



## Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

June 6, 2006

Mr. Michael Nehf  
Executive Director  
Employees' Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7778

Dear Mr. Nehf:

Enclosed are 40 bound copies and one unbound copy of the "Employees' Retirement System of Georgia Report of the Actuary on the Valuation Prepared as of June 30, 2005".

The valuation indicates that employer contributions for the fiscal year ending June 30, 2008 at the rate of 5.66% of compensation for Old Plan Members and 10.41% of compensation for New Plan Members are sufficient to support the benefits of the System. The valuation takes into account the effect of all amendments to the System enacted through the 2005 session of the General Assembly.

Please let us know if there are any questions concerning the report.

Sincerely yours,

Edward A. Macdonald, ASA, FCA, MAAA  
President

EAM:sh

Enclosure

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**EMPLOYEES'  
RETIREMENT SYSTEM  
OF GEORGIA**

**EMPLOYEES' RETIREMENT SYSTEM OF GEORGIA**

**REPORT OF THE ACTUARY ON THE VALUATION  
PREPARED AS OF JUNE 30, 2005**



## Cavanaugh Macdonald

CONSULTING, LLC

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June 6, 2006

Board of Trustees  
Employees' Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7778

Attention: Mr. Michael Nehf, Executive Director

Members of the Board:

Section 47-2-26 of the law governing the operation of the Employees' Retirement System of Georgia provides that the actuary shall make annual valuations of the contingent assets and liabilities of the Retirement System on the basis of regular interest and the tables last adopted by the Board of Trustees. We have submitted the report giving the results of the actuarial valuation of the System prepared as of June 30, 2005. The report indicates that annual employer contributions at the rate of 5.66% of compensation for Old Plan Members and 10.41% of compensation for New Plan Members for the fiscal year ending June 30, 2008 are sufficient to support the benefits of the System.

Since the previous valuation, the assumed rates of withdrawal, disability, retirement and mortality have been revised to reflect the results of the experience investigation for the four year period ending June 30, 2004. These revised assumptions were adopted by the Board on April 20, 2006. In preparing the valuation, the actuary relied on data provided by the System. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. Our firm, as actuary, is responsible for all of the actuarial trend data in the financial section of the annual report and the supporting schedules in the actuarial section of the annual report.

In our opinion, the valuation is complete and accurate, and the methodology and assumptions are reasonable as a basis for the valuation. The valuation takes into account the effect of all amendments to the System enacted through the 2005 session of the General Assembly as well as all 1.5% Ad Hoc COLAs effective through January 1, 2008.

The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for funding purposes meet the parameters set for the disclosures presented in the financial section by Governmental Accounting Standards Board (GASB) Statement Nos. 25 and 27. The funding objective of the plan is that contribution rates over time will remain level as a percent of payroll. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a level percent of payroll. Gains and losses are reflected in the unfunded accrued liability which is being amortized as a level percent of payroll within a 6-year period.



The System is being funded in conformity with the minimum funding standard set forth in Code Section 47-20-10 of the Public Retirement Systems Standards Law. In our opinion the System is operating on an actuarially sound basis. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'E. Macdonald', written over a faint, illegible stamp.

Edward A. Macdonald, ASA, FCA, MAAA  
President

EAM:sh



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**EMPLOYEES' RETIREMENT SYSTEM OF GEORGIA  
REPORT OF THE ACTUARY  
ON THE VALUATION  
PREPARED AS OF JUNE 30, 2005**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below (all dollar amounts are in thousands):

<b>Valuation Date</b>	<b>June 30, 2005</b>	<b>June 30, 2004*</b>
Number of active members	72,716	72,106
Annual earnable compensation	\$ 2,514,430	\$ 2,445,619
Number of retired members and beneficiaries	31,355	29,845
Annual allowances	\$ 773,445	\$ 718,478
<b>Assets:</b>		
Market Value	\$ 12,825,126	\$ 12,396,352
Actuarial Value	13,134,472	12,797,389
Unfunded accrued liability	\$ 378,301	\$ 309,259
Amortization period (years)	6	12
<b>Contributions for Fiscal Year Ending</b>		
	<b>June 30, 2008</b>	<b>June 30, 2007</b>
<b>Annual Required Employer Contribution Rates (ARC):</b>		
<b>Old Plan</b>		
Initial Normal Rate	7.16%	9.08%
Employer Paid on Behalf of Employee	<u>(4.75)</u>	<u>(4.75)</u>
Normal Rate	2.41%	4.33%
Accrued Liability Rate	<u>3.25%</u>	<u>1.33%</u>
Total	5.66%	5.66%
<b>New Plan</b>		
Normal Rate	7.16%	9.08%
Accrued Liability Rate	<u>3.25%</u>	<u>1.33%</u>
Total	10.41%	10.41%

\* Reported by prior actuarial firm

2. The valuation takes into account the effect of amendments of the System enacted through the 2005 session of the General Assembly. The valuation reflects the 1.5% Ad Hoc COLAs through January 1, 2008. The major benefit and contribution provisions of the System as reflected in the valuation are summarized in Schedule F.



