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Retirement Systems of Alabama

GASB STATEMENT NO. 67 REPORT

FOR THE

TEACHERS' RETIREMENT SYSTEM OF ALABAMA

PREPARED AS OF SEPTEMBER 30, 2016

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Cavanaugh Macdonald
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March 1, 2017

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

Ladies and Gentlemen:

Presented in this report is information to assist the Teachers' Retirement System of Alabama in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 67. The information is presented for the period ending September 30, 2016.

The annual actuarial valuation used as a basis for determining the Total Pension Liability was performed as of September 30, 2015, and reflects the impact of the experience study adopted by the Board on September 13, 2016. The valuation was based on data, provided by the Retirement System staff for active, inactive and retired members along with pertinent financial information.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the System, and on actuarial assumptions that are, individually and in the aggregate, internally consistent and reasonably based on the actual experience of the System. In addition, the calculations were completed in compliance with the laws governing the System and, in our opinion, meet the requirements of GASB 67. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

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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.

Sincerely yours,

Edward A. Macdonald, ASA, FCA, MAAA
President

Cathy Turcot
Principal and Managing Director

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

EAM/mjn

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REPORT OF THE ANNUAL GASB STATEMENT NO. 67
REQUIRED INFORMATION FOR THE
TEACHERS' RETIREMENT SYSTEM OF ALABAMA
PREPARED AS OF SEPTEMBER 30, 2016

SECTION I – INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 67 (GASB 67), "*Financial Reporting For Pension Plans*", in June 2012. GASB 67's effective date is for plan years beginning after June 15, 2013. This report, prepared as of September 30, 2016 (the Measurement Date), presents information to assist the Teachers' Retirement System of Alabama in meeting the requirements of GASB 67. The material provided in this report is based on the data we received to prepare the annual actuarial valuation of the Teachers' Retirement System of Alabama as of September 30, 2015, in conjunction with the assumptions from the most recent experience study prepared as of September 30, 2015. The results of the valuation were detailed in a report dated June 22, 2016, and the results of the experience study were detailed in a report dated July 1, 2016.

GASB 67 requires us to determine the Total Pension Liability (TPL) utilizing the Entry Age Normal actuarial funding method. If the valuation date at which the TPL is determined is before the measurement date, as is the case here, the TPL must be rolled forward to the measurement date. The Net Pension Liability (NPL) is then set equal to the rolled forward TPL minus the Plan's Fiduciary Net Position (FNP) as of the Measurement Date. The benefit provisions recognized in the calculation of the TPL are summarized in Schedule B. The development of the roll-forward of the TPL is shown in the table on page 6.

Among the assumptions needed for the liability calculation is a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the FNP must be projected into the future for as long as there are anticipated benefits payable under the plan's provision applicable to the membership and beneficiaries of the System on the Measurement Date. Future contributions were projected to be made in accordance with the Funding Policy adopted by the Board. The funding policy is shown in Schedule D of this report. If the FNP is not projected to be depleted at any point in the future, as the results currently indicate, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, at a future measurement date the FNP is projected to be depleted, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate. The rate used, if necessary, for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index published monthly by the Board of Governors of the Federal Reserve System. We have determined that a discount rate of 7.75 percent meets the requirements of GASB 67.

The sections that follow provide the results of all the necessary calculations, presented in the order laid out in GASB 67 for note disclosure and Required Supplementary Information (RSI).

SECTION II – FINANCIAL STATEMENT NOTES

The material presented herein will follow the order presented in GASB 67. Paragraph numbers are provided for ease of reference.

Paragraphs 30(a) (1)-(3): The information required is to be supplied by the System.

Paragraph 30(a) (4): The data required regarding the membership of the Teachers' Retirement System of Alabama were furnished by the System office. The following table summarizes the membership of the system as of September 30, 2015, the actuarial valuation date.

Membership

	Number
Inactive Members Or Their Beneficiaries Currently Receiving Benefits (includes DROPS)	89,332
Inactive Members Entitled To But Not Yet Receiving Benefits	15,916
Non-vested Inactive Members Who Have Not Contributed For More Than 5 Years	29,071
Active Members	135,986
Total	270,305

Paragraphs 30(a)(5)-(6) and Paragraphs 30(b)-(f): The information required is to be supplied by the System.

