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Teachers' Retirement System of Alabama Report of the Actuary on the Annual Valuation

Prepared as of September 30, 2004

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August 29, 2005

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, 2004 in accordance with Section 367(15) of the act governing the operation of the System. The valuation date has been changed to September 30 from June 30 to coincide with the fiscal year and to be consistent with the valuation dates for the other Retirement Systems of Alabama. After the June 30, 2003 valuation report was issued, the State Office of the Attorney General rendered an opinion that the Board of Control has the authority under Section 16-25-21(2)c1 of the Code of Alabama, to change the pension fund's actuarial funding period provided it is set at not less than ten or more than twenty years. Based on this opinion, the Board adopted a resolution on May 24, 2004 to change the funding period used to determine the contribution rate in the June 30, 2003 valuation from 10 years to 20 years. The contribution rate for the fiscal year ending September 30, 2006 was, therefore, reduced from 9.44% to 8.17% of payroll.

The purpose of this report is to provide a summary of the funded status of the system as of September 30, 2004, to recommend rates of 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. The valuation liabilities include the cost-of-living increase effective October 1, 2005 granted to retired members under Act 2005-174. On the basis of this valuation, it is recommended that the State make contributions to the Retirement System at the rate of 9.36% of payroll for the fiscal year ending September 30, 2007, based on a 20-year funding period. The increase in the contribution rate from 8.17% to 9.36% of payroll is primarily due to a recognition of asset losses and the cost of the COLA.

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 4.5% 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. All historical information that references a valuation date prior to September 30, 2004 was prepared by the previous actuarial firm.

665 Molly Lane Suite 150, Woodstock, GA 30189 Phone (678) 388-1700 • Fax (678) 388-1730 www.CavMacConsulting.com 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.

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,

Edward A. Macdonald, ASA, MAAA, FCA President

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TEACHERS' RETIREMENT SYSTEM OF ALABAMA REPORT OF THE ACTUARY ON THE ANNUAL VALUATION PREPARED AS OF SEPTEMBER 30, 2004

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, 2004	JUNE 30, 2003	
Active members Number Annual compensation	131,814 \$ 4,494,548,521	129,617 \$ 4,486,058,170	
Retired members and beneficiaries Number Annual allowances	56,466 \$ 1,006,970,482 ¹	53,552 \$ 943,580,992	
DROP participants Number Annual compensation Annual allowances	4,468 \$252,128,959 137,656,216	2,711 \$ 146,552,344 84,296,025	
Assets		2 7 7 8	
Actuarial value Market value	\$ 18,704,009,108 16,814,597,182	\$ 18,110,470,424 15,178,636,525	
Unfunded accrued liability	\$ 2,182,181,272	\$ 1,247,264,917	
CONTRIBUTIONS FOR FISCAL YEAR ENDING	September 30, 2007	September 30, 2006 ²	
Employer contribution rate Normal Accrued liability Death benefit Term life Administration Total	5.86% 3.12 0.12 0.05 <u>0.21</u> 9.36%	5.92% 3.14 0.12 0.05 <u>0.21</u> 9.44%	
Liquidation period	20 years	10 years	

¹ Does not include the COLA payable under Act 2004-174. The results of the valuation have been adjusted to include this allowance.

Revised since previous valuation to reflect State Attorney General's opinion that the Board of Control has the ability to change the actuarial funding period as provided in Code Section 16-25-21(2)c1. Accordingly, the Board adopted a resolution to change the funding period from 10 to 20 years. For the fiscal year ending September 30, 2006, the accrued liability rate was reduced from 3.14% to 1.87% and the total rate was reduced from 9.44% to 8.17%.

2. Comments on the valuation results as of September 30, 2004 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. There have been no changes since the previous valuation.
- Provisions of the System, as summarized in Schedule F, were taken into account in the current valuation. The valuation reflects the cost-of-living increase effective October 1, 2005 granted under Act 2005-174.
- 5. Section VI of this report shows the certification required from the actuary under Act 2000-732 for the increase in the contribution rate due to a retirees' cost-of-living increase or an increase in retirement benefits, and certification that there has been no change in the liquidation period used to determine the accrued liability contribution rate.