3. Since the previous valuation, the assumed rates of withdrawal, disability, retirement and mortality have been revised to reflect the results of the experience investigation for the four year period ending June 30, 2004. These revised assumptions were adopted by the Board on April 20, 2006. Schedule D of this report outlines the full set of actuarial assumptions used to prepare the current valuation.
4. The entry age actuarial cost method was used to prepare the valuation. Schedule E contains a brief description of this method.
5. Comments on the valuation results as of June 30, 2005 are given in Section IV and further discussion of the employer contribution levels is set out in Section V.

#### **SECTION II - MEMBERSHIP**

1. Data regarding the membership of the System for use as a basis for the valuation were furnished by the Retirement System office. The following table shows the number of active members, their annual compensation and average annual compensation as of June 30, 2005 on whose account benefits may be payable under the Retirement System.

**THE NUMBER, ANNUAL COMPENSATION AND AVERAGE ANNUAL COMPENSATION  
OF ACTIVE MEMBERS AS OF JUNE 30, 2005**

TOTAL NUMBER	ANNUAL COMPENSATION (\$1,000's)	AVERAGE ANNUAL COMPENSATION
72,716	2,514,430	\$34,579

2. The following table shows the number of retired members and beneficiaries on the roll as of June 30, 2005, together with the amount of their annual retirement allowances payable under the System as of that date.



**THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES  
OF RETIRED MEMBERS AND BENEFICIARIES RECEIVING BENEFITS  
AS OF JUNE 30, 2005**

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES (\$1,000's)
Service Retirements	22,474	\$ 605,665
Disability Retirements	4,389	109,993
Beneficiaries of Deceased Active and Retired Members	<u>4,492</u>	<u>57,787</u>
Total	31,355	\$ 773,445

**SECTION III - ASSETS**

1. The retirement law provides for the maintenance of two funds for the purpose of recording the financial transactions of the System; namely, the Annuity Savings Fund and the Pension Accumulation Fund.

(a) Annuity Savings Fund

The Annuity Savings Fund is the fund to which are credited all contributions made by members together with regular interest thereon. When a member retires, or if a death benefit allowance becomes payable to his beneficiary, his accumulated contributions are transferred from the Annuity Savings Fund to the Pension Accumulation Fund. The annuity which these contributions provide is then paid from the Pension Accumulation Fund. On June 30, 2005 the value of assets credited to the Annuity Savings Fund amounted to \$751,053,000.

(b) Pension Accumulation Fund

The Pension Accumulation Fund is the fund to which all income from investments and all contributions made by employers of members of the System and by the State for members of local retirement funds are credited. All retirement allowance and death benefit allowance payments are disbursed from this fund. Upon the retirement of a member, or upon his death if a death benefit allowance is payable, his accumulated contributions are transferred from the Annuity Savings Fund to this fund to provide the annuity portion of the allowance. On June 30, 2005 the market value of assets credited to the Pension Accumulation Fund amounted to \$12,074,073,000.





2. As of June 30, 2005 the total market value of assets amounted to \$12,825,126,000 as reported by the Executive Director of the System. The actuarial value of assets used for the current valuation was \$13,134,472,000. Schedule B shows the development of the actuarial value of assets as of June 30, 2005.
3. Schedule C shows receipts and disbursements of the System for the year preceding the valuation date and a reconciliation of the fund balances at market value.

#### **SECTION IV – COMMENTS ON VALUATION**

1. Schedule A of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of June 30, 2005 (all amounts are in thousands).
2. The valuation balance sheet shows that the System has total prospective liabilities of \$15,127,598, of which \$7,799,301 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members and members entitled to deferred vested benefits, and \$7,328,297 is for the prospective benefits payable on account of present active members. Against these liabilities, the System has total present assets for valuation purposes of \$13,134,472 as of June 30, 2005. The difference of \$1,993,126 between the total liabilities and the total present assets represents the present value of contributions to be made in the future.
3. The employer's contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 2.41% (7.16% less 4.75% Employer paid on behalf of Employee) of payroll for Old Plan members and 7.16% for New Plan members are required.



