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May 1, 2013

Mr. Jeffrey L. Ezell
Executive Director
Teachers Retirement System of Georgia
Suite 100, Two Northside 75
Atlanta, GA 30318

Dear Mr. Ezell:

Enclosed are 25 bound copies and one unbound copy of the "Teachers Retirement System of Georgia Report of the Actuary on the Valuation Prepared as of June 30, 2012".

The valuation indicates that employer contributions at the rate of 13.15% of compensation 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 2012 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:mjn

Enclosure

S:\Georgia Teachers\Valuation\6-30-2012\Ga TRS Report 6-30-12 Valuation Final 05012013.docx

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Teachers Retirement System of Georgia

TEACHERS RETIREMENT SYSTEM OF GEORGIA

REPORT OF THE ACTUARY ON THE VALUATION PREPARED AS OF JUNE 30, 2012

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May 1, 2013

Board of Trustees,
Teachers Retirement System of Georgia
Suite 100, Two Northside 75
Atlanta, GA 30318

Members of the Board:

Section 47-3-23 of the law governing the operation of the Teachers 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, 2012. The report indicates that annual employer contributions at the rate of 13.15% of compensation for the fiscal year ending June 30, 2015 are sufficient to support the benefits of the System. 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 2012 Session of the General Assembly. 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.

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 amortized as a level percent of payroll within a 30-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 actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated assuming future required contributions (ARC) are contributed when due.

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Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

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,

Edward A. Macdonald, ASA, FCA, MAAA
President

Cathy Turcot
Principal and Managing Director

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

EAM:mjn

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TEACHERS RETIREMENT SYSTEM OF GEORGIA
REPORT OF THE ACTUARY
ON THE VALUATION
PREPARED AS OF JUNE 30, 2012

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):

Valuation Date	**June 30, 2012**	**June 30, 2011**
Number of active members	213,648	216,137
Annual earnable compensation	$ 10,036,023	$ 10,099,278
Number of retired members and beneficiaries	97,317	92,177
Annual allowances	$ 3,345,513	$ 3,102,607
Assets:		
Market Value	$ 53,487,149	$ 54,084,176
Actuarial Value	56,262,332	55,427,716
Unfunded accrued liability	$ 12,086,346	$ 10,550,924
Amortization period (years)	30	30
Funded Ratio	82.3%	84.0%
Contributions for Fiscal Year Ending	**June 30, 2015**	**June 30, 2014**
Member Contribution Rate	6.00%	6.00%
Annual Required Employer Contribution Rate (ARC):		
Normal	6.14%	6.24%
Unfunded accrued liability	7.01	6.04
Total	13.15%	12.28%

2. Comments on the valuation results as of June 30, 2012 are given in Section IV and further discussion of the employer contribution levels is set out in Section V.

3. Schedule C of this report shows the development of the smoothed interest rate and describes the application of the corridor.

4. Schedule E of this report outlines the full set of actuarial assumptions and asset method used to prepare the current valuation. There have been no changes since the previous valuation.

5. The entry age actuarial cost method was used to prepare the valuation. Schedule F contains a brief description of this method.

6. The major benefit and contribution provisions of the System as reflected in the current valuation are summarized in Schedule G. There have been no changes since the previous valuation.

SECTION II - MEMBERSHIP

1. The data we received for the 2012 valuation was provided by the Retirement System. While not verifying the data at its source, we performed tests for consistency and reasonableness.

2. The following table shows the number of teachers and their annual earnable and average compensation as of June 30, 2012 on whose account benefits may be payable under the Retirement System. The annual compensation for each active member was provided by the Retirement System and was used without adjustment.

THE NUMBER AND ANNUAL EARNABLE AND AVERAGE COMPENSATION OF ACTIVE MEMBERS AS OF JUNE 30, 2012

TOTAL NUMBER	ANNUAL COMPENSATION ($1,000's)	AVERAGE COMPENSATION
213,648	$10,036,023	$46,975

The results of the valuation include liabilities for 88,842 terminated employees entitled to benefits but not yet receiving benefits.

3. The following table shows the number of beneficiaries on the roll as of June 30, 2012, together with the amount of their annual retirement allowances payable under the System as of that date.

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES ON THE ROLL AS OF JUNE 30, 2012

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES ($1,000's)
Service Retirements	87,129	$ 3,136,973
Disability Retirements	3,755	74,013
Beneficiaries of Deceased Active and Retired Members	6,433	134,527
Total	97,317	$ 3,345,513

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, 2012 the value of assets credited to the Annuity Savings Fund amounted to $7,242,569,000.

   (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, 2012 the market value of assets credited to the Pension Accumulation Fund amounted to $46,244,580,000.

