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Retirement Systems
of Alabama

GASB STATEMENT NO. 68 REPORT

FOR THE

TEACHERS' RETIREMENT SYSTEM OF ALABAMA

PREPARED AS OF SEPTEMBER 30, 2017





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

April 4, 2018

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 (TRS) in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 68 and to identify the information to be provided by the actuary, Cavanaugh Macdonald Consulting (CMC). The information presented is for the period ending September 30, 2017 (the Measurement Date).

GASB Statement Number 68 established accounting and financial reporting requirements for governmental employers that provide pension benefits to their employees through a trust.

The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of September 30, 2016. The valuation was based upon 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 68. Ed Macdonald and Larry Langer are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Board of Control
April 4, 2018
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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 and GASB 68 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'Edward Macdonald', with a stylized, flowing script.

Edward A. Macdonald, ASA, FCA, MAAA
President

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

Cathy Turcot
Principal and Managing Director

A handwritten signature in blue ink, appearing to read 'LL' or 'Larry Langer', in a stylized, bold script.

Larry Langer, ASA, EA, FCA, MAAA
Principal and Consulting Actuary

CT/mjn



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**REPORT OF THE ANNUAL GASB STATEMENT NO. 68
REQUIRED INFORMATION FOR THE
EMPLOYERS PARTICIPATING IN THE TEACHERS' RETIREMENT SYSTEM OF ALABAMA**

PREPARED AS OF SEPTEMBER 30, 2017

SECTION I – INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 68 (GASB 68), *“Accounting and Financial Reporting For Pensions”* in June 2012. GASB 68’s effective date is for an employer’s fiscal year beginning after June 15, 2014. The Teachers' Retirement System of Alabama (TRS) is a cost-sharing multiple employer defined benefit pension plan.

This report, prepared as of September 30, 2017 (the Measurement Date), presents information to assist the employers participating in TRS in meeting the requirements of GASB 68 for the fiscal year ending in 2018 (Reporting Date). Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of TRS as of September 30, 2016. The results of the valuation were detailed in a report dated June 9, 2017.

The NPL shown in the GASB Statement No. 67 Report for the Teachers' Retirement System of Alabama Prepared as of September 30, 2017, and submitted January 12, 2018, is the collective NPL used for purposes of GASB 68. Please refer to that report for the derivation of the collective NPL.

Pension Expense (PE) includes amounts for service cost (the normal cost under the Entry Age Normal actuarial cost method for the year), interest on the Total Pension Liability (TPL), changes in benefit structure, amortization of increases/decreases in liability due to actuarial experience and actuarial assumption changes, and amortization of investment gains/losses. The actuarial experience and assumption change impacts are amortized over the average expected remaining service life of the Plan membership as of the beginning of the measurement period, and investment gains/losses are amortized over five years. The development of the collective PE is shown in Section IV.

The unamortized portions of each year’s experience, assumption changes and investment gains/losses are used to develop deferred inflows and outflows, which also must be included in the employer’s financial statements. The development of the collective deferred inflows and outflows is shown in Section IV.

These collective amounts have been allocated based on actual contributions made to TRS during the measurement period to determine the proportionate share associated with each participating employer.

Schedule A of this report shows the total amount of employer contributions for the years ending September 30, 2016, and September 30, 2017, from each participating employer. Schedule A also shows the proportionate share percentages that have been determined based on these contributions.

Based on these percentages we have determined the proportionate share amounts of the NPL, PE and Deferred Inflows and Outflows for each participating employer. These amounts are shown in Schedule B.

Section II of this report is a summary of the principal results of the collective amounts under GASB 68. Section III provides the results of all the necessary calculations, presented in the order laid out in GASB 68 for note disclosure and Section V shows the Required Supplementary Information (RSI).



SECTION II - SUMMARY OF COLLECTIVE AMOUNTS
(\$ IN THOUSANDS)

	2017	2016
Valuation Date:	September 30, 2016	September 30, 2015
Measurement Date:	September 30, 2017	September 30, 2016
Reporting Date:	September 30, 2018	September 30, 2017
Single Equivalent Interest Rate (SEIR):		
Long-Term Expected Rate of Return	7.75%	7.75%
Municipal Bond Index Rate	3.57%	2.93%
Fiscal Year in which Plan's Fiduciary Net Position is projected to be depleted from future benefit payments for current members	N/A	N/A
Single Equivalent Interest Rate	7.75%	7.75%
Net Pension Liability:		
Total Pension Liability (TPL)	\$ 34,479,936	\$ 33,762,303
Plan Fiduciary Net Position (FNP)	<u>24,651,457</u>	<u>22,936,298</u>
Net Pension Liability (NPL = TPL – FNP)	\$ 9,828,479	\$ 10,826,005
FNP as a percentage of TPL	71.50%	67.93%
Collective Pension Expense (PE):	\$ 849,606	\$ 1,098,656
Deferred Outflows of Resources:	\$ 586,611	\$ 920,833
Deferred Inflows of Resources:	\$ 1,009,013	\$ 278,798



SECTION III – NOTES TO FINANCIAL STATEMENTS

The material presented herein will follow the order presented in GASB 68. Paragraph numbers are provided for ease of reference. Amounts are shown in aggregate. Please refer to Schedule B of this report for the proportionate share of certain pension amounts as required by GASB 68.

Paragraphs 77 and 78(a)-(e): These paragraphs require information to be disclosed regarding the actuarial assumptions used to measure the TPL. The complete set of actuarial assumptions utilized in developing the TPL are outlined in Schedule E.

The TPL was determined by an actuarial valuation as of September 30, 2016, using the following key actuarial assumptions:

Inflation	2.75 percent
Salary increases, including inflation	3.25 – 5.00 percent
Investment Rate of Return, net of pension plan investment expense, including inflation	7.75 percent

Post-Retirement mortality rates for service retirements and dependent beneficiaries 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 in the September 30, 2016 valuation 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	<u>3.0%</u>	1.5%
Total	<u>100.0%</u>	

*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, the pension plan's fiduciary net position was 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 78 (g): This paragraph requires disclosure of the sensitivity of the NPL to changes in the discount rate. The following presents the NPL of the System, calculated using the discount rate of 7.75 percent, as well as what the System's NPL 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	\$13,556,622	\$9,828,479	\$6,674,759

Paragraph 80(a): This paragraph requires disclosure of the employer's proportionate share of the collective NPL and if an employer has a special funding situation the portion of the non-employer contributing entities' proportional share of the collective NPL that is associated with the employer. These amounts are shown in Schedule B.