4. Prospective employer and employee normal contributions have a present value of \$1,614,825. When this amount is subtracted from \$1,993,126, which is the present value of the total future contributions to be made in the future, there remains \$378,301 as the unfunded actuarial accrued liability.
5. The accrued liability contribution rate is 3.25% of active member's compensation, which will amortize the unfunded actuarial liability over a 6-year period, on the assumption that the total payroll of active members will increase by 3.75% per year.

**SECTION V – CONTRIBUTIONS PAYABLE BY EMPLOYERS**

1. The following table summarizes the employer contribution rates, which were determined by the June 30, 2005 valuation and are recommended for use.

**ANNUAL REQUIRED EMPLOYER CONTRIBUTION RATES (ARC)  
FOR FISCAL YEAR ENDING JUNE 30, 2008**

	Old Plan	New Plan
Normal Rate		
Initial Normal Rate	7.16%	7.16%
Employer Paid on behalf of Employee	<u>(4.75)</u>	<u>(0.00)</u>
Employer Normal Rate	2.41%	7.16%
Accrued Liability Rate	3.25%	3.25%
Total	5.66%	10.41%



**SECTION VI – ACCOUNTING INFORMATION**

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary 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 MEMBERS  
AS OF JUNE 30, 2005**

GROUP	NUMBER
Retirees and beneficiaries currently Receiving benefits	31,355
Terminated employees entitled to benefits but not yet receiving benefits	63,062
Active plan members	<u>72,716</u>
Total	167,133

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

**SCHEDULE OF FUNDING PROGRESS**  
(Dollar amounts in thousands)

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)
6/30/00	\$10,999,901	\$10,573,408	\$ (426,493)	104.0%	\$2,304,289	(18.5)%
6/30/01	11,750,624	11,557,255	(193,369)	101.7	2,397,169	(8.1)
6/30/02	12,124,414	11,994,850	(129,564)	101.1	2,408,306	(5.4)
6/30/03	12,428,736	12,370,563	(58,173)	100.5	2,489,490	(2.3)
6/30/04	12,797,389	13,106,648	309,259	97.6	2,445,619	12.6
6/30/05	13,134,472	13,512,773	378,301	97.2	2,514,430	15.0

All figures prior to 6/30/2005 were reported by prior actuarial firm.



3. The following shows the schedule of employer contributions.

<u>Year Ending</u>	<u>Annual Required Contribution</u>	<u>Percentage Contributed</u>
6/30/2000	\$ 302,332	100%
6/30/2001	315,505	100
6/30/2002	233,229	100
6/30/2003	246,172	100
6/30/2004	245,388	100
6/30/2005	243,074	100

All figures prior to 6/30/2005 were reported by prior actuarial firm.

4. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2005. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2005
Actuarial cost method	Entry age
Amortization method	Level percent of pay, open
Remaining amortization period	6 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.50%
Projected salary increases*	5.45 – 9.25%
Cost-of-living adjustments	None
*Includes inflation at	3.75%



**TREND INFORMATION**  
(Dollar amounts in thousands)

<u>Year Ending</u>	<u>Annual Pension Cost (APC)</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation</u>
June 30, 2003*	\$246,172	100%	\$0
June 30, 2004*	245,388	100	0
June 30, 2005	243,074	100	0

\*Reported by prior actuarial firm.

**SECTION VII – EXPERIENCE**

1. Section 47-2-26 of the act governing the operation of the System provides that as an aid to the Board in adopting service and mortality tables, the actuary will prepare an experience investigation at least once in each five-year period. An experience investigation for the four-year period ending June 30, 2004 was prepared and based on the results of the investigation new rates of separation and mortality were adopted by the Board on April 20, 2006. The next experience investigation will be prepared for the period July 1, 2004 through June 30, 2009.



2. The following table shows the estimated gain or loss from various factors that resulted in an increase of \$69,042,000 in the unfunded accrued liability from \$309,259,000 to \$378,301,000 during the fiscal year ending June 30, 2005.