SECTION II - MEMBERSHIP

 The following table shows the number of active members and their annual compensation as of September 30, 2004 on the basis of which the valuation was prepared.

TABLE 1

GROUP	NUMBER*	COMPENSATION*
Men	34,440	\$ 1,442,617,442
Women	<u>97,374</u>	3,051,931,079
Total	131,814	\$ 4,494,548,521
	8	1

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF SEPTEMBER 30, 2004

*In addition, there are 4,468 members with compensation of \$352,128,959 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 were adjusted to take account of an additional 14,588 inactive members and members for whom incomplete data were submitted.



TABLE 2

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation <u>Date</u>	Number	Annual <u>Payroll</u>	Annual <u>Average Pay</u>	% Increase in <u>Average Pay</u>
6/30/2004 ¹	131,814	\$ 4,494,548,521	\$ 34,098	(1.50)%
6/30/2003 ²	129,617	4,486,058,170	34,610	2.78
6/30/2002 ³	128,649	4,332,119,671	33,674	1.74
6/30/2001	130,066	4,305,080,140	33,099	3.96
6/30/2000	129,777	4,131,903,775	31,838	3.03
6/30/1999	128,279	3,964,111,877	30,902	(1.54)

¹ In addition, there are 4,468 employees with annual compensation of \$352,128,959 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll. ²In addition, there are 2,711 employees with annual compensation of \$146,552,344 who are currently participating in

the DROP program. Employees of the Retirement System contribute on this payroll. ³In addition, there are 973 employees with annual compensation of \$47,063,551 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, 2004

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES
Service Retirements	50,127	\$ 942,548,021
Disability Retirements	3,599	35,892,571
Beneficiaries of Deceased Members	2,740	28,529,890
DROP Participants	4,468	137,656,216
Total	60,934	\$ 1,144,626,698

Does not include COLAs granted under Act 2005-174.

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

SECTION III - ASSETS

- 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, 2004, which represent the accumulated contributions of active members to that date, including interest, amounted to \$2,779,857,829.

(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, 2004 the market value of assets credited to this fund amounted to \$13,796,948,587.

(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, employer 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, 2004, the market value of assets credited to this Fund amounted to \$237,790,766.

(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, 2004, the market value of assets credited to this fund amounted to \$11,276,820.

2. As of September 30, 2004 the total market value of assets reported exclusive of the Pre-Retiremen

Death Benefit Fund amounted to \$16,814,597,182 as shown in the following table.

TABLE 4

FUND	MARKET VALUE OF ASSETS
Annuity Savings Fund Pension Accumulation Fund DROP Fund	\$ 2,779,857,829 13,796,948,587 <u>237,790,766</u>
Total Market Value of Assets	\$ 16,814,597,182

MARKET VALUE OF ASSETS BY FUND AS OF SEPTEMBER 30, 2004

- The five-year market related actuarial value of assets as of September 30, 2004 was \$18,704,009,108. Schedule B shows the development of the actuarial value of assets as or September 30, 2004.
- 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, 2004.
- 2. The valuation balance sheet shows that the System has total prospective liabilities of \$25,383,770,792. Of this amount, \$11,491,556,257 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and DROP participants, and \$13,892,214,535 is for the prospective benefits payable on account of present active and inactive members. Against these liabilities, the System has total present actuarial value of assets, exclusive of the Pre-Retirement Death Benefit Fund, of \$18,704,009,108 as of September 30, 2004. The difference of \$6,679,761,684 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future. Of this amount, \$2,071,250,481 is the present value of future contributions expected to be made by members to the Annuity Savings Fund, and the balance of \$4,608,511,203 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 5.86% of payroll are required to provide the benefits of the System for the average new member.
- 4. Prospective normal contributions at the rate of 5.86% have a present value of \$2,426,329,931. When this amount is subtracted from \$4,608,511,203 which is the present value of the total future contributions to be made by the employer, there remains \$2,182,181,272 as the amount of future accrued liability contributions. Accrued liability contributions of 3.12% of payroll are to be made toward liquidating the unfunded accrued liability, which includes payment for the cost-of-living benefit increase granted under Act 2005-714. Annual accrued liability contributions at the rate of 3.12% of payroll will liquidate the unfunded accrued liability within approximately 20 years from the valuation date on the assumption that the aggregate amount of accrued liability contribution will increase by 4.50% each year.
- 5. A contribution of 0.12% is required to meet the cost of the pre-retirement death benefit program this year. A contribution of 0.05% is required to meet the cost of group term-life insurance premiums.
- An additional contribution of 0.21% of payroll is required to cover the expenses of administering the System.