Paragraph 80(b): This paragraph requires disclosure of the employer's proportion (percentage) of the collective NPL and the changes in proportion since the prior measurement date. These amounts are shown for all entities in Schedule A.



Paragraph 80(c): September 30, 2016, is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of September 30, 2017, using standard roll forward techniques. The procedure used to determine the TPL as of September 30, 2017, is shown on page 6 of the GASB 67 report for TRS submitted on January 12, 2018.

Paragraph 80(g): Please see Section IV of this report for the development of the collective pension expense. The PE for each employer is shown in Schedule B.

Paragraph 80(h): Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled deferred inflows. If they will increase pension expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average expected remaining service life of the active and inactive Plan members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five year period.

The table below provides a summary of the collective deferred inflows and outflows as of the Measurement Date. The allocation of the collective deferred inflows and outflows is provided in Schedule B.

	Collective Deferred Outflows of Resources (\$ thousands)	Collective Deferred Inflows of Resources (\$ thousands)
Differences between expected and actual experience	\$0	\$421,370
Changes of actuarial assumptions	586,611	0
Net difference between projected and actual earnings on plan investments	<u>0</u>	<u>587,643</u>
Total	<u>\$ 586,611</u>	<u>\$ 1,009,013</u>

The following tables show the components of the collective deferred outflows of resources and the collective deferred inflows of resources by year.



Collective Deferred Outflows and Inflows for Differences between Expected and Actual Experience (\$ thousands)											
Beginning Balance								Ending Balance			
	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Deferred Outflows (a)	Deferred Inflows (b)	Losses / Deferred Outflows (c)	Gains / Deferred Inflows (d)	Amounts Recognized in Pension Expense / Deferred Outflow (e)	Amounts Recognized in Pension Expense / Deferred Inflow (f)	Deferred Outflows (a) + (c) - (e)	Deferred Inflows (b) + (d) - (f)
2017	\$0	\$261,067	5.2	\$0	\$0	\$0	\$261,067	\$0	\$50,205	\$0	\$210,862
2016	0	290,388	5.3	0	235,598	0	0	0	54,790	0	180,808
2015	0	70,200	5.2	0	43,200	0	0	0	13,500	0	29,700
2014	0	0	5.3	0	0	0	0	0	0	0	0
Total				\$0	\$278,798	\$0	\$261,067			\$0	\$421,370

Collective Deferred Outflows and Inflows for Differences from Assumption Changes (\$ thousands)											
Beginning Balance								Ending Balance			
Year	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Deferred Outflows (a)	Deferred Inflows (b)	Losses / Deferred Outflows (c)	Gains / Deferred Inflows (d)	Amounts Recognized in Pension Expense / Deferred Outflow (e)	Amounts Recognized in Pension Expense / Deferred Inflow (f)	Deferred Outflows (a) + (c) - (e)	Deferred Inflows (b) + (d) - (f)
2017	\$0	\$0	5.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2016	942,133	0	5.3	764,372	0	0	0	177,761	0	586,611	0
2015	0	0	5.2	0	0	0	0	0	0	0	0
2014	0	0	5.3	0	0	0	0	0	0	0	0
Total				\$764,372	\$0	\$0	\$0			\$586,611	\$0

Collective Deferred Outflows and Inflows for Differences in Investment Experience (\$ thousands)											
Beginning Balance								Ending Balance			
	Initial Balance of Losses / Deferred Outflow	Initial Balance of Gains / Deferred Inflow	Amortization Period	Deferred Outflows (a)	Deferred Inflows (b)	Losses / Deferred Outflows (c)	Gains / Deferred Inflows (d)	Amounts Recognized in Pension Expense / Deferred Outflow (e)	Amounts Recognized in Pension Expense / Deferred Inflow (f)	Deferred Outflows (a) + (c) - (e)	Deferred Inflows (b) + (d) - (f)
2017	\$0	\$894,221	5.0	\$0	\$0	\$0	\$894,221	\$0	\$178,844	\$0	\$715,377
2016	0	500,011	5.0	0	400,009	0	0	0	100,002	0	300,007
2015	1,495,062	0	5.0	897,038	0	0	0	299,012	0	598,026	0
2014	0	851,417	5.0	0	340,568	0	0	0	170,283	0	170,285
Total				\$897,038	\$740,577	\$0	\$894,221			\$598,026	\$1,185,669
Net difference between projected and actual earnings on investments											\$587,643



Summary of Amortization of Deferred Outflows and Inflows of Resources (\$ thousands)								
Amortization Year	2014	Actual and Expected Experience			2014	Assumption Changes		
		2015	2016	2017		2015	2016	2017
2019	\$0	(\$13,500)	(\$54,790)	(\$50,205)	\$0	\$0	\$177,761	\$0
2020	0	(13,500)	(54,790)	(\$50,205)	0	0	177,761	0
2021	0	(2,700)	(54,790)	(\$50,205)	0	0	177,761	0
2022	0	0	(16,438)	(50,205)	0	0	53,328	0
2023	0	0	0	(10,042)	0	0	0	0
Thereafter	0	0	0	0	0	0	0	0
TOTAL	\$0	(\$29,700)	(\$180,808)	(\$210,862)	\$0	\$0	\$586,611	\$0

Summary of Amortization of Deferred Outflows and Inflows of Resources (\$ thousands)					
Amortization Year	2014	Investment Gains/Losses			Total Deferred Amounts
		2015	2016	2017	
2019	(\$170,285)	\$299,012	(\$100,002)	(\$178,844)	(\$90,853)
2020	0	299,014	(100,002)	(178,844)	\$79,434
2021	0	0	(100,003)	(178,844)	(\$208,781)
2022	0	0	0	(178,845)	(\$192,160)
2023	0	0	0	0	(\$10,042)
Thereafter	0	0	0	0	\$0
TOTAL	(\$170,285)	\$598,026	(\$300,007)	(\$715,377)	(\$422,402)



Paragraph 80(i): Collective amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (\$ thousands):

Deferred Amounts to be Recognized in Fiscal Years Following the Reporting Date:	
Year 1	\$ (90,853)
Year 2	79,434
Year 3	(208,781)
Year 4	(192,160)
Year 5	(10,042)
Thereafter	0

Paragraph 80(j): There are no non-employer contributions recognized for the support provided by non-employer contributing entities in TRS.



