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Retirement Systems
of Alabama

**Teachers' Retirement System of Alabama Report of the
Actuary on the Annual Valuation Prepared as of
September 30, 2011**





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

June 11, 2012

Board of Control
Teachers' Retirement System of Alabama
Montgomery, Alabama

Members of the Board:

In this report are submitted the results of the annual valuation of the assets and liabilities of the Teachers' Retirement System of Alabama, prepared as of September 30, 2011 in accordance with Section 367(15) of the act governing the operation of the System.

The purpose of this report is to provide a summary of the funded status of the System as of September 30, 2011, to recommend rates of State contribution and to provide accounting information under Governmental Accounting Standards Board Statements No. 25 and 27 (GASB 25 and 27). While not verifying the data at source, the actuary performed tests for consistency and reasonability. Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending September 30, 2010. These revised assumptions were adopted by the Board on January 27, 2012. In addition, subsequent to the valuation, the System has been amended to provide a new benefit structure for members hired on or after January 1, 2013. It is anticipated that employer contribution rates will differ for these members.

The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the Entry Age Normal cost method. Five-year market related value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll, on the assumption that payroll will increase by 3.25% annually. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the Fund and to reasonable expectations of anticipated experience under the Fund and meet the parameters for the disclosures under GASB 25 and 27.

We have prepared the Schedule of Funding Progress and Trend Information shown in the financial section of the Comprehensive Annual Financial Report, and all supporting schedules including the Schedule of Active Member Valuation Data, the Solvency Test and the Analysis of Financial Experience shown in the actuarial section of the Comprehensive Annual Financial Report.

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.

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June 11, 2012
Board of Control
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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.

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.

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

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Edward Macdonald'.

Edward A. Macdonald, ASA, FCA, MAAA
President

A handwritten signature in blue ink, appearing to read 'Cathy Turcot'.

Cathy Turcot
Principal and Managing Director

A handwritten signature in blue ink, appearing to read 'Jonathan T. Craven'.

Jonathan T. Craven, ASA, EA, FCA, MAAA
Senior Actuary

EAM/mjn



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**TEACHERS' RETIREMENT SYSTEM OF ALABAMA
REPORT OF THE ACTUARY ON THE ANNUAL VALUATION
PREPARED AS OF SEPTEMBER 30, 2011**

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:

VALUATION DATE	September 30, 2011	September 30, 2010
Active members		
Number	135,768	136,290
Annual compensation*	\$ 5,807,655,862	\$ 5,836,902,762
Retired members and beneficiaries		
Number	74,623	71,691
Annual allowances*	\$ 1,576,005,069	\$ 1,498,941,290
DROP participants		
Number	5,625	5,737
Annual compensation*	\$ 351,906,404	\$ 346,301,313
Annual allowances	184,242,213	180,489,601
Assets		
Actuarial value	\$ 19,430,134,593	\$ 20,132,778,571
Market value	16,597,081,029	16,888,881,709
Unfunded accrued liability	\$ 9,346,181,466	\$ 8,166,744,391
Funded Ratio	67.5%	71.1%
CONTRIBUTIONS FOR FISCAL YEAR ENDING	September 30, 2014	September 30, 2013**
Employer contribution rate***		
Normal	2.13%	3.94%
Accrued liability	9.22	6.84
Death benefit	0.10	0.12
Term life	0.05	0.05
Administration	<u>0.21</u>	<u>0.21</u>
Total	11.71%	11.16%
Amortization period	30 years	30 years

*Amounts shown do not include any increase in effect after the valuation date.

**The employer contribution rate has been changed from 11.16% to 10.08% since the previous valuation to reflect the results of the experience investigation for the five-year period ending September 30, 2010.

***The System has been amended to provide a new benefit structure for members hired on or after January 1, 2013. It is anticipated that employer contribution rates will differ for these members.

2. Comments on the valuation results as of September 30, 2011 are given in Section IV and further discussion of the contribution levels is set out in Section V.



3. Schedule B shows the development of the actuarial value of assets. Schedule D of this report outlines the full set of actuarial assumptions and methods employed in the current valuation. Since the previous valuation various assumptions and methods have been revised to reflect the results of the experience investigation for the five year period ending September 30, 2010. These revised assumptions as summarized in the following table were adopted by the Board on January 27, 2012.

Summary of Recommended Assumptions	
Economic Assumptions	
Price Inflation	Changed from 4.50% to 3.00%.
Real Rate of Investment Return	Changed from 3.50% to 5.00%.
Total Rate of Investment Return	No change in 8.00% assumption.
Real Rate of Wage Inflation	Changed from 0.00% to 0.25%.
Wage Inflation	Changed from 4.50% to 3.25%.
Payroll Growth	Changed from 4.50% to 3.25%.
Demographic Assumptions	
Withdrawal	Changed assumed rates.
Retirement	Changed assumed rates.
Mortality	Changed assumed rates.
Disability	Changed assumed rates.
Merit/Promotion Scale	Changed to a service based salary merit scale increase assumption.
Other Assumptions and Methods and Administrative Changes	
Unused Sick Leave	Changed assumption.
Asset Smoothing	No change in method.
Pre-retirement Death Benefit	Changed assumption.
Administrative Expenses	No change in assumption.
Term-Life Insurance	No change in assumption.
Separation from Service	Changed assumption.
All others	No change to other actuarial methods.



