



Retirement Systems
of Alabama

**Teachers' Retirement System of Alabama
Report of the Actuary on the Annual Valuation
Prepared as of September 30, 2006**



Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

August 22, 2007

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, 2006 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, 2006, 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. Since the previous valuation, the assumed rates of withdrawal, disability, retirement and mortality have been revised to reflect the results of the experience investigation for the five-year period ending September 30, 2005. On the basis of this valuation, it is recommended that the State make contributions to the Retirement System at the rate of 12.07% of payroll for the fiscal year ending September 30, 2009, based on a 20-year funding period. The increase in the contribution rate from 11.06% to 12.07% of payroll is primarily due to a recognition of asset losses and the cost of the assumption changes.

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 4.50% 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.

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,

A handwritten signature in blue ink, appearing to read 'E. Macdonald', written in a cursive style.

Edward A. Macdonald, ASA, FCA, MAAA
President

A handwritten signature in blue ink, appearing to read 'Cathy Turcot', written in a cursive style.

Cathy Turcot
Managing Director

EAM/CT:mjn



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**TEACHERS' RETIREMENT SYSTEM OF ALABAMA
REPORT OF THE ACTUARY ON THE ANNUAL VALUATION
PREPARED AS OF SEPTEMBER 30, 2006**

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, 2006 | September 30, 2005 |
|---|---------------------------|---------------------------|
| Active members | | |
| Number | 138,613 | 135,126 |
| Annual compensation* | \$ 5,108,187,755 | \$ 4,733,415,807 |
| Retired members and beneficiaries | | |
| Number | 61,393 | 59,523 |
| Annual allowances* | \$ 1,234,407,241 | \$ 1,068,513,540 |
| DROP participants | | |
| Number | 5,375 | 4,839 |
| Annual compensation* | \$ 350,255,378 | \$ 291,497,474 |
| Annual allowances | 164,959,410 | 142,135,581 |
| Assets | | |
| Actuarial value | \$ 19,821,133,268 | \$ 19,248,206,549 |
| Market value | 19,157,765,669 | 18,131,706,069 |
| Unfunded accrued liability | \$ 4,123,966,699 | \$ 3,779,130,771 |
| CONTRIBUTIONS FOR FISCAL YEAR ENDING | September 30, 2009 | September 30, 2008 |
| Employer contribution rate | | |
| Normal | 6.45% | 5.76% |
| Accrued liability | 5.24 | 4.92 |
| Death benefit | 0.12 | 0.12 |
| Term life | 0.05 | 0.05 |
| Administration | <u>0.21</u> | <u>0.21</u> |
| Total | 12.07% | 11.06% |
| Liquidation period | 20 years | 20 years |

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

2. Comments on the valuation results as of September 30, 2006 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, the assumed rates of withdrawal, disability, retirement and mortality have been revised to reflect the results of the experience investigation for the five-year period ending September 30, 2005.



4. Provisions of the System, as summarized in Schedule F, were taken into account in the current valuation. There have been no changes since the previous valuation.
5. Section VI of this report shows the certification that there has been no change in the liquidation period used to determine the accrued liability contribution rate.

SECTION II - MEMBERSHIP

1. The following table shows the number of active members and their annual compensation as of September 30, 2006 on the basis of which the valuation was prepared.

TABLE 1

**THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS AS OF SEPTEMBER 30, 2006**

| GROUP | NUMBER* | COMPENSATION* |
|---------|----------------|----------------------|
| Males | 35,907 | \$ 1,622,176,705 |
| Females | <u>102,706</u> | <u>3,486,011,050</u> |
| Total | 138,613 | \$ 5,108,187,755 |

*In addition, there are 5,375 members with compensation of \$350,255,378 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 16,913 inactive members and members for whom incomplete data were submitted.



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> |
|------------------------|---------------|-----------------------|---------------------------|----------------------------------|
| 9/30/2006 ¹ | 138,613 | \$ 5,108,187,755 | \$ 36,852 | 5.20% |
| 9/30/2005 ² | 135,126 | 4,733,415,807 | 35,030 | 2.73 |
| 9/30/2004 ³ | 131,814 | 4,494,548,521 | 34,098 | (1.48) |
| 6/30/2003 ⁴ | 129,617 | 4,486,058,170 | 34,610 | 2.78 |
| 6/30/2002 ⁵ | 128,649 | 4,332,119,671 | 33,674 | 1.74 |
| 6/30/2001 | 130,066 | 4,305,080,140 | 33,099 | 3.96 |

¹ 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.