SECTION IV – PENSION EXPENSE

As noted earlier, the collective Pension Expense (PE) consists of a number of different items. GASB 68 refers to the first as Service Cost which is the Normal Cost using the Entry Age Normal actuarial funding method. The second item is interest on the beginning Total Pension Liability (TPL) and the cash flow during the year at the 7.75% rate of return in effect as of the previous measurement date.

The next three items refer to any changes that occurred in the TPL due to:

- benefit changes, or
- actual versus expected experience, or
- changes in actuarial assumptions.

Benefit changes, which are reflected immediately in PE, can be positive, if there is a benefit improvement for existing Plan members, or negative if there is a benefit reduction. For the year ended September 30, 2017, there were no benefit changes to be recognized.

The next item to be recognized is the portion of current year changes in TPL due to actual versus expected Plan experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire Plan membership determined at the beginning of the year. The average expected remaining service life of active members is the average number of years the active members are expected to remain active. For the year ended September 30, 2017, this number of years for the active members is 10.5. The average expected remaining service life of the inactive members is zero. Therefore, the number of years to use for the amortization is the weighted average for all active and inactive members, or 5.2 years. The amount to be recognized due to actual versus expected experience for the year is \$(50,205,000).

The last item under changes in TPL are changes in actuarial assumptions since the last measurement date. Recognition of the change in TPL due to changes in actuarial assumptions, is also spread over the average expected remaining service life of the plan membership. The amount to be recognized due to changes in assumptions for the year is \$0.

Member contributions for the year and projected earnings on the Fiduciary Net Position (FNP), determined at the discount rate used to calculate the liabilities, are subtracted from the amount determined thus far. One-fifth of current period differences between projected and actual investment earnings on the FNP are recognized in the pension expense. The projected earnings on the FNP, the current difference between projected and actual investment earnings on the FNP, and the amount recognized due to this difference are calculated as shown in the following table.



Investment Earnings (Gain)/Loss Determined as of the Measurement Date (\$ thousands)	
a. Expected asset return rate	7.75%
b. Beginning of year FNP (BOY)	\$ 22,936,298
c. End of year FNP	24,651,457
d. Expected return on BOY for the plan year (a x b)	1,777,563
External Cash Flow	
Employer contributions	782,695
Member contributions	489,638
Refunds of contributions	(53,526)
Benefit Payments	(2,117,351)
Administrative expenses	(22,402)
Other	<u>7</u>
e. Total net external cash flow	(920,939)
f. Expected return on net cash flow (a x .5 x e)	(35,686)
g. Projected earnings for plan year (d + f)	1,741,877
h. Net investment income (c – b – e)	2,636,098
i. Investment earnings (gain)/loss (g – h)	<u>\$ (894,221)</u>
j. Amount recognized in Pension Expense (i / 5)	<u>\$ (178,844)</u>

The current year portions of previously determined experience, assumption and earnings amounts, recognized as deferred outflows and inflows (see Section V) are included also. Deferred outflows are added to the PE while deferred inflows are subtracted from the PE. Finally, administrative expenses and other miscellaneous items are included.



The calculation of the Collective Pension Expense determined as of the measurement date is shown in the following table:

Collective Pension Expense Determined as of the Measurement Date (\$ thousands)	
Service Cost at end of year	\$ 617,120
Interest on the TPL and net cash flow	2,532,457
Current-period benefit changes	0
Expensed portion of current-period difference between expected and actual experience in the total pension liability	(50,205)
Expensed portion of current-period changes of assumptions	0
Member contributions	(489,638)
Projected earnings on plan investments	(1,741,877)
Expensed portion of current-period differences between projected and actual earnings on plan investments	(178,844)
Administrative expense	22,402
Other	(7)
Recognition of beginning deferred outflows of resources as pension expense	206,488
Recognition of beginning deferred inflows of resources as pension expense	<u>(68,290)</u>
Collective Pension Expense	<u>\$ 849,606</u>



SECTION V – REQUIRED SUPPLEMENTARY INFORMATION

Paragraphs 81(a)-(b): CMC was not required to supply this information.

Paragraph 82:

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 (Tier II), are covered under a new benefit structure, as follows:

- (i) A service 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).
- (ii) Upon service or 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 (the 5 highest years in the last 10 years of Creditable Service).
- (iii) Regular members contribute 6% of salary and full-time certified firefighters, police officers and correctional officers contribute 7% of salary.

Changes of assumptions.

In 2016, rates of retirement, disability, withdrawal 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 the expectation of retired life mortality as 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. 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.

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.



SCHEDULE A
Teachers' Retirement System of Alabama
Schedule of Employer Allocations
For the Fiscal Year Ended September 30, 2017
(Dollar Amounts Not in Thousands)

Employer	Employer Code	2017 Annualized Employer Contributions	2017 Employer Allocation Percentage
Accel Academy Charter School	TACL	\$ 109,980	0.014050%
Alabama A&M University	TAMI	5,631,846	0.719468%
Alabama Association of School Boards	TAAB	130,274	0.016643%
Alabama Education Association	TAEA	692,724	0.088496%
Alabama Fire College	TAFC	323,229	0.041293%
Alabama High School Athletic Association	TAAA	139,441	0.017814%
Alabama Higher Education Partnership	TAHP	24,854	0.003175%
Alabama Industrial Development Training	TIDT	1,179,794	0.150719%
Alabama Institute for Deaf and Blind	TAID	4,369,761	0.558237%
Alabama Retired State Employees Association	TREA	48,956	0.006254%
Alabama School of Fine Arts	THFA	513,454	0.065594%
Alabama State Employees Association	TASE	98,955	0.012642%
Alabama State University	TMST	5,262,960	0.672343%
Alabama Technology Network	TATN	530,610	0.067785%
Alabama Vocational Association	TAVA	5,279	0.000674%
Alabaster City School System	TALR	3,956,993	0.505506%
Albertville City Board of Education	TALB	2,874,339	0.367197%
Alexander City Board of Education	TALX	1,876,076	0.239669%
Andalusia City Board of Education	TADL	950,016	0.121365%
Anniston Board of Education	TANN	1,407,924	0.179862%
Arab City Board of Education	TARB	1,550,329	0.198055%
Athens City Board of Education	TATH	2,560,715	0.327131%
Athens State University	TATC	2,025,035	0.258698%
Attalla City Schools	TATT	1,024,695	0.130905%
Auburn City Board of Education	TAUB	5,160,838	0.659297%
Auburn University	TAPI	49,368,205	6.306790%
Autauga County Board of Education	TATG	5,096,265	0.651048%



SCHEDULE A (continued)