4. Provisions of the System, as summarized in Schedule F, were taken into account in the current valuation. Section VI of this report shows the certification of the liquidation period used to determine the accrued liability contribution rate. Subsequent to the valuation, the System has been amended to provide a new benefit structure for members hired on or after January 1, 2013.

SECTION II - MEMBERSHIP

1. The following table shows the number of active members and their annual compensation as of September 30, 2011 on the basis of which the valuation was prepared.

TABLE 1

**THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS AS OF SEPTEMBER 30, 2011**

GROUP	NUMBER	COMPENSATION*
Males	36,198	\$ 1,872,194,634
Females	<u>99,570</u>	<u>3,935,461,228</u>
Total	135,768	\$ 5,807,655,862

*In addition, there are 5,625 members with compensation of \$351,906,404 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

The table reflects the active membership for whom complete valuation data were submitted. The results of the valuation include an estimated liability for an additional 17,559 inactive members.



2. The following table shows a six-year history of active member valuation data.

TABLE 2
SCHEDULE OF ACTIVE MEMBER VALUATION DATA

<u>Valuation Date</u>	<u>Number</u>	<u>Annual Payroll</u>	<u>Annual Average Pay</u>	<u>% Increase in Average Pay</u>
9/30/2011 ¹	135,768	\$ 5,807,655,862	\$ 42,776	(0.12)%
9/30/2010 ²	136,290	5,836,902,762	42,827	(0.01)
9/30/2009 ³	137,935	5,908,098,156	42,832	1.55
9/30/2008 ⁴	141,528	5,969,302,850	42,178	6.55
9/30/2007 ⁵	141,217	5,589,726,297	39,583	7.41
9/30/2006 ⁶	138,613	5,108,187,755	36,852	5.20

¹ In addition, there are 5,625 employees with annual compensation of \$351,906,404 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

² In addition, there are 5,737 employees with annual compensation of \$346,301,313 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

³ In addition, there are 5,340 employees with annual compensation of \$328,823,442 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

⁴ In addition, there are 5,169 employees with annual compensation of \$325,038,414 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

⁵ In addition, there are 5,071 employees with annual compensation of \$308,045,402 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

⁶ In addition, there are 5,375 employees with annual compensation of \$350,255,378 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

3. The following table shows the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date.

TABLE 3
**THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF
RETIRED MEMBERS AND BENEFICIARIES ON THE ROLL
AS OF SEPTEMBER 30, 2011**

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES
Service Retirements	66,067	\$ 1,471,129,446
Disability Retirements	4,710	51,826,249
Beneficiaries of Deceased Members	3,846	53,049,374
DROP Participants	<u>5,625</u>	<u>184,242,213</u>
Total	80,248	\$ 1,760,247,282



4. Schedule G shows the distribution by age and service of the number and average annual compensation of active members included in the valuation and a distribution by age of the number and benefits of retired members and beneficiaries included in the valuation.

SECTION III - ASSETS

1. The current retirement law provides for the maintenance of four funds for the purpose of recording the fiscal transactions of the System, namely, the Annuity Savings Fund, the Pension Accumulation Fund, the Pre-Retirement Death Benefit Fund, and the Deferred Retirement Option Plan 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 when a survivor allowance becomes payable the amount of the member's accumulated contributions are transferred from the Annuity Savings Fund to the Pension Accumulation Fund. The market value of assets credited to the Annuity Savings Fund on September 30, 2011, which represent the accumulated contributions of active members to that date, including interest, amounted to \$3,620,300,998.

- (b) Pension Accumulation Fund

The Pension Accumulation Fund is the fund to which are credited all contributions made by the employer, except those contributions made to the Pre-Retirement Death Benefit Fund which was created October 1, 1983. When a member retires or when a survivor allowance becomes payable, the pension is paid from this fund. In addition, the amount of the member's accumulated contributions is transferred from the Annuity Savings Fund to the Pension Accumulation Fund and the annuity is paid from this fund. On September 30, 2011 the market value of assets credited to this fund amounted to \$12,202,376,712.

- (c) DROP Fund

The DROP Fund is the fund to which are credited deferred retirement benefits on behalf of members who elect to participate in the DROP, together with regular interest thereon. In addition, member contributions while participating in the DROP, together with regular interest therein, are credited to the Fund. At the end of the DROP deferral period, the member receives the amount of the deferred retirement benefits and contributions plus interest in the member's DROP account. On September 30, 2011, the market value of assets credited to this Fund amounted to \$774,403,319.

- (d) Pre-Retirement Death Benefit Fund

The Pre-Retirement Death Benefit Fund is the fund to which are credited contributions made by the employer for the special pre-retirement death benefit which became effective October 1, 1983. On September 30, 2011, the market value of assets credited to this fund amounted to \$28,538,444. These assets are not included in the valuation and the liabilities associated with these death benefits are not included in the valuation.



