared as of December 31, 2007. The report has been prepared in accordance with North Carolina General Statute 135-6(o).

The System was amended effective July 1, 2008 to provide a 2.20% increase in the benefit to beneficiaries on the roll as of July 1, 2007 and to provide a prorated portion of a 2.20% increase for beneficiaries who retired after July 1, 2007 but before June 30, 2008. The cost of this amendment was covered by gains which developed during the 2006 valuation year and the increase in the contribution rate from 3.05% of payroll to 3.36% of payroll.

The Appropriations Act of 2008 sets contributions at 3.36% of payroll effective for the fiscal year ending June 30, 2009. The valuation has been prepared in accordance with the parameters of Statement Nos. 25 and 27 of the Governmental Accounting Standards Board. The annual required contribution (ARC) under GASB for the 2009-2010 fiscal year is 3.57% of payroll which will liquidate the unfunded accrued liability within a 9-year period. On this basis, there is no preliminary reserve from undistributed gains.

The plan sponsor selected the assumptions used for the results in this report. I believe that these assumptions are reasonable and comply with the requirements of GASB Nos. 25 and 27. I prepared this report in accordance with the requirements of these standards.

I am an Enrolled Actuary, a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions about it.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,

Richard A. Mackesey, FSA, EA, MAAA
Principal, Consulting Actuary

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**REPORT ON THE SIXTY-FIFTH ANNUAL VALUATION OF THE
TEACHERS' AND STATE EMPLOYEES' RETIREMENT SYSTEM OF NORTH CAROLINA
PREPARED AS OF DECEMBER 31, 2007**

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of December 31, 2007, presents the results of the sixty-fifth actuarial valuation of the system. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation reflects the benefit increases granted to beneficiaries as of July 1, 2007 and amendments to the system effective through July 1, 2008.

**TABLE I
SUMMARY OF PRINCIPAL RESULTS**

VALUATION DATE	12/31/07	12/31/06
Active members included in valuation		
Number	338,490	330,117
Reported compensation	\$ 12,701,016,741	\$ 11,711,385,640
Valuation compensation	\$ 13,743,185,124	\$ 12,735,864,745
Beneficiaries		
Number	145,855	140,292
Annual allowances	\$ 2,885,868,222	\$ 2,702,710,327
Assets		
Actuarial value	\$ 55,283,120,813	\$ 52,420,807,724
Market value	58,619,737,886	55,729,371,671
Unfunded accrued liability	\$ (2,468,031,336)	\$ (3,028,900,728)
CONTRIBUTIONS FOR FISCAL YEAR ENDING	June 30, 2010	June 30, 2009
<u>Appropriations Act</u>		
Employer contribution rate		
Normal	6.26%	6.19%
Accrued liability	<u>(2.90)</u>	<u>(3.14)</u>
Total	3.36%	3.05%
Liquidation period	9 years	11 years
<u>GASB 25/27</u>		
Annual required contribution (ARC) of employer		
Normal	6.26%	6.19%
Accrued liability	<u>(2.69)</u>	<u>(3.56)</u>
Total	3.57%	2.63%
Liquidation period	9 years	9 years
Reserve from undistributed gains/(losses)	(0.21)%	0.42%

2. The valuation balance sheet showing the results of the valuation is given in Section III.
3. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains during the valuation year are given in Section V and the rates of contribution payable
4. Schedule B of this report outlines the full set of actuarial assumptions and methods employed. Schedule A of this report presents the development of the actuarial value of assets.
5. Schedule C gives a summary of the benefit and contribution provisions of the system.

SECTION II - MEMBERSHIP DATA

Data regarding the membership of the system for use as a basis for the valuation were furnished by the system's office. The following tables summarize the membership of the system as of December 31, 2007 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

TABLE II

**THE NUMBER AND REPORTED COMPENSATION OF ACTIVE MEMBERS
INCLUDED IN THE VALUATION AS OF DECEMBER 31, 2007**

GROUP	NUMBER	REPORTED COMPENSATION
Teachers	160,365	\$ 6,099,352,030
Employees	174,464	6,415,217,405
Law Enforcement Officers	<u>3,661</u>	<u>186,447,306</u>
Total	338,490	\$ 12,701,016,741

There are, in addition, 69,420 inactive members who were excluded from the table because of insufficient data. The results of the valuation were adjusted to take these members into account.

TABLE III

**THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES
AND SURVIVORS ON THE ROLL AS OF DECEMBER 31, 2007**

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES
<u>Beneficiaries Receiving Service Retirement Allowances</u>		
Teachers	63,017	\$ 1,559,153,591
Employees	63,695	1,014,809,585
Law Enforcement Officers	<u>1,982</u>	<u>57,637,685</u>
Total	128,694	\$ 2,631,600,861
<u>Beneficiaries Receiving Disability Retirement Allowances</u>		
Teachers	1,627	\$ 39,085,977
Employees	4,030	68,165,982
Law Enforcement Officers	<u>153</u>	<u>3,782,025</u>
Total	5,810	\$ 111,033,984
<u>Benefits to Survivors of Deceased Beneficiaries</u>		
Teachers	3,483	\$ 57,119,093
Employees	7,585	80,625,807
Law Enforcement Officers	<u>283</u>	<u>5,488,477</u>
Total	11,351	\$ 143,233,377
Grand Total	<u>145,855</u>	<u>\$ 2,885,868,222</u>

SECTION III - VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of December 31, 2007 and, for comparison purposes, as of the immediately previous valuation date of December 31, 2006. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.