Employer	Employer Code	2017 Annualized Employer Contributions	2017 Employer Allocation Percentage
Baldwin County Board of Education	TBLD	18,666,572	2.384655%
Barbour County Schools	TBAR	582,044	0.074356%
Bessemer Board of Education	TBSM	2,390,363	0.305369%
Bevill State Community College	TWCT	2,139,552	0.273328%
Bibb County Board of Education	TBIB	2,021,140	0.258201%
Birmingham City Schools	TBMH	15,860,036	2.026120%
Bishop State Community College	TMJC	1,419,849	0.181386%
Blount County Board of Education	TBLT	4,465,021	0.570407%
Boaz City Board of Education	TBOZ	1,397,779	0.178566%
Brewton City Board of Education	TBWT	724,658	0.092575%
Bullock County Board of Education	TBLK	960,207	0.122666%
Butler County Board of Education	TBLR	1,863,584	0.238073%
Calhoun Community College	TDEC	2,757,769	0.352305%
Calhoun County Board of Education	TCAL	5,514,044	0.704419%
CAPNA, Inc.	TNCA	1,417,269	0.181056%
Central Alabama Community College	TACC	935,685	0.119534%
Chambers County Board of Education	TCHB	2,281,023	0.291401%
Chattahoochee Valley Community College	TCVS	647,209	0.082681%
Cherokee County Board of Education	TCHK	2,527,134	0.322841%
Chickasaw City School System	TCKW	604,324	0.077202%
Chilton County Board of Education	TCHT	4,249,751	0.542906%
Choctaw County Board of Education	TCHW	947,821	0.121084%
Clarke County Board of Education	TCLK	1,722,990	0.220112%
Clay County Board of Education	TCLY	1,143,900	0.146133%
Cleburne County Board of Education	TCLB	1,553,356	0.198441%
Coastal Alabama Community College	TBMC	2,901,326	0.370644%
Coffee County Board of Education	TCOF	1,189,904	0.152010%
Colbert County Board of Education	TCOL	1,980,374	0.252993%
Community Svc Programs of West Alabama	TCSP	553,785	0.070746%
Conecuh County Board of Education	TCON	1,147,431	0.146584%
Coosa County Board of Education	TCSA	637,111	0.081391%
Council for Leaders in Alabama Schools	TACA	67,160	0.008580%
Covington County Board of Education	TCOV	1,900,923	0.242843%
Crenshaw County Board of Education	TCRW	1,379,601	0.176244%

**SCHEDULE A (continued)**

Employer	Employer Code	2017 Annualized Employer Contributions	2017 Employer Allocation Percentage
Cullman City Board of Education	TCMN	1,896,438	0.242270%
Cullman County Commission on Education	TCUL	5,817,979	0.743247%
Dale County Board of Education	TDAL	1,774,933	0.226748%
Daleville City Board of Education	TDLV	623,458	0.079647%
Dallas County Board of Education	TDLS	2,219,759	0.283574%
Dauphin Island Sea Lab	TMES	568,378	0.072610%
Decatur Board of Education	TDTR	5,937,924	0.758570%
Dekalb County Board of Education	TDKB	5,281,945	0.674769%
Demopolis City Schools	TDPL	1,287,160	0.164435%
Developing Alabama Youth Foundation	TDAY	60,731	0.007758%
Dothan Board of Education	TDTN	5,562,566	0.710618%
Elba City Board of Education	TELB	450,146	0.057506%
Elmore County Board of Education	TELM	6,101,257	0.779436%
Enterprise Board of Education	TENP	3,967,136	0.506802%
Enterprise Ozark Community College	TEPC	934,689	0.119407%
Escambia County Board of Education	TESC	2,826,070	0.361031%
Etowah County Board of Education	TETH	5,048,301	0.644921%
Etowah County Community Service Program, Inc.	TECA	16,497	0.002107%
Eufaula City Board of Education	TEFL	1,705,362	0.217860%
Fairfield Board of Education	TFRF	1,095,925	0.140004%
Fayette County Board of Education	TFAY	1,392,645	0.177910%
Florence City Board of Education	TFLO	2,989,491	0.381908%
Fort Payne City Board of Education	TFTP	1,758,316	0.224625%
Franklin County Board of Education	TFRK	2,228,948	0.284748%
Gadsden City Board of Education	TGDS	3,337,046	0.426308%
Gadsden State Community College	TGDC	2,633,048	0.336372%
Gardendale Board of Education	TGBE	49,997	0.006387%
Geneva City Board of Education	TGCB	796,161	0.101710%
Geneva County Board of Education	TGEN	1,564,473	0.199861%
George Corley Wallace State Community College	TGWS	994,355	0.127029%
Greene County Board of Education	TGRN	842,429	0.107620%
Guntersville City Board of Education	TGUN	1,195,640	0.152743%
H. Councill Trenholm State Technical College	TMGT	956,033	0.122133%
Hale County Board of Education	THAL	1,551,113	0.198155%
Haleyville City Board of Education	THAV	1,042,593	0.133191%



SCHEDULE A (continued)

Employer	Employer Code	2017 Annualized Employer Contributions	2017 Employer Allocation Percentage
Hartselle City Board of Education	THCS	1,911,221	0.244159%
Henry County Board of Education	THNY	1,452,295	0.185531%
Homewood City Board of Education	THOM	3,233,148	0.413035%
Hoover City Board of Education	THOV	10,209,618	1.304279%
Houston County Board of Education	THST	3,522,773	0.450034%
Huntsville City Schools	THTS	14,439,743	1.844678%
J. F. Drake State Technical College	THVS	541,226	0.069142%
J. F. Ingram State Technical College	TDRT	895,232	0.114366%
Jackson County Board of Education	TJKS	3,671,161	0.468991%
Jacksonville City Board of Education	TJCS	905,313	0.115654%
Jacksonville State University	TJST	5,829,483	0.744717%
Jasper City Board of Education	TJSP	1,764,877	0.225463%
Jefferson County American Federation of Teachers	TJFT	22,112	0.002825%
Jefferson County Board of Education	TJEF	22,492,483	2.873415%
Jefferson State Community College	TJJC	2,609,977	0.333425%
Lamar County Schools	TLAM	1,337,527	0.170869%
Lanett City Schools	TLNT	566,499	0.072370%
Lauderdale County Board of Education	TLAU	4,833,714	0.617507%
Law Enforcement Academy--Baldwin County	TSWP	16,193	0.002069%
Law Enforcement Academy--Tuscaloosa	TLET	13,139	0.001679%
Lawrence County Board of Education	TLAW	2,937,403	0.375253%
Lawson State College	TLSC	1,698,489	0.216982%
Lee County Board of Education	TL EE	6,097,254	0.778924%
Leeds Board of Education, City of	TLDS	1,168,190	0.149236%
Limestone County Board of Education	TLST	5,483,425	0.700508%
Linden City Board of Education	TLND	339,563	0.043379%
Lowndes County Board of Education	TLDN	1,214,228	0.155118%
Lurleen B. Wallace Community College	TLUR	935,217	0.119474%
Macon County Board of Education	TMAC	1,431,646	0.182893%
Madison City Board of Education	TMDC	6,172,830	0.788579%
Madison County Board of Education	TMAD	11,784,341	1.505450%
Marengo County Board of Education	TMNG	718,659	0.091809%
Marion County Board of Education	TMAR	2,010,363	0.256824%
Marion Military Institute	TMMI	663,162	0.084719%
Marshall County Board of Education	TMSH	3,468,216	0.443065%