3. As of June 30, 2012 the total market value of assets amounted to $53,487,149,000 as reported by the auditor of the System. The actuarial value of assets used for the current valuation was $56,262,332,000. Schedule B shows the development of the actuarial value of assets

4. Schedule D shows receipts and disbursements of the System for the two years 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, 2012 (all amounts are in thousands).

2. The valuation balance sheet shows that the System has total prospective liabilities of $78,262,824, of which $39,759,145 is for the prospective benefits payable on account of present retired members and beneficiaries of deceased members and $38,503,679 is for the prospective benefits payable on account of present active and inactive members and members entitled to deferred vested benefits. Against these liabilities, the System has total present assets for valuation purposes of $56,262,332 as of June 30, 2012. The difference of $22,000,492 between the total liabilities and the total present assets represents the present value of contributions to be made in the future. Of this amount, $5,092,395 is the present value of future contributions expected to be made by members to the Annuity Savings Fund, and the balance of $16,908,097 represents the present value of future contributions payable by the employer.

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 6.14% of payroll are required, in addition to member contributions, to provide the benefits of the System for the average new member.

4. Prospective normal contributions, excluding administrative expenses, have a present value of $4,821,751. When this amount is subtracted from $16,908,097, which is the present value of the total future contributions to be made by the employer, there remains $12,086,346 as the amount of future unfunded accrued liability contributions.

SECTION V – CONTRIBUTIONS PAYABLE BY EMPLOYERS

1. The Teachers Retirement System funding policy provides for periodic employer contributions at rates which, expressed as percents of annual covered payroll, are sufficient to provide resources to pay benefits when due without being increased for future generations of taxpayers.
2. The retirement law provides that the contributions of employers shall be a percentage of the compensation of active members consisting of a normal contribution rate and an unfunded accrued liability contribution rate as determined by actuarial valuation.
3. Normal contributions include 0.25% of compensation that is required to meet the expenses of administering the System.
4. Based on the current total employer contribution rate of 13.15% of payroll, the unfunded accrued liability contribution is 7.01% of payroll, which will amortize the unfunded accrued liability within a 30 year period. The interest rate used to amortize the unfunded accrued liability over a 30 year period was equivalent to the smoothed interest rate of 8.09% for 23 years and the ultimate investment rate of return of 7.50% for seven years.
5. The following table summarizes the employer contribution rates, which were determined by the June 30, 2012 valuation and are recommended for use.

ANNUAL REQUIRED EMPLOYER CONTRIBUTION RATES
FOR FISCAL YEAR ENDING JUNE 30, 2015

CONTRIBUTION	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION
Normal	6.14%
Unfunded Accrued Liability	7.01
Total	13.15%

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, 2012

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	97,317
Terminated employees entitled to benefits but not yet receiving benefits	88,842
Active plan members	213,648
Total	399,807

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)
6/30/2007	$52,099,171	$54,996,570	$ 2,897,399	94.7%	$9,492,003	30.5%
6/30/2008	54,354,284	59,133,777	4,779,493	91.9	10,197,584	46.9
6/30/2009	53,438,604	59,450,116	6,011,512	89.9	10,641,543	56.5
6/30/2010	54,529,416	63,592,037	9,062,621	85.7	10,437,703	86.8
6/30/2011	55,427,716	65,978,640	10,550,924	84.0	10,099,278	104.5
6/30/2012	56,262,332	68,348,678	12,086,346	82.3	10,036,023	120.4

3. The following shows the schedule of employer contributions.

Year Ending	Annual Required Contribution	Percentage Contributed
6/30/2007	$ 927,371	100%
6/30/2008	986,759	100
6/30/2009	1,026,287	100
6/30/2010	1,057,416	100
6/30/2011	1,089,912	100
6/30/2012	1,082,224	100

4. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2012. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2012
Actuarial cost method	Entry age
Amortization method	Level percent of pay, open
Remaining amortization period	30 years
Asset valuation method	7-year smoothed market
Actuarial assumptions:	
Ultimate investment rate of return (discount rate)*	7.50%
Projected salary increases*	3.75 – 7.00%
Cost-of-living adjustments	3.00% Annually

**Includes inflation at 3.00%*

TREND INFORMATION
(Dollar amounts in thousands)

Year Ending	Annual Pension Cost (APC)	Percentage of APC Contributed	Net Pension Obligation
June 30, 2010	$ 1,057,416	100%	$ 0
June 30, 2011	1,089,912	100	0
June 30, 2012	1,082,224	100	0

SECTION VII – EXPERIENCE

1. Section 47-3-23 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. The last investigation was prepared for the five-year period ending June 30, 2009 and, based on the results of the investigation, new rates of separation, mortality and salary increase were adopted by the Board on November 17, 2010. The next experience investigation will be prepared for the period July 1, 2009 through June 30, 2014.