SECTION V - CONTRIBUTIONS PAYABLE BY EMPLOYER

- 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, 2004 it is recommended that the employer make contributions at the following rates beginning October 1, 2006:



TABLE 5

EMPLOYER CONTRIBUTION	REQUIRED FISCAL <u>YEAR 06/07</u>
Normal	5.86%
Accrued Liability	3.12
Death Benefit	0.12
Term-Life	0.05
Administration	<u>0.21</u>
Total	9.36%

EMPLOYER CONTRIBUTION RATES AS A PERCENTAGE OF MEMBERS' COMPENSATION

3. 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.

TABLE 6

ADDITIONAL RATES REQUIRED FOR SPECIAL UNITS OF THE SYSTEM

UNIT	ADDITIONAL EMPLOYER RATE	THROUGH FISCAL YEAR ENDING SEPTEMBER 30
Community Services of West Alabama	9.71%	2007
Organized Community Action Program – Troy	8.70	2007
Etowah County Community Services Program	13.50	2008
Jefferson County American Federation of Teachers	4.15	2009
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



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

- 1. We hereby certify that the increase in the contribution rate due to the cost-of-living increase granted to retirees effective October 1, 2005 under Act 2005-174 is 0.58% of payroll.
- We hereby certify that there has been no change since the previous valuation in the liquidation period of 20 years used to determine the accrued liability contribution rate of 3.12% as part of the total rate of 9.36% to be paid by employers to the Teachers' Retirement System.

Signed

Edward A. Macdonald, ASA, MAAA, FCA President



SECTION VII - ACCOUNTING INFORMATION

 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:

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	56,466
DROP participants Terminated employees entitled to	4,468
benefits but not yet receiving benefits	14,588
Active members	<u>131,814</u>
Total	207,336

NUMBER OF ACTIVE AND RETIRED MEMBERS AS OF SEPTEMBER 30, 2004

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

SCHEDULE OF FUNDING PROGRESS

(Dollar amounts in thousands)

Actuarial Valuation <u>Date</u>	Actuarial Value of Assets <u>(a)</u>	Actuarial Accrued Liability (AAL) Entry Age <u>(b)</u>	Unfunded AAL (UAAL) <u>(b-a)</u>	Funded Ratio <u>(a / b)</u>	Covered Payroll <u>(c)</u>	UAAL as a Percentage of Covered Payroll <u>((b-a)/c)</u>
6/30/1999	\$15,642,066	\$15,568,192	\$ (73,874)	100.5%	\$3,964,112	(1.9)%
6/30/2000	16,703,929	16,291,462	(412,467)	102.5	4,131,904	(10.0)
6/30/2001	17,475,298	17,238,616	(236,682)	101.4	4,305,080	(5.5)
6/30/2002	17,904,881	18,374,174	469,293	97.4	4,379,183	10.7
6/30/2003	18,110,470	19,357,735	1,247,265	93.6	4,632,611	26.9
9/30/2004	18,704,009	20,886,190	2,182,181	89.6	4,846,677	45.0

3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at September 30, 2004. Additional information as of the latest actuarial valuation follows.