TABLE IV

VALUATION BALANCE SHEET
SHOWING THE ASSETS AND LIABILITIES OF THE
TEACHERS' AND STATE EMPLOYEES'
RETIREMENT SYSTEM OF NORTH CAROLINA

ASSETS	DECEMBER 31, 2007	DECEMBER 31, 2006
Current actuarial value of assets:		
Annuity Savings Fund	\$ 8,756,422,950	\$ 8,257,710,349
Pension Accumulation Fund	<u>46,526,697,863</u>	<u>44,163,097,375</u>
Total current assets	\$ 55,283,120,813	\$ 52,420,807,724
Future member contributions to Annuity Savings Fund	\$ 7,666,167,078	\$ 7,089,000,960
Prospective contributions to Pension Accumulation Fund:		
Normal contributions	\$ 7,870,598,200	\$ 7,195,335,974
Unfunded accrued liability contributions	(2,468,031,336)	(3,028,900,728)
Undistributed gain contributions	<u>(193,102,829)</u>	<u>358,727,344</u>
Total prospective contributions	\$ 5,209,464,035	\$ 4,525,162,590
Total Assets	<u>\$ 68,158,751,926</u>	<u>\$ 64,034,971,274</u>
LIABILITIES		
Annuity Savings Fund:		
Past member contributions	\$ 8,756,422,950	\$ 8,257,710,349
Future member contributions	<u>7,666,167,078</u>	<u>7,089,000,960</u>
Total contributions to Annuity Savings Fund	\$ 16,422,590,028	\$ 15,346,711,309
Pension Accumulation Fund:		
Benefits currently in payment	\$ 26,200,906,236	\$ 24,675,461,122
Benefits to be paid to current active members	25,130,370,619	23,080,656,884
Reserve for increases in retirement allowances effective July 1, 2008 (July 1, 2007 for December 31, 2006 figure)	597,987,872	573,414,615
Reserve from undistributed gains/(losses)	<u>(193,102,829)</u>	<u>358,727,344</u>
Total benefits payable from Pension Accumulation Fund	<u>\$ 51,736,161,898</u>	<u>\$ 48,688,259,965</u>
Total Liabilities	<u>\$ 68,158,751,926</u>	<u>\$ 64,034,971,274</u>

SECTION IV - COMMENTS ON VALUATION

The valuation balance sheet gives the following information with respect to the funds of the system as of December 31, 2007.

Annuity Savings Fund

The Annuity Savings Fund is the fund to which are credited contributions made by members together with interest thereon. When a member retires, the amount of his accumulated contributions is transferred from the Annuity Savings Fund to the Pension Accumulation Fund. The assets credited to the Annuity Savings Fund on December 31, 2007, which represent the accumulated contributions of members to that date, amounted to \$8,756,422,950. The balance sheet also shows that the future contributions by members have a present value of \$7,666,167,078. The present value of both past and future contributions of members is therefore equal to \$16,422,590,028. The liabilities of this fund are also shown to be equal to \$16,422,590,028.

Pension Accumulation Fund

The Pension Accumulation Fund is the fund to which the contributions made by employers are credited and from which are paid all benefits on account of beneficiaries and their survivors.

The current market related actuarial value of assets creditable to the Pension Accumulation Fund on December 31, 2007 amounted to \$46,526,697,863. The liabilities on account of active members amounted to \$25,130,370,619. In addition, the balance sheet indicates liabilities of \$26,200,906,236 on account of all benefits payable to beneficiaries and survivors as of December 31, 2007. The balance sheet also shows a reserve of \$597,987,872 to provide for the increases in retirement allowances effective July 1, 2008, and a reserve from undistributed gains/(losses) of \$(193,102,829). The total liabilities of the Pension Accumulation Fund, therefore, amounted to \$51,736,161,898. The difference between these liabilities and the current assets credited to this fund is \$5,209,464,035 which represents the present value of future contributions to be made by the employers. Of this amount, \$7,870,598,200 represents the present value of prospective normal contributions by the employers, \$(2,468,031,336) represents the present value of prospective accrued liability contributions by employers and the balance of \$(193,102,829) represents the present value of prospective contributions on account of undistributed actuarial gains/(losses).

The retirement act provides that the contributions of employers shall consist of a normal contribution and an accrued liability contribution. G.S. 135-8(d)(2) of the retirement act provides that the normal contribution rate is to be determined as the uniform percentage of the earnable compensation of the average new entrant throughout his entire period of active service and is to be determined after each valuation. The valuation indicates that the uniform normal percentage contribution rate should be set at 6.26% of compensation.

The present valuation indicates that if the employer contribution rate is set at 3.36% of payroll in accordance with the Appropriations Act of 2008, the accrued liability rate would be equal to (2.90%) of payroll effective July 1, 2008. The required employer contribution is 3.57% which will liquidate the unfunded accrued liability within a 9-year period.