**ANALYSIS OF THE INCREASE IN UNFUNDED ACCRUED LIABILITY**

(in millions of dollars)

ITEM	AMOUNT OF INCREASE/ (DECREASE)
Interest (7.50%) added to previous unfunded accrued liability	\$ 23.2
Accrued liability contribution	7.0
Experience:	
Valuation asset growth	102.4
Pensioners' mortality	(24.2)
Turnover and retirements	39.1
New entrants	39.4
Salary increases	(109.2)
Method changes	(66.0)
Amendments (COLAs)	225.8
Assumption changes	<u>(168.5)</u>
Total	\$ 69.0



**SCHEDULE A**

**VALUATION BALANCE SHEET  
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF  
THE EMPLOYEES' RETIREMENT SYSTEM OF GEORGIA  
AS OF JUNE 30, 2005  
(in thousands of dollars)**

<u>ACTUARIAL LIABILITIES</u>		
(1)	Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, and members entitled to deferred vested benefits	
-	Service and disability benefits	\$ 7,160,011
-	Death and survivor benefits	535,608
-	Deferred vested benefits	<u>103,682</u>
	Total	\$ 7,799,301
(2)	Present value of prospective benefits payable on account of present active members	<u>7,328,297</u>
(3)	TOTAL ACTUARIAL LIABILITIES	<u>\$ 15,127,598</u>
<u>PRESENT AND PROSPECTIVE ASSETS</u>		
(4)	Actuarial value of assets	\$ 13,134,472
(5)	Present value of total future contributions = (3)-(4)	\$ 1,993,126
(6)	Present value of future member contributions and employer normal contributions	1,614,825
(7)	Prospective unfunded accrued liability contributions = (5)-(6)	<u>378,301</u>
(8)	TOTAL PRESENT AND PROSPECTIVE ASSETS	<u>\$ 15,127,598</u>



**SCHEDULE B**

**DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS**  
**(All dollar amounts are \$1,000's)**

(1)	Actuarial Value Beginning of Year	\$	12,797,389
(2)	Market Value End of Year	\$	12,825,126
(3)	Market Value Beginning of Year	\$	12,396,352
(4)	Cash Flow		
	(a) Contributions	\$	293,047
	(b) Benefit Payments and Expenses		<u>(794,560)</u>
	(c) Net: (4)(a) + (4)(b)	\$	(501,513)
(5)	Investment Income		
	(a) Market Total: (2) – (3) – (4)(c)	\$	930,287
	(b) Assumed Rate		7.50%
	(c) Amount for Immediate Recognition: [(1) x (5)(b)] + [(4)(c) x (5)(b) x 0.5]	\$	940,997
	(d) Amount for Phased-In Recognition: (5)(a) – (5)(c)		(10,710)
(6)	Phased-In Recognition of Investment Income		
	(a) Current Year: 0.20*5(d)	\$	(2,142)
	(b) First Prior Year		(100,259)
	(c) Second Prior Year		0
	(d) Third Prior Year		0
	(e) Fourth Prior Year		<u>0</u>
	(f) Total Recognized Investment Gain	\$	(102,401)
(7)	Actuarial Value End of Year: (1) + (4)(c) + 5(c) + (6)(f)	\$	13,134,472
(8)	Difference Between Market & Actuarial Values: (2) – (7)	\$	(309,346)
(9)	Rate of Return on Actuarial Value		6.68%





**SCHEDULE C**

**SUMMARY OF RECEIPTS AND DISBURSEMENTS  
(in thousands of dollars)**

	YEAR ENDING	
	<u>June 30, 2005</u>	<u>June 30, 2004</u>
<u>Receipts for the Year</u>		
Contributions:		
Members	\$ 49,973	\$ 54,166
Employer	<u>243,074</u>	<u>245,388</u>
Subtotal	\$ 293,047	\$ 299,554
Investment Earnings	<u>930,287</u>	<u>1,115,798</u>
TOTAL	\$ 1,223,334	\$ 1,415,352
 <u>Disbursements for the Year</u>		
Benefit Payments	\$ 778,463	\$ 702,314
Refunds to Members	6,510	5,819
Administration Expense	<u>9,587</u>	<u>8,474</u>
TOTAL	\$ 794,560	\$ 716,607
 <u>Excess of Receipts over Disbursements</u>	\$ 428,774	\$ 698,745
 <u>Reconciliation of Asset Balances</u>		
Asset Balance as of the Beginning of Year (Market Value)	\$ 12,396,352	\$ 11,697,607
Excess of Receipts over Disbursements	<u>428,774</u>	<u>698,745</u>
Asset Balance as of the End of Year (Market Value)	<u>\$ 12,825,126</u>	<u>\$ 12,396,352</u>
Rate of Return	7.66%	9.71%



**SCHEDULE D**

**OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

Adopted by the Board April 20, 2006, with the exception of the valuation interest rate and rates of salary increases which were adopted based on the valuation report dated October 11, 2005.