² In addition, there are 4,839 employees with annual compensation of \$291,497,474 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

³ In addition, there are 4,468 employees with annual compensation of \$252,128,959 who are currently participating in the DROP program. Employers of the Retirement System contribute on this payroll.

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

⁵ In 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, 2006

| GROUP | NUMBER | ANNUAL RETIREMENT ALLOWANCES |
|-----------------------------------|---------------|-------------------------------------|
| Service Retirements | 54,286 | \$ 1,151,849,997 |
| Disability Retirements | 3,947 | 43,328,915 |
| Beneficiaries of Deceased Members | 3,160 | 39,228,329 |
| DROP Participants | <u>5,375</u> | <u>164,959,410</u> |
| Total | 66,768 | \$ 1,399,366,651 |



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

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, 2006, which represent the accumulated contributions of active members to that date, including interest, amounted to \$2,943,588,389.

- (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, 2006 the market value of assets credited to this fund amounted to \$15,745,763,943.

- (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, 2006, the market value of assets credited to this Fund amounted to \$468,413,337.

- (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, 2006, the market value of assets credited to this fund amounted to \$15,619,986.



- As of September 30, 2006 the total market value of assets reported exclusive of the Pre-Retirement Death Benefit Fund amounted to \$19,157,765,669 as shown in the following table.

TABLE 4
MARKET VALUE OF ASSETS BY FUND
AS OF SEPTEMBER 30, 2006

| FUND | MARKET VALUE OF ASSETS |
|------------------------------|------------------------|
| Annuity Savings Fund | \$ 2,943,588,389 |
| Pension Accumulation Fund | 15,745,763,943 |
| DROP Fund | <u>468,413,337</u> |
| Total Market Value of Assets | \$ 19,157,765,669 |

- The five-year market related actuarial value of assets as of September 30, 2006 was \$19,821,133,268. Schedule B shows the development of the actuarial value of assets as of September 30, 2006
- 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

- 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, 2006.
- The valuation balance sheet shows that the System has total prospective liabilities of \$29,205,523,165. Of this amount, \$13,408,294,457 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and DROP participants, and \$15,797,228,708 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 \$19,821,133,268 as of September 30, 2006. The difference of \$9,384,389,897 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, \$2,297,792,876 is the present value of future contributions expected to be made by members to the Annuity Savings Fund, and the balance of \$7,086,597,021 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 6.45% of payroll are required to provide the benefits of the System for the average new member.
4. Prospective normal contributions at the rate of 6.45% have a present value of \$2,962,630,322. When this amount is subtracted from \$7,086,597,021 which is the present value of the total future contributions to be made by the employer, there remains \$4,123,966,699 as the amount of future accrued liability contributions. Accrued liability contributions of 5.24% of payroll are to be made toward liquidating the unfunded accrued liability. Annual accrued liability contributions at the rate of 5.24% 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.
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, 2006 it is recommended that the employer make contributions at the following rates beginning October 1, 2008:



TABLE 5
EMPLOYER CONTRIBUTION RATES
AS A PERCENTAGE OF MEMBERS' COMPENSATION

| <u>EMPLOYER CONTRIBUTION</u> | <u>REQUIRED FISCAL YEAR 08/09</u> |
|------------------------------|-----------------------------------|
| Normal | 6.45% |
| Accrued Liability | 5.24 |
| Death Benefit | 0.12 |
| Term-Life | 0.05 |
| Administration | <u>0.21</u> |
| Total | 12.07% |

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 |



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 20 years used to determine the accrued liability contribution rate of 5.24% as part of the total rate of 12.07% to be paid by employers to the Teachers' Retirement System of Alabama.

Signed

A handwritten signature in blue ink, appearing to read 'E. McDonald'.

Edward A. McDonald, 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 \$344,835,928 in the unfunded accrued liability from \$3,779,130,771 to \$4,123,966,699 during the year ending September 30, 2006.