2. As of September 30, 2011 the total market value of assets reported exclusive of the Pre-Retirement Death Benefit Fund amounted to \$16,597,081,029 as shown in the following table.

TABLE 4
MARKET VALUE OF ASSETS BY FUND
AS OF SEPTEMBER 30, 2011

FUND	MARKET VALUE OF ASSETS
Annuity Savings Fund	\$ 3,620,300,998
Pension Accumulation Fund	12,202,376,712
DROP Fund	<u>774,403,319</u>
Total Market Value of Assets	\$ 16,597,081,029

3. The five-year market related actuarial value of assets as of September 30, 2011 was \$19,430,134,593. Schedule B shows the development of the actuarial value of assets as of September 30, 2011.
4. Schedule C shows the 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 September 30, 2011.
2. The valuation balance sheet shows that the System has total prospective liabilities of \$33,221,307,385. Of this amount, \$17,245,087,538 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and DROP participants, \$459,379,439 is for the prospective benefits payable on account of present inactive members and \$15,516,840,408 is for the prospective benefits payable on account of present active members. Against these liabilities, the System has total actuarial value of assets, exclusive of the Pre-Retirement Death Benefit Fund, of \$19,430,134,593 as of September 30, 2011. The difference of \$13,791,172,792 between the total liabilities and the total actuarial value of assets represents the present value of contributions to be made in the future. Of this amount, \$3,442,343,637 is the present value of future contributions expected to be made by members to the Annuity Savings



Fund, and the balance of \$10,348,829,155 represents the present value of future contributions payable by the employer.

3. The employer's regular contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 2.13% of payroll are required to provide the benefits of the System.
4. Prospective normal contributions at the rate of 2.13% have a present value of \$1,002,647,689. When this amount is subtracted from \$10,348,829,155 which is the present value of the total future contributions to be made by the employer, there remains \$9,346,181,466 as the amount of future accrued liability contributions. Accrued liability contributions of 9.22% of payroll are to be made toward amortizing the unfunded accrued liability. Annual accrued liability contributions at the rate of 9.22% of payroll will amortize the unfunded accrued liability within 30 years from the valuation date on the assumption that the aggregate amount of accrued liability contribution will increase by 3.25% each year. However, if the amortization period continues to be set at 30 years each year, the unfunded accrued liability will never be fully amortized.
5. A contribution of 0.10% is required to meet the cost of the pre-retirement death benefit program this year. The assets and liabilities of this program are not included in the valuation. A contribution of 0.05% is required to meet the cost of group term-life insurance premiums. The assets and liabilities of this program are not included in the valuation.
6. An additional contribution of 0.21% of payroll is required to cover the expenses of administering the System.

SECTION V - CONTRIBUTIONS PAYABLE BY EMPLOYER

1. The retirement law provides that the employer contributions are to be paid from the same source from which employees' salaries are paid.
2. On the basis of the actuarial valuation prepared as of September 30, 2011 it is recommended that the employer make contributions at the following rates beginning October 1, 2013:



TABLE 5

**EMPLOYER CONTRIBUTION RATES
AS A PERCENTAGE OF MEMBERS' COMPENSATION***

<u>EMPLOYER CONTRIBUTION</u>	<u>FISCAL YEAR ENDING SEPTEMBER 30, 2014</u>
Normal	2.13%
Accrued Liability	9.22
Death Benefit	0.10
Term-Life	0.05
Administration	<u>0.21</u>
Total	11.71%

*The System has been amended to provide a new benefit structure for members hired on or after January 1, 2013. It is anticipated that employer contribution rates differ for these members.

- Contributions at the above rates of payroll are also recommended for payment by the Alabama High School Athletic Association. The following table shows the rates to be paid by special units of the System in addition to the rates shown above and the fiscal year through which these additional rates are required to be paid. These additional rates were determined based on the liabilities for the prior service of members at the time the unit joined the System, amortized over a fixed number of years.

TABLE 6

ADDITIONAL RATES REQUIRED FOR SPECIAL UNITS OF THE SYSTEM

UNIT	ADDITIONAL EMPLOYER RATE	THROUGH FISCAL YEAR ENDING SEPTEMBER 30
Alabama State Employees Association	2.66%	2015
Developing Alabama Youth Foundation	2.74	2017
Alabama Congress of Parents and Teachers	2.15	2020
Central Alabama Opportunities Industrialization Center	5.07	2020



SECTION VI – ANNUAL ACTUARIAL CERTIFICATION

The following is the annual actuarial certification to the Teachers' Retirement System of Alabama required by Act 2000-732.

1. We hereby certify that there has been no change since the previous valuation in the liquidation period of 30 years used to determine the accrued liability contribution rate of 9.22% as part of the total rate of 11.71% to be paid by employers to the Teachers' Retirement System of Alabama.