Valuation date	9/30/2004	
Actuarial cost method	Entry age	
Amortization method	Level percent open	
Remaining amortization period	20 years	
Asset valuation method	Five-year market related value	
Actuarial assumptions:		
Investment rate of return*	8.00%	
Projected salary increases*	5.00 - 7.75%	
Cost-of-living adjustments	None	
*Includes inflation at	4.50%	

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

Period <u>Ending</u>	Annual Pension Cost <u>(APC)</u>	Percentage Of APC <u>Contributed</u>	Net Pension Obligation <u>(NPO)</u>
June 30, 2003	\$250,629	100%	\$0
June 30, 2004	225,651	100	0
September 30, 2005	348,773	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, 2004

	SEPTEMBER 30, 2004	JUNE 30, 2003						
ASSETS								
Actuarial Value of Present Assets	\$ 18,704,009,108	\$ 18,110,470,424						
Present value of future members' contributions to the Annuity Savings Fund	\$ 2,071,250,481	\$ 1,940,431,669						
Present value of future employer contributions to the Pension Accumulation Fund								
Normal contributions Unfunded accrued liability contributions	\$ 2,426,329,931 2,182,181,272	\$ 2,296,200,872 1,247,264,917						
Total prospective employer contributions	\$ 4,608,511,203	\$ 3,543,465,789						
Total Assets	<u>\$25,383,770,792</u>	<u>\$23,594,367,882</u>						
LIAE	BILITIES							
Present value of benefits payable on account of retired members, beneficiaries of deceased members now drawing retirement allowances, and DROP participants	\$ 11,491,556,257	\$ 9,548,773,410						
Present value of prospective benefits payable on account of present active and inactive members: Service retirement allowances Disability retirement allowances Survivor allowances Refunds of members' contributions	\$ 12,988,741,455 450,632,917 111,271,551 <u>341,568,072</u>	\$ 13,256,569,568 429,737,248 86,872,843 272,414,813						
Total	\$ 13,892,214,535	\$ 14,045,594,472						
Total Liabilities	<u>\$25,383,770,792</u>	<u>\$23,594,367,882</u>						

SCHEDULE A (continued)



SOLVENCY TEST (\$1000's)

		Portion of Accrued Liabilities Covered by Reported Asset					
Valuation Date	(1) (2) Active Retirants on Member and Contributions Beneficiaries		(3) Active Members (Employer Financed Portion)	Reported Assets	(1)	(2)	(3)
9/30/2004 ¹	\$2,779,858	\$11,491,556	\$6,614,776	\$18,704,009	100%	100%	67.0%
6/30/2003	2 750 536	9 548 773	7 058 426	18 110 470	100	100	82.3
6/30/2002 ²	2,690,967	8,526,609	7,156,598	17,904,881	100	100	93.4
6/30/2001 ³	2,607,236	7,471,415	7,159,965	17,475,298	100	100	103.3
6/30/2000	2,405,186	7,075,177	6,811,099	16,703,929	100	100	106.1
6/30/1999⁴	2,335,475	6,582,401	6,650,316	15,642,066	100	100	101.1

¹ Reflects additional allowance payable under Act 2005-174.
 ² Reflects effect of amendments to the System and additional allowance payable under Act 2002-393. Beginning 6/30/2004, Item (1) and Item (2) include DROP Participants.
 ³ Reflects changes in actuarial assumptions.
 ⁴ Reflects additional allowance payable under Act 2000-741.

