# REPORT ON THE ACTUARIAL VALUATION OF THE CONSOLIDATED JUDICIAL RETIREMENT SYSTEM OF NORTH CAROLINA PREPARED AS OF DECEMBER 31, 2009



December 16, 2010

Board of Trustees Consolidated Judicial Retirement System of North Carolina Raleigh, North Carolina

Members of the Board:

We submit herewith our report on the actuarial valuation of the Consolidated Judicial Retirement System of North Carolina prepared as of December 31, 2009. The report has been prepared in accordance with North Carolina General Statute 135-50 through 135-75.

An investigation of the demographic, economic and other assumptions was made during 2010. This valuation includes all assumption changes approved by the Board of Trustees as a result of this investigation.

An audit of the "Report on the Actuarial Valuation of the Consolidated Judicial Retirement System of North Carolina prepared as of December 31, 2007" was completed during 2010. Buck reviewed the findings of the audit report with the Retirement Systems Division and agreed to make certain changes to the valuation report. These changes have been included in this valuation.

The Appropriations Act of 2010 sets contributions at 15.11% of payroll effective for the fiscal year ending June 30, 2011. On this basis, these contributions would provide no undistributed gains.

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 2011-2012 fiscal year is 26.54% of payroll, which will liquidate the unfunded accrued liability within a nine-year period.

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 ANNUAL VALUATION OF THE CONSOLIDATED JUDICIAL RETIREMENT SYSTEM OF NORTH CAROLINA PREPARED AS OF DECEMBER 31, 2009

#### **SECTION I - SUMMARY OF PRINCIPAL RESULTS**

 This report, prepared as of December 31, 2009, presents the results of the 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.

TABLE I SUMMARY OF PRINCIPAL RESULTS

VALUATION DATE	;	12/31/09		12/31/08
Active members included in valuation		12/31/03		12/01/00
Number		559		551
Reported compensation	\$	66,171,078	\$	65,082,979
Valuation compensation	. Ψ	69,126,535	. •	67,295,485
Valdation compensation		00,120,000		07,200,100
Beneficiaries	:		:	
Number	:	529		488
Annual allowances	\$	29,483,092	\$	26,729,383
	:			
Assets				
Actuarial value	\$	439,987,304	\$	433,552,760
Market value		399,511,977		361,360,701
Unfunded accrued liability	\$	34,962,037	\$	8,379,846
				00 0044
GASB 25/27 for Fiscal Year Ending	J	une 30, 2012	J	une 30, 2011
Annual required contribution (ARC) of employer,	!			
as a percentage of payroll		47 700/		47.000/
Normal		17.79%		17.29%
Accrued liability		8.41		1.60
Death benefit		0.34		0.36
Total	į	26.54%		19.25%
Impact of legislative changes	:	<u>N/A</u>		0.00 19.25%
Final ARC of employer	į	N/A		19.25%
Appropriations Act for Prior Fiscal Year	:		:	
Employer contribution rate, as a percentage of				
payroll				
Normal	į	17.29%		17.23%
Accrued liability		(2.54)		(2.47)
Death benefit		0.36	:	0.35
Total		15.11%	:	15.11%
. 5	:	1050100101 (65)	!	
Preliminary undistributed gains/(losses)	!	(11.43)%		(4.14)%

2. The following table shows a reconciliation of the change in the annual required contribution computed to be 19.25% based on the December 31, 2008 valuation and 26.54% based on the December 31, 2009 valuation.



TABLE II
RECONCILIATION OF CHANGE IN ANNUAL REQUIRED CONTRIBUTION

Prior Year's Preliminary ARC (based on 12/31/08 valuation)	19.25%
Impact of Legislative Changes	<u>0.00%</u>
Prior Year's Final ARC	19.25%
Impact of Resetting Amortization Period to 9 Years	(0.15)
Changes Due to Demographic Gain/Loss	0.36
Changes Due to Investment Gain/Loss	1.86
Changes Due to Contributions Less than ARC	0.41
Assumption Changes and Method Changes	<u>4.81</u>
Current Year's Preliminary ARC (based on 12/31/09 valuation)	26.54%

- 3. Tables summarizing the membership of the system as of the valuation date are shown in Section II.
- 4. The valuation balance sheet showing the assets and liabilities of the retirement system as of the current and previous valuation dates is provided in Section III.
- 5. An allocation of investments by category is shown in Section IV.
- 6. Comments on the valuation results are provided in Section V.
- 7. Comments on the experience and actuarial gains during the valuation year are provided in Section VI.
- 8. Accounting information to be disclosed in the financial statements of the System and the employer is provided in Section VII.
- 9. Schedule A of this report presents the development of the actuarial value of assets.
- Schedule B of this report presents the development of the amortization of the unfunded accrued liability.
- 11. Schedule C of this report outlines the full set of actuarial assumptions and methods employed.
- 12. Schedule D gives a summary of the benefit and contribution provisions of the system.
- 13. Schedule E provides detailed tabulations of the membership of the system as of the valuation date.

#### **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, 2009 upon which the valuation was based. Detailed tabulations of the data are given in Schedule E.