Signed _____
Edward A. Macdonald, ASA, FCA, MAAA
President



SECTION VII – ANALYSIS OF FINANCIAL EXPERIENCE

The following table shows the estimated gain or loss from various factors that resulted in an increase of \$1,179,437,075 in the unfunded accrued liability from \$8,166,744,391 to \$9,346,181,466 during the year ending September 30, 2011. The most significant item contributing to the increase of \$1.2 billion in the unfunded accrued liability was a \$1.6 billion loss due to a less than expected investment return on the actuarial value of assets. The results also show a gain of \$0.5 billion due to salary increases that were less than anticipated. In addition, there was a decrease of \$0.4 billion due to the changes in assumptions adopted by the Board based on the experience investigation prepared as of September 30, 2010.

ANALYSIS OF FINANCIAL EXPERIENCE

(in millions of dollars)

ITEM	AMOUNT OF INCREASE/ (DECREASE)
Interest (8.00%) added to previous unfunded accrued liability	\$ 653.3
Accrued liability contribution*	(420.1)
Experience:	
Valuation asset growth	1,643.7
Pensioners' mortality	40.8
Turnover and retirements	196.7
New entrants	33.7
Salary increases	(546.9)
Method changes	0.0
Amendments	0.0
Assumption changes	(379.6)
Data changes	2.5
Miscellaneous changes	<u>(44.7)</u>
Total	\$ 1,179.4

*Equal to the total contributions made to the System less the normal cost for the year adjusted for interest to September 30, 2011 ($(\$1,079,140,000 \times 1.04) - (\$650,227,000 \times 1.08)$).



SECTION VIII - 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 SEPTEMBER 30, 2011**

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	74,623
DROP participants	5,625
Terminated employees entitled to benefits but not yet receiving benefits	17,559
Active members	<u>135,768</u>
Total	233,575

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)
9/30/2006	\$19,821,133	\$23,945,100	\$ 4,123,967	82.8%	\$5,458,443	75.6%
9/30/2007	20,650,916	25,971,534	5,320,618	79.5	6,310,616*	84.3
9/30/2008	20,812,477	26,804,117	5,991,640	77.6	6,294,341	95.2
9/30/2009	20,582,348	27,537,400	6,955,052	74.7	6,236,922	111.5
9/30/2010	20,132,779	28,299,523	8,166,744	71.1	6,183,204	132.1
9/30/2011	19,430,135	28,776,316	9,346,181	67.5	6,159,562	151.7

*Includes pay increase granted under Act 2007-296.



3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at September 30, 2011. Additional information as of the latest actuarial valuation follows.

Valuation date	09/30/2011
Actuarial cost method	Entry Age Normal
Amortization method	Level percent open
Remaining amortization period	30 years
Asset valuation method	Five-year market related value
Actuarial assumptions:	
Investment rate of return*	8.00%
Projected salary increases*	3.50 - 8.25%
Cost-of-living adjustments	None
*Includes inflation at	3.00%

TREND INFORMATION
(\$ in 1,000's)

Period Ending	Annual Pension Cost (APC)	Percentage Of APC Contributed	Net Pension Obligation (NPO)
September 30, 2009	\$728,822	100%	\$0
September 30, 2010	753,213	100	0
September 30, 2011	755,944	100	0



SCHEDULE A

**VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE TEACHERS' RETIREMENT SYSTEM OF ALABAMA
AS OF SEPTEMBER 30, 2011**

	September 30, 2011
<u>ASSETS</u>	
Actuarial Value of Assets	\$ 19,430,134,593
Present value of future members' contributions to the Annuity Savings Fund	\$ 3,442,343,637
Present value of future employer contributions to the Pension Accumulation Fund	
Normal contributions	\$ 1,002,647,689
Unfunded accrued liability contributions	<u>9,346,181,466</u>
Total prospective employer contributions	\$ 10,348,829,155
Total Assets	<u>\$ 33,221,307,385</u>
<u>LIABILITIES</u>	
Present value of benefits payable on account of retired members, beneficiaries of deceased members now drawing retirement allowances, and DROP participants	
Service Retirements	\$ 15,602,553,529
Disability Retirements	441,950,098
Beneficiaries of Deceased Members	426,180,592
DROP Participant Accounts	<u>774,403,319</u>
Total	\$ 17,245,087,538
Inactive Members	\$ 459,379,439
Present value of prospective benefits payable on account of present active members:	
Service retirement allowances	\$ 13,913,297,911
Disability retirement allowances	573,777,450
Death Benefits	91,707,186
Termination Benefits	<u>938,057,861</u>
Total	\$ 15,516,840,408
Total Liabilities	<u>\$ 33,221,307,385</u>



SCHEDULE A
(continued)

SOLVENCY TEST
(\$1000's)

Valuation Date	Aggregate Accrued Liabilities For			Reported Assets	Portion of Accrued Liabilities Covered by Reported Asset		
	(1) Active Member Contributions	(2) Retirants and Beneficiaries	(3) Active Members (Employer Financed Portion)		(1)	(2)	(3)
9/30/2011 ¹	\$3,620,301	\$17,245,088	\$7,910,927	\$19,430,135	100%	92%	0.0%
9/30/2010	3,498,959	16,083,293	8,717,271	20,132,779	100	100	6.3
9/30/2009	3,233,664	15,328,508	8,975,228	20,582,348	100	100	22.5
9/30/2008	3,153,859	14,678,975	8,971,283	20,812,477	100	100	33.2
9/30/2007 ²	3,038,296	14,048,525	8,884,713	20,650,916	100	100	40.1
9/30/2006 ¹	2,943,588	13,408,294	7,593,218	19,821,133	100	100	45.7

¹ Reflects changes in actuarial assumptions.