SECTION V - COMMENTS ON EXPERIENCE AND GAINS

The unfunded accrued liability has increased to \$(2,468) million from \$(3,029) million since the prior valuation. The significant items which affected the unfunded accrued liability include the expected increase in the unfunded accrued liability of \$250 million due to its amortization over the liquidation period, the amendments effective July 1, 2008 which increased the unfunded accrued liability by \$598 million, deviations in salary increases, termination/retirement rates and other demographic changes from expectations which increased the unfunded accrued liability by \$589 million, the January, 2008 additional contribution of \$42 million which decreased the unfunded accrued liability and the 2007 adjustment towards market value of assets which decreased the unfunded accrued liability by \$834 million.

The valuation results indicates that there is no preliminary reserve from undistributed gains. Each 1.0% increase in retirement allowances as of July 1, 2009 to beneficiaries on the retirement roll on July 1, 2008 and a prorated portion of each 1.0% increase as of July 1, 2009 for beneficiaries who retired after July 1, 2008 but before June 30, 2009 is equivalent to 0.32% of payroll. The cost of each 0.01% increase in the defined benefit formula with a corresponding increase in retirement allowances to all current benefit recipients is 0.39% of payroll.

SECTION VI - RATES OF PAYMENT TO PENSION ACCUMULATION FUND

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Pension Accumulation Fund and the Death Benefit Fund under the provisions of the retirement act. The following table shows the rates of contribution payable by employers as determined from the Appropriations Act and the present valuation for the 2009/2010 fiscal year.

TABLE V**RATES OF CONTRIBUTION PAYABLE BY EMPLOYERS
FOR THE 2009/2010 FISCAL YEAR
BASED ON THE APPROPRIATIONS ACT
AND THE VALUATION AS OF DECEMBER 31, 2007**

CONTRIBUTION	RATE
Normal	6.26%
Actuarial Accrued Liability	<u>(2.90)</u>
Total	3.36%

SECTION VII - ACCOUNTING INFORMATION

1. Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) set forth certain items of information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF DECEMBER 31, 2007**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	145,855
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	69,420
Active Participants	<u>338,490</u>
Total	553,765

2. Another such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/02	\$43,226,837,217	\$39,863,983,389	\$(3,362,853,828)	108.4%	\$9,734,447,779	(34.55)%
12/31/03	45,117,507,733	41,733,701,348	(3,383,806,385)	108.1	10,082,153,001	(33.56)
12/31/04	47,383,509,397	43,827,854,276	(3,555,655,121)	108.1	10,366,136,571	(34.30)
12/31/05	49,670,182,206	46,624,667,789	(3,045,514,417)	106.5	10,990,238,891	(27.71)
12/31/06	52,420,807,724	49,391,906,996	(3,028,900,728)	106.1	11,711,385,640	(25.86)
12/31/07	55,283,120,813	52,815,089,477	(2,468,031,336)	104.7	12,701,016,741	(19.43)

3. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending June 30, 2008.

Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending 6/30/2008

(a)	Employer annual required contribution	\$ 406,576,000
(b)	Interest on net pension obligation	(220,000)
(c)	Adjustment to annual required contribution	454,000
(d)	Annual pension cost: (a) + (b) + (c)	\$ 406,810,000
(e)	Employer contributions made for fiscal year ending 6/30/2008	446,305,000
(f)	Increase (decrease) in net pension obligation: (d) – (e)	\$ (39,495,000)
(g)	Net pension obligation beginning of fiscal year	(3,030,000)
(h)	Net pension obligation end of fiscal year: (f) + (g)	\$ (42,525,000)

TREND INFORMATION

<u>Year Ending</u>	<u>Annual Pension Cost (APC)</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation</u>
June 30, 2006*	\$265,046,000	111.1%	\$29,229,000
June 30, 2007	329,890,000	109.8	(3,030,000)
June 30, 2008	406,810,000	109.7	(42,525,000)

- * Net pension obligation and APC adjusted to reflect the escrow repayment of \$25,000,000 made in January, 2006 not previously reflected.

4. The annual required contribution (ARC) of the employer as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below. The accrued liability rate is based on amortization of the unfunded actuarial accrued liability of \$(2,468,031,336) over a 9-year period from the valuation date.

2009/2010 FISCAL YEAR
ANNUAL REQUIRED CONTRIBUTION (ARC)
BASED ON THE VALUATION AS OF DECEMBER 31, 2007

<u>ANNUAL REQUIRED CONTRIBUTION (ARC)</u>	<u>RATE</u>
Normal	6.26%
Accrued liability	(2.69)
Total	3.57%

5. Additional information as of December 31, 2007 follows.

Valuation date	12/31/07
Actuarial cost method	Entry age
Amortization method	Level dollar open
Remaining amortization period	9 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.25%
Projected salary increases*	4.50 – 16.10%
*Includes inflation at	3.75%
Cost-of-living adjustments	N/A

SCHEDULE A**DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2007**

1.	Actuarial Value of Assets as of December 31, 2006	\$ 52,420,807,724
2.	2007 Net Cash Flow	
	a. Contributions	1,189,660,887
	b. Disbursements	<u>2,900,010,454</u>
	c. Net Cash Flow: (a) - (b)	(1,710,349,567)
3.	Expected Investment Return: [(1) x .0725] + [(2)c x .03625]	3,738,508,388
4.	Expected Actuarial Value of Assets as of December 31, 2007: (1) + (2)c + (3)	54,448,966,545
5.	Market Value of Assets as of December 31, 2007	58,619,737,886
6.	Excess of Market Value over Expected Actuarial Value of Assets: (5) - (4)	4,170,771,341
7.	20% Adjustment towards Market Value: (6) x .20	834,154,268
8.	Actuarial Value of Assets as of December 31, 2007: (4) + (7)	55,283,120,813
9.	Rate of investment return on actuarial value	8.87%
10.	Rate of investment return on market value	8.38%

SCHEDULE B**STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

Assumptions are based on the experience investigation prepared as of December 31, 2004 and adopted by the Board of Trustees on April 20, 2006.