TABLE III

THE NUMBER AND REPORTED COMPENSATION OF ACTIVE MEMBERS INCLUDED IN THE VALUATION AS OF DECEMBER 31, 2009

GROUP	NUMBER	AVERAGE AGE	AVERAGE SERVICE	 EPORTED IPENSATION
Justices of Supreme Court and Judges of Court of Appeals	22	57.0	10.6	\$ 3,183,953
Judges of the Superior Court and Administrative Officers of the Court	110	56.5	15.5	15,107,670
Judges of the District Court, District Attorneys Clerks of the Superior Court, and Public Defenders	427	<u>52.2</u>	<u>11.4</u>	 47,879,4 <u>55</u>
Total	559	53.2	12.2	\$ 66,171,078

#### **TABLE IV**

# THE NUMBER, ACCUMULATED CONTRIBUTIONS AND VALUATION COMPENSATION OF TERMINATED VESTED MEMBERS INCLUDED IN THE VALUATION AS OF DECEMBER 31, 2009

GROUP	NUMBER	AVERAGE AGE	AVERAGE SERVICE	ACCUMULATED CONTRIBUTIONS	VALUATION COMPENSATION
Justices of Supreme Court and Judges of Court of Appeals	1	53.1	1.8	\$ 13,594	\$ 129,771
Judges of the Superior Court and Administrative Officers of the Court	1	63.8	3.4	25,108	45,395
Judges of the District Court, District Attorneys Clerks of the Superior Court, and Public	50	55.2	5.1	1,691,734	3,533,703
Defenders	<u>50</u>		<u>5.1</u>		
Total	52	55.3	5.0	\$ 1,730,436	\$3,708,869

TABLE V

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES
OF BENEFICIARIES AND SURVIVORS
INCLUDED IN THE VALUATION AS OF DECEMBER 31, 2009

GROUP	NUMBER	AVERAGE AGE	RE	ANNUAL ETIREMENT LOWANCES
Beneficiaries Receiving Service Retirement Allowances				
Males	288	69.9	\$	19,715,952
Females	106	68.6		5,472,642
Total	394	69.5	\$	25,188,594
Beneficiaries Receiving Disability Retirement Allowances			<u>es</u>	
Males	2	60.7	\$	129,410
Females	3	63.0		171,071
Total	5	62.1	\$	300,481
Benefits to S	Survivors of Dec	eased Beneficia	ries	
Males	5	73.2	\$	106,692
Females	<u>125</u>	<u>79.0</u>		3,887,325
Total	130	78.8	\$	3,994,017
Grand Total	529	<u>71.7</u>	_\$	29,483,092

#### **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, 2009 and, for comparison purposes, as of the immediately previous valuation date of December 31, 2008. 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 VI** 

## VALUATION BALANCE SHEET SHOWING THE ASSETS AND LIABILITIES OF THE CONSOLIDATED JUDICIAL RETIREMENT SYSTEM OF NORTH CAROLINA

	DEC	EMBER 31, 2009	DECE	EMBER 31, 2008
ASSETS				
Current actuarial value of assets:		40.000.000	•	40.000.000
Annuity Savings Fund Pension Accumulation Fund	\$	49,222,622 390,764,682	\$	49,826,906 383,725,854
	_			
Total current assets	\$	439,987,304	\$	433,552,760
Future member contributions to Annuity Savings Fund	\$	41,551,909	\$	45,608,946
Prospective contributions to Pension Accumulation Fund:				
Normal contributions	\$	130,431,846	\$	133,861,392
Unfunded accrued liability contributions		34,962,037		8,379,846
Undistributed gain contributions	<u> </u>	(47,510,380)		(21,679,951)
Total prospective contributions	\$	117,883,503	\$	120,561,287
Total Assets	\$	599,422,71 <u>6</u>	\$	599,722,993
LIABILITIES				
Annuity Savings Fund: Past member contributions	\$	49,222,622	\$	49,826,906
Future member contributions	Ψ	41,551,909	Φ	45,608,946
	_		•	
Total contributions to Annuity Savings Fund	\$	90,774,531	\$	95,435,852
Pension Accumulation Fund:				
Benefits currently in payment	\$	265,506,533	\$	237,268,096
Benefits to be paid to current active members Reserve for increases in retirement		290,652,032		288,698,996
allowances effective July 1, 2010 (July 1, 2009 for				
December 31, 2008 figure)		0		0
Reserve from undistributed gains/(losses)		(47,510,380)		(21,679,951)
				_
Total benefits payable from Pension Accumulation		500 040 465	•	504007444
Fund	\$	<u>508,648,185</u>	\$	504,287,141
Total Liabilities	\$	<u>599,422,716</u>	\$	599,722,993



The valuation balance sheet gives the following information with respect to the funds of the system as of December 31, 2009.

#### 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, 2009, which represent the accumulated contributions of members to that date, amounted to \$49,222,622. The balance sheet also shows that the future contributions by members have a present value of \$41,551,909. The present value of both past and future contributions of members is therefore equal to \$90,774,531. The liabilities of this fund are also shown to be equal to \$90,774,531.