2. The following table shows the estimated gain or loss from various factors that resulted in an increase of $1,535,422,000 in the unfunded accrued liability from $10,550,924,000 to $12,086,346,000 during the fiscal year ending June 30, 2012.

ANALYSIS OF THE INCREASE IN UNFUNDED ACCRUED LIABILITY
(Dollar amounts in millions)

ITEM	AMOUNT OF INCREASE/ (DECREASE)
Interest (8.02%) added to previous unfunded accrued liability	$ 846.2
Accrued liability contribution	(443.5)
Experience:	
Valuation asset growth	1,855.1
Pensioners' mortality	51.6
Turnover and retirements	319.1
New entrants	101.2
Salary increases	(709.9)
Method and Assumption Changes	0.0
Interest Smoothing	(627.0)
Amendment	0.0
Miscellaneous	142.6
Total	$ 1,535.4

3. The following is a brief description of the items contributing to the change in the unfunded accrued liability (UAL) for the year:

Interest: The increase in the UAL due to interest based on the assumed rate in effect for the year was $846.2 million (8.02% assumed for July 1, 2011 through June 30, 2012).

Accrued Liability Contribution: The decrease due to the contribution made during the year that was allocated to amortization of the UAL was $443.5 million. This is the portion of the total employer contribution received during the year in excess of the employer normal cost.

Valuation Asset Growth: The increase in the UAL due to valuation asset growth for the year ending June 30, 2012 is $1,855.1 million. This loss represents the difference between the expected actuarial value of assets and the actual actuarial value of assets. The expected actuarial value of assets is determined by adding the actuarial value of assets from the prior valuation, non-investment related cash flow during the year and interest expected to be earned during the year at the assumed rate (8.02%).

Pensioner Mortality: The increase in the UAL due to pensioner mortality for the year is $51.6 million. This is due to fewer members dying during the year than anticipated based on the mortality tables adopted by the Board.

Turnover and Retirements: There was an increase in the UAL due to turnover and retirements during the year of $319.1 million. This loss occurred because the number of actual terminations was less than expected and the number of service retirements and disability retirements were greater than the expected based on the assumed probabilities adopted by the Board. In addition, this item includes the impact of benefits for new retired members that were greater than anticipated based on the prior year's valuation data (this includes unexpected service increases due to sick leave conversion and service purchase and unanticipated salary increases in the year of retirement).

New Entrants: The increase in the UAL due to new entrants was $101.2 million. This represents the accrued liability at the valuation date for new entrants hired during the year. This includes members who returned to service with prior service credit.

Salary Increases: There was a decrease in the UAL of $709.9 million because the salary increases actually received by active members during the year were less than those anticipated based on the assumed salary increase rates adopted by the Board.

Interest Smoothing: There was a decrease in the UAL of $627.0 million due to the interest smoothing methodology used to determine liabilities. The decrease in liability occurred because the assumed interest rate during the first 23 years of the look forward period changed from 8.02% to 8.09%.

Miscellaneous: Other items contributing to the increase in the UAL totaled $142.6 million. This includes all gains or losses not specified above. One such item is the loss that occurred for members who purchased service at less than full actuarial cost (such as withdrawn service). Another item is a loss that occurred because the data received to prepare the valuation was different than expected from the previous year (items such as birth dates or service for active members and birth dates, options, or benefit amounts for retired members).

SCHEDULE A

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE TEACHERS RETIREMENT SYSTEM OF GEORGIA
AS OF JUNE 30, 2012
(Dollar amounts in thousands)

ASSETS		
Actuarial Value of Assets		$ 56,262,332
Present value of future member contributions to Annuity Savings Fund		5,092,395
Present value of future employer contributions to the Pension Accumulation Fund:		
Normal contributions	$ 4,821,751	
Unfunded accrued liability contributions	12,086,346	
Total Prospective Employer Contributions		16,908,097
Total Assets		$ 78,262,824
LIABILITIES		
Present value of prospective benefits payable on account of present retired members and beneficiaries of deceased members		$ 39,759,145
Present value of prospective benefits payable on account of present active and inactive members and members entitled to deferred vested benefits		38,503,679
Total Liabilities		$ 78,262,824

SCHEDULE B

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
(Dollar amounts in thousands)