² Reflects pay increase payable under Act 2007-296.



SCHEDULE B

DEVELOPMENT OF SEPTEMBER 30, 2011 ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets on September 30, 2010	\$ 20,132,778,571
(2)	Market Value of Assets on September 30, 2011	16,597,081,029
(3)	Market Value of Assets on September 30, 2010	16,888,881,709
(4)	Net Cash Flow During the Fiscal Year	
	a. Contributions	1,079,139,891
	b. Benefit Payments	1,719,118,980
	c. Administrative Expenses	3,786,941
	d. Investment Expenses	<u>9,816,803</u>
	e. Net Cash Flow: (a. - b. - c. - d.)	(653,582,833)
(5)	Actual Investment Return ((2) - (3) - (4)e.)	361,782,153
(6)	Assumed Rate of Return on Assets	8.00%
(7)	Amount for Immediate Recognition ((3) * (6)) + (((4)a. - (4)b. - (4)c.) * .5 * (6)) + (4)d.	1,335,176,699
(8)	Investment Gain/(Loss) for the Fiscal Year ((5) - (7))	(973,394,546)
(9)	Phased-In Recognition of Investment Gain/(Loss)	
	a. Current Fiscal Year: (.2 * (8))	(194,678,909)
	b. Prior Fiscal Year	38,368,608
	c. Second Prior Fiscal Year	(579,214,666)
	d. Third Prior Fiscal Year	(1,011,014,422)
	e. Fourth Prior Fiscal Year	<u>362,301,545</u>
	f. Total Recognized Investment Gain/(Loss) for Fiscal Year	(1,384,237,844)
(10)	Actuarial Value of Assets on September 30, 2011 (1) + (4)e. + (7) + (9)f.)	\$ 19,430,134,593

<u>Date</u>	<u>Investment Gain/(Loss)</u>	<u>Amount Recognized</u>	<u>Remaining Balance as of September 30, 2011</u>
9/30/2011	\$ (973,394,546)	\$ (194,678,909)	\$ (778,715,637)
9/30/2010	191,843,041	38,368,608	115,105,825
9/30/2009	(2,896,073,330)	(579,214,666)	(1,158,429,332)
9/30/2008	(5,055,072,108)	(1,011,014,422)	(1,011,014,422)
9/30/2007	1,811,507,725	362,301,545	0



SCHEDULE C

**SUMMARY OF RECEIPTS AND DISBURSEMENTS
FOR THE PERIOD ENDING SEPTEMBER 30, 2011**

<u>Receipts for the Period</u>		
Contributions:		
Members	\$ 323,195,572	
Employer	<u>755,944,319</u>	
Total		\$ 1,079,139,891
Investment Income		<u>357,270,473*</u>
TOTAL		\$ 1,436,410,364
<u>Disbursements for the Period</u>		
Benefit Payments		\$ 1,491,121,964
Refunds to Members		42,536,176
DROP Distributions		182,808,503
Miscellaneous:		
Transfers to Plant Fund	\$605,361	
Transfers to Expense Fund	9,092,064	
Transfers to Pre-retirement Death Benefit Fund	<u>2,046,976</u>	
Total		<u>11,744,401</u>
TOTAL		\$ 1,728,211,044
<u>Excess of Receipts over Disbursements</u>		\$ (291,800,680)
<u>Reconciliation of Asset Balances</u>		
Market Value of Assets as of September 30, 2010		\$ 16,888,881,709
Excess of Receipts over Disbursements		<u>(291,800,680)</u>
Market Value of Assets as of September 30, 2011		<u>\$ 16,597,081,029</u>

*Net of \$5,305,123 in investment expenses.



SCHEDULE D

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2010, submitted to and adopted by the Board on January 27, 2012.

INVESTMENT RATE OF RETURN: 8% per annum, compounded annually, including inflation at 3%.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.25% per annum:

Service	Annual Rate	Service	Annual Rate
0	8.25 %	6	5.00 %
1	6.50	7	4.75
2	5.75	8 to 13	4.50
3	5.50	14 to 18	4.00
4	5.25	19 & Over	3.50
5	5.00		

SEPARATIONS BEFORE SERVICE RETIREMENT: Representative values of the assumed annual rates of death, disability, and withdrawal are as follows:

Age	Death*	Annual Rate of					
		Disability		Withdrawal			
		Years of Service		Years of Service			
		0-24	25+	0-4	5-9	10-20	20+
Male							
20	0.02%	0.04%		30.00%			
25	0.02	0.05		15.68	10.00%		
30	0.03	0.05		14.25	5.40	5.00%	
35	0.05	0.10		14.25	5.40	3.00	
40	0.07	0.18		14.00	5.40	2.50	1.00%
45	0.09	0.31	0.10%	14.00	5.00	2.50	1.00
50	0.12	0.51	0.10	12.50	4.50	2.50	1.00
55	0.20	0.96	0.10	12.00	4.00	2.50	1.00
60	0.40	0.50	0.10	12.00	4.00		
65	0.77			12.00	6.00		
69	1.20			12.00	6.00		
Female							
20	0.01%	0.10%		28.50%			
25	0.01	0.10		14.00	8.00%		
30	0.01	0.10		14.00	5.80	4.00%	
35	0.02	0.15		14.00	5.00	3.00	
40	0.03	0.16		12.00	4.50	2.10	1.10%
45	0.04	0.33	0.15%	11.50	3.75	2.10	0.75
50	0.06	0.63	0.15	11.00	3.75	2.10	0.75
55	0.11	0.99	0.15	11.00	3.75	2.50	0.75
60	0.21	0.25	0.25	12.00	4.50		
65	0.40			14.00	6.00		
69	0.62			14.00	6.00		

* Rates of pre-retirement mortality are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale AA to 2015 set back one year for females with an adjustment of factor of 0.75% for males and 0.50% for females.



SERVICE RETIREMENT: The assumed annual rates of service retirement are as follows:

For members first eligible for unreduced benefits upon attaining 25 years of service but before age 65, rates are as follows:

<u>Age Group</u>	<u>Annual Rate</u>	
	<u>Male*</u>	<u>Female**</u>
47 & Under	20.0%	25.0%
48	20.0	17.0
49	20.0	16.0
50 to 52	15.0	16.0
53 to 54	14.0	16.0
55 to 59	15.0	20.0
60	15.0	15.0
61	20.0	25.0
62	35.0	35.0
63	30.0	25.0
64	25.0	30.0

*Retirement rates are increased by 7% in the year first eligible for unreduced retirement from age 50 through age 54 and by 10% from age 55 through age 60.

**Retirement rates are increased by 7% in the year first eligible for unreduced retirement from age 50 through age 54 and by 20% from age 55 through age 60.

For members first eligible for unreduced benefits before attaining 25 years of service and all members age 65 and over, the rates are as follows:

<u>Age Group</u>	<u>Annual Rate</u>		<u>Age Group</u>	<u>Annual Rate</u>	
	<u>Male</u>	<u>Female</u>		<u>Male</u>	<u>Female</u>
60	13.0%	20.0%	67	20.0%	25.0%
61	12.0	15.0	68	20.0	28.0
62	28.0	25.0	69	20.0	22.0
63	20.0	20.0	70	20.0	25.0
64	15.0	18.0	71 to 74	20.0	22.0
65	30.0	30.0	75 & Above	100.0	100.0
66	28.0	30.0			



DEATHS AFTER RETIREMENT: Rates of mortality for the period after service retirement are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale AA to 2015 set back one year for females. Rates of mortality for the period after disability retirement are according to the RP-2000 Disabled Mortality Table, adjusted for males by a factor of 0.85. Representative values of the assumed annual rates of death after retirement are as follows:

Age	Annual Rate			
	After Service Retirement		After Disability Retirement	
	Male	Female	Male	Female
35	0.07%	0.04%	1.92%	0.75%
40	0.10	0.05	1.92	0.75
45	0.12	0.08	1.92	0.75
50	0.16	0.12	2.46	1.15
55	0.27	0.21	3.01	1.65
60	0.53	0.41	3.57	2.18
65	1.03	0.80	4.26	2.80
70	1.77	1.38	5.32	3.76
75	3.06	2.26	6.98	5.22
80	5.54	3.74	9.30	7.23
85	9.97	6.35	12.04	10.02
90	17.27	11.39	15.59	14.00
95	25.96	17.74	22.74	19.45

SPOUSE'S BENEFIT: For those eligible for spouse's benefits, it is assumed that 75% will elect the lump sum death benefit payable from the death benefit fund and 25% will elect the spouse's benefit payable from the pension accumulation fund and included in the liabilities of the System.

BENEFITS PAYABLE UPON SEPARATION FROM SERVICE: For active members who separate from service prior to eligibility for a service retirement allowance, the liability is assumed to be the greater of the value of the refund of contributions and the value of the deferred annuity. Assumed refunds are reduced by 10% to account for interest accumulation adjustments which are less than the "regular" 4% rate adopted by the Board..

UNUSED SICK LEAVE: 3% load on service retirement liabilities for active members.

PERCENTAGE MARRIED: 100% of active members are assumed to be married with the husband 3 years older than the wife.

VALUATION METHOD: Individual entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability.

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 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 market value.

LIABILITY FOR CURRENT INACTIVE MEMBERS: Member Contribution Balance is multiplied by a factor of 2.0.



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 8%), of each member's expected benefit payable 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 probability of his terminating with a service, disability or survivor's benefit. Future salary increases 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 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 "individual 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 each 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 contributions are determined by subtracting the present value of prospective employer normal contributions and member contributions together with the current assets held from the present value of expected benefits to be paid from the System.



SCHEDULE F

SUMMARY OF MAIN PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

The Teachers' Retirement System of Alabama was established on September 15, 1939 and went into effect September 30, 1941. The valuation took into account amendments to the System through the valuation date. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

1 - DEFINITIONS

Average Final Compensation - the average compensation of a member for the 3 highest years in the last 10 years of Creditable Service.