#### Pension Accumulation Fund

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

The actuarial value of assets creditable to the Pension Accumulation Fund on December 31, 2009 amounted to \$390,764,682. The liabilities on account of active members amounted to \$290,652,032. In addition, the balance sheet indicates liabilities of \$265,506,533 on account of all benefits payable to beneficiaries and survivors as of December 31, 2009. The balance sheet also shows a reserve from undistributed gains/(losses) of \$(47,510,380). The total liabilities of the Pension Accumulation Fund, therefore, amounted to \$508,648,185. The difference between these liabilities and the current assets credited to this fund is \$117,883,503 which represents the present value of future contributions to be made by the employer. Of this amount, \$130,431,846 represents the present value of prospective normal contributions by the employer, \$34,962,037 represents the present value of prospective unfunded accrued liability contributions and the balance of \$(47,510,380) represents the present value of prospective contributions on account of undistributed gains/(losses).



#### **SECTION IV – ASSET ALLOCATION**

The following table shows an allocation of investments by category for the Annuity Savings Fund and Pension Accumulation Fund as of December 31, 2009.

ALLOCATION OF INVESTMENTS BY CATEGORY
FOR THE ANNUITY SAVINGS FUND AND
PENSION ACCUMULATION FUND AS OF DECEMBER 31, 2009

**TABLE VII** 

Cash and Receivables	0.5%
Fixed Income (LTIF)	38.1
Public Equity	50.4
Other*	<u>11.0</u>
Total	100.0%

<sup>\*</sup> Real Estate, Alternatives, Inflation and Credit.

#### **SECTION V - COMMENTS ON VALUATION**

G.S. 135-69 of the retirement act provides that the State shall make a normal contribution and an unfunded accrued liability contribution. The normal contribution rate payable by the State was determined by dividing the one-year normal cost based on the projected unit credit method by the payroll and is equal to 17.79% of compensation exclusive of the rate necessary to provide one year's compensation upon death in active service. The normal contribution of 17.79% of payroll is payable to the Retirement System. The normal rate necessary to provide the death benefit on a one-year term basis was calculated to be 0.34% of compensation and is payable to the Death Benefit Fund. The total normal rate is therefore equal to 18.13% of compensation.

The present valuation indicates that if the total contribution rate is set at 15.11% of compensation beginning July 1, 2010 in accordance with the Appropriations Act, the accrued liability rate would be equal to (3.02) % of payroll effective July 1, 2010. The required employer contribution is 26.54%, which will liquidate the unfunded accrued liability within a nine-year period.



#### **SECTION VI - COMMENTS ON EXPERIENCE AND GAINS**

The following table shows a detailed reconciliation of the change in unfunded accrued liability since the prior valuation.

TABLE VIII

RECONCILIATION OF CHANGE IN UNFUNDED ACCRUED LIABILITY

SINCE THE PRIOR VALUATION

(IN MILLIONS)

Unfunded accrued liability as of 12/31/08	\$ 8.4
Normal cost during 2009	15.7
Reduction due to actual contributions during 2009	(14.9)
Interest on unfunded accrued liability, normal cost and contributions	1.2
Asset (gain)/loss	10.1
Accrued liability (gain)/loss	0.6
Change in economic, demographic and other assumptions	13.9
Unfunded accrued liability as of 12/31/09	\$ 35.0

The valuation results indicated that there is no preliminary reserve from undistributed gains. Each 1.0% increase in retirement allowances as of July 1, 2011 to beneficiaries on the retirement roll on July 1, 2010 and a prorated portion of each 1.0% increase as of July 1, 2011 for beneficiaries who retired after July 1, 2010 but before June 30, 2011 is equivalent to 0.74% of payroll.



#### **SECTION VII - ACCOUNTING INFORMATION**

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, 2009

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	529
Terminated participants and beneficiaries entitled to benefits but not yet receiving	
benefits	52
Active participants	<u>559</u>
Total	1,140

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

#### SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation <u>Date</u>	Actuarial Value of Assets <u>(a)</u>	Actuarial Accrued Liability (AAL) PUC (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
12/31/04	\$363,110,241	\$334,272,139	\$(28,838,102)	108.6%	\$49,368,285	(58.4)%
12/31/05	382,500,770	355,498,047	(27,002,723)	107.6	51,017,609	(52.9)
12/31/06	406,014,726	378,489,964	(27,524,762)	107.3	53,347,855	(51.6)
12/31/07	430,356,059	418,137,429	(12,218,630)	102.9	61,338,143	(19.9)
12/31/08	433,552,760	441,932,606	8,379,846	98.1	65,082,979	12.9
12/31/09	439,987,304	474,949,341	34,962,037	92.6	66,171,078	52.8

 Following is a reconciliation of the preliminary employer annual required contribution rate to the final employer annual required contribution for fiscal year ending June 30, 2010.

	Fiscal Year Ending June 30, 2010
Preliminary Annual Required Contribution Rate	
Normal	17.23%
Accrued Liability	(2.47)
Death Benefit	0.35
Total	15.11%
Impact of Legislative Changes	0.00
Final Annual Required Contribution Rate	15.11%
Payroll	\$ <u>67,819,547</u>
Annual Required Contribution	\$ 10,248,000

4. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending June 30, 2010.

#### Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending 6/30/2010

(a)	Employer annual required contribution	<del>\$10,248,000</del>
(b)	Interest on net pension obligation	(202,000)
(c)	Adjustment to annual required contribution	359,000
(d)	Annual pension cost: (a) + (b) + (c)	\$10,405,000
(e)	Employer contributions made for fiscal year ending 6/30/2010	10,248,000
(f)	Increase (decrease) in net pension obligation: (d) - (e)	\$ 157,000
(g)	Net pension obligation beginning of fiscal year	(2,791,000)
(h)	Net pension obligation end of fiscal year: (f) + (g)	\$ (2,634,000)

#### TREND INFORMATION

Year Ending	Annual Pension Cost (APC)	Percentage APC Contributed	Net Pension <u>Obligation</u>
June 30, 2008	\$8,145,000	132.9%	\$(2,438,000)
June 30, 2009	8,510,000	104.1	(2,791,000)
June 30, 2010	10,405,000	98.5	(2,634,000)



5. 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 \$34,962,037 over a nine-year period from July 1, 2011.

2011/2012 FISCAL YEAR ANNUAL REQUIRED CONTRIBUTION (ARC) BASED ON THE VALUATION AS OF DECEMBER 31, 2009

ANNUAL REQUIRED CONTRIBUTION (ARC)	RATE
Normal	17.79%
Accrued liability	8.41
Death benefit	<u>0.34</u>
Total	26.54%

6. Additional information as of December 31, 2009 follows.

Valuation date	12/31/09
Actuarial cost method	Projected unit credit
Amortization method	Level dollar closed
Amortization period	9 years
Asset valuation method	20% of market value plus 80% of expected actuarial value (not greater than 120% of market value and not less than 80% of market value)
Actuarial assumptions:	
Investment rate of return*	7.25%
Projected salary increases**	5.00% - 5.95%
* Includes inflation of     ** Includes inflation and productivity of	3.00% 3.50%
Cost-of-living adjustments	N/A



#### **SCHEDULE A**

### DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS FOR THE YEAR ENDING DECEMBER 31, 2009

1.	Actuarial Value of Assets as of December 31, 2008	\$ 433,552,760
2.	2009 Net Cash Flow a. Contributions b. Disbursements c. Net Cash Flow: (a) - (b)	 14,853,255 29,211,951 (14,358,696)
3.	Expected Investment Return: [(1) x .0725] + [(2)c x .03625]	30,912,072
4.	Expected Actuarial Value of Assets as of December 31, 2009: (1) + (2)c + (3)	450,106,136
5.	Market Value of Assets as of December 31, 2009	399,511,977
6.	Excess of Market Value over Expected Actuarial Value of Assets:	
	(5) - (4)	(50,594,159)
7.	20% Adjustment towards Market Value: (6) x .20	(10,118,832)
8.	Preliminary Actuarial Value of Assets as of December 31, 2009: (4) + (7)	439,987,304
9.	Final Actuarial Value of Assets as of December 31, 2009 [(8) not less than 80% of (5) and not greater than 120% of (5)]	439,987,304
10.	Rate of investment return on actuarial value	4.88%
11.	Rate of investment return on market value	14.83%



#### **SCHEDULE B**

### AMORTIZATION SCHEDULE FOR UNFUNDED ACTUARIAL ACCRUED LIABILITY

DATE ESTABLISHED	OUTSTANDING INCEPTION		ANCES EMBER 31, 2009	ANNUAL PAYMENT		
December 31, 2009	\$ 34,962,037	\$	34,962,037	\$	5,816,504	
Total		\$	34,962,037	\$	5,816,504	
Valuation Compensation				\$	69,126,535	
Unfunded Accrued Liability Contribution Rate					8.41%	

#### SCHEDULE C

#### STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

Assumptions are based on the experience investigation prepared as of December 31, 2009 and adopted by the Board of Trustees on October 21, 2010.

INTEREST RATE: 7.25% per annum compounded annually.

INFLATION: Both general and wage inflation are assumed to be 3.00% per annum.

PRODUCTIVITY INCREASE: 0.50% per annum.

WITHDRAWAL: No termination of employment is assumed to occur prior to retirement, other than death or disability.

SEPARATIONS BEFORE RETIREMENT AND SALARY INCREASES: Representative values of the assumed annual rates of separation and annual rate of salary increases are as follows:

Annual Rate of

<u>Age</u>	<u>Disability</u>	Base M	Base Mortality*		Salary Increase
		<u>Male</u>	<u>Female</u>		
25	.0001	.0004	.0002	0	.0595
30	.0001	.0005	.0003	5	.0570
35	.0003	.0008	.0005	10	.0545
40	.0007	.0011	.0008	15	.0525
45	.0014	.0016	.0012	20	.0520
50	.0023	.0023	.0018	25	.0500
55	.0047	.0033	.0028	30	.0500
60	.0077	.0054	.0043	35	.0500
64	.0098	.0076	.0058	40	.0500

<sup>\*</sup> Base mortality rates as of December 31, 2003.