SCHEDULE B



DEVELOPMENT OF SEPTEMBER 30, 2004 ACTUARIAL VALUE OF ASSETS

Actuarial Value of Assets on June 30, 2003	\$	18,110,470,424
7/1/03 – 9/30/03 Net Cash Flow a. Contributions b. Disbursements c. Net Cash Flow		121,706,810 247,747,385
(2)a - (2)0		(120,040,073)
$[(1) \times .02] + [(2)c \times .01]$		360,949,003
Expected Actuarial Value of Assets on September 30, 2003 (1) + (2)c + (3)		18,345,378,852
Market Value of Assets on September 30, 2003		15,648,323,814
Excess of Market Value over Expected Actuarial Value (5) - (4)		(2,697,055,038)
5% Adjustment towards Market Value .05 x (6)		(134,852,752)
Actuarial Value of Assets on September 30, 2003 (4) + (7)	\$	18,210,526,100
 10/1/03 – 9/30/04 Net Cash Flow a. Contributions b. Disbursements c. Net Cash Flow (9)a – 9(b) 		548,311,671 1,020,432,920 (472,121,249)
Expected Investment Return [(8) x .08] + [(9)c x .04]		1,437,957,238
Expected Actuarial Value of Assets on September 30, 2004 (8) + (9)c + (10)		19,176,362,089
Market Value of Assets on September 30, 2004		16,814,597,182
Excess of Market Value over Expected Actuarial Value (12) – (11)		(2,361,764,907)
20% Adjustment toward Market Value .20 x (13)		(472,352,981)
Actuarial Value as of September 30, 2004 (11) + (14)	\$	18,704,009,108
Rate of Return		6.69%
	Actuarial Value of Assets on June 30, 2003 7/1/03 – 9/30/03 Net Cash Flow a. Contributions b. Disbursements c. Net Cash Flow (2)a - (2)b Expected Investment Return [(1) × .02] + [(2) $c \times .01$] Expected Actuarial Value of Assets on September 30, 2003 (1) + (2) $c + (3)$ Market Value of Assets on September 30, 2003 Excess of Market Value over Expected Actuarial Value (5) - (4) 5% Adjustment towards Market Value .05 × (6) Actuarial Value of Assets on September 30, 2003 (4) + (7) 10/1/03 - 9/30/04 Net Cash Flow a. Contributions b. Disbursements c. Net Cash Flow (9)a - 9(b) Expected Investment Return [(8) × .08] + [(9) $c \times .04$] Expected Actuarial Value of Assets on September 30, 2004 (8) + (9) $c + (10)$ Market Value of Assets on September 30, 2004 Excess of Market Value over Expected Actuarial Value (2) $- (11)$ 20% Adjustment toward Market Value .20 × (13) Actuarial Value as of September 30, 2004 (11) + (14) Rate of Return	Actuarial Value of Assets on June 30, 2003\$7/1/03 - 9/30/03 Net Cash Flow a. Contributions b. Disbursements c. Net Cash Flow $(2)a - (2)b$ -Expected Investment Return $[(1) \times .02] + [(2)c \times .01]$ -Expected Actuarial Value of Assets on September 30, 2003 $(1) + (2)c + (3)$ -Market Value of Assets on September 30, 2003-Excess of Market Value over Expected Actuarial Value $(5) - (4)$ \$5% Adjustment towards Market Value $.05 \times (6)$ \$Actuarial Value of Assets on September 30, 2003 $(4) + (7)$ \$10/1/03 - 9/30/04 Net Cash Flow a. Contributions b. Disbursements c. Net Cash Flow $(9)a - 9(b)$ \$Expected Actuarial Value of Assets on September 30, 2004 $(8) + (9)c + (10)$ \$Market Value of Assets on September 30, 2004 $(8) + (9)c + (10)$ \$Market Value of Assets on September 30, 2004 $(12) - (11)$ \$20% Adjustment toward Market Value $.20 \times (13)$ \$Actuarial Value as of September 30, 2004 $(11) + (14)$ \$Rate of Return\$

SCHEDULE C



SUMMARY OF RECEIPTS AND DISBURSEMENTS FOR THE PERIOD ENDING SEPTEMBER 30, 2004

Receipts for the Period		
Contributions: Members Employer	\$ 321,245,683 348,772,798	
Total		\$ 670,018,481
Investment Income		2,234,122,480
TOTAL		\$ 2,904,140,961
Disbursements for the Period		
Benefit Payments Refunds to Members DROP Distributions Miscellaneous: Transfers to Expense Fund	\$ 2,107,755	\$ 1,225,414,677 37,020,487 3,332,702
Transfers to Pre-Retirement Death Benefit Fund	304,684	
Total		2,412,439
TOTAL		\$ 1,268,180,305
Excess of Receipts over Disbursements		\$ 1,635,960,656
Reconciliation of Asset Balances		
Market Value of Assets as of June 30, 2003		\$ 15,178,636,525
Excess of Receipts over Disbursements		1,635,960,656
Market Value of Assets as of September 30, 2004		<u>\$ 16,814,597,181</u>
Rate of Return on Market Value of Assets		15.01%

SCHEDULE D

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were selected by the prior actuarial firm based on the actuarial experience study prepared as of June 30, 2000, submitted on November 14, 2001, and adopted by the Board in January 2002.