**VALUATION INTEREST RATE:** 7.50% per annum, compounded annually.

**SALARY INCREASES:**

<u>Age</u>	<u>Annual Rate</u>	<u>Age</u>	<u>Annual Rate</u>
20	9.25%	45	5.45%
25	8.25	50	5.45
30	6.25	55	5.45
35	5.75	60	5.45
40	5.45	65	5.45

**SEPARATIONS BEFORE RETIREMENT:** Representative values of the assumed annual rates of separation other than retirement for non-law enforcement officers are as follows. Special rates of separation apply to law enforcement officers.

	Annual Rates of			
	<u>Death</u>		<u>Disability</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
20	.06%	.03%	.05%	.05%
25	.07	.03	.05	.05
30	.08	.04	.05	.05
35	.09	.06	.10	.05
40	.13	.08	.35	.14
45	.19	.11	.77	.40
50	.32	.17	1.30	.70
55	.56	.29	2.00	1.20
60	1.02	.58	--	--
65	1.80	1.08	--	--
69	2.60	1.50	--	--



Annual Rates of Withdrawal

Years of Service

<u>Age</u>	<u>0-4</u>	<u>5-9</u>	<u>10 &amp; Over</u>
<u>Males</u>			
20	30.00%		
25	24.00	11.00%	
30	22.00	9.00	6.00%
35	22.00	8.00	5.00
40	20.00	8.00	4.00
45	17.00	7.00	3.00
50	14.00	6.00	3.50
55	13.00	5.00	4.00
60	13.00	5.00	4.50
65	16.00	10.00	4.50
<u>Females</u>			
20	28.00%		
25	24.00	11.00%	
30	22.00	11.00	8.00%
35	20.00	9.00	6.00
40	17.00	8.00	4.00
45	16.00	7.00	3.50
50	16.00	6.00	3.50
55	15.00	6.00	5.00
60	15.00	6.00	5.00
65	20.00	11.00	5.00



**RETIREMENT:** Representative values of the assumed annual rates of service retirement for non-law enforcement officers are as follows. Special retirement rates apply to law enforcement officers.

Age	Old Plan <sup>1</sup>				New Plan <sup>2</sup>	
	Age 65 or more than 34 years		Age 60 or 30 years			
	Male	Female	Male	Female	Male	Female
50	50%	50%	9.0%	7.5%	10%	10%
55	50	50	11.0	11.5	10	10
60	50	50	22.0	24.0	15	20
62	50	50	43.0	44.0	38	36
64	50	50	27.0	30.0	29	30
65	44	45			43	38
67	26	28			27	34
70	100	100			100	100

<sup>1</sup> It is also assumed that 95% of active Old Plan members will retire during the year in which they attain 34 years of service. In addition, it is assumed that 3.5% of male members under age 55, 7.5% of male members ages 55 and over, 3.0% of female members under age 55 and 8.0% of female members ages 55 and over will retire under early reduced retirement.

<sup>2</sup> An additional 10% of active New Plan members less than age 65 are expected to retire in the year in which they attain 30 years of service. In addition, it is assumed that 6.0% of male members under age 55, 6.5% of male members ages 55 and over, 5.0% of female members under age 55 and 10.0% of female members ages 55 and over will retire under early reduced retirement.

**DEATHS AFTER RETIREMENT:** The 1994 Group Annuity Table rated forward two years is used for the period after service retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table set forward three years is used for the period after disability retirement.

Representative values of the assumed annual rates of mortality after service retirement are as follows:

<u>Age</u>	<u>Males</u>	<u>Females</u>	<u>Age</u>	<u>Males</u>	<u>Females</u>
40	.125%	.082%	65	1.803%	1.076%
45	.190	.111	70	2.848	1.651
50	.321	.173	75	4.517	2.837
55	.558	.292	80	7.553	4.915
60	1.015	.583	85	11.567	8.402

**ASSETS:** Actuarial value, as developed in Schedule B. 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.



**VALUATION METHOD:** Entry age actuarial cost method. See Schedule E for a brief description of this method.

**DEATH BENEFITS:** It is assumed that 100% of the membership will select a beneficiary with the male three years older than the female.