SERVICE RETIREMENT: Representative values of the assumed annual rates of service retirement are as follows:

	Service										
<u>Age</u>	5	10	15	20	25	30					
50	And the second s				.075	.075					
55	.030	.030	.030	.030	.075	.075					
60	.030	.030	.030	.030	.075	.075					
65	.100	.100	.100	.100	.250	.250					
70	1.000	1.000	1.000	1.000	1.000	1.000					



Representative values of the assumed post-retirement mortality rates as of December 31, 2003 prior to any mortality improvements are as follows:

Annual Rate of Death after Retirement (Health Retirees, Beneficiaries and Disabled Retirees)

	Healthy	Retirees		ciaries of d Members	Disabled Retirees				
<u>Age</u>	Male	<u>Female</u>	Male	<u>Female</u>	<u>Male</u>	<u>Female</u>			
55	.0061	.0039	.0061	.0044	.0277	.0176			
60	.0090	.0069	.0090	.0077	.0342	.0229			
65	.0149	.0114	.0149	.0125	.0407	.0296			
70	.0246	.0186	.0246	.0207	.0483	.0401			
75	.0422	.0310	.0422	.0341	.0596	.0558			
80	.0720	.0508	.0720	.0563	.0775	.0771			

MORTALITY IMPROVEMENTS: Representative values of the assumed mortality improvement rates (applied to pre-retirement mortality rate for active members and post-retirement mortality rates for healthy retirees and beneficiaries of deceased members after such tables have been set back or set forward) are as follows:

	Male	Female
<u>Age</u>	Projection Scale	Projection Scale
25	0.010	0.014
30	0.005	0.010
35	0.005	0.011
40	0.008	0.015
45	0.013	0.016
50	0.018	0.017
55	0.019	0.008
60	0.016	0.005
65	0.014	0.005
70	0.015	0.005
75	0.014	0.008
80	0.010	0.007

DEATHS AFTER RETIREMENT (NON-DISABLED): According to the RP-2000 Mortality tables for retirees. These tables are set forward one year for males and females. These tables are also set forward one year for male beneficiaries of deceased members and set forward two years for female beneficiaries of deceased members. The base retiree RP-2000 tables have no rates prior to age 50. The active employee rates of RP-2000 are used for ages less than 50 prior to any adjustments for setbacks.

DEATH AFTER DISABILITY: RP-2000 Mortality tables for disabled annuitants set back six years for males and set forward one year for females.

DEATHS PRIOR TO RETIREMENT: According to the RP-2000 Mortality tables for active employees. These tables are set forward one year for males and females. The base RP-2000 tables for active employees have no rates after age 70. A blend of active rates and retired rates are used from ages 70 to 80 prior to any set back and adjustments.



MORTALITY PROJECTION (NON-DISABLED): All mortality rates are projected from December 31, 2003 using Scale AA.

TIMING OF ASSUMPTIONS: All withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur July 1 of each year.

LIABILITY FOR INACTIVE MEMBERS: The liability for members who terminated prior to five years of creditable service is estimated to be 100% of the member's accumulated contributions. The liability for members who terminated after completing five years of creditable service is estimated based on the member's current age and the service and reported compensation at termination of employment.

ADMINISTRATIVE EXPENSES: 0.75% of normal cost.

MARRIAGE ASSUMPTION: 90% of male members married and 50% of female members 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: Projected unit credit. Projected benefits and the corresponding liabilities are allocated based on proration by creditable service.

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. The actuarial value of assets is not allowed to be greater than 120% of the market value of assets or less than 80% of the market value of assets.



#### SCHEDULE D

#### SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

All justices, judges, district attorneys, and public defenders of the General Court of Justice, and clerks of the Superior Court are eligible for membership.

"Final compensation" as used in the summary means the annual rate of compensation of the member at his date of termination or death. "Average final compensation" means the average annual compensation during the 48 consecutive calendar months of membership producing the highest average. "Creditable service" includes all service rendered as a justice of the Supreme Court, judge of the Court of Appeals, judge of the Superior Court, judge of the District Court Division of the General Court of Justice, Administrative Officer of the Courts, District Attorney, Public Defender or as a Clerk of the Superior Court.

#### **BENEFITS**

#### Service Retirement Allowance

Conditions for Allowance

Any member who had attained age 50 and was in service on October 8, 1981 or any other member who has attained age 50 and has completed five or more years of creditable service may retire on a service retirement allowance. Retirement is compulsory at age 72 if the member is a justice or judge of the Appellate, Superior, or District Divisions of the General Court of Justice and at age 70 for each other member.