(1)	Actuarial Value Beginning of Year		$ 55,427,716
(2)	Market Value End of Year		53,487,149
(3)	Market Value Beginning of Year		54,084,176
(4)	Cash Flow		
	(a)	Contributions	1,683,736
	(b)	Benefit Payments and Expenses	3,371,663
	(c)	Investment Expenses	23,402
	(d)	Net: (4)(a) - (4)(b) - 4(c)	(1,711,329)
(5)	Investment Income		
	(a)	Market Total: (2) - (3) - (4)(d)	1,114,302
	(b)	Assumed Rate	7.50%
	(c)	Amount for Immediate Recognition: [(3) x (5)(b)] + {[(4)(a) - (4)(b)] x (5)(b) x 0.5} + (4)(c)	4,016,418
	(d)	Amount for Phased-In Recognition: 5(a) - (5)(c)	(2,902,116)
(6)	Phased-In Recognition of Investment Income		
	(a)	Current Year: 5(d) / 7	(414,588)
	(b)	First Prior Year	886,349
	(c)	Second Prior Year	217,341
	(d)	Third Prior Year	(1,473,379)
	(e)	Fourth Prior Year	(818,542)
	(f)	Fifth Prior Year	468,459
	(g)	Sixth Prior Year	(336,113)
	(h)	Total Recognized Investment Gain	(1,470,473)
(7)	Preliminary Value End of Year: (1) + (4)(d) + 5(c) + (6)(h)		$ 56,262,332
(8)	Corridor		
	(a)	75% of Market Value: 0.75 x (2)	$ 40,115,362
	(b)	125% of Market Value: 1.25 x (2)	$ 66,858,936
(9)	Actuarial Value End of Year: (7), but not less than (8)(a) and not greater than (8)(b)		$ 56,262,332
(10)	Difference Between Market & Actuarial Values: (2) - (9)		$ (2,775,183)
(11)	Rate of Return on Actuarial Value		4.62%

SCHEDULE C

SMOOTHED INTEREST RATE

Actual Rate of Return for 7 Year Look Back Period

Fiscal Year Ending 6/30	Actual Rate of Return for Fiscal Year
2006	6.05 %
2007	14.61
2008	-3.38
2009	-13.06
2010	11.16
2011	21.30
2012	2.05

SMOOTHED INTEREST RATE: The assumed rate of return during the 23 year look forward period beginning on the valuation date. This is the investment rate of return expected to be earned during this period based on the actual rates earned during the seven year look back period shown above such that the average rate of return over the combined 30 year period is equivalent to the ultimate investment rate of return (currently 7.50%). On this basis, for the June 30, 2012 valuation, the smoothed interest rate during the 23 year look forward period has been determined to be 8.28%.

ULTIMATE INVESTMENT RATE OF RETURN (DISCOUNT RATE): The assumed investment rate of return used in determining the smoothed interest rate described above. This is also the assumed investment rate of return after the 23 year look forward period and is currently 7.50%.

LONG-TERM INVESTMENT RATE OF RETURN: The average investment rate of return over the 40 year period beginning on the valuation date.

CORRIDOR AROUND LONG-TERM INVESTMENT RATE OF RETURN: Determined such that the long-term investment rate of return is between the 40th and 50th percentile of expected returns over a 40 year period based on current TRS capital market assumptions. This produces a range between 7.25% and 7.84% as the suggested acceptable range for the long-term investment rate of return.

LIMITED SMOOTHED INTEREST RATE: The assumed rate of return during the 23 year look forward period as limited based on the application of the corridor above and used for valuation purposes. Based on the smoothed interest rate above of 8.28% for the first 23 years after the valuation date and the ultimate investment rate of return of 7.50% for the next 17 years, the calculated long-term investment rate of return of over the 40 year period would be outside of the corridor limits shown above. In order to achieve a maximum long-term rate of return of 7.84% over the 40 year period, the smoothed interest rate for the 23 year look forward period used in the valuation is limited to 8.09%.

SCHEDULE D

SUMMARY OF RECEIPTS AND DISBURSEMENTS
(Dollar amounts in thousands)

	YEAR ENDING	
Receipts for the Year	June 30, 2012	June 30, 2011
Contributions:		
Members	$ 601,512	$ 604,126
Employer	1,082,224	1,089,912
Subtotal	$ 1,683,736	$ 1,694,038
Investment Income (Net of Investment Expenses)	1,230,478	1,211,790
Unrealized Appreciation/(Depreciation)	(139,578)	8,383,204
TOTAL	$ 2,774,636	$ 11,289,032
Disbursements for the Year		
Benefit Payments	$ 3,277,552	$ 3,041,503
Refunds to Members	72,157	67,916
Administration Expense	21,954	20,986
TOTAL	$ 3,371,663	$ 3,130,405
Excess of Receipts over Disbursements	$ (597,027)	$ 8,158,627
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of Year (Market Value)	$ 54,084,176	$ 45,925,549
Excess of Receipts over Disbursements	(597,027)	8,158,627
Asset Balance as of the End of Year (Market Value)	$ 53,487,149	$ 54,084,176

SCHEDULE E

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

Adopted by the Board November 17, 2010 with the exception of the changes in the asset smoothing method and the interest smoothing method which were adopted by the Board on July 27, 2011.