ANALYSIS OF FINANCIAL EXPERIENCE (in millions of dollars)

| ITEM | AMOUNT OF INCREASE/ (DECREASE) |
|---|--------------------------------------|
| Interest (8.00%) added to previous unfunded accrued liability | \$ 302.3 |
| Accrued liability contribution | (99.4) |
| Experience: | |
| Valuation asset growth | 383.2 |
| Pensioners' mortality | (25.7) |
| Turnover and retirements | 50.6 |
| New entrants | 47.3 |
| Salary increases | (474.2) |
| Method changes | 0.0 |
| Amendments | 0.0 |
| Assumption changes | 160.7 |
| Total | \$ 344.8 |



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, 2006**

| GROUP | NUMBER |
|--|----------------|
| Retirees and beneficiaries currently receiving benefits | 61,393 |
| DROP participants | 5,375 |
| Terminated employees entitled to benefits but not yet receiving benefits | 16,913 |
| Active members | <u>138,613</u> |
| Total | 222,294 |

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

SCHEDULE OF FUNDING PROGRESS
(Dollar amounts in thousands)

| <u>Actuarial Valuation Date</u> | <u>Actuarial Value of Assets (a)</u> | <u>Actuarial Accrued Liability (AAL) Entry Age (b)</u> | <u>Unfunded AAL (UAAL) (b - a)</u> | <u>Funded Ratio (a / b)</u> | <u>Covered Payroll (c)</u> | <u>UAAL as a Percentage of Covered Payroll ((b - a) / c)</u> |
|---------------------------------|--------------------------------------|--|------------------------------------|-----------------------------|----------------------------|--|
| 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 |
| 9/30/2005 | 19,248,207 | 23,027,338 | 3,779,131 | 83.6 | 5,326,408* | 71.0 |
| 9/30/2006 | 19,821,133 | 23,945,100 | 4,123,967 | 82.8 | 5,458,443 | 75.6 |

*Includes pay increase granted under Act 2005-174.



3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at September 30, 2006. Additional information as of the latest actuarial valuation follows.

| | |
|-------------------------------|--------------------------------|
| Valuation date | 09/30/2006 |
| Actuarial cost method | Entry Age Normal |
| 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 Ending | Annual Pension Cost (APC) | Percentage Of APC Contributed | Net Pension Obligation (NPO) |
|----------------------|----------------------------------|--------------------------------------|-------------------------------------|
| September 30, 2004 | \$348,773 | 100% | \$0 |
| September 30, 2005 | 329,194 | 100 | 0 |
| September 30, 2006 | 413,975 | 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, 2006**

| | September 30, 2006 | September 30, 2005 |
|---|---------------------------|---------------------------|
| <u>ASSETS</u> | | |
| Actuarial Value of Present Assets | \$ 19,821,133,268 | \$ 19,248,206,549 |
| Present value of future members' contributions to the Annuity Savings Fund | \$ 2,297,792,876 | \$ 2,317,142,173 |
| Present value of future employer contributions to the Pension Accumulation Fund | | |
| Normal contributions | \$ 2,962,630,322 | \$ 2,667,980,884 |
| Unfunded accrued liability contributions | <u>4,123,966,699</u> | <u>3,779,130,771</u> |
| Total prospective employer contributions | \$ 7,086,597,021 | \$ 6,447,111,655 |
| Total Assets | <u>\$ 29,205,523,165</u> | <u>\$ 28,012,460,377</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 | \$ 13,408,294,457 | \$ 12,998,138,145 |
| Present value of prospective benefits payable on account of present active and inactive members: | | |
| Service retirement allowances | \$ 14,824,486,911 | \$ 14,024,427,074 |
| Disability retirement allowances | 473,818,464 | 494,403,924 |
| Survivor allowances | 130,049,517 | 120,828,899 |
| Refunds of members' contributions | <u>368,873,816</u> | <u>374,662,335</u> |
| Total | \$ 15,797,228,708 | \$ 15,014,322,232 |
| Total Liabilities | <u>\$ 29,205,523,165</u> | <u>\$ 28,012,460,377</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) |
| 9/30/2006 ¹ | \$2,943,588 | \$13,408,294 | \$7,593,218 | \$19,821,133 | 100% | 100% | 45.7% |
| 9/30/2005 ² | 2,856,983 | 12,998,138 | 7,172,217 | 19,248,207 | 100 | 100 | 47.3 |
| 9/30/2004 ³ | 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 ⁴ | 2,690,967 | 8,526,609 | 7,156,598 | 17,904,881 | 100 | 100 | 93.4 |
| 6/30/2001 ¹ | 2,607,236 | 7,471,415 | 7,159,965 | 17,475,298 | 100 | 100 | 103.3 |

¹ Reflects changes in actuarial assumptions.