SCHEDULE A (continued)

Employer	Employer Code	2017 Annualized Employer Contributions	2017 Employer Allocation Percentage
Midfield City Board of Education	TMID	689,106	0.088033%
Mobile School Commissioners	TMOB	33,763,384	4.313273%
Monroe County Board of Education	TMON	2,122,736	0.271180%
Montgomery City and County Board of Education	TMTG	18,251,804	2.331668%
Morgan County Board of Education	TMOR	4,834,738	0.617638%
Mountain Brook City Board of Education	TMTB	3,924,380	0.501340%
Muscle Shoals City Schools	TMSC	1,933,924	0.247059%
Northeast Alabama Community College	TNEC	1,031,781	0.131810%
Northwest Shoals Community College	TNWC	1,472,258	0.188081%
Oneonta City Board of Education	TONE	789,331	0.100837%
Opelika City Board of Education	TOPK	3,000,095	0.383262%
Opp City Board of Education	TOPP	800,407	0.102252%
Organized Community Action Program Inc	TOCA	447,181	0.057127%
Oxford City Schools	TOXF	2,663,535	0.340267%
Ozark City Board of Education	TOZK	1,283,882	0.164016%
Pelham City Board of Education	TPLS	1,881,455	0.240356%
Pell City School System	TPEL	2,336,058	0.298431%
Perry County Board of Education	TPRY	927,578	0.118498%
Phenix City Board of Education	TPHC	3,967,176	0.506807%
Pickens County Board of Education	TPKS	1,620,743	0.207050%
Piedmont City Schools	TPMT	721,254	0.092140%
Pike County Board of Education	TPIK	1,462,625	0.186850%
Pike Road City Schools	TPRB	546,364	0.069798%
Randolph County Board of Education	TRAN	1,373,352	0.175446%
Reid State Technical College	TEVN	363,007	0.046374%
Roanoke City Schools	TROK	835,148	0.106690%
Russell County Board of Education	TRUS	2,084,737	0.266325%
Russellville City Board of Education	TRSV	1,662,921	0.212438%
Saraland Board of Education	TSAR	1,531,277	0.195621%
Satsuma City Schools	TSTM	694,553	0.088729%
School Superintendents of Alabama	TSAL	54,225	0.006927%
Scottsboro Board of Education	TSCO	1,635,532	0.208939%
Selma Public Schools	TSMA	2,151,673	0.274876%
Sheffield City Board of Education	TSHF	780,308	0.099684%
Shelby County Board of Education	TSBY	13,156,743	1.680774%



SCHEDULE A (continued)

Employer	Employer Code	2017 Annualized Employer Contributions	2017 Employer Allocation Percentage
Shelton State Community College	TTVS	2,021,807	0.258286%
Snead State Community College	TSJC	821,479	0.104944%
Southern Union State Community College	TSUC	1,496,349	0.191159%
Special Programming for Achievement Network	TBSC	260,802	0.033317%
St. Clair County Board of Education	TSTC	5,061,160	0.646563%
State of Alabama--Commission on Higher Education	TCHE	263,525	0.033665%
State of Alabama--Department of Rehab Services	TDRS	4,469,193	0.570940%
State of Alabama--Department of Post-Secondary Ed	TPSE	710,256	0.090735%
State of Alabama--Department of Youth Services	TDYS	2,071,246	0.264602%
State of Alabama--High School of Math & Science	THMS	318,524	0.040691%
State of Alabama--PEEHIP	TPHP	247,870	0.031667%
State of Alabama--State Board of Education	TSBE	5,513,418	0.704339%
State of Alabama--Teachers Retirement System	TTRS	1,553,397	0.198447%
Sumter County Board of Education	TSUM	1,135,986	0.145122%
Sylacauga City Board of Education	TSYL	1,408,693	0.179961%
Talladega City Board of Education	TTAL	1,372,921	0.175391%
Talladega County Board of Education	TTDG	4,540,628	0.580065%
Tallapoosa County Board of Education	TTPS	1,708,443	0.218254%
Tallassee City Board of Education	TTAS	1,086,042	0.138742%
Tarrant Board of Education	TTAR	774,759	0.098975%
Thomasville City Schools	TTOM	856,532	0.109422%
Troy City Board of Education	TTRY	1,234,363	0.157690%
Troy University	TTST	10,417,268	1.330806%
Trussville City Board of Education	TTCB	2,951,140	0.377008%
Tuscaloosa City Schools	TTUS	7,432,709	0.949529%
Tuscaloosa County Schools	TTLS	10,376,614	1.325613%
Tuscumbia City Board of Education	TTSC	916,211	0.117046%
University Chancellor's Office	TUCO	1,240,463	0.158469%
University of Alabama	TUVA	45,017,377	5.750971%
University of Alabama--Birmingham	TUMC	92,479,539	11.814264%
University of Alabama--Huntsville	TUAH	11,741,750	1.500009%
University of Montevallo	TALC	3,275,468	0.418441%
University of North Alabama	TFST	5,035,655	0.643305%
University of South Alabama	TUSA	23,626,710	3.018313%
University of West Alabama	TLVC	2,835,604	0.362248%



SCHEDULE A (continued)