ULTIMATE INVESTMENT RATE OF RETURN (Discount Rate): 7.50% per annum, compounded annually (including inflation of 3.00%).

SALARY INCREASES*:

Service	Annual Rate	Service	Annual Rate	Service	Annual Rate
0	7.00 %	7	5.25 %	14	4.75 %
1	6.75	8	5.25	15	4.50
2	6.63	9	5.00	16	4.50
3	6.50	10	5.00	17	4.25
4	6.25	11	4.85	18	4.25
5	6.00	12	4.80	19	4.25
6	5.50	13	4.75	20	3.75

*includes inflation component of 3.00% and a real rate of salary increase component of 0.75%

SERVICE RETIREMENT:

	Male		Female	
AGE	< 30 years of service	>= 30 years of service	< 30 years of service	>= 30 years of service
50	5.00 %	50.00 %	5.00 %	50.00 %
55	5.00	38.00	5.00	35.00
60	20.00	35.00	25.00	40.00
61	18.00	30.00	25.00	40.00
62	25.00	35.00	25.00	40.00
63	20.00	33.00	25.00	40.00
64	18.00	30.00	25.00	40.00
65	30.00	30.00	30.00	30.00
66	30.00	30.00	30.00	30.00
67	30.00	30.00	28.00	28.00
68	28.00	28.00	28.00	28.00
69	26.00	26.00	28.00	28.00
70	30.00	30.00	30.00	30.00

SEPARATION BEFORE SERVICE RETIREMENT:

	Annual Rate of				
Age	Death*	Disability	Withdrawal Years of Service		
			0-4	5-9	10+
		Male			
20	0.03%	0.03%	31.00%	-	-
25	0.04	0.03	18.00	16.00%	-
30	0.04	0.04	14.00	8.00	11.00%
35	0.06	0.04	14.00	6.00	3.00
40	0.10	0.05	13.00	6.00	2.25
45	0.13	0.09	12.00	6.00	2.20
50	0.19	0.17	11.00	5.50	2.50
55	0.29	0.32	11.00	5.00	2.70
60	0.53	-	11.00	5.00	-
64	0.88	-	11.00	5.00	-
		Female			
20	0.02%	0.02%	30.00%	-	-
25	0.02	0.02	14.00	25.00%	-
30	0.02	0.02	13.00	9.00	9.00%
35	0.04	0.03	13.00	7.00	3.50
40	0.06	0.04	11.00	7.00	3.00
45	0.09	0.07	10.00	5.50	2.00
50	0.13	0.12	10.00	5.00	2.00
55	0.20	0.38	10.00	4.75	2.75
60	0.35	-	10.00	4.75	-
64	0.58	-	10.00	4.75	-

** The RP-2000 Combined Mortality Table (set back two years for males and three years for females) is used for death prior to service retirement.*

DEATHS AFTER RETIREMENT: The RP-2000 Combined Mortality Table (set back two years for males and three years for females) is used for death after service retirement and beneficiaries. The RP-2000 Disabled Mortality Table (set back two years for males) is used for death after disability retirement. Representative values of the assumed annual rates of death after service retirement and after disability retirement are shown below:

	Annual Rate of Death After			
	Service Retirement		Disability Retirement	
Age	Men	Women	Men	Women
40	.10%	.06%	2.26%	0.75%
45	.13	.09	2.26	0.75
50	.19	.13	2.64	1.15
55	.29	.20	3.29	1.65
60	.53	.35	3.93	2.18
65	1.00	.67	4.66	2.80
70	1.79	1.22	5.69	3.76
75	3.04	2.07	7.33	5.22
80	5.21	3.41	9.76	7.23
85	8.97	5.63	12.83	10.02
90	15.06	9.63	16.22	14.00
95	23.37	15.76	23.37	19.45

COST OF LIVING: Increases of 1.5% semi-annually.

PAYROLL GROWTH ASSUMPTION: 3.75%

ADMINISTRATIVE EXPENSES: 0.25% of active members' payroll included in normal contribution.

ASSET METHOD: 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 ultimate investment rate of return. The amount recognized each year is 1/7 of the difference between market value and expected actuarial value. The actuarial value of assets is limited to a range between 75% and 125% of the market value of assets.

PERCENTAGE MARRIED: 85% of males and 60% of female active members were assumed to be married with the husband 4 years older than his wife.

UNUSED SICK LEAVE: 1.75% load on liabilities for members who retire on early retirement, a 2.0% load for members who retire with unreduced retirement before 30 years of service and a 2.5% load for members who retire with 30 or more years of service.