² Reflects pay increase payable under Act 2005-174 and additional allowance payable under Act 2006-310.

³ Reflects additional allowance payable under Act 2005-174.

⁴ Reflects effect of amendments to the System and additional allowance payable under Act 2002-393. Beginning 6/30/2002, Item (1) and Item (2) include DROP Participants.



SCHEDULE B

DEVELOPMENT OF SEPTEMBER 30, 2006 ACTUARIAL VALUE OF ASSETS

| | | |
|------|--|----------------------|
| (1) | Actuarial Value of Assets on September 30, 2005 | \$ 19,248,206,549 |
| (2) | Market Value of Assets on September 30, 2006 | 19,157,765,669 |
| (3) | Market Value of Assets on September 30, 2005 | 18,131,706,069 |
| (4) | Net Cash Flow During the Fiscal Year | |
| | a. Contributions | 695,431,027 |
| | b. Benefit Payments | 1,254,511,889 |
| | c. Administrative Expenses | 2,165,599 |
| | d. Investment Expenses | 1,271,470 |
| | e. Net Cash Flow (a. - b. - c. - d.) | <u>(562,517,931)</u> |
| (5) | Actual Investment Return ((2) - (3) - (4)e.) | 1,588,577,531 |
| (6) | Assumed Rate of Return on Assets | 8.00% |
| (7) | Expected Investment Return ((1) * (6)) + (((4)a. - (4)b. - (4)c.) * .5 * (6)) + (4)d. | 1,518,678,136 |
| (8) | Investment Gain/(Loss) for the Fiscal Year ((5) - (7)) | 69,899,395 |
| (9) | Phased-In Recognition of Investment Gain/(Loss) | |
| | a. Current Fiscal Year (.2 * (8)) | 13,979,879 |
| | b. Prior Fiscal Year | 75,139,616 |
| | c. Second Prior Fiscal Year | (472,352,981) |
| | d. Third Prior Fiscal Year | 0 |
| | e. Fourth Prior Fiscal Year | 0 |
| | f. Total Recognized Investment Gain/(Loss) for Fiscal Year | <u>(383,233,486)</u> |
| (10) | Actuarial Value of Assets on September 30, 2006 ((1) + (4)e. + (7) + (9)f.) | \$ 19,821,133,268 |



SCHEDULE C

**SUMMARY OF RECEIPTS AND DISBURSEMENTS
FOR THE PERIOD ENDING SEPTEMBER 30, 2006**

| | | |
|---|--------------------|--------------------------|
| <u>Receipts for the Period</u> | | |
| Contributions: | | |
| Members | \$ 281,455,579 | |
| Employer | <u>413,975,448</u> | |
| Total | | \$ 695,431,027 |
| Investment Income | | <u>1,587,306,061</u> |
| TOTAL | | \$ 2,282,737,088 |
| <u>Disbursements for the Period</u> | | |
| Benefit Payments | | \$ 1,138,254,146 |
| Refunds to Members | | 32,733,133 |
| DROP Distributions | | 69,129,023 |
| Miscellaneous: | | |
| Transfers to Plant Fund | \$13,587,460 | |
| Transfers to Expense Fund | 2,165,599 | |
| Transfers to Pre-Retirement Death Benefit Fund | <u>808,127</u> | |
| Total | | <u>16,561,186</u> |
| TOTAL | | \$ 1,256,677,488 |
| <u>Excess of Receipts over Disbursements</u> | | \$ 1,026,059,600 |
| <u>Reconciliation of Asset Balances</u> | | |
| Market Value of Assets as of September 30, 2005 | | \$ 18,131,706,069 |
| Excess of Receipts over Disbursements | | <u>1,026,059,600</u> |
| Market Value of Assets as of September 30, 2006 | | <u>\$ 19,157,765,669</u> |
| Rate of Return on Market Value of Assets | | 8.89% |



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, 2005, submitted to and adopted by the Board on May 21, 2007.