Paragraphs 31(a) (1)-(4): The information is provided in the following table. As stated above, the NPL is equal to the TPL minus the FNP. That result as of September 30, 2016 is presented in the table below ($ thousands).

	Fiscal Year Ending September 30, 2016
Total Pension Liability	$33,762,303
Plan Fiduciary Net Position	22,936,298
Net Pension Liability	$10,826,005
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	67.93%

Paragraph 31(b) (1)(a)-(f): This paragraph requires information regarding the actuarial assumptions used to measure the TPL. The actuarial assumptions utilized in developing the TPL are outlined in Schedule C. The total pension liability was determined by an actuarial valuation as of September 30, 2015, reflecting the experience study adopted by the Board on September 13, 2016, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75 percent
Projected Salary increases	3.25 – 5.00 percent, including inflation
Investment rate of return	7.75 percent, net of pension plan investment expense, including inflation

Mortality rates were based on the RP-2000 White Collar Mortality Table projected to 2020 using scale BB and adjusted 115% for all ages for males and 112% for ages 78 and over for females. The rates of disabled mortality were based on the RP-2000 Disabled Mortality Table projected to 2020 using scale BB and adjusted 105% for males and 120% for females.

The actuarial assumptions used for the purposes of determining the TPL were based on the results of an actuarial experience study for the period October 1, 2010 – September 30, 2015.

The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of geometric real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Rate of Return*
Fixed Income	17.0%	4.4%
US Large Stocks	32.0%	8.0%
US Mid Stocks	9.0%	10.0%
US Small Stocks	4.0%	11.0%
Int'l Developed Mkt Stocks	12.0%	9.5%
Int'l Emerging Mkt Stocks	3.0%	11.0%
Alternatives	10.0%	10.1%
Real Estate	10.0%	7.5%
Cash Equivalents	3.0%	1.5%
Total	100.0%	

*Includes assumed rate of inflation of 2.50%.

Discount rate. The discount rate used to measure the total pension liability was 7.75 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that Employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, components of the pension plan’s fiduciary net position were projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Paragraph 31(b) (1) (g): This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the System, calculated using the discount rate of 7.75 percent, as well as what the System’s net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75 percent) or 1-percentage-point higher (8.75 percent) than the current rate ($ thousands):

	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)
System’s net pension liability	$14,422,630	$10,826,005	$7,781,048

Paragraph 31(c): September 30, 2015 is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of September 30, 2016 using standard roll forward techniques for the TPL both before and after the experience study. The difference between these two amounts is shown as a change in assumptions. The roll forward calculations add the annual normal cost (also called the service cost), subtract the actual benefit payments and refunds for the plan year and then apply the expected investment rate of return for the year. In addition, we have determined an expected TPL as of September 30, 2016 based on the TPL roll-forward in the September 30, 2015 GASB 67 report. The difference between this amount and the roll-forward of the actual TPL before the experience study is reflected as an experience gain or loss for the year. These procedures are shown in the following table:

TPL Roll-Forward

	Expected	Actual Before Experience Study	Actual After Experience Study
(a) TPL as of September 30, 2015	32,213,446	$31,944,568	$32,905,924
(b) Entry Age Normal Cost* for the Year September 30, 2015 –September 30, 2016	627,938	627,938	611,297
(c) Actual Benefit Payments (including refunds) for the Year October 1, 2015 – September 30, 2016	2,219,136	2,219,136	2,219,136
(d) TPL as of September 30, 2016 =[(a) x (1.08)] + (b) – [(c) x (1.04)]**	$33,110,558	$32,820,170	$33,762,303
(e) Difference between Expected and Actual Experience (Gain)/Loss		$(290,388)	
(f) Difference due to change in Assumptions (Gain)/Loss			$942,133

*Also called the Service Cost

**7.75% and 3.875% for After Experience Study Calculation

SECTION III – REQUIRED SUPPLEMENTARY INFORMATION

There are several tables of Required Supplementary Information (RSI) that need to be included in the System's financial statements:

Paragraphs 32(a)-(c): The required tables are provided in Schedule A.

Paragraph 32(d): The money-weighted rates of return required are to be supplied by the System.