INTEREST RATE: 7.25% per annum, compounded annually.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

GENERAL EMPLOYEES

Annual Rates of

Age	Withdrawal* and Vesting		Death		Disability		Service Retirement**	
	Male	Female	Male	Female	Male	Female	Male	Female
25	.0800	.0850	.0006	.0003	.0001	.0001		
30	.0800	.0850	.0008	.0003	.0004	.0004		
35	.0680	.0740	.0009	.0005	.0010	.0010		
40	.0530	.0500	.0010	.0007	.0029	.0018		
45	.0400	.0400	.0015	.0009	.0049	.0033		
50	.0400	.0350	.0023	.0013	.0084	.0050	.3500	.3500
55	.0400	.0350	.0040	.0021	.0144	.0088	.3000	.3500
60			.0071	.0039	.0240	.0138	.1500	.1500
65			.0129	.0076			.3000	.3000
69			.0199	.0118			.1500	.2000

TEACHERS

Annual Rates of

Age	Withdrawal* and Vesting		Death		Disability		Service Retirement**	
	Male	Female	Male	Female	Male	Female	Male	Female
25	.0550	.0600	.0006	.0003	.0001	.0002		
30	.0550	.0600	.0007	.0003	.0001	.0003		
35	.0550	.0500	.0008	.0004	.0003	.0006		
40	.0350	.0350	.0009	.0006	.0007	.0010		
45	.0300	.0250	.0013	.0008	.0014	.0018		
50	.0350	.0300	.0019	.0011	.0023	.0032	.3500	.3500
55	.0350	.0300	.0032	.0017	.0047	.0055	.3500	.4500
60			.0056	.0029	.0077	.0102	.1500	.1500
65			.0102	.0058			.3000	.3500
69			.0162	.0097			.2500	.1500

* Higher rates of withdrawal are used during the first 3 years of membership in the system.

** An additional 15% of general employees and an additional 20% of teachers are assumed to retire in the year when first eligible for unreduced service retirement. Special rates are used for early service retirement.

LAW ENFORCEMENT OFFICERS - MALES

Annual Rates of

Age	Withdrawal and Vesting	Death		Disability		Service Retirement*
		Ordinary	Accidental	Ordinary	Accidental	
25	.0980	.00056	.00006	.0029	.0003	
30	.0570	.00070	.00008	.0036	.0004	
35	.0370	.00077	.00009	.0047	.0005	
40	.0300	.00090	.00010	.0061	.0007	
45	.0220	.00131	.00015	.0090	.0010	
50	.0220	.00210	.00023	.0151	.0017	.2000
55		.00358	.00040			.2000
60		.00638	.00071			.2000
65		.01165	.00129			.4000
69		.01787	.00199			.3000

LAW ENFORCEMENT OFFICERS - FEMALES

Annual Rates of

Age	Withdrawal and Vesting	Death		Disability		Service Retirement*
		Ordinary	Accidental	Ordinary	Accidental	
25	.0980	.00026	.00003	.0029	.0003	
30	.0570	.00030	.00003	.0036	.0004	
35	.0370	.00041	.00005	.0047	.0005	
40	.0300	.00059	.00007	.0061	.0007	
45	.0220	.00083	.00009	.0090	.0010	
50	.0220	.00118	.00013	.0151	.0017	.2000
55		.00187	.00021			.2000
60		.00347	.00039			.2000
65		.00686	.00076			.4000
69		.01058	.00118			.3000

* An additional 40% are assumed to retire in the year when first eligible for unreduced service retirement. Special rates are used for early service retirement.

SALARY INCREASES: Representative values of the assumed annual rates of salary increases are as follows:

Age	Annual Rate of Salary Increase			
	General Employees	Law Enforcement Officers	Service	Teachers
25	10.28%	9.70%	0	14.73%
30	6.17	7.20	5	10.38
35	5.22	5.87	10	6.86
40	5.08	5.30	15	6.65
45	4.98	4.96	20	6.43
50	4.77	4.50	25	6.34
55	4.50	4.50	30	6.29
60	4.50	4.50	35	5.90
64	4.50	4.50	40	4.50
65	4.50	4.50	45	4.50
69	4.50	4.50	50	4.50

DEATH AFTER RETIREMENT: According to the 1994 Group Annuity Mortality Tables. These tables are not adjusted for male teachers, set forward one year for female teachers, set forward two years for general employees and law enforcement officers, and set forward two years for the beneficiaries of deceased members.

MORTALITY PROJECTION: All mortality rates are projected from December 31, 2005 using Scale AA.