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> | <u>Annual Rate</u> |
|------------|--------------------|
| 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:

| <u>Age</u> | <u>Death</u> | <u>Disability</u> | <u>Annual Rate of</u> | | | |
|------------|--------------|-------------------|-------------------------|------------|--------------|------------|
| | | | <u>Withdrawal</u> | | | |
| | | | <u>Years of Service</u> | | | |
| | | | <u>0-4</u> | <u>5-9</u> | <u>10-20</u> | <u>20+</u> |
| | | <u>Male</u> | | | | |
| 20 | 0.05% | 0.05% | 30.00% | | | |
| 25 | 0.07 | 0.06 | 16.50 | 12.00% | | |
| 30 | 0.08 | 0.07 | 15.00 | 5.50 | 5.50% | |
| 35 | 0.09 | 0.13 | 15.00 | 5.50 | 3.00 | |
| 40 | 0.11 | 0.20 | 14.50 | 5.50 | 3.00 | 1.25% |
| 45 | 0.16 | 0.21 | 14.50 | 5.25 | 3.00 | 1.00 |
| 50 | 0.26 | 0.64 | 12.00 | 4.50 | 3.00 | 1.00 |
| 55 | 0.44 | 1.20 | 11.50 | 4.00 | 2.25 | 1.00 |
| 60 | 0.80 | | 10.00 | 4.00 | | |
| 65 | 1.45 | | 10.00 | 6.00 | | |
| 69 | 2.17 | | 10.00 | 6.00 | | |
| | | <u>Female</u> | | | | |
| 20 | 0.03% | 0.10% | 30.00% | | | |
| 25 | 0.03 | 0.10 | 14.50 | 8.00% | | |
| 30 | 0.04 | 0.10 | 14.50 | 6.00 | 4.00% | |
| 35 | 0.05 | 0.15 | 13.50 | 6.00 | 3.50 | |
| 40 | 0.08 | 0.16 | 12.00 | 4.50 | 2.50 | 1.50% |
| 45 | 0.10 | 0.37 | 11.50 | 3.75 | 2.50 | 0.75 |
| 50 | 0.16 | 0.70 | 11.00 | 3.75 | 2.50 | 0.75 |
| 55 | 0.26 | 1.10 | 10.50 | 3.75 | 2.50 | 0.75 |
| 60 | 0.51 | | 11.00 | 4.50 | | |
| 65 | 0.97 | | 14.00 | 6.00 | | |
| 69 | 1.37 | | 14.00 | 6.00 | | |



SERVICE RETIREMENT: Representative values of 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</u> | <u>Annual Rate*</u> | |
|------------|---------------------|---------------|
| | <u>Male</u> | <u>Female</u> |
| 45 | 30.0% | 30.0% |
| 50 | 15.0 | 16.0 |
| 55 | 48.0 | 53.0 |
| 60 | 40.0 | 49.0 |
| 62 | 50.0 | 55.0 |

*Retirement rates are increased by 7% in year when member first becomes eligible for unreduced service retirement on or after age 50 but before 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</u> | <u>Annual Rate</u> | |
|------------|--------------------|---------------|
| | <u>Male</u> | <u>Female</u> |
| 60 | 13.0% | 22.0% |
| 62 | 30.0 | 30.0 |
| 65 | 34.0 | 35.0 |
| 67 | 26.0 | 27.0 |
| 69 | 25.0 | 26.0 |
| 70 | 25.0 | 26.0 |
| 72 | 26.0 | 25.0 |
| 75 | 100.0 | 100.0 |

DEATHS AFTER RETIREMENT: Rates of mortality for the period after service retirement are according to the 1994 Group Annuity Mortality Table set forward 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

| <u>Age</u> | <u>Service Retirement</u> | | <u>Disability Retirement</u> | |
|------------|---------------------------|---------------|------------------------------|---------------|
| | <u>Male</u> | <u>Female</u> | <u>Male</u> | <u>Female</u> |
| 40 | 0.11% | 0.08% | 3.32% | 2.60% |
| 45 | 0.16 | 0.10 | 3.49 | 2.43 |
| 50 | 0.26 | 0.16 | 3.76 | 2.50 |
| 55 | 0.44 | 0.26 | 4.20 | 2.67 |
| 60 | 0.80 | 0.51 | 4.88 | 2.95 |
| 65 | 1.45 | 0.97 | 5.95 | 3.39 |
| 70 | 2.37 | 1.50 | 7.63 | 4.08 |
| 75 | 3.72 | 2.53 | 10.22 | 5.16 |
| 80 | 6.20 | 4.40 | 14.17 | 6.85 |
| 85 | 9.72 | 7.53 | 20.09 | 9.47 |
| 90 | 15.29 | 12.88 | 28.67 | 13.46 |

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

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)

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.