TERMINATING VESTED MEMBERS: Prior to age 50, 50% of active vested members who terminate are assumed to elect a refund in lieu of a benefit; on or after age 50, 25% of active vested members who terminate are assumed to elect a refund in lieu of a benefit. Benefits are assumed to begin at age 60.

VALUATION INTEREST RATE SMOOTHING: The valuation liabilities are calculated using a smoothed interest rate method. The interest rate assumed during the look forward period (currently 23 years from the valuation date) is the investment rate of return expected to be earned during the look forward period based on the actual rate of return earned during the look back period (currently 7 years) such that the average assumed rate of return over the combined 30 year period is equivalent to the assumed ultimate investment rate of return (currently 7.50%). The interest rate after the 23 year look forward period is the ultimate investment rate of return of 7.50%.

CORRIDOR LIMIT ON INTEREST RATE SMOOTHING: The smoothed interest rate used during the 23 year look forward period is subject to a corridor which is determined such that the long-term investment rate of return is between the 40^{th} and 50^{th} percentile of expected returns based on TRS capital market assumptions as of June 30, 2009. The interest rate used in the current valuation is described in further detail in Schedule C.

SCHEDULE F

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 (see Schedules C and E for a description of the interest rate used), 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 G

SUMMARY OF MAIN PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

The Teachers Retirement System of Georgia began operation as of January 1, 1945. The System is supported by the joint contributions of the members and their employers. All teachers employed by an agency of and within the State of Georgia are eligible for membership in the System. The State makes contributions for certain retired members of local funds and certain benefits are payable by the System to them or on their account.

The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

1 - DEFINITIONS

"Prior service" means service rendered prior to January 1, 1945 for which credit is allowed. "Creditable service" means the sum of membership service and prior service. "Earnable compensation" means the full rate of compensation that would be payable to a member teacher if he worked the full normal working time and shall include compensation paid to a member by an employer from grants or contracts made by outside agencies with the employer. "Employer" means the State of Georgia, the county or independent board of education, the State Board of Education, the Board of Regents of the University System of Georgia, or any other agency of and within the State by which a teacher is paid.

2 - BENEFITS

MEMBERS OF THE RETIREMENT SYSTEM

Service Retirement Benefit

Condition for Allowance	Any member may retire on a service retirement allowance upon the attainment of age 60 and the completion of 10 years of creditable service or upon the completion of 25 years of creditable service.

Amount of Allowance

The service retirement allowance consists of:

(a) An annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his retirement; and

(b) A pension which, together with the annuity, will provide a total annual allowance equal to 2.00% of the member's average annual compensation during the two consecutive years of his creditable service as a contributing member producing the highest such average, multiplied by the number of years of his creditable service limited to 40 years.

If the member has less than 30 years of creditable service and has not attained age 60 at the time of retirement, his allowance is reduced by the lesser of 1/12 of 7% for each month that retirement precedes age 60 or 7% for each year or fraction of a year by which the member has less than 30 years of creditable service at the time of retirement.

The minimum service retirement allowance is $204 per annum for each year of creditable service, not to exceed 40 years of such service.

In no event will a teacher who was a member on June 30, 1961 receive a smaller retirement allowance than he would have received under the benefit provisions of the System in effect on that date.

Disability Retirement Benefit

Condition for Allowance

A disability retirement allowance is payable to any member who becomes permanently incapacitated, mentally or physically, for the further performance of duty, after having rendered 10 or more years of creditable service.

Amount of Allowance

If a member qualifies for either service retirement or disability retirement and a service retirement calculation exceeds the amount that he would receive on disability, he shall receive a service retirement allowance. Otherwise he receives a disability retirement allowance determined as a service retirement allowance on the basis of the member's creditable service and compensation up to the time of disability, but with no reduction for age.

Death Benefit

Condition for Allowance

A death benefit is payable on account of a member who dies after having completed 10 or more years of creditable service provided there is a named living beneficiary.

Amount of Allowance

The death benefit is the amount which would have become payable to the member's beneficiary had the member retired on the date of his death on either a service retirement allowance or a disability retirement allowance, whichever is larger, and died after an election of Option 2 had become effective.

Vesting Benefit

Condition for Allowance

A member who withdraws from service prior to attaining age 60 after having rendered at least 10 years of creditable service and who elects to leave his accumulated contributions in the System is eligible for a vesting retirement allowance upon application therefore upon the attainment of age 60 or at any time thereafter.

Amount of Allowance

The vesting allowance is determined as a service retirement allowance on the basis of the member's creditable service and compensation up to the time of withdrawal from service and on the basis of his age at the time the allowance commences.

Return of Contributions Prior to Retirement

Upon a member's withdrawal from service or death prior to retirement, his accumulated contributions together with the accumulated interest are returned to him, or are paid to his designated beneficiary or estate, provided no other benefit is payable under the Retirement System.