ADMINISTRATIVE EXPENSES: 0.10% of payroll.

MARRIAGE ASSUMPTION: 100% married with the husband four years older than his wife.

REPORTED COMPENSATION: Calendar year compensation as furnished by the system's office.

VALUATION COMPENSATION: Reported compensation adjusted to reflect the assumed rate of pay as of the valuation date.

VALUATION METHOD: Entry age normal cost method. Entry age is established on an individual basis.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected actuarial value.

SCHEDULE C**SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS**

A summary of the main benefit provisions of the Retirement System and of the sources of revenue from which benefits are paid is presented in the following digest. Items in parentheses in the text are the provisions applicable to law enforcement officers.

"Average final compensation" as used in the summary means the average annual compensation during the four consecutive years of membership service which afford the highest such average. "Membership service" means service represented by regular contributions. "Creditable service" means membership service and may also include certain special purchased service.

BENEFITS**Service Retirement Allowance****Condition for Allowance**

A service retirement allowance is payable to any member who retires from service after he has attained age 60 and completed 5 years of membership service (age 55 and 5 years of creditable service) or completed 30 years of creditable service.

Amount of Allowance

On service retirement on or after age 65 (55), or after age 60 and completion of 25 years of creditable service, or after completion of 30 years of creditable service, a member receives a retirement allowance equal to 1.82% of his average final compensation multiplied by the number of years of his creditable service.

If a member who is not a law enforcement officer has not attained age 65 or has not completed 25 or more years of creditable service at the time of his retirement, his allowance is reduced 1/4 of 1% for each month by which his age at retirement is less than age 65.

In no event will a member whose creditable service commenced on or before June 30, 1963 receive a smaller retirement allowance than he would have received under the benefit provisions of the system in effect on that date.

Early Service Retirement Allowance

Condition for Allowance

An early service retirement allowance is payable to any member who retires from service after he has attained age 50 and completed 20 (15) years of creditable service but prior to becoming eligible for a service retirement allowance.

Amount of Allowance

The member's early service retirement allowance is equal to 1.82% of his average final compensation multiplied by the number of years of his creditable service at his date of retirement reduced by the lesser of:

- (i) $5/12$ ($1/3$) of 1% for each month by which his age is less than 60 (55), plus $1/4$ of 1% for each month by which his age is less than 65.
- (ii) 5% times the difference between 30 years and his creditable service at retirement.

Deferred Service Retirement Allowance

Any member who separates from service prior to becoming eligible for a service retirement allowance or an early service retirement allowance after completing 5 or more years of membership service and who leaves his total accumulated contributions in the system may receive a deferred retirement allowance, beginning at age 60 (55), computed in the same way as a service retirement allowance, or, if the member has 20 or more years of service, at age 50 computed in the same way as an early service retirement allowance, on the basis of his creditable service and compensation to the date of separation.

Return of Contributions

Upon the withdrawal of a member without a retirement allowance and upon his request, his contributions are returned to him, together with accumulated regular interest thereon if he has at least 5 years of membership service.

Upon the death of a member before retirement, his contributions, together with the full accumulated regular interest thereon, are paid to his estate or to person(s) designated by the member unless the designated beneficiary, if eligible, elects the survivor's alternate benefit described below.

Survivor's Alternate Benefit

Upon the death of a member in service who has attained age 60(55) and has completed 5 years of membership (creditable) service or completed 20 years of creditable service, his designated beneficiary may elect to receive a benefit equal to that which would have been payable under the provisions of Option 2 had the member retired on the first day of the month following his death and elected such option, in lieu of the member's accumulated contributions, provided the member had not instructed the Board of Trustees in writing that he did not wish the alternate benefit to apply.

Death After Retirement

Upon the death of a beneficiary who did not retire under an effective election of Option 2 or Option 3, an amount equal to the excess if any, of his accumulated contributions at retirement over the retirement allowance payments received is paid to a designated person or to the beneficiary's estate.

Upon the death of the survivor of a beneficiary who retired under an effective election of Option 2 or Option 3, an amount equal to the excess, if any, of the beneficiary's accumulated contributions at retirement over the total retirement allowance payments received is paid to such other person designated by the beneficiary or to the beneficiary's estate.

Optional Arrangements
at Retirement

In lieu of the full retirement allowance, any member may elect to receive a reduced retirement allowance equal in value to the full allowance, with the provision that:

Option 1 - A member retiring prior to July 1, 1993, may elect that at his death within 10 years from his retirement date, an amount equal to his accumulated contributions at retirement, less 1/120 for each month he has received a retirement allowance, is paid to his estate, or to a person(s) designated by the member, or

Option 2 - At the death of the member his allowance shall be continued throughout the life of such other person as the member shall have designated at the time of his retirement, or

Option 3 - At the death of the member one-half of his allowance shall be continued throughout the life of such other person as the member shall have designated at the time of his retirement.

Option 4 - A member may elect to receive a retirement allowance in such amount that, together with his Social Security benefit, he will receive approximately the same income per annum before and after the earliest age at which he becomes eligible to receive the Social Security benefit.

Option 5 - A member retiring prior to July 1, 1993 may elect to receive a reduced retirement allowance under the provisions of Option 2 or Option 3 in conjunction with the provisions of Option 1.