Member Contributions

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.



SCHEDULE G

**SCHEDULE OF ACTIVE PARTICIPANT DATA
AS OF SEPTEMBER 30, 2006**

| 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 | 2,307 | 2,597 | 27 | | | | | | | | 4,931 |
| Avg. Pay | 26,160 | 27,797 | 21,618 | | | | | | | | 26,997 |
| 25 to 29 | 2,287 | 8,952 | 2,218 | 19 | | | | | | | 13,476 |
| Avg. Pay | 26,664 | 31,629 | 37,123 | 28,255 | | | | | | | 31,686 |
| 30 to 34 | 1,708 | 5,796 | 6,540 | 1,599 | 13 | | | | | | 15,656 |
| Avg. Pay | 26,742 | 31,975 | 39,168 | 42,072 | 28,315 | | | | | | 35,437 |
| 35 to 39 | 1,852 | 5,527 | 5,086 | 5,234 | 1,430 | 31 | | | | | 19,160 |
| Avg. Pay | 26,273 | 31,068 | 37,911 | 43,821 | 44,556 | 35,135 | | | | | 36,918 |
| 40 to 44 | 1,309 | 4,786 | 4,726 | 3,610 | 3,835 | 1,200 | 46 | | | | 19,512 |
| Avg. Pay | 24,911 | 28,657 | 34,647 | 40,788 | 45,275 | 45,447 | 38,879 | | | | 36,424 |
| 45 to 49 | 1,047 | 3,978 | 4,434 | 3,981 | 3,666 | 3,157 | 1,494 | 36 | | | 21,793 |
| Avg. Pay | 26,130 | 29,584 | 33,556 | 38,747 | 43,767 | 48,121 | 47,728 | 41,654 | | | 38,235 |
| 50 to 54 | 788 | 3,046 | 3,478 | 3,623 | 3,869 | 2,822 | 2,787 | 1,150 | 5 | | 21,568 |
| Avg. Pay | 26,087 | 31,518 | 34,212 | 37,544 | 42,736 | 47,343 | 51,674 | 54,431 | 61,272 | | 40,682 |
| 55 to 59 | 538 | 2,038 | 2,282 | 2,482 | 3,054 | 2,629 | 735 | 402 | 70 | 2 | 14,232 |
| Avg. Pay | 27,918 | 31,823 | 34,002 | 36,593 | 41,391 | 46,128 | 51,086 | 56,716 | 62,979 | 68,977 | 39,409 |
| 60 to 64 | 223 | 953 | 1,173 | 1,013 | 1,101 | 916 | 325 | 115 | 36 | 10 | 5,865 |
| Avg. Pay | 27,107 | 28,435 | 33,394 | 38,646 | 42,798 | 44,116 | 42,224 | 60,727 | 72,925 | 63,888 | 38,016 |
| 65 to 69 | 66 | 320 | 416 | 287 | 257 | 204 | 88 | 42 | 17 | 19 | 1,716 |
| Avg. Pay | 23,123 | 23,654 | 26,889 | 37,496 | 45,853 | 47,343 | 39,908 | 52,203 | 71,217 | 68,825 | 35,377 |
| 70 & up | 34 | 99 | 181 | 128 | 109 | 58 | 44 | 22 | 12 | 17 | 704 |
| Avg. Pay | 21,695 | 21,911 | 20,131 | 23,274 | 36,892 | 40,561 | 34,794 | 29,660 | 39,057 | 84,027 | 28,386 |
| Total | 12,159 | 38,092 | 30,561 | 21,976 | 17,334 | 11,017 | 5,519 | 1,767 | 140 | 48 | 138,613 |
| Avg. Pay | 26,278 | 30,581 | 35,830 | 39,971 | 43,432 | 46,731 | 49,542 | 54,739 | 64,425 | 73,187 | 36,852 |