INVESTMENT RATE OF RETURN: 8% per annum, compounded annually.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include inflation at 4.50% per annum:

<u>Age</u>	Annual Rate
20	7.25%
25	7.25
30	7.75
35	7.00
40	6.50
45	6.25
50	6.00
55	5.50
60	5.00
65	5.00

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

Annual Rate of						
Death	Disability	Withdrawal*				
	Male					
0.05% 0.06 0.08	0.05% 0.06 0.07	23.83% 11.59 7.86				
0.08 0.09 0.14	0.12 0.14 0.24	6.08 4.78 3.75				
0.21 0.36 0.63	0.61 1.35 2.50	2.82 1.85 1 41				
1.15 1.80	2.00					
	Female					
0.03% 0.03 0.04 0.06 0.09 0.12 0.19 0.34 0.67 1.08	0.07% 0.07 0.10 0.16 0.32 0.65 0.95 1.89	23.83% 11.14 7.93 6.08 4.35 3.71 2.57 2.07 1.95				
	Death 0.05% 0.06 0.08 0.09 0.14 0.21 0.36 0.63 1.15 1.80 0.03% 0.03 0.03 0.03 0.04 0.06 0.09 0.12 0.19 0.34 0.67 1.08	$\begin{tabular}{ c c c c } \hline Annual Rate of \\ \hline Death & Disability \\ \hline Male \\ 0.05\% & 0.05\% \\ 0.06 & 0.06 \\ 0.08 & 0.07 \\ 0.08 & 0.12 \\ 0.09 & 0.14 \\ 0.14 & 0.24 \\ 0.21 & 0.61 \\ 0.36 & 1.35 \\ 0.63 & 2.50 \\ 1.15 \\ 1.80 \\ \hline \hline Female \\ \hline 0.03\% & 0.07\% \\ 0.03 & 0.07 \\ 0.03 & 0.07 \\ 0.03 & 0.07 \\ 0.03 & 0.07 \\ 0.04 & 0.10 \\ 0.06 & 0.16 \\ 0.09 & 0.32 \\ 0.12 & 0.65 \\ 0.19 & 0.95 \\ 0.34 & 1.89 \\ 0.67 \\ 1.08 \\ \hline \end{tabular}$				

*Withdrawal rates are higher during first three years of service.

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

For members first eligible for unreduced benefits before age 50 or after age 60, rates are as follows:

	Annu	al Rate
<u>Age</u>	Male ¹	Female ²
45	7.0%	4.0%
50	12.0	8.0
55	45.0	45.0
60	15.0	15.0
62	35.0	35.0
65	40.0	40.0
70	100.0	100.0

¹ Retirement rates are increased by 10% in year when member first becomes eligible for unreduced service retirement.

² Retirement rates are increased by 20% in year when member first becomes eligible for unreduced service retirement.

For members first eligible for unreduced benefits on or after age 50 but before age 60, no withdrawal or retirement is assumed to occur for the five years prior to DROP eligibility and 45% are assumed to retire in the first year eligible for DROP participation. The rates, thereafter, are as follows:

	Annua	Annual Rate					
<u>Age</u>	Male	Female					
58	15.0%	15.0%					
60	15.0	15.0					
62	35.0	35.0					
65	40.0	40.0					
70	100.0	100.0					

DEATHS AFTER RETIREMENT: Rates of mortality for the period after service retirement are according to the 1982 George B. Buck Men Teachers Mortality Study Table set back one year for males and the UP94 Mortality Table set back one year for females. Special tables are used for the period after disability retirement. Representative values of the assumed annual rates of death after service and disability retirement are as follows:



	Annual Rate of Death after					
	Service R	tetirement	Disability	Retirement		
<u>Age</u>	Male	Female	Male	<u>Female</u>		
40	0.1%	0.1%	3.3%	2.6%		
50	0.3	0.1	3.8	2.5		
55	0.5	0.2	4.2	2.7		
60	0.8	0.4	4.9	3.0		
65	1.5	0.8	6.0	3.4		
70	2.6	1.4	7.6	4.1		
75	3.9	2.2	10.2	5.2		
80	5.9	3.8	14.2	6.8		
85	9.2	6.6	20.1	9.5		
90	14.3	11.2	28.7	13.5		
95	20.5	18.4	40.4	19.4		

SPOUSE'S BENEFIT: For those eligible for spouse's benefits, it is assumed that 75% will elect the lump sum death benefit and 25% will elect the spouse's benefit.