Employer	Employer Code	2017 Annualized Employer Contributions	2017 Employer Allocation Percentage
Vestavia Hills Board of Education	TVES	5,197,645	0.663999%
Walker County Board of Education	TWLK	4,797,003	0.612817%
Wallace Community College--Dothan	TGWD	2,010,147	0.256796%
Wallace State College--Hanceville	TCUT	2,081,893	0.265962%
Washington County Board of Education	TWSH	1,704,125	0.217702%
Wilcox County Board of Education	TWIL	1,170,593	0.149543%
Winfield City Board of Education	TWFD	786,613	0.100490%
Winston Education Board	TWIN	<u>1,597,599</u>	<u>0.204093%</u>
	Total	\$ <u>782,778,694</u>	<u>100.000000%</u>



SCHEDULE B

Teachers' Retirement System of Alabama Schedule of Pension Amounts by Employer

As of and for the Fiscal Year Ended September 30, 2018 with Net Pension Liability as of September 30, 2017
(Dollar Amounts in Thousands)

Employer	Employer Code	2017 Net Pension Liability	Deferred Outflows of Resources				Deferred Inflows of Resources				Pension Expense			
			Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Plan	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Pension Expense	Proportionate Share of Contributions	Total Employer Pension Expense
Accel Academy Charter School	TACL	\$ 1,381	\$ -	\$ 82	\$ 1,077	\$ 1,159	\$ 59	\$ 83	\$ -	\$ -	\$ 142	\$ 120	\$ 256	\$ 376
Alabama A&M University	TAMI	70,713	-	4,220	219	4,439	3,032	4,228	-	343	7,603	6,113	(72)	6,041
Alabama Association of School Boards	TAAB	1,636	-	98	104	202	70	98	-	6	174	141	43	184
Alabama Education Association	TAEA	8,698	-	519	117	636	373	520	-	1,217	2,110	752	(280)	472
Alabama Fire College	TAFC	4,058	-	242	397	639	174	243	-	139	556	351	29	380
Alabama High School Athletic Association	TAAA	1,751	-	104	145	249	75	105	-	-	180	151	59	210
Alabama Higher Education Partnership	TAHP	312	-	19	19	38	13	19	-	56	88	26	(12)	14
Alabama Industrial Development Training	TIDT	14,813	-	884	547	1,431	635	886	-	10	1,531	1,281	224	1,505
Alabama Institute for Deaf and Blind	TAID	54,866	-	3,275	1,500	4,775	2,352	3,280	-	161	5,793	4,741	461	5,202
Alabama Retired State Employees Association	TREA	615	-	37	29	66	26	37	-	40	103	54	1	55
Alabama School of Fine Arts	THFA	6,447	-	385	284	669	276	385	-	65	726	556	85	641
Alabama State Employees Association	TASE	1,243	-	74	43	117	53	74	-	192	319	107	(32)	75
Alabama State University	TMST	66,081	-	3,944	678	4,622	2,833	3,951	-	8,503	15,287	5,712	(2,087)	3,625
Alabama Technology Network	TATN	6,662	-	398	-	398	286	398	-	589	1,273	576	(235)	341
Alabama Vocational Association	TAVA	66	-	4	5	9	3	4	-	8	15	5	(2)	3
Alabaster City School System	TALR	49,684	-	2,965	3,356	6,321	2,130	2,971	-	2,032	7,133	4,296	(484)	3,812
Albertville City Board of Education	TALB	36,090	-	2,154	2,774	4,928	1,547	2,158	-	-	3,705	3,119	1,042	4,161
Alexander City Board of Education	TALX	23,556	-	1,406	410	1,816	1,010	1,408	-	4	2,422	2,036	129	2,165
Andalusia City Board of Education	TADL	11,928	-	712	29	741	511	713	-	207	1,431	1,031	(47)	984
Anniston Board of Education	TANN	17,678	-	1,055	127	1,182	758	1,057	-	661	2,476	1,529	(114)	1,415
Arab City Board of Education	TARB	19,466	-	1,162	515	1,677	835	1,164	-	371	2,370	1,684	205	1,889
Athens City Board of Education	TATH	32,152	-	1,919	2,510	4,429	1,378	1,922	-	-	3,300	2,778	813	3,591
Athens State University	TATC	25,426	-	1,518	1,052	2,570	1,090	1,520	-	410	3,020	2,197	1	2,198
Attalla City Schools	TATT	12,866	-	768	214	982	552	769	-	250	1,571	1,112	65	1,177
Auburn City Board of Education	TAUB	64,799	-	3,868	3,309	7,177	2,778	3,874	-	-	6,652	5,601	1,357	6,958
Auburn University	TAPI	619,862	-	36,996	34,836	71,832	26,575	37,061	-	-	63,636	53,583	11,924	65,507
Autauga County Board of Education	TATG	63,988	-	3,819	575	4,394	3,826	5,332	-	464	7,033	5,532	54	5,586
Baldwin County Board of Education	TBLD	234,375	-	13,989	9,784	23,773	10,048	14,013	-	-	24,061	20,259	4,502	24,761
Barbour County Schools	TBAR	7,308	-	436	-	436	313	437	-	622	1,372	632	(247)	385
Bessemer Board of Education	TBSM	30,013	-	1,791	-	1,791	1,287	1,794	-	1,223	4,304	2,595	(426)	2,169
Bevill State Community College	TWCT	26,864	-	1,603	1,617	3,220	1,152	1,606	-	517	3,275	2,323	117	2,440
Bibb County Board of Education	TBIB	25,377	-	1,515	330	1,845	1,088	1,517	-	314	2,919	2,193	(6)	2,187
Birmingham City Schools	TBMH	199,137	-	11,885	848	12,733	8,537	11,906	-	3,887	24,330	17,213	(1,628)	15,585
Bishop State Community College	TMJC	17,827	-	1,064	-	1,064	764	1,066	-	3,805	5,635	1,540	(1,144)	396
Blount County Board of Education	TBLT	56,062	-	3,346	57	3,403	2,404	3,352	-	487	6,243	4,846	(107)	4,739
Boaz City Board of Education	TBOZ	17,550	-	1,047	370	1,417	752	1,049	-	-	1,801	1,516	122	1,638
Brewton City Board of Education	TBWT	9,099	-	543	120	663	390	544	-	93	1,027	787	(24)	763
Bullock County Board of Education	TBLK	12,056	-	720	-	720	517	721	-	406	1,644	1,042	(134)	908



SCHEDULE B (continued)