Amount of Allowance

The annual service retirement allowance payable to a member who has attained age 65 and completed five years of creditable service or who has attained age 50 and completed 24 years of creditable service is equal to:

- (i) 4.02% of his final compensation multiplied by the number of years of his creditable service rendered as a justice of the Supreme Court or judge of the Court of Appeals, plus
- (ii) 3.52% of his final compensation multiplied by the number of years of his creditable service rendered as a judge of the Superior Court or as Administrative Officer of the Courts, plus
- (iii) 3.02% of his final compensation multiplied by the number of years of his creditable service rendered as a judge of the District Court, District Attorney, Public Defender, or Clerk of the Superior Court, plus



(iv) A service retirement allowance computed on his average final compensation, his service transferred from the Teachers' and State Employees' Retirement System or the Local Governmental Employees' Retirement System and the applicable formula accrual rate from the previous system.

The maximum annual service retirement allowance is 75% of the member's final compensation. The annual service retirement allowance payable upon retirement prior to the earlier of attainment of age 65 and the completion of five years of creditable service or attainment of age 50 and the completion of 24 years of creditable service is an allowance as computed above reduced by 3% for each year that the member's retirement date precedes the date upon which the member would have attained age 65 or completed 24 years of service had he remained in service, whichever is earlier.

In no event will a member whose creditable service commenced prior to January 1, 1974 as a justice of the Supreme Court, as a judge of the Court of Appeals, as an Administrative Officer of the courts, or as a judge of the Superior Court, receive a smaller retirement allowance than he would have received under Chapter 7-A of the General Statutes.

Disability Retirement Allowance

Condition for Allowance

Any member who becomes permanently and totally disabled prior to the attainment of age 65 and who has completed at least five years of creditable service may be retired by the Board of Trustees on a disability retirement allowance. Any retired member may also apply for a disability retirement allowance within the first three years of retirement.

Amount of Allowance

The disability retirement allowance is computed as a service retirement allowance based on the number of years of creditable service the member would have had had he remained in service to the earliest date he could have retired on an unreduced service retirement allowance.

**Deferred Allowance** 

Any member who separates from service prior to age 50 after completing five or more years of creditable service and who leaves his total accumulated contributions in the system may receive a deferred allowance, beginning at age 50, computed in the same way as a service retirement allowance on the basis of his creditable service and compensation to the date of separation.



Spouse Benefit

Conditions for Benefit

Upon the death of a member in active service after his attainment of age 50 and completion of five years of creditable service a death benefit is payable to his surviving spouse.

Amount of Benefit

The surviving spouse receives a lump sum payment equal to the member's final compensation. In addition the surviving spouse receives an annual retirement allowance, until death or remarriage, equal to 50% of the service retirement allowance to which the member would have been entitled had he retired on the first day of the calendar month coincident with or next following his date of death reduced by 2% for each year that the member's age exceeds that of his spouse.

Lump Sum Death Benefit

Upon the death of a member in active service prior to his attainment of age 50 a lump sum payment equal to his accumulated contributions plus his final compensation is made to his designated beneficiary or estate.

Death after Retirement

Upon the death of a retired member while in receipt of a service retirement allowance or after age 65 if in receipt of a disability retirement allowance an allowance is paid to his spouse, until death or remarriage, equal to one-half the allowance which was payable to the member prior to his death reduced by 2% for each year that the member's age exceeds that of his spouse.

Upon the death of a member in receipt of a disability retirement allowance prior to age 65, an allowance is paid to his spouse, until death or remarriage, equal to one-half the service retirement allowance he would have received had he remained in service up to his date of death reduced by 2% for each year that the member's age exceeds that of his spouse.

Other Death Benefits

Upon the death of a member in service, other benefits may be provided by the Death Benefit Plan.

Return of Contributions

Any member who terminates service other than by retirement or death is entitled to the return of his accumulated contributions.

If the total retirement allowance payments to a retired member, spouse and/or beneficiary under option are less than the member's accumulated contributions at retirement, the excess is paid to the designated beneficiary or legal representatives.

The current interest rate on member contributions is 4%.



**Optional Allowances** 

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 - At the death of the member 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 payment, is paid to his estate, or to a person 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, or

Option 4 - At retirement, any 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. A member who elects to receive his allowance under this option is deemed to have elected Option 1 also, or

Option 5 - At retirement, the member may elect to receive a reduced retirement allowance during his life with some other benefit approved by the Board of Trustees payable after he dies, or he 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, or

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.

Unused Sick Leave

Unused sick leave counts as creditable service at retirement. Sick leave which was converted from unused vacation leave is also creditable. One month of credit is allowed for each 20 days of unused sick leave, plus an additional month for any part of 20 days left over.

Post-Retirement Increases in Allowance

Future increases in allowances may be granted at the discretion of the State.



#### CONTRIBUTIONS

By Members

Each member contributes 6% of his annual compensation.