Membership Service – all service rendered while a member of the retirement system and for which contributions are made.

Creditable Service – the sum of membership service, prior service, and any other service established as creditable in accordance with the provisions of the retirement law.

Annuity – payments for life derived from accumulated contributions of a member.

Pension – payments for life derived from employer contributions.

Retirement Allowance – the sum of the annuity and pension.

2 - BENEFITS

Service Retirement Allowance

Condition for Allowance

A retirement allowance is payable upon the request of any member who has completed 25 years of creditable service or who has attained age 60 and completed at least 10 years of creditable service.

Amount of Allowance

Upon service retirement a member receives a retirement allowance equal to 2.0125% of the member's average final compensation multiplied by the number of years of creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a full-time certified firefighter, police officer, or correctional officer.

The member may elect to receive a reduced retirement allowance in order to provide an allowance to a designated beneficiary after the member's death (see "Special Privileges at Retirement" below).



Disability Retirement Allowance

Condition for Allowance

A disability retirement allowance may be granted to a member who has 10 years or more of creditable service who becomes totally and permanently incapacitated for duty before reaching eligibility for a service retirement allowance.

Amount of Allowance

On retirement for disability, a member receives a retirement allowance equal to 2.0125% of the member's average final compensation multiplied by the number of years of creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a full-time certified firefighter, police officer, or correctional officer.

The member may elect to receive a reduced retirement allowance in order to provide an allowance to a designated beneficiary after the member's death (see "Special Privileges at Retirement" below).

Benefits Payable on Separation from Service

Any member who withdraws from service is entitled to receive his or her contributions with allowable interest. A member who has completed 10 years of creditable service may, after separation from service, continue in the membership of the System and file for service retirement after reaching age 60.

Benefits Payable upon Death in Active Service

In the event of the death of a member eligible for service retirement, the designated beneficiary may elect (1) to exercise Option 3 defined below under "Special Privileges at Retirement" or (2) to receive a return of member contributions and total earned interest plus a death benefit payable from the pre-retirement death benefit fund equal to the salary on which the member made retirement contributions for the previous scholastic year (July 1-June 30).*

In the event of the death of a member with more than one year of service who is not eligible to retire, the designated beneficiary shall receive the return of member contributions and total earned interest. Also, the designated beneficiary shall receive an additional death benefit payable from the pre-retirement death benefit fund equal to the salary on which retirement contributions were made for the previous scholastic year (July 1-June 30).*

In the event of a job-related death of a member with less than one year of service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a death benefit payable from the pre-retirement death benefit fund equal to the annual earnable compensation of the member at the time of death.*



In the event of the death of a member with less than one year of service that is not job-related, the designated beneficiary shall receive the return of member contributions and total earned interest plus a matching death benefit which is limited to a \$5,000 maximum.

*However, if the death occurred more than 180 calendar days after the member's last day in pay status, or if the deceased had applied for a refund of contributions or terminated employment, the lump sum will be the same as if the member had less than one year of service and the death was not job-related.

Special Privileges at Retirement

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

Option 1 - If the member dies before annuity payments have equaled the present value of the annuity at the date of retirement, the balance is paid to a designated beneficiary or to his estate, or

Option 2 - After the member's death, the member's allowance is continued throughout the life of the designated beneficiary, or

Option 3 - After the member's death, one-half of the member's allowance is continued throughout the life of the designated beneficiary, or

Option 4 - Some other benefit is paid either to the member or to such other person as the member shall designate provided such benefit, together with the reduced retirement allowance, is of equivalent actuarial value to his retirement allowance and is approved by the Board of Control.

Deferred Retirement Option Plan (DROP)

Prior to March 25, 2011, a member may elect to participate in the Deferred Retirement Option Plan (DROP) upon completion of at least 25 years of creditable service (excluding sick leave) and attainment of at least 55 years of age. Under the DROP, the member may defer receipt of a retirement allowance and continue employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member will withdraw from active service and receive the retirement benefit calculated at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits, employee contributions while participating in the DROP and interest earned on DROP deposits.

The effect of Act 2011-27 is that no new participants will be allowed to enter DROP with an effective participation date after June 1, 2011.



Term Life Insurance

Upon the death of a contributing member there is paid a term life insurance benefit of \$15,000 (pro-rated for part-time members)

Member Contributions

Prior to October 1, 2011, regular members contributed 5.0% of salary and certified police officers and firefighters contributed 6.0% of salary. DROP participants continue to contribute during the DROP period, but receive a refund of these contributions and regular interest upon retirement.

Beginning October 1, 2011, the contribution rates were increased to 7.25% for regular members and 8.25% for police officers and firefighters.

Beginning October 1, 2012, the contribution rates will increase to 7.50% for regular members and 8.50% for police officers and firefighters.

If positive investment performance results in a decrease in the total contribution rate paid by employers and employees participating in the System, the Retirement System of Alabama shall first reduce the employee contribution rate.