Paragraph 34: In addition the following should be noted regarding the RSI:

Changes of benefit terms. The member contribution rates were increased from 5.00% (6.00% for certified law enforcement, correctional officers, and firefighters) of earnable compensation to 7.25% (8.25%) of earnable compensation effective October 1, 2011, and to 7.50% (8.50%) of earnable compensation effective October 1, 2012. Members hired on or after January 1, 2013 are covered under a new benefit structure.

Changes of assumptions.
In 2016, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In 2016, economic assumptions and the assumed rates of salary increase were adjusted to more closely reflect actual and anticipated experience. In 2016 and later, the expectation of retired life mortality was changed to the RP-2000 White Collar Mortality Table projected to 2020 using scale BB and adjusted 115% for all ages for males and 112% for ages 78 and over for females.

In 2010 and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Tables rather than the 1994 Group Annuity Mortality Table, which was used prior to 2010. In 2010, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In 2010, assumed rates of salary increase were adjusted to more closely reflect actual and anticipated experience.

Method and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates in the schedule of employer contributions are calculated as of September 30, three years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the most recent contribution rate reported in that schedule:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period	29.9 years
Asset valuation method	5-year smoothed market
Inflation	3.00 percent
Salary increase	3.50 percent to 8.25 percent, including inflation
Investment rate of return	8.00 percent, net of pension plan investment expense, including inflation

SCHEDULE A

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
GASB 67 Paragraph 32(a)
($ in Thousands)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total pension liability										
Service Cost*	$ 602,605	$ 660,390	$ 627,938							
Interest	2,352,804	2,421,604	2,488,310							
Benefit changes	-	-	-							
Difference between expected and actual experience		(70,200)	(290,388)							
Changes of assumptions	-	-	942,133							
Benefit payments	(1,997,877)	(2,080,896)	(2,161,570)							
Refunds of contributions	(56,145)	(55,898)	(57,566)							
Net change in total pension liability	901,387	875,000	1,548,857							
Total pension liability - beginning	$30,437,059	$31,338,446	$32,213,446							
Total pension liability - ending (a)	$31,338,446	$32,213,446	$33,762,303							
Components of Plan Fiduciary Net Position reserved to fund Total Pension Liability										
Contributions - employer	$ 716,753	$ 737,677	$ 751,909							
Contributions - member	480,849	477,918	475,980							
Other	-	172,982	-							
Net investment income	2,468,499	261,461	2,199,396							
Benefit payments	(1,997,877)	(2,080,896)	(2,161,570)							
Refunds of contributions	(56,145)	(55,898)	(57,566)							
Administrative Expenses	-	(19,331)	(19,582)							
Net change in plan fiduciary net position	1,612,079	(506,087)	1,188,567							
Plan fiduciary net position - beginning	$20,641,739	$22,253,818	$21,747,731							
Plan fiduciary net position - ending (b)	$22,253,818	$21,747,731	$22,936,298							
Net pension liability - ending (a) - (b)	$ 9,084,628	$10,465,715	$10,826,005							

*Also called the Entry Age Normal Cost

SCHEDULE OF THE NET PENSION LIABILITY
GASB 67 Paragraph 32(b)
($ in Thousands)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total pension liability	$31,338,446	$32,213,446	$ 33,762,303							
Plan fiduciary net position	22,253,818	21,747,731	22,936,298							
Net pension liability	$ 9,084,628	$10,465,715	$ 10,826,005							
Plan Fiduciary Net Position as a % of the Total Pension Liability	71.01%	67.51%	67.93%							
Covered employee payroll	$ 6,466,923	$ 6,541,054	$ 6,541,310							
Net pension liability as a percentage of covered employee payroll	140.48%	160.00%	165.50%							

SCHEDULE OF EMPLOYER CONTRIBUTIONS
GASB 67 Paragraph 32(c)
($ in Thousands)

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Actuarially determined employer contribution	$ 751,909	$ 737,677	$ 716,753	$ 605,465	$ 594,771	$ 755,944	$ 753,213	$ 728,822	$ 706,491	$ 519,247
Actual employer contributions	751,909	737,677	716,753	605,465	594,771	755,944	753,213	728,822	706,491	519,247
Annual contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Covered employee payroll*	$6,377,515	$6,331,991	$6,331,740	$6,241,907	$6,182,651	$6,232,020	$6,209,505	$6,234,577	$6,213,641	$5,782,261
Actual contributions as a percentage of covered employee payroll**	11.79%	11.65%	11.32%	9.70%	9.62%	12.13%	12.13%	11.69%	11.37%	8.98%

*Estimated based on employer contribution rate.
**Beginning with the 2014 fiscal year this represents a blended rate based on separate Tier 1 and Tier 2 contribution rates.