By State

The State makes 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 E

#### TABLE 1

# THE NUMBER AND AVERAGE REPORTED COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE AS OF DECEMBER 31, 2009

				,	YEARS O	F SERVIC	E				
AGE	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	0	0	0	0	0	0	0	0	0	0	0
011401 20	0	0	0	0	0	0	0	0	0	0	0
25 4- 20	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0
											_
30 to 34	19.643	6 100,810	0	0	0	0	0	0	0	0	7 89,072
	10,043	100,610	U	U	U	U	Ü	Ü	Ü	Ū	00,072
35 to 39	1		9			0	0	0		0	33
	9,548	108,866	114,803	112,376	0	0	0	0	0	0	107,582
40 to 44		28	26	13	2	0	0	0	0	0	70
	10,896	107,882	114,477	120,423	133,315	0	0	0	0	0	112,002
45 to 49	0	27	25	13	8	3	2	0	0	0	78
10 10 10						126,709	104,295			0	114,419
50 to 54	0	23	20	15	19	6	5	6	1	0	95
50 to 54							118,055				116,207
55 to 59	3 40.657						17 142,650	8 123 420		0	126 122,402
	40,057	107,307	122,042	124,004	130,010	137,701	142,000	120,420	110,001	Ü	122,402
60 to 64	1					11		8			105
	28,172	109,306	120,599	123,828	136,315	135,652	132,483	120,947	86,361	94,269	122,853
65 to 69	0				10	5		2			36
	0	92,222	130,015	125,129	130,455	130,338	154,607	146,648	139,148	0	132,798
70 & up	0	2	0	0	0	1	0	1	3	2	9
5. 5.		104,867				94,269		127,148	136,260	125,057	121,116
Tatal	7	162	112	77	76	40	45	25	12	3	559
Total	7 27,033						136,418				



#### SCHEDULE E

TABLE 2

## THE NUMBER AND REPORTED COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AS OF DECEMBER 31, 2009

		Men			Women	
Age	Number		Amount	Number		Amount
30	2	\$	128,015			=======================================
32			100.070	1	\$	58,000
33	1		109,372	3		328,116
34 35	1		119,305	3		320,110
36			110,000	3		333,727
37	3		328,116	4		287,577
38	8		907,723	3		354,741
39	4		452,525	7		766,501
40	4		439,332	4		475,116
41	8		827,651	8		887,888
42	9		1,001,557	6		644,993
43	7		801,647	7		805,494
44	10		1,111,022	7		845,424
45	6		588,715	6		685,245
46	6		697,170	6		653,353
47	13		1,632,122	9		997,139
48	6		691,258	7		816,804
49	10		1,194,109	9		968,733
50	15		1,747,845	6		630,523
51	5		657,180	7		810,482
52	13		1,473,372	3		287,039
53	16		2,038,648	11		1,126,930
54	10		1,225,295	9		1,042,301
55	22		2,619,063	10		1,156,269
56	16		2,062,021	6		631,087
57	21		2,565,568	3		315,605
58	22		2,735,168	5		599,447
59	15		1,955,118	6		783,297
60	23		2,782,434	5		586,232
61	20		2,521,240	5		529,202
62	13		1,631,828	4		456,513
63	19		2,424,726			
64	13		1,616,773	3		350,603
65	7		939,532	1		109,372
66	9		1,209,903	8500		
67	10		1,307,234	2		295,140

TABLE 2

THE NUMBER AND REPORTED COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE
AS OF DECEMBER 31, 2009

#### CONTINUED

		Men			Women	ĺ
Age	Number		Amount	Number		Amount
68	5	\$	680,983	1	\$	90,309
69	1		148,262			
70	1		147,937	1		94,269
71	3		368,399			
72				1		102,177
73	2		275,085			
79				1		102,177
	379	\$	46,163,253	180	\$	20,007,825

#### SCHEDULE E

TABLE 3

# THE NUMBER AND REPORTED COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY SERVICE AS OF DECEMBER 31, 2009

Years							
of		Men			Vomen		
Service	Number		Amount	Number		Amount	
0	6	\$	179,682	1	\$	9,548	
1	26		2,703,274	29		2,945,793	
2	13		1,420,543	9		1,008,826	
3	43		4,734,633	23		2,378,464	
4	13		1,462,990	6		682,886	
5	18		2,081,739	12		1,333,926	
5 6	3		312,045	3		302,812	
7	18		2,228,457	12		1,362,194	
8	9		1,158,982	3		323,501	
9	21		2,431,381	13		1,578,078	
10	11		1,295,055	3		361,405	
11	18		2,066,026	8		943,916	
12	8		1,067,116	5		603,282	
13	9		1,090,643	5		627,133	
14	8		992,982	2		239,744	
15	20		2,580,871	2 2 3		268,342	
16	10		1,364,634	3		362,166	
17	9		1,243,783	3		435,052	
18	4		507,322	2		206,614	
19	19		2,569,319	4		484,990	
20	2		270,309				
21	16		2,274,805	2		244,988	
22	2		288,590	1		130,372	
23	8		1,060,258	4		407,396	
24	5		648,113				
25	9		1,221,101	3		383,417	
26	7		926,561				
27	10		1,509,621	2		242,100	
28	6		766,972	3		385,971	
29	4		588,449	1		114,616	
30	8		1,147,219				
31	2		275,085	1		102,177	
32	2		295,874	1		98,217	
33	3		300,777	3		298,274	
34				5		499,017	
35	2		295,874				

TABLE 3

THE NUMBER AND REPORTED COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY SERVICE
AS OF DECEMBER 31, 2009

#### CONTINUED

Years of		Men			Women	
Service	Number		Amount	Number		Amount
37	3	\$	375,384	2	\$	241,808
38 40	2		86,361 242,206	1		102,177
41				1		102,177
Total	379	\$	46,163,253	180	\$	20,007,825