Option 6 - A member may elect either Option 2 or Option 3 with the added provision that in the event the designated beneficiary predeceases the member, the retirement allowance payable to the member after the designated beneficiary's death shall be equal to the retirement allowance which would have been payable had the member not elected the option.

Post-Retirement Increases
in Allowances

Future increases in allowances may be granted if the Consumer Price Index rises, provided the liabilities on account of such increases do not increase the total employer rate of contribution.

CONTRIBUTIONS

REGULAR CONTRIBUTIONS

By Members

Each member contributes 6% of his compensation.

By Employers

Employers make annual contributions consisting of a normal contribution and an accrued liability contribution. The normal contribution covers the liability on account of current service and is determined by the actuary after each valuation.

The accrued liability contribution covers the liability on account of service rendered before the establishment of the retirement system and the liability on account of increases in benefits for service rendered prior to the effective date of any amendment.

SCHEDULE D**TABLE 1**

**THE NUMBER AND REPORTED COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY AGE
AS OF DECEMBER 31, 2007**

Age	Men		Women	
	Number	Amount	Number	Amount
16	1	\$10,129	1	\$29,485
18	3	24,125	6	38,620
19	36	264,646	34	321,963
20	104	1,249,421	91	937,569
21	236	3,543,486	270	3,750,699
22	419	7,068,991	867	12,359,084
23	874	15,821,536	2,489	45,301,181
24	1,224	26,617,941	3,893	90,791,269
25	1,656	41,184,951	4,443	112,809,307
26	1,828	48,661,851	5,008	135,331,962
27	1,942	55,179,105	5,010	143,325,295
28	2,013	59,909,686	5,092	150,877,459
29	2,030	64,090,367	5,056	154,926,633
30	2,329	70,052,922	5,101	156,396,691
31	2,516	80,962,011	5,106	161,939,099
32	2,311	80,408,856	4,876	160,023,550
33	2,363	86,657,940	5,191	173,991,739
34	2,338	86,438,508	5,058	171,792,175
35	2,471	93,761,692	5,277	178,800,239
36	2,657	103,940,812	5,704	194,876,441
37	2,909	115,601,555	6,384	218,230,192
38	2,800	115,704,088	6,330	218,594,450
39	2,719	111,946,496	6,163	214,460,677
40	2,613	108,688,920	5,810	200,469,514
41	2,609	108,026,911	5,902	203,640,581
42	2,722	113,009,740	5,807	199,885,808
43	2,715	112,542,944	6,147	215,269,920
44	2,824	119,162,468	6,362	223,150,418
45	2,879	123,654,747	6,480	232,785,472
46	2,874	124,190,352	6,821	247,362,157
47	3,241	138,437,758	7,635	273,584,605
48	2,920	127,110,605	7,007	264,693,966
49	3,028	133,943,166	6,951	262,521,304
50	3,024	134,429,447	7,291	288,227,806
51	3,040	138,401,861	7,441	302,117,623
52	2,949	134,977,163	7,193	296,996,131

TABLE 1
THE NUMBER AND REPORTED COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY AGE
AS OF DECEMBER 31, 2007

CONTINUED

Age	Men		Women	
	Number	Amount	Number	Amount
53	2,887	\$135,687,807	6,942	\$288,569,970
54	2,953	137,817,316	6,881	289,480,712
55	2,852	137,519,478	6,528	275,421,551
56	2,807	136,500,282	6,166	260,907,122
57	2,670	127,102,779	5,679	243,859,121
58	2,474	118,194,810	5,244	220,341,970
59	2,416	114,881,455	4,870	204,832,927
60	2,300	111,034,777	4,511	187,174,462
61	2,171	107,411,650	3,954	163,971,648
62	1,350	66,445,415	2,396	99,056,461
63	1,109	54,777,577	1,737	72,010,976
64	853	43,686,326	1,409	57,748,770
65	681	36,172,100	1,084	42,849,495
66	442	23,315,223	589	24,057,067
67	349	17,483,208	421	14,893,561
68	275	13,929,654	312	11,705,358
69	200	9,357,659	232	8,687,897
70	182	8,365,586	191	6,205,390
71	123	5,763,590	136	4,868,067
72	103	3,806,821	87	2,638,143
73	81	3,902,414	92	2,975,886
74	71	3,134,280	55	1,835,560
75	58	2,433,312	46	1,541,864
76			1	42,257
78	2	138,602		
79	1	58,927		
80			1	41,275
85			1	51,272
88			1	38,630
	104,627	\$4,304,598,245	233,863	\$8,396,418,496

SCHEDULE D**TABLE 2****THE NUMBER AND REPORTED COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY SERVICE
AS OF DECEMBER 31, 2007**