SCHEDULE B

SUMMARY OF BENEFIT PROVISIONS EVALUATED

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. There is a new tier (Tier II) of benefits for all members initially joining the System on and after January 1, 2013. 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:

Tier I – the 3 highest years in the last 10 years of Creditable Service
Tier II – the 5 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

Tier I	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.
Tier II	A retirement allowance is payable upon the request of any member who has attained age 62 and completed at least 10 years of creditable service (age 56 with 10 years of creditable service for a full-time certified firefighter, police officer or correctional officer).

Amount of Allowance

Tier I	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.
Tier II	Upon service retirement a member receives a retirement allowance equal to 1.65% of the member's average final compensation multiplied by the number of years of creditable service. The benefit is capped at 80% of the member's average final compensation.
Both	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	
Tier I	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.
Tier II	Upon disability retirement a member receives a retirement allowance equal to 1.65% of the member's average final compensation multiplied by the number of years of creditable service. The benefit is capped at 80% of the member's average final compensation.

Both	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 (age 62 for Tier II members).
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 September 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

Tier I

Prior to October 1, 2011, regular members contributed 5.0% of salary and certified police officers, firefighters and correctional officers 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, firefighters and correctional officers.

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

Tier II

Regular members contribute 6% of salary and full-time certified firefighters, police officers and correctional officers contribute 7% of salary

Both

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 C

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

LONG-TERM INVESTMENT RATE OF RETURN: 7.75% per annum, compounded annually, including price inflation at 2.75%.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 3.00% per annum:

Service	Annual Rate
0	5.00 %
1-5	4.00
6-10	3.75
11-15	3.50
16 & Over	3.25

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

		Annual Rate of					
Age	Death*	Disability**		Withdrawal***			
		Years of Service		Years of Service			
		10-24	25+	0-4	5-9	10-20	20+
				Male			
20	0.03%	0.00%		25.00%			
25	0.03	0.03		14.80	11.00%		
30	0.04	0.04		13.80	5.40	3.50%	
35	0.07	0.13		13.50	5.40	2.50	
40	0.09	0.17		13.00	5.40	2.25	0.50%
45	0.13	0.27	0.20%	13.00	5.40	2.25	0.75
50	0.18	0.60	0.20	12.00	5.00	2.50	0.80
55	0.26	0.90	0.20	11.50	5.00	2.50	0.90
60	0.38	0.50	0.50	12.00	4.50	2.50	0.90
65	0.54	0.50	0.50	12.00	6.00		
69	0.63	0.50	0.50	12.00	6.25		
				Female			
20	0.01%	0.01%		25.00%			
25	0.01	0.03		12.75	9.00%		
30	0.01	0.04		13.50	5.80	4.30%	
35	0.03	0.10		13.50	5.00	2.60	
40	0.04	0.20		11.50	4.75	2.00	1.50%
45	0.06	0.35	0.20%	10.75	4.10	2.00	0.50
50	0.09	0.65	0.20	10.75	3.90	2.20	0.75
55	0.14	1.05	0.20	11.00	4.20	2.40	0.50
60	0.19	0.50	0.50	12.00	4.50	2.70	1.00
65	0.27	0.50	0.50	15.00	6.75		
69	0.34	0.50	0.50	15.00	7.25		

**Rates of pre-retirement mortality are according to the sex distinct RP-2000 Employee Mortality Table for ages less than 70 and the RP-2000 Healthy Annuitant Mortality Table of ages over 70, with an adjustment of factor of 0.75% for males and 0.70% for females.*

***No rates of disability are assumed for members with less than 10 years of service. For Tier II members, rates of disability on or after 25 years of service are the same as those shown above for service prior to 25 years except the rate at age 60 is 1.30% for males and 1.40% for females.*

****No rates of withdrawal are assumed after eligibility for service retirement.*

SERVICE RETIREMENT:

The assumed annual rates of service retirement for **Tier I** members are as follows:

For members upon attaining 25 years of service, rates are as follows:

	Annual Rate	
Age Group	Male*	Female**
47 & Under	25.0%	28.0%
48	25.0	20.0
49	20.0	17.0
50	16.5	13.0
51 to 53	16.0	15.0
54	16.0	17.0
55	16.0	18.0
56-57	16.0	19.0
58	16.0	21.0
59	20.0	22.0
60	20.0	30.0
61	20.0	27.5
62	35.0	45.0
63	30.0	35.0
64	23.0	32.0
65	28.0	38.0
66	27.0	40.0
67	22.0	35.0
68	22.0	37.0
69 to 70	22.0	30.0
71-74	20.0	30.0
75	100.0	100.0

**For males, retirement rates are increased by 5% in the year first attaining 25 years of service from age 51 through age 60.*

***For females, retirement rates are increased by 9% in the year first attaining 25 years of service from age 50 through age 59.*

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

	Annual Rate	
Age Group	Male	Female
60	12.5%	17.0%
61	11.0	13.5
62	25.0	23.5
63	18.5	18.0
64	15.0	17.0
65	28.0	28.0
66	27.0	28.0
67	22.0	23.0
68	22.0	27.0
69	22.0	22.0
70	22.0	26.0
71 to 74	20.0	24.0
75 & Above	100.0	100.0

The assumed annual rates of service retirement for **Tier II** members are as follows:

	Annual Rate			
	Male*		Female**	
Age Group	Less than 25 years of service	25 or more years of service	Less than 25 years of service	25 or more years of service
62	50.0%	60.0%	50.0%	70.0%
63	18.5	30.0	18.0	35.0
64	15.0	23.0	17.0	32.0
65	28.0	28.0	28.0	38.0
66	27.0	27.0	28.0	40.0
67	22.0	22.0	23.0	35.0
68	22.0	22.0	27.0	37.0
69	22.0	22.0	22.0	30.0
70	22.0	22.0	26.0	30.0
71 to 74	20.0	20.0	24.0	30.0
75 & above	100.0	100.0	100.0	100.0

* *For FLC Tier II members, rates on or after age 60 are the same as those for Tier I, while rates from ages 56 to 59 are equal to 0.20 for service less than 25 years and 0.30 for service greater than or equal to 25 years.*

** *For FLC Tier II members, rates on or after age 60 are the same as those for Tier I, while rates from ages 56 to 59 are equal to 0.20 for service less than 25 years and 0.40 for service greater than or equal to 25 years.*

DEATHS AFTER RETIREMENT: Rates of mortality for the period after service retirement are according to the RP-2000 White Collar Mortality Table projected to 2020 using scale BB and adjusted 115% for all ages for males and 112% for ages 78 and over for females. The rates of disabled mortality were based on the RP-2000 Disabled Mortality Table projected to 2020 using scale BB and adjusted 105% for males and 120% for females. Representative values of assumed mortality are as follows:

	Service Retirement		Disability Retirement	
Age	Male	Female	Male	Female
55	0.3575%	0.2339%	3.5044%	1.7959%
60	0.5579	0.3825	3.8359	2.1434
65	0.9991	0.6795	4.1382	2.6417
70	1.6384	1.1928	4.8570	3.5474
75	2.8589	2.0200	6.3692	4.9231
80	5.0501	3.7900	8.4883	6.8610
85	8.8966	6.5271	10.9897	9.4450
90	16.4327	11.3249	15.4359	13.4706

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.

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.

UNUSED SICK LEAVE: 3% load on service retirement liabilities for active members. (No load for Tier II 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.

ASSET METHOD: Market value.

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

SCHEDULE D

FUNDING POLICY OF THE TEACHERS' RETIREMENT SYSTEM BOARD OF CONTROL

The purpose of the funding policy is to state the overall funding objectives for the Teachers' Retirement System of Alabama (System), the benchmarks that will be used to measure progress in achieving those goals, and the methods and assumptions that will be employed to develop the benchmarks. The funding policy reflects the Board's long-term strategy for stability in funding of the plan.