## SCHEDULE E

### ACTUARIAL COST METHOD

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.50%), of each active member's expected benefit at retirement or death is determined, based on his age, service, sex and compensation. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. Future salary increases and post-retirement cost-of-living adjustments are also anticipated. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries and inactive members to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.



## SCHEDULE F

### **SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES**

The Employees' Retirement System of Georgia (ERS) was established February 3, 1949 to provide retirement allowances and other benefits to employees of the State of Georgia. The commencement date was January 1, 1950. "Old Plan" means the plan applicable to members beginning employment prior to July 1, 1982, while "New Plan" means the plan applicable to members employed on or after July 1, 1982. The following summary describes the main provisions of the System.

#### **1 - DEFINITIONS**

<u>Member</u>	An employee of a department participating in ERS. Membership is a condition of employment.
<u>Prior Service</u>	<p>Service rendered as an employee prior to January 1, 1954.</p> <p>For employees of departments which became participants in ERS after the date of establishment (1950), any service prior to January 1, 1954.</p> <p>Some active duty military service before January 1, 1954 may be included as prior service for employees who were members of the System prior to April 1, 1972, provided that service was not used for military or other government retirement.</p>
<u>Membership Service</u>	<p>Service after January 1, 1954 as a contributing member of a participating department.</p> <p>For employees of departments which became participants in ERS after the date of establishment (1950), any service which is purchased by the employee between January 1, 1954 and the date of participation by the department.</p> <p>Some service as a teacher in the public schools of Georgia may be included provided that service is not being used for teacher retirement and contributions are left on deposit.</p>
<u>Forfeited Leave</u>	Six months or more of forfeited annual or sick leave for which a member is not eligible for payment at retirement. Each 20 days of such forfeited leave is equivalent to one month of service.



Creditable Service

Old Plan

Prior service plus membership service plus forfeited leave. Upon retirement, a member with 34 years of service will receive credit for the 34 years plus membership credit for the period between the 34<sup>th</sup> year and his or her 65<sup>th</sup> birthday.

New Plan

Service for which employee and employer contributions have been paid.

Average Final Compensation

The average annual compensation of a member during the 24 consecutive calendar months of his creditable service that will yield the highest average. An adjustment will be made to allow for any contribution previously made by the member which is now made by the State.

**2 - BENEFITS**

Normal Retirement Allowance

Condition for Retirement

A member is eligible for normal retirement upon the attainment of age 65 and 10 years of creditable service (age 65 and 5 years service if a member before July 1, 1968), or 30 years of creditable service regardless of age.

Amount of Allowance

Old Plan

(A) x (B) x (C), where

(A) = Average final compensation

(B) = Creditable service, and

(C) = .0115 + .0003 x (creditable service up to 35 years).

The minimum benefit is 2.00% of average final compensation times years of creditable service.

New Plan

2.00% of average final compensation multiplied by years of creditable service.

Uniform division and judicial members may be eligible for additional minimum allowances.





## Early Retirement Allowance

Condition for Early Retirement	A member is eligible for early retirement upon the attainment of age 60 and 10 years of creditable service or 25 years of creditable service regardless of age.
Amount of Allowance	<p>The annual early retirement allowance is determined in the same manner as the normal retirement allowance based on creditable service and average final compensation as of the early retirement date. If the member is less than age 60, the retirement allowance is reduced by the lesser of:</p> <ul style="list-style-type: none"><li>(i) 7% for each year by which his age is less than 60, and</li><li>(ii) 7% for each year by which his creditable service at retirement is less than 30.</li></ul> <p>Uniform division and judicial members may be eligible for additional minimum allowances.</p>

## Disability Retirement Allowance

Condition for Disability Retirement	A member is eligible for disability retirement after having at least 13 years and 4 months of service and being certified by the medical board as permanently disabled for the further performance of the duties of the position held at the time of disability.
Amount of Allowance	<p>The annual disability retirement allowance is an immediate benefit with the amount depending upon service at the time of disability.</p> <p>Uniform division members may be eligible for an additional allowance if disabled in line of duty.</p>

<u>Service at Disability</u>	<u>Allowance</u>
(1) 13 years 4 months to 18 years	75% of what the normal retirement benefit would have been had the member continued to work until age 60 with no further change in compensation
(2) Over 18 years to 22 years 9 months	100% of age 60 benefit
(3) Over 22 years 9 months to 27 years 6 months	75% of age 65 benefit
(4) Over 27 years 6 months	100% of age 65 benefit



## Involuntary Retirement

Condition for Involuntary Retirement Member prior to April 1, 1972, termination is involuntary and without prejudice, and member has more than 18 years of membership service.