Years of Service	Men		Women	
	Number	Amount	Number	Amount
0	5,872	\$51,405,385	11,735	\$97,695,959
1	10,558	271,759,660	23,008	507,181,602
2	9,226	323,430,271	21,457	661,308,097
3	7,597	274,713,262	17,053	542,776,776
4	6,613	247,022,007	14,530	476,227,847
5	5,604	219,981,839	12,379	425,874,076
6	4,524	183,956,964	10,691	373,052,288
7	4,688	192,646,010	11,185	396,335,923
8	4,340	180,543,603	10,517	374,072,994
9	4,038	172,750,896	9,668	352,798,935
10	3,588	159,105,969	8,548	323,918,164
11	3,217	145,225,652	7,644	298,585,630
12	3,061	142,209,649	6,787	270,850,537
13	2,814	132,190,884	6,143	253,729,646
14	2,915	136,550,449	5,766	241,852,948
15	2,302	116,206,905	5,182	223,873,160
16	2,311	114,622,155	4,771	210,131,175
17	1,742	89,005,917	3,843	174,915,613
18	2,078	104,016,852	4,344	196,584,510
19	1,925	94,865,381	4,549	205,953,870
20	1,879	100,461,163	4,445	204,627,266
21	1,617	89,816,537	3,529	173,138,058
22	1,346	78,141,994	3,105	155,397,246
23	1,559	88,022,809	3,321	164,408,669
24	1,591	91,889,689	3,091	159,008,689
25	1,192	70,260,583	2,224	118,862,977
26	992	59,127,961	2,011	109,968,120
27	876	54,079,512	2,067	111,454,346
28	982	62,509,737	2,384	127,228,518
29	912	58,644,030	2,425	133,395,727
30	692	47,590,099	1,917	108,167,810
31	470	32,176,780	1,078	64,139,963
32	342	25,543,331	737	45,856,868
33	261	19,697,152	506	33,464,244
34	237	17,544,062	419	25,680,562
35	169	12,955,166	298	20,170,344
36	132	11,117,007	158	10,319,831

TABLE 2
THE NUMBER AND REPORTED COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY SERVICE
AS OF DECEMBER 31, 2007

CONTINUED

Years of Service	Men		Women	
	Number	Amount	Number	Amount
37	91	\$7,644,426	109	\$7,693,393
38	89	7,776,338	73	4,911,266
39	53	4,658,157	53	3,938,858
40	45	4,334,261	33	1,890,571
41	22	1,916,179	25	1,697,225
42	16	1,711,646	13	749,416
43	14	1,358,568	15	941,208
44	13	1,167,329	4	209,854
45	7	887,989	7	509,682
46	4	459,409	5	237,682
47	5	453,823	4	248,072
48	2	138,602	1	61,873
49	1	58,927		
50	1	110,646	1	41,275
51			1	56,515
52	1	96,165	2	132,716
55	1	38,458	1	51,272
58			1	38,630
Total	104,627	\$4,304,598,245	233,863	\$8,396,418,496

SCHEDULE D**TABLE 3**

**THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2007**

**SERVICE RETIREMENTS AND
DEPENDENTS OF DECEASED BENEFICIARIES**

Age	Men		Women	
	Number	Amount	Number	Amount
25	30	\$388,719	17	\$158,425
26	5	65,543	1	7,885
27	8	82,000	4	43,360
28	2	36,199	2	19,665
29	6	87,107	3	39,853
30	11	139,845	1	9,077
31	9	144,132	10	133,865
32	6	87,688	6	82,282
33	8	61,529	4	74,303
34	8	83,300	4	33,378
35	7	82,387	2	14,846
36	21	250,650	5	44,903
37	17	138,959	8	143,001
38	13	110,775	10	156,747
39	18	232,491	11	119,547
40	16	147,159	9	104,769
41	24	210,458	10	64,444
42	26	253,494	13	176,085
43	25	279,296	11	142,034
44	26	233,076	13	142,099
45	34	358,844	20	209,598
46	28	274,516	19	209,971
47	55	821,916	49	910,535
48	53	921,880	24	362,567
49	65	1,195,193	64	1,014,457
50	116	2,431,195	106	2,194,710
51	206	4,775,119	283	6,291,390
52	299	7,274,202	478	11,697,305
53	482	12,544,517	821	22,156,688
54	572	15,623,483	1,293	36,185,656
55	721	20,949,941	1,772	51,193,510
56	902	26,130,043	1,957	57,979,348
57	1,019	30,689,628	2,199	64,463,785
58	1,164	36,079,862	2,317	66,827,292
59	1,301	42,059,667	2,555	72,917,189
60	1,524	47,815,517	2,878	76,878,769
61	2,092	60,794,982	3,959	96,089,457
62	1,574	41,918,480	3,118	65,921,206
63	1,794	42,944,887	3,477	63,356,119
64	1,852	42,867,372	3,838	69,603,320