I. Funding Objectives

The goal in requiring employer and member contributions to the System is to accumulate sufficient assets during a member's employment to fully finance the benefits the member is expected to receive throughout retirement. In meeting this objective, the System will strive to meet the following funding objectives:

- To maintain an increasing funded ratio (ratio of system actuarial value of assets to actuarial accrued liabilities) that reflects a trend of improved actuarial condition. The long-term objective is to attain a funded ratio which is consistent with the fiscal health and long-term stability of the System.
- To maintain adequate asset levels to finance the benefits promised to members and monitor the future demands for liquidity.
- To develop a pattern of contribution rates expressed as a percentage of member payroll as measured by valuations prepared in accordance with applicable State laws and the principles of practice prescribed by the Actuarial Standards Board. In no event will the employer contribution rate be negative.
- To provide intergenerational equity for taxpayers with respect to System costs.

II. Benchmarks

To track progress in achieving the previously outlined funding objectives, the following benchmarks will be measured annually as of the valuation date. The valuation date is the date that the annual actuarial valuation of the System's assets and liabilities is prepared. This date is currently September 30th each year with due recognition that a single year's results may not be indicative of long-term trends:

- **Funded ratio** – The funded ratio, defined as the actuarial value of assets divided by the actuarial accrued liability, should increase over time, before adjustments for changes in benefits, actuarial methods, and/or actuarial assumptions. An open amortization period is one for which the amortization period is recalculated on a yearly basis and the ending date of the amortization period is a variable with each recalculation. A closed amortization period is one which is calculated over a fixed period and at the end of that period, the amount is fully amortized.
- **Unfunded Actuarial Accrued Liability (UAAL)**
    - **Transitional UAAL -** The UAAL established as of the initial valuation date for which this funding policy is adopted shall be known as the Transitional UAAL (applicable only to employers participating in the System as of the adoption date of the funding policy).
    - **New Incremental UAAL -** Each subsequent valuation will produce a New Incremental UAAL consisting of all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation.
- **UAAL Amortization Period and Contribution Rates**
    - In each valuation 1/15th of the Transitional UAAL will be amortized over a closed period. The closed period shall be the amortization period for the valuation preceding the adoption of the funding policy not to exceed 30 years. The remaining Transitional UAAL each year will be amortized over an open period. The open period shall be the amortization period for the valuation preceding the adoption of the funding policy not to exceed 30 years. After 15 years the entire Transitional UAAL will be closed.
    - Each New Incremental UAAL shall be amortized over a closed 30 year period.
    - Employer Normal Contribution Rate – the contribution rate determined as of the valuation date each year based on the provisions of Alabama Code Section 16-25-21.
    - In each valuation subsequent to the adoption of this funding policy the required employer contribution rate will be determined by the summation of the employer Normal Contribution Rate, a contribution rate for administrative expenses, a contribution rate for the pre-retirement death benefit fund, a contribution rate for the term life insurance fund, the individual amortization rate for each of the New Incremental UAAL bases, the individual amortization rate for each of the 15 closed periods for the Transitional UAAL and the amortization of any remaining open portion of the Transitional UAAL.

- **UAAL Amortization Period for Employers joining the System after the Implementation of this Funding Policy**
    - For Employers joining the System after the implementation of this Funding Policy, the employer contribution rate shall be computed as the sum of the employer Normal Contribution rate, a contribution rate for administrative expenses, a contribution rate for the pre-retirement death benefit fund, a contribution rate for the term life insurance fund, and the initial UAAL contribution rate. The initial UAAL contribution rate shall be determined by amortizing the initial UAAL over a closed period equal to the expected future working lifetime of the active membership. This initial amortization period shall not be less than 10 years nor greater than 30 years.
    - In subsequent years the UAAL and employer contribution rate shall be determined in accordance with the rules of the Funding Policy described in the previous section.

III. Methods and Assumptions

The actuarial funding method used to develop the benchmarks will be the Entry Age Normal (EAN) actuarial cost method. The actuarial methods and assumptions used will be those last adopted by the Board based upon the advice and recommendation of the actuary. The actuary shall conduct an investigation into the system's experience at least every five years and utilize the results of the investigation to form the basis for those recommendations.

IV. Funding Policy Progress

The Board will periodically have projections of funded status performed to assess the current and expected future progress towards the overall funding goals of the System.