Return of Contributions After Retirement Under Maximum Plan

Benefits are payable to a member retired on service or disability for the remainder of his lifetime under the maximum plan. In the event total monthly benefits paid at the time of death are less than the contributions which the member made to the System, the difference between the benefits paid and the amount of contributions is refunded to the member's designated beneficiary or estate, provided no optional allowance has been selected.

Optional Allowances

Upon retirement, any member may elect to convert the retirement allowance otherwise payable to him, except any additional pension payable under the minimum provision, to a reduced retirement allowance of equivalent actuarial value in one of the following optional forms:

Option 1. If he dies before receiving in annuity payments the amount of his accumulated contributions at retirement, the balance is paid to his designated beneficiary or to his estate; or

Option 2. Upon his death his reduced retirement allowance is continued throughout the life of and paid to his designated beneficiary; or

Option 2 Pop-up. A member may elect Option 2 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; or

Option 3. Upon his death one-half of his reduced retirement allowance is continued throughout the life of and paid to his designated beneficiary; or

Option 3 Pop-up. A member may elect 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; or

Option 4. A reduced retirement allowance payable during the life of the retired member, with the provision that upon his death some other benefit shall be payable; provided that the total value of such benefits is the actuarial equivalent of the retirement allowance he would have received without optional modification and provided the benefit is approved by the Board of Trustees; or

Option 5. A reduced retirement allowance together with a partial lump sum distribution not to exceed the sum of 36 months of the member’s monthly retirement allowance that would have been payable if this option was not elected. This option may be elected with any other option described above. This option is not available to disability retirements or members subject to the minimum benefit formula.

Cost-of-Living Adjustment	The retirement allowances of members or of any beneficiary of a member who died in service will be subject to adjustment as of each January 1 and July 1 based upon the change in the average CPI during the previous six-month period. The maximum increase in retirement allowances for any such six-month period will be 1-1/2% and no adjustment of less than 1/2% will be made. If the CPI decreases, no reduction in allowance will be made for the first 2-1/2% of a reduction and retirement allowances will not be reduced below the amounts initially paid upon retirement. In addition, for members who retire prior to January 1, 2013, a one-time 3% increase on the first $37,500 of members' allowances is made at retirement. Members who retire on or after January 1, 2013 do not receive this increase. A member who retires prior to age 60 with less than 30 years of creditable service is not eligible for post-retirement adjustments until such time as the member reaches age 60 or would have obtained 30 years of creditable service, whichever occurs earlier.

3 - CONTRIBUTIONS

By Members	Each member contributes 5.53% of his earnable compensation. However, no contributions are payable after the attainment of age 65 and the completion of 40 years of creditable service. Members may elect to cease making contributions after the completion of 40 years of creditable service but before the attainment of age 65. Effective July 1, 2012, the member contribution rate will be 6.00%.
By Employer	The employer contributes at a specified percentage of active member payroll determined annually by actuarial valuation.

SCHEDULE H

THE NUMBER AND AVERAGE ANNUAL COMPENSATION OF ACTIVE MEMBERS BY AGE AND SERVICE AS OF JUNE 30, 2012

Age	Years of Service										
	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	202	2,524	33								2,759
Avg. Pay	17,767	29,133	21,842								28,213
25 to 29	352	11,670	4,947	12							16,981
Avg. Pay	21,357	34,730	41,095	27,335							36,302
30 to 34	271	7,204	14,026	3,374	19						24,894
Avg. Pay	25,389	36,133	44,919	51,449	37,962						43,044
35 to 39	209	6,067	9,547	10,277	2,255	5					28,360
Avg. Pay	25,509	36,429	44,133	54,268	58,905	32,309					47,193
40 to 44	216	5,854	9,446	7,895	8,110	2,104	24				33,649
Avg. Pay	27,997	35,637	42,455	51,504	61,222	63,805	43,721				49,158
45 to 49	210	4,762	8,010	6,363	4,812	5,121	1,880	22			31,180
Avg. Pay	27,973	34,758	40,184	46,512	55,666	64,501	63,832	53,005			48,383
50 to 54	138	3,529	6,409	6,284	4,843	3,958	4,363	976	26		30,526
Avg. Pay	23,810	36,296	39,462	44,901	50,598	58,305	64,889	67,476	51,397		48,895
55 to 59	101	2,344	4,662	5,172	4,666	4,431	3,211	1,523	359	4	26,473
Avg. Pay	29,114	37,252	40,825	45,275	49,407	54,155	59,574	70,188	71,777	68,787	49,464
60 to 64	27	1,035	2,643	2,788	2,394	2,216	1,766	749	450	56	14,124
Avg. Pay	38,642	36,458	42,075	46,964	50,266	55,052	60,417	73,197	78,998	72,409	51,287
65 to 69	10	273	816	777	546	533	393	268	171	17	3,804
Avg. Pay	19,607	36,268	40,889	46,635	52,852	55,201	60,715	71,506	91,181	79,076	52,034
70 & up		69	182	188	140	101	86	53	47	32	898
Avg. Pay		33,416	35,397	41,110	51,676	56,566	58,079	61,217	89,005	91,718	49,869
Total Count	1,736	45,331	60,721	43,130	27,785	18,469	11,723	3,591	1,053	109	213,648
Avg. Pay	24,600	35,288	42,367	49,279	55,063	59,157	62,357	69,939	78,280	78,984	46,975