TABLE 3
THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2007

SERVICE RETIREMENTS AND
DEPENDENTS OF DECEASED BENEFICIARIES

CONTINUED

Age	Number	Men		Women	
		Number	Amount	Number	Amount
65	2,093		\$47,936,844	4,223	\$74,878,704
66	1,895		41,665,708	3,840	65,177,807
67	1,880		40,473,292	3,716	62,032,289
68	1,779		38,353,729	3,431	56,699,835
69	1,817		39,052,069	3,240	52,415,420
70	1,695		36,260,230	3,234	50,689,732
71	1,556		33,982,401	3,004	47,586,722
72	1,568		35,074,805	2,987	46,126,514
73	1,473		31,616,476	2,936	44,879,937
74	1,395		31,073,457	2,503	36,718,702
75	1,300		28,501,415	2,524	37,053,329
76	1,284		28,503,796	2,444	34,869,029
77	1,256		28,346,958	2,387	35,220,324
78	1,180		26,158,641	2,203	31,894,784
79	1,033		22,418,021	2,180	29,674,450
80	941		20,139,684	2,094	28,487,461
81	887		17,989,716	1,935	26,114,396
82	770		16,109,843	1,775	22,695,249
83	719		14,172,197	1,689	20,248,462
84	583		11,325,018	1,496	17,834,384
85	519		9,624,738	1,303	16,172,747
86	422		9,419,414	1,310	15,198,051
87	439		8,088,116	1,140	13,959,842
88	313		5,255,633	1,008	11,243,655
89	282		5,026,019	813	9,172,154
90	182		2,992,730	679	7,820,664
91	144		2,390,488	580	6,602,674
92	112		1,817,128	487	5,577,519
93	81		1,243,816	400	5,133,672
94	60		1,041,620	330	3,833,599
95	34		612,085	259	3,219,768
96	18		235,503	175	2,352,172
97	20		296,206	127	1,569,813
98	17		252,453	94	1,231,870
99	17		226,124	73	951,938
100	3		27,605	57	769,916

TABLE 3
THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2007

SERVICE RETIREMENTS AND
DEPENDENTS OF DECEASED BENEFICIARIES

CONTINUED

Age	Number	Men		Women	
		Number	Amount	Number	Amount
101	3		\$26,076	31	\$449,411
102	4		36,496	23	312,468
103	1		32,290	11	135,599
104				11	140,532
105				7	115,856
106				1	14,457
Total	45,914		\$1,079,384,891	94,131	\$1,695,449,347
Maximum	13,352		301,328,223	45,623	782,061,050
Cash Refund	2,274		49,796,508	8,661	119,517,518
100% J&S	7,506		172,724,136	2,968	39,474,854
50% J&S	3,442		92,947,727	2,306	39,898,079
Soc Sec Level	8,038		212,990,681	18,159	438,503,979
Odd Surv	19		717,775	13	265,238
100% J&S Popup	5,328		127,531,678	3,604	66,816,043
50% J&S Popup	3,274		94,542,682	4,127	92,484,690
Beneficiaries	2,681		26,805,481	8,670	116,427,896

SCHEDULE D**TABLE 4****THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2007****DISABILITY RETIREMENTS**

Age	Men		Women	
	Number	Amount	Number	Amount
41	1	\$8,994		
43	2	23,049		
44	1	19,606	1	\$14,496
45	1	14,346	1	11,613
46	5	87,482	6	81,299
47	3	44,772	15	236,732
48	6	114,732	9	118,544
49	11	190,223	21	358,839
50	27	603,090	26	570,346
51	31	668,847	37	664,109
52	41	890,013	68	1,401,745
53	51	1,136,132	86	2,136,706
54	50	1,188,242	74	1,820,051
55	54	1,215,512	117	2,991,219
56	58	1,589,973	140	3,664,887
57	67	1,636,864	143	3,706,095
58	80	1,930,987	141	3,682,160
59	79	1,821,410	149	3,861,062
60	105	2,512,482	150	3,718,590
61	110	2,766,624	168	3,812,673
62	88	2,046,234	122	2,644,464
63	70	1,500,670	140	2,863,820
64	64	1,330,509	141	2,701,397
65	80	1,833,859	144	2,893,202
66	78	1,562,924	138	2,531,170
67	71	1,378,318	123	1,977,452
68	85	1,640,515	111	1,719,194
69	50	877,262	119	1,781,852
70	54	949,150	130	2,061,114
71	44	826,486	75	1,126,825
72	67	1,094,714	90	1,282,548
73	46	832,753	80	1,231,954
74	49	773,566	83	1,121,049
75	44	783,703	70	887,681
76	32	487,720	66	855,218
77	34	562,171	57	793,667
78	35	534,327	66	867,821
79	30	446,204	71	881,117
80	33	439,424	56	635,604

TABLE 4
THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2007

DISABILITY RETIREMENTS

CONTINUED

Age	Number	Men		Women	
		Number	Amount	Number	Amount
81	32		\$409,653	71	\$813,942
82	38		542,963	61	697,060
83	29		474,879	53	473,523
84	22		300,570	52	627,304
85	33		529,383	58	597,668
86	16		259,680	37	445,791
87	14		202,666	38	401,944
88	9		142,568	27	292,462
89	12		127,213	21	220,883
90	10		128,465	20	281,304
91	3		15,384	23	255,420
92	4		33,625	18	239,916
93	3		65,861	9	102,357
94	3		27,099	9	100,363
95				5	51,546
96	1		7,788	3	37,926
98				2	24,989
100				1	6,514
101				1	9,147
102				1	13,924
Total	2,066		\$41,631,686	3,744	\$69,402,298
Maximum	1,200		27,418,013	2,676	54,360,479
Cash Refund	243		3,962,915	677	8,831,567
100% J&S	162		2,129,690	83	1,010,957
50% J&S	211		3,275,924	110	1,467,317
Soc Sec Level	14		413,683	26	736,752
Odd Surv				2	31,755
100% J&S Popup	62		924,392	39	617,082
50% J&S Popup	174		3,507,069	131	2,346,389