“Regular Interest” is 4% which is the rate adopted by the Board and applied to the balance in each member’s account every year; however, if a member receives a refund of contributions, the interest rate applied to the refund is lower than the 4% regular rate (Based on Section 16-25-14-(g)(1)).



SCHEDULE G
SCHEDULE OF MEMBERSHIP DATA
AS OF SEPTEMBER 30, 2011
NUMBER OF ACTIVE MEMBERS AND THEIR AVERAGE COMPENSATION
BY AGE AND YEARS OF SERVICE

Attained Age	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	
Under 25	877	1,461	19								2,357
Avg. Pay	30,088	27,004	26,064								28,144
25 to 29	977	7,678	2,532	20							11,207
Avg. Pay	31,283	32,234	39,908	34,349							33,889
30 to 34	662	4,782	7,596	1,545	12						14,597
Avg. Pay	36,220	34,308	43,147	47,048	35,019						40,344
35 to 39	720	4,502	5,130	5,719	1,228	7					17,306
Avg. Pay	34,793	35,585	42,301	49,451	51,569	35,337					43,259
40 to 44	491	3,922	5,011	4,617	4,941	1,182	25	1			20,190
Avg. Pay	33,134	34,536	40,098	46,860	53,932	53,471	40,488	64,983			44,565
45 to 49	388	3,108	4,406	4,092	3,333	3,635	800	20		1	19,783
Avg. Pay	34,569	34,266	37,199	42,571	50,188	54,799	54,392	53,098		94,781	43,934
50 to 54	304	2,472	3,673	3,982	3,560	3,303	2,184	884	16		20,378
Avg. Pay	35,363	36,101	36,454	40,766	46,744	52,433	57,298	56,015	52,333		44,720
55 to 59	208	1,809	2,807	3,068	3,258	3,466	963	564	72	1	16,216
Avg. Pay	29,292	37,120	37,738	41,718	44,902	50,576	54,145	60,671	49,405	85,651	44,324
60 to 64	139	1,582	1,856	1,613	1,674	1,782	474	84	33	9	9,246
Avg. Pay	37,721	49,219	39,047	41,913	44,277	51,120	52,193	56,869	57,578	68,106	45,471
65 to 69	33	673	778	614	457	463	129	26	16	12	3,201
Avg. Pay	33,420	57,329	33,019	41,942	48,487	53,921	54,187	65,628	82,139	109,722	46,729
70 & up	11	242	319	272	168	150	56	28	21	20	1,287
Avg. Pay	20,742	70,306	29,077	29,100	39,439	50,134	49,830	45,156	42,745	74,023	42,744
Total	4,810	32,231	34,127	25,542	18,631	13,988	4,631	1,607	158	43	135,768
Avg. Pay	33,072	35,463	39,804	44,567	49,010	52,524	55,350	57,629	53,838	83,500	42,776

Average Age: 44.97

Average Service: 10.46



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

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	292	\$ 7,811,443	\$ 26,752
50 – 54	1,938	52,958,646	27,326
55 – 59	5,396	146,356,736	27,123
60 – 64	14,383	348,088,228	24,201
65 – 69	14,735	332,833,389	22,588
70 – 74	10,916	238,141,378	21,816
75 – 79	8,024	160,513,949	20,004
80 – 84	5,760	108,771,472	18,884
85 – 89	2,947	50,575,116	17,162
90 – 94	1,275	19,375,373	15,196
95 & Over	401	5,703,716	14,224
Total	66,067	\$ 1,471,129,446	\$ 22,267

Average Age: 69.5

**NUMBER OF DROP PARTICIPANTS
AND THEIR BENEFITS BY AGE**

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
55 – 59	3,238	\$ 108,244,721	\$ 33,430
60 – 64	1,899	59,202,259	31,175
65 – 69	386	13,417,874	34,761
70 – 74	82	2,682,869	32,718
75 – 79	18	636,190	35,344
80 – 84	1	7,617	7,617
85 & Over	1	50,683	50,683
Total	5,625	\$ 184,242,213	\$ 32,754

Average Age: 59.7



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

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	297	\$ 2,883,310	\$ 9,708
50 – 54	168	1,673,106	9,959
55 – 59	242	3,133,720	12,949
60 – 64	391	5,484,780	14,028
65 – 69	485	8,013,967	16,524
70 – 74	512	7,746,689	15,130
75 – 79	503	7,937,153	15,780
80 – 84	552	7,932,418	14,370
85 – 89	435	5,548,454	12,755
90 – 94	210	2,292,171	10,915
95 & Over	51	403,606	7,914
Total	3,846	\$ 53,049,374	\$ 13,793

Average Age: 71.3

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

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	332	\$ 3,379,421	\$ 10,179
50 – 54	508	5,461,891	10,752
55 – 59	968	11,310,016	11,684
60 – 64	1,181	12,903,124	10,926
65 – 69	864	9,250,662	10,707
70 – 74	444	4,964,546	11,181
75 – 79	216	2,311,752	10,703
80 – 84	121	1,357,177	11,216
85 – 89	51	597,969	11,725
90 – 94	24	273,128	11,380
95 & Over	1	16,563	16,563
Total	4,710	\$ 51,826,249	\$ 11,003

Average Age: 62.2