Average Age: 44.62 Average Service: 11.10

NUMBER OF RETIRED MEMBERS
AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	46	$ 1,398,130	$ 30,394
50 – 54	1,454	57,696,086	39,681
55 – 59	7,075	306,952,949	43,386
60 – 64	21,041	777,443,466	36,949
65 – 69	22,167	782,558,901	35,303
70 – 74	14,508	509,793,426	35,139
75 – 79	9,387	327,758,340	34,916
80 – 84	6,334	218,514,542	34,499
85 – 89	3,204	103,330,238	32,250
90 – 94	1,395	39,470,579	28,294
95 & Over	518	12,056,718	23,276
Total	87,129	$ 3,136,973,375	$ 36,004

NUMBER OF BENEFICIARIES
AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	1,355	$ 15,863,350	$ 11,707
50 – 54	365	5,310,305	14,549
55 – 59	499	9,086,779	18,210
60 – 64	663	13,911,720	20,983
65 – 69	738	17,195,686	23,300
70 – 74	758	18,748,117	24,734
75 – 79	719	18,629,168	25,910
80 – 84	637	16,696,484	26,211
85 – 89	404	11,869,036	29,379
90 – 94	224	5,538,205	24,724
95 & Over	71	1,678,611	23,642
Total	6,433	$ 134,527,461	$ 20,912

NUMBER OF DISABLED RETIREES
AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	257	$ 3,771,291	$ 14,674
50 – 54	407	7,240,316	17,789
55 – 59	767	14,569,412	18,995
60 – 64	969	20,471,309	21,126
65 – 69	660	13,769,744	20,863
70 – 74	347	7,173,053	20,672
75 – 79	160	3,297,340	20,608
80 – 84	102	2,077,650	20,369
85 – 89	57	1,121,570	19,677
90 – 94	22	372,651	16,939
95 & Over	7	149,059	21,294
Total	3,755	$ 74,013,395	$ 19,711

SCHEDULE I

CAFR SCHEDULES

Active Members				
Fiscal Year	Number of Members	Annual Payroll (000's)	Average Pay (000's)	% Increase
2003	205,453	$ 8,261,961	$ 40,213	5.10 %
2004	198,572	8,083,118	40,706	1.20
2005	199,088	8,252,598	41,452	1.80
2006	206,592	8,785,985	42,528	2.60
2007	215,566	9,492,003	44,033	3.50
2008	224,993	10,197,584	45,324	2.90
2009	226,537	10,641,543	46,975	3.60
2010	222,020	10,437,703	47,012	0.10
2011	216,137	10,099,278	46,726	-0.60
2012	213,648	10,036,023	46,975	0.50

Retirants and Beneficiaries								
Fiscal Year	Added to Roll		Removed from Roll		Roll – End of Year		% Increase In Annual Allowances	Average Annual Income
	Number of Members	Annual Allowances (000’s)	Number of Members	Annual Allowances (000’s)	Number of Members	Annual Allowances (000’s)		
2003	5,097	$ 188,458	1,627	$ 30,581	57,692	$ 1,479,719	11.9 %	$ 25,469
2004	5,381	206,251	1,483	29,525	61,590	1,656,445	11.9	26,895
2005	6,176	230,973	1,594	33,139	66,172	1,854,279	11.9	28,022
2006	5,691	223,279	1,644	37,087	70,219	2,040,471	10.0	29,059
2007	5,858	230,924	1,656	39,293	74,421	2,232,102	9.4	29,993
2008	5,817	238,137	1,655	39,808	78,583	2,430,431	8.9	30,928
2009	5,543	245,006	1,768	45,116	82,358	2,630,321	8.2	31,938
2010	6,383	279,009	1,763	46,853	86,978	2,862,477	8.8	32,910
2011	7,136	295,192	1,937	55,062	92,177	3,102,607	8.4	33,659
2012	7,055	298,471	1,915	55,565	97,317	3,345,513	7.8	34,377