For members prior to February 13, 1962, the service requirement is more than 18 years of creditable service.

Amount of Allowance Computed as for disability retirement.

## Death Benefit

### Conditions

### Allowance

(1) Before retirement, before age 60, before completing 13 years 4 months service

Refund of all employee contributions plus allowable interest.

(2) Before retirement, before age 60, after completing 13 years 4 months service

Benefit equal to disability retirement immediately prior to death under Option 2.

(3) Before retirement, after age 60, more than 10 years creditable service (5 years service if member prior to July 1, 1968)

Benefit equal to retirement immediately prior to death under Option 2.

(4) After retirement

Payments continued to spouse as determined by options (if any) elected before retirement.

## Termination Benefits

### Conditions

### Allowance

(1) Termination with less than 10 years membership service

Return of all member contributions and employer contributions made on behalf of member with allowable interest. Life insurance premiums paid by the employee are not refundable.

(2) Termination with 10 years or more membership service

Refund of contributions plus interest as above or, if contributions retained in fund, a deferred retirement benefit at age 60 or later for early or normal retirement. Life insurance premiums paid by the employee are not refundable.



Optional Benefits	At application for retirement, a member must choose one of the following methods of payment. All forms are of equivalent actuarial value.
Maximum Benefit	Life annuity, payable to members for the member's life with the final payment (for month of member's death) going to member's designated beneficiary.
Option 1	Modified cash refund, paying a reduced retirement benefit to members so that, upon member's death, the beneficiary receives a lump sum cash settlement equal to the difference between the member's accumulated contributions at retirement and the benefit payments due to member contributions received prior to member's death.
Option 2	Joint and 100% of survivor. Member receives a reduced allowance for life with the same allowance continuing for life of beneficiary upon member's death.
Option 3	Joint and 50% to survivor. Member receives a reduced allowance for life with one-half members' allowance continuing to beneficiary for life upon member's death.
Other Options	Other optional forms are available with certain restrictions.
Post-Retirement Adjustments	
Conditions for Adjustments	Retiree must have been receiving benefits for the previous seven months and (1) be age 45, (2) have 30 or more years of service, or (3) have a disability entitlement from the Social Security Administration. Members retiring on service retirement with less than 30 years of service or before age 60 are not eligible for adjustments until the earlier of such time as the member reaches age 60 or would have obtained 30 years of service.
Amount of Adjustment	(1) Semi-annual cost-of-living adjustments may be made in January and July of each year upon the recommendation of the Board of Trustees.  Each adjustment in the year preceding the valuation was 1-1/2% of the base retirement allowance (original allowance before deductions plus previous cost-of-living adjustments).  (2) Supplemental adjustments, when authorized, are made in January of each year.



### 3 – CONTRIBUTIONS

By Members

#### Old Plan

4% of annual compensation up to \$4,200 plus 6% of annual compensation over \$4,200. A member with 34 or more years of service may cease contributing until age 65, when he must resume contributing if he continues employment and wishes to receive additional service credit. The State pays member contributions except for 1-1/4% of annual compensation. These State contributions paid on behalf of members are included in the member's account for refund purposes. Covered tax officials and their employees and covered employees of State Courts continue to pay their full member contributions.

#### New Plan

Member contributions are 1-1/4% of annual compensation.

By Employers

The employers contribute at a specified percentage of active member payroll determined annually by actuarial valuation. The State contribution is not subject to refund upon member termination.