Employer	Employer Code	2017 Net Pension Liability	Deferred Outflows of Resources				Deferred Inflows of Resources				Pension Expense			
			Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
Butler County Board of Education	TBLR	23,399	-	1,397	303	1,700	1,003	1,399	-	1,305	3,707	2,021	(308)	1,713
Calhoun Community College	TDEC	34,626	-	2,067	1,706	3,773	1,485	2,070	-	103	3,658	2,992	463	3,455
Calhoun County Board of Education	TCAL	69,234	-	4,132	724	4,856	2,968	4,139	-	639	7,746	5,985	93	6,078
CAPNA, Inc.	TNCA	17,795	-	1,062	2,294	3,356	763	1,064	-	-	1,827	1,538	1,305	2,843
Central Alabama Community College	TACC	11,748	-	701	208	909	504	702	-	551	1,757	1,016	(200)	816
Chambers County Board of Education	TCHB	28,640	-	1,709	248	1,957	1,228	1,712	-	234	3,174	2,476	55	2,531
Chattahoochee Valley Community College	TCVS	8,126	-	485	15	500	348	486	-	260	1,094	701	(68)	633
Cherokee County Board of Education	TCHK	31,730	-	1,894	391	2,285	1,360	1,897	-	64	3,321	2,742	86	2,828
Chickasaw City School System	TCKW	7,588	-	453	1,159	1,612	325	454	-	-	779	656	422	1,078
Chilton County Board of Education	TCHT	53,359	-	3,185	1,399	4,584	2,288	3,190	-	-	5,478	4,611	366	4,977
Choctaw County Board of Education	TCHW	11,901	-	710	-	710	510	712	-	522	1,744	1,029	(199)	830
Clarke County Board of Education	TCLK	21,634	-	1,291	-	1,291	927	1,293	-	1,703	3,923	1,870	(566)	1,304
Clay County Board of Education	TCLY	14,363	-	857	51	908	616	859	-	359	1,834	1,244	(65)	1,179
Cleburne County Board of Education	TCLB	19,504	-	1,164	289	1,453	836	1,166	-	765	2,767	1,686	7	1,693
Coastal Alabama Community College	TBMC	36,429	-	2,174	798	2,972	1,562	2,178	-	279	4,019	3,150	4	3,154
Coffee County Board of Education	TCOF	14,940	-	892	679	1,571	641	893	-	-	1,534	1,291	242	1,533
Colbert County Board of Education	TCOL	24,865	-	1,484	218	1,702	1,066	1,487	-	372	2,925	2,150	(129)	2,021
Community Svc Programs of West Alabama	TCSP	6,953	-	415	-	415	298	416	-	812	1,526	601	(282)	319
Conecuh County Board of Education	TCON	14,407	-	860	213	1,073	618	861	-	537	2,016	1,245	(152)	1,093
Coosa County Board of Education	TCSA	7,999	-	477	-	477	343	478	-	745	1,566	691	(310)	381
Council for Leaders in Alabama Schools	TACA	843	-	50	15	65	36	50	-	7	93	72	4	76
Covington County Board of Education	TCOV	23,868	-	1,425	258	1,683	1,023	1,427	-	19	2,469	2,063	86	2,149
Crenshaw County Board of Education	TCRW	17,322	-	1,034	567	1,601	743	1,036	-	43	1,822	1,498	133	1,631
Cullman City Board of Education	TCMN	23,811	-	1,421	328	1,749	1,021	1,424	-	90	2,535	2,059	120	2,179
Cullman County Commission on Education	TCUL	73,050	-	4,360	632	4,992	3,132	4,368	-	374	7,874	6,315	266	6,581
Dale County Board of Education	TDAL	22,286	-	1,330	642	1,972	955	1,332	-	-	2,287	1,926	218	2,144
Daleville City Board of Education	TDLV	7,828	-	467	21	488	336	468	-	749	1,553	676	(207)	469
Dallas County Board of Education	TDLS	27,871	-	1,663	-	1,663	1,195	1,666	-	1,151	4,012	2,408	(426)	1,982
Dauphin Island Sea Lab	TMES	7,136	-	426	649	1,075	306	427	-	128	861	617	132	749
Decatur Board of Education	TDTR	74,556	-	4,450	92	4,542	3,196	4,458	-	1,423	9,077	6,444	(646)	5,798
Dekalb County Board of Education	TDKB	66,320	-	3,958	1,433	5,391	2,843	3,965	-	-	6,808	5,733	535	6,268
Demopolis City Schools	TDPL	16,161	-	965	74	1,039	693	966	-	141	1,800	1,396	13	1,409
Developing Alabama Youth Foundation	TDAY	762	-	46	52	98	33	46	-	29	108	65	30	95
Dothan Board of Education	TDTN	69,843	-	4,169	969	5,138	2,994	4,176	-	1,142	8,312	6,038	249	6,287
Elba City Board of Education	TELB	5,652	-	337	-	337	242	338	-	210	790	489	(102)	387
Elmore County Board of Education	TELM	76,607	-	4,572	559	5,131	3,284	4,580	-	194	8,058	6,621	111	6,732
Enterprise Board of Education	TENP	49,811	-	2,973	1,871	4,844	2,136	2,978	-	130	5,244	4,307	595	4,902
Enterprise Ozark Community College	TEPC	11,736	-	700	519	1,219	503	702	-	1,757	2,962	1,016	(725)	291
Escambia County Board of Education	TESC	35,484	-	2,118	53	2,171	1,521	2,122	-	209	3,852	3,067	(69)	2,998
Etowah County Board of Education	TETH	63,386	-	3,783	16	3,799	2,718	3,790	-	778	7,286	5,481	(233)	5,248
Etowah County Community Service Program, Inc.	TECA	207	-	12	2	14	9	12	-	53	74	17	(25)	(8)
Eufaula City Board of Education	TEFL	21,412	-	1,278	335	1,613	918	1,280	-	99	2,297	1,850	81	1,931
Fairfield Board of Education	TFRF	13,760	-	821	189	1,010	590	823	-	419	1,832	1,190	(30)	1,160
Fayette County Board of Education	TFAY	17,486	-	1,044	35	1,079	750	1,045	-	770	2,565	1,510	(241)	1,269
Florence City Board of Education	TFLO	37,536	-	2,240	321	2,561	1,609	2,244	-	806	4,659	3,245	(193)	3,052
Fort Payne City Board of Education	TFTP	22,077	-	1,318	492	1,810	947	1,320	-	20	2,287	1,908	201	2,109
Franklin County Board of Education	TFRK	27,986	-	1,670	1,438	3,108	1,200	1,673	-	-	2,873	2,419	458	2,877



SCHEDULE B (continued)