#### SCHEDULE E

**TABLE 4** 

## THE NUMBER AND ACCUMULATED CONTRIBUTIONS OF TERMINATED VESTED MEMBERS DISTRIBUTED BY AGE AS OF DECEMBER 31, 2009

		Men		Women				
Age	Number		Amount	Number		Amount		
39	1	\$	7,866					
40	1		33,725					
42	2		50,101					
43				2	\$	63,486		
45				2 2		100,573		
46	1		10,665	1		3,826		
48				3		149,041		
49	2		71,128					
50	1		30,154					
52				2		190,368		
53	3		102,845	2 2		95,480		
54				1		4,015		
55	1		5,502					
56	1		30,154	1		1,063		
57	2		87,700	1		2,986		
58				1		8,362		
59	1		15,057	1		31,975		
60	2		27,960					
61	4		229,343					
62	1		13,336					
63	1		70,475					
64			146,559	1		9,841		
65	3 2		76,385					
66			•	1		5,812		
67	1		2,997	1		27,318		
72	1		11,268	1		13,070		
Total	31	\$	1,023,220	21	\$	707,216		
Total	31	Ψ	1,020,220	21	Ψ	101,210		

#### SCHEDULE E

#### TABLE 5

## THE DISTRIBUTION OF THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES AND SURVIVORS BY AGE AS OF DECEMBER 31, 2009

### SERVICE RETIREMENTS AND DEPENDENTS OF DECEASED BENEFICIARIES

		Men			Wome	en		
Age	Number		Amount	Numbe	r		Amount	
50	1	\$	37,398					
52	1		82,288					
53	1		53,649		3	5	218,292	
54					2		95,769	
55	4		205,011		l		88,856	
56	7		291,986	;	3		156,724	
57	5		302,552		3		170,337	
58	10		386,936		1		279,638	
59	7		391,215	:	5		358,312	
60	16		1,000,364		3		190,783	
61	9		606,138		5		225,573	
62	12		882,071		5		312,285	
63	19		1,498,118		5		164,813	
64	19		1,484,319		3		322,908	
65	9		659,506		2		96,789	
66	12		759,209		3		172,779	
67	13		804,047		3		433,633	
68	9		711,634		1		211,403	
69	9		804,829	,	3		15,292	
70	12		1,075,657		5		280,338	
71	12		972,060		3		185,351	
72	10		688,227					
73	12		944,212		5		282,339	
74	12		663,238		1		189,786	
75	5		360,131		5		192,255	
76	10		714,433		1		24,334	
77	12		596,053		1		37,540	
78	9		424,399		2		31,885	
79	12		755,747		1		37,684	
80	10		524,218		5		268,849	
81	13		775,344		1		61,136	
82	9		358,646	,	4		171,247	
83	13		412,859					
84	9		441,067		2		57,825	
85	5		327,502					
86	12		423,013		2		51,160	
87	11		573,732		2		35,833	
88	5		184,635		1		20,443	
89	5		191,984					

TABLE 5

# THE DISTRIBUTION OF THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES AND SURVIVORS BY AGE AS OF DECEMBER 31, 2009

### SERVICE RETIREMENTS AND DEPENDENTS OF DECEASED BENEFICIARIES

#### CONTINUED

			Men		Women				
	Age	Number		Amount	Number		Amount		
	90	6	\$	281,452	3	\$	110,639		
	91	3	*	50,745			•		
	92	5		125,538	1		26,505		
	93	2		40,658	,		_0,000		
	94	10		275,564					
	95	7		99,720					
	96	2		62,025					
	97	3		69,908					
	99	2		53,803					
	100	3		53,996					
	102	2		75,791					
	103	1		15,408					
	105	2		7,202					
	106	1		4,837					
	107	1		4,694					
	108	1		5,097					
	110	1		8,411					
	Total	413	\$	23,603,276	111	\$	5,579,335		
	Maximum	199	\$	13,919,406	88	\$	4,607,592		
	Cash Refund	4		323,366	2		58,970		
	100% J&S	18		806,523	3		157,497		
	50% J&S	25		2,035,568					
	Soc Sec Level	2		138,520	6		266,764		
	Odd Surv	7		236,739	2		71,832		
	100% J&S Popup	8		339,917					
	50% J&S Popup	25		1,915,912	5		309,988		
	Beneficiaries	125		3,887,325	5		106,692		



#### SCHEDULE E

#### TABLE 6

## THE DISTRIBUTION OF THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES BY AGE AS OF DECEMBER 31, 2009

#### **DISABILITY RETIREMENTS**

		Men			Women			
Age	Number		Amount	Number		Amount		
53		\$	84,558					
58	}			1	\$	89,278		
61				1		51,456		
69			44,852					
70				1		30,337		
Total	2	\$	129,410	3	\$	171,071		
Maximum	1	\$	84,558	2	\$	119,615		
Cash Refund	1		44,852					
50% J&S				1		51,456		