**SCHEDULE G**

**The Number and Average Annual Compensation of Active Members  
by Age and Service as of June 30, 2005**

Attained Age	Completed Years of Service										Total
	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	
Under 25	1,878	852	39	0	0	0	0	0	0	0	2,769
Avg. Pay	23,243	23,577	26,227	0	0	0	0	0	0	0	23,387
25 to 29	2,430	3,852	901	22	0	0	0	0	0	0	7,205
Avg. Pay	26,657	27,897	28,763	29,696	0	0	0	0	0	0	27,593
30 to 34	1,654	3,350	2,879	920	60	0	0	0	0	0	8,863
Avg. Pay	27,910	29,776	31,807	32,959	33,571	0	0	0	0	0	30,444
35 to 39	1,273	2,198	1,925	1,981	1,282	93	0	0	0	0	8,752
Avg. Pay	28,963	31,203	32,569	35,204	36,569	37,703	0	0	0	0	32,938
40 to 44	1,316	2,191	2,302	1,597	2,238	1,215	165	0	0	0	11,024
Avg. Pay	28,265	30,842	31,983	33,573	37,351	41,092	41,152	0	0	0	33,773
45 to 49	996	1,880	1,731	1,450	1,733	1,841	1,326	169	0	0	11,126
Avg. Pay	30,254	31,852	33,222	34,502	37,589	43,218	45,105	44,602	0	0	36,815
50 to 54	688	1,703	1,337	1,342	1,751	1,430	1,682	1,079	5	0	11,017
Avg. Pay	35,075	32,999	33,428	34,404	37,645	42,535	48,214	50,084	48,731	0	39,332
55 to 59	527	1,136	1,063	1,196	1,505	961	866	909	29	0	8,192
Avg. Pay	37,831	34,860	34,748	35,435	38,044	41,139	47,983	51,259	59,987	0	39,738
60 to 64	131	423	520	505	503	327	287	201	26	6	2,929
Avg. Pay	35,327	35,788	36,638	38,689	37,419	43,042	45,725	50,686	72,519	62,902	39,886
65 to 69	21	76	98	149	121	68	56	29	10	5	633
Avg. Pay	37,193	36,714	36,267	37,508	41,425	44,705	50,365	54,206	64,823	59,964	41,243
70 & Up	4	25	39	38	42	23	11	13	7	4	206
Avg. Pay	23,311	43,663	41,564	46,510	35,912	49,089	45,608	49,899	45,242	83,459	43,745
Total	10,918	17,686	12,834	9,200	9,235	5,958	4,393	2,400	77	15	72,716
Avg. Pay	28,243	30,428	32,585	34,761	37,482	42,229	46,823	50,242	62,775	67,405	34,579

Average Age: 43.5  
Average Service: 10.2



**SCHEDULE G**  
**(Continued)**

**NUMBER OF RETIRED MEMBERS  
AND THEIR BENEFITS BY AGE**

<b>Attained Age</b>	<b>Number of Members</b>	<b>Total Annual Benefits</b>	<b>Average Annual Benefits</b>
Under 50	71	\$ 1,322,876	\$ 18,632
50 – 54	841	26,334,459	31,313
55 – 59	2,876	114,882,784	39,945
60 – 64	4,359	143,457,755	32,911
65 – 69	4,683	125,685,487	26,839
70 – 74	3,764	87,543,681	23,258
75 – 79	2,664	53,344,638	20,024
80 – 84	1,917	33,478,494	17,464
85 – 89	929	14,128,973	15,209
90 – 94	284	4,333,796	15,260
95 & Over	86	1,152,429	13,400
<b>Total</b>	<b>22,474</b>	<b>\$ 605,665,372</b>	<b>\$ 26,950</b>

**NUMBER OF BENEFICIARIES  
AND THEIR BENEFITS BY AGE**

<b>Attained Age</b>	<b>Number of Members</b>	<b>Total Annual Benefits</b>	<b>Average Annual Benefits</b>
Under 50	595	\$ 4,687,445	\$ 7,878
50 – 54	268	3,373,956	12,589
55 – 59	348	5,708,040	16,402
60 – 64	402	6,919,200	17,212
65 – 69	478	7,340,837	15,357
70 – 74	553	7,920,051	14,322
75 – 79	640	8,842,159	13,816
80 – 84	608	7,258,170	11,938
85 – 89	397	4,181,544	10,533
90 – 94	159	1,285,292	8,084
95 & Over	44	270,474	6,147
<b>Total</b>	<b>4,492</b>	<b>\$ 57,787,168</b>	<b>\$ 12,864</b>



**SCHEDULE G**  
**(Continued)**

**NUMBER OF DISABLED RETIREES  
AND THEIR BENEFITS BY AGE**

<b>Attained Age</b>	<b>Number of Members</b>	<b>Total Annual Benefits</b>	<b>Average Annual Benefits</b>
Under 50	525	\$ 12,944,572	\$ 24,656
50 – 54	789	21,871,670	27,721
55 – 59	1,264	35,597,748	28,163
60 – 64	885	21,154,512	23,903
65 – 69	463	9,836,274	21,245
70 – 74	224	4,288,259	19,144
75 – 79	120	2,206,869	18,391
80 – 84	75	1,437,346	19,165
85 – 89	35	564,546	16,130
90 – 94	8	84,658	10,582
95 & Over	1	5,913	5,913
Total	4,389	\$ 109,992,367	\$ 25,061