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

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

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 "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 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



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



Amount of Allowance

Benefits Payable on Separation from Service

Benefits Payable upon Death in Active Service 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.

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 fulltime 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).

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.

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 preretirement 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.

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.

A member may elect to participate in the Deferred Retirement Option Plan (DROP) upon completion of at least 25 years of creditable service 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 would withdraw from active service and receive the retirement benefit based on his or her years of service credit at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits including interest.

Regular members contribute 5% of salary. Certified police officers and firefighters contribute 6% of salary. DROP participants continue to contribute during the DROP period, but receive a refund of these contributions and interest upon retirement.

Special Privileges at Retirement

Deferred Retirement Option Plan (DROP)

Member Contributions



<u>Schedule G</u>

Schedule of Active Participant Data as of September 30, 2004

A 44 a to a 3					Complex	od Voore o	fSorvine				
Attained Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	2,141	2,189	22	0	0	0	0	0	0	0	4,352
Avg.Pay	22,351	23,997	22,069	0	0	0	0	0	0	0	23,177
25 to 20	1 002	7 635	2 156	22	0	Λ	0	0	0	0	12,105
25 to 29 Avg Pav	23 176	28 798	34 130	29.846	0	0	0	0	0	0	28,957
n v g.r u y	23,110	20,790	51,150	2,010	, in the second s	_	,				
30 to 34	1,534	5,355	6,863	1,880	23	0	0	0	0	0	15,655
Avg.Pay	22,944	29,133	36,140	39,223	30,637	0	0	0	0	0	32,812
25 4 20	1.265	4 (00	4 (21	4 510	1 459	41	0	0	0	0	16 606
35 to 39	1,207	4,090	4,031 33,80/	30 008	1,450	32 207	0	0	0	0	33 461
Avg.1 ay	21,071	27,910	55,674	37,700	40,214	52,207	v	v	Ŭ	Ŭ	
40 to 44	1,170	4,553	4,905	3,729	3,574	1,434	56	0	0	0	19,421
Avg.Pay	20,841	27,166	31,282	37,426	40,746	41,518	32,877	0	0	0	33,370
											22 226
45 to 49	903	3,750	4,495	4,153	3,641	3,552	2,015	27	0	0	22,536
Avg.Pay	21,345	27,504	31,117	36,799	40,602	44,522	45,240	38,707	U	0	50,089
50 to 54	657	2.714	3.283	3,567	3.617	2,790	3,067	1,174	8	0	20,877
Avg.Pay	23,937	28,997	30,467	36,109	39,077	43,929	48,079	51,588	60,087	0	38,112
Ű,											
55 to 59	364	1,695	2,066	2,396	2,712	2,390	820	423	53	0	12,919
Avg.Pay	21,339	28,754	30,669	35,256	38,237	41,288	45,918	55,268	64,410	0	36,471
60 to 64	175	773	003	055	057	842	375	107	64	18	5,259
ου το 04 Δνα Ραν	19 653	26 638	30 535	36 036	39 025	39.756	37.217	58.537	63.997	62,768	35,184
71 v g.1 uy	17,055	20,000	50,555	50,050	55,020		2 · ,== · ·	,	,		,
65 & up	56	261	343	307	233	146	90	39	21	18	1,514
Avg.Pay	13,712	20,707	22,983	32,061	37,494	44,878	29,130	58,452	63,294	66,908	30,794
	10		1 40			50	25	12	5	10	570
70 & up	10 272	22 510	140	114	94 20 555	20 541	24 260	36 577	5 26 014	81 443	570 24 558
Avg.ray	19,373	22,319	10,340	21,773	29,333	27,741	27,209	50,577	20,014	01,775	27,550
Total	10,259	33,615	30,057	21,528	16,215	11,195	6,423	1,770	146	36	131,814
Avg.Pay	22,262	28,013	32,830	37,494	39,883	43,032	46,012	53,112	64,722	87,461	34,098

Average Age: 43.8

Average Service: 10.2