			Deferred Outflows of Resources				Deferred Inflows of Resources					Pension Expense			
Employer	Employer Code	2017 Net Pension Liability	Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	
					Proportionate Share of Contributions	Resources					Proportionate Share of Contributions	Total Deferred Inflows of Resources		Proportionate Share of Contributions	Total Employer Pension Expense
Gadsden City Board of Education	TGDS	41,900	-	2,501	497	2,998	1,796	2,505	-	755	5,056	3,622	75	3,697	
Gadsden State Community College	TGDC	33,060	-	1,973	-	1,973	1,417	1,977	-	2,245	5,639	2,857	(940)	1,917	
Gardendale Board of Education	TGBE	628	-	37	150	187	27	38	-	19	84	56	110	166	
Geneva City Board of Education	TGCB	9,997	-	597	329	926	429	598	-	-	1,027	865	115	980	
Geneva County Board of Education	TGEN	19,643	-	1,172	587	1,759	842	1,174	-	13	2,029	1,697	266	1,963	
George Corley Wallace State Community College	TGWS	12,485	-	745	176	921	535	746	-	606	1,887	1,079	(154)	925	
Greene County Board of Education	TGRN	10,577	-	631	110	741	453	632	-	261	1,346	913	(107)	806	
Guntersville City Board of Education	TGUN	15,012	-	896	188	1,084	644	898	-	501	2,043	1,298	(24)	1,274	
H. Council Trenholm State Technical College	TMGT	12,004	-	716	477	1,193	515	718	-	1,118	2,351	1,039	(345)	694	
Hale County Board of Education	THAL	19,476	-	1,162	4	1,166	835	1,164	-	985	2,984	1,685	(277)	1,408	
Haleyville City Board of Education	THAV	13,091	-	781	63	844	561	783	-	44	1,388	1,132	(3)	1,129	
Hartselle City Board of Education	THCS	23,997	-	1,432	203	1,635	1,029	1,435	-	424	2,888	2,074	36	2,110	
Henry County Board of Education	THNY	18,235	-	1,088	13	1,101	782	1,090	-	203	2,075	1,576	(57)	1,519	
Homewood City Board of Education	THOM	40,595	-	2,423	924	3,347	1,740	2,427	-	1,279	5,446	3,508	(152)	3,356	
Hoover City Board of Education	THOV	128,191	-	7,651	948	8,599	5,496	7,665	-	2,525	15,686	11,082	(161)	10,921	
Houston County Board of Education	THST	44,231	-	2,640	585	3,225	1,896	2,645	-	-	4,541	3,822	237	4,059	
Huntsville City Schools	THTS	181,304	-	10,821	1,363	12,184	7,773	10,840	-	1,973	20,586	15,672	(463)	15,209	
J. F. Drake State Technical College	THVS	6,796	-	406	112	518	291	406	-	642	1,339	587	(105)	482	
J. F. Ingram State Technical College	TDRT	11,240	-	671	162	833	482	672	-	800	1,954	971	(156)	815	
Jackson County Board of Education	TJKS	46,095	-	2,751	84	2,835	1,976	2,756	-	322	5,054	3,985	(76)	3,909	
Jacksonville City Board of Education	TJCS	11,367	-	678	78	756	487	680	-	106	1,273	983	7	990	
Jacksonville State University	TJST	73,194	-	4,369	873	5,242	3,138	4,376	-	279	7,793	6,327	218	6,545	
Jasper City Board of Education	TJSP	22,160	-	1,323	67	1,390	950	1,325	-	759	3,034	1,915	(205)	1,710	
Jefferson County American Federation of Teachers	TJFT	278	-	17	30	47	12	17	-	47	76	24	2	26	
Jefferson County Board of Education	TJEF	282,413	-	16,856	533	17,389	12,108	16,885	-	2,625	31,618	24,412	(570)	23,842	
Jefferson State Community College	TJJC	32,771	-	1,956	564	2,520	1,405	1,959	-	144	3,508	2,832	37	2,869	
Lamar County Schools	TLAM	16,794	-	1,002	74	1,076	720	1,004	-	111	1,835	1,452	12	1,464	
Lanett City Schools	TLNT	7,113	-	425	241	666	305	425	-	120	850	613	91	704	
Lauderdale County Board of Education	TLAU	60,692	-	3,622	160	3,782	2,602	3,629	-	398	6,629	5,247	(16)	5,231	
Law Enforcement Academy--Baldwin County	TSWP	203	-	12	55	67	9	12	-	13	34	17	25	42	
Law Enforcement Academy--Tuscaloosa	TLET	165	-	10	6	16	7	10	-	59	76	13	(39)	(26)	
Lawrence County Board of Education	TLAW	36,882	-	2,201	54	2,255	1,581	2,205	-	1,467	5,253	3,188	(479)	2,709	
Lawson State College	TLSC	21,326	-	1,273	604	1,877	914	1,275	-	349	2,538	1,843	(102)	1,741	
Lee County Board of Education	TLEE	76,556	-	4,569	1,442	6,011	3,282	4,577	-	152	8,011	6,617	735	7,352	
Leeds Board of Education, City of	TLDS	14,668	-	875	1,094	1,969	629	877	-	-	1,506	1,269	401	1,670	
Limestone County Board of Education	TLST	68,849	-	4,109	1,912	6,021	2,952	4,116	-	384	7,452	5,952	865	6,817	
Linden City Board of Education	TLND	4,263	-	254	166	420	183	255	-	128	566	369	18	387	
Lowndes County Board of Education	TLDN	15,246	-	910	-	910	654	912	-	2,174	3,740	1,319	(797)	522	
Lurleen B. Wallace Community College	TLUR	11,742	-	701	325	1,026	503	702	-	403	1,608	1,014	(56)	958	
Macon County Board of Education	TMAC	17,976	-	1,073	43	1,116	771	1,075	-	1,218	3,064	1,554	(436)	1,118	
Madison City Board of Education	TMDC	77,505	-	4,626	3,797	8,423	3,323	4,634	-	-	7,957	6,699	1,350	8,049	
Madison County Board of Education	TMAD	147,963	-	8,831	209	9,040	6,344	8,847	-	618	15,809	12,792	(48)	12,744	
Marengo County Board of Education	TMNG	9,023	-	539	-	539	387	540	-	844	1,771	780	(419)	361	
Marion County Board of Education	TMAR	25,242	-	1,507	252	1,759	1,082	1,509	-	342	2,933	2,181	(122)	2,059	
Marion Military Institute	TMMI	8,327	-	497	775	1,272	357	498	-	-	855	720	277	997	
Marshall County Board of Education	TMSH	43,547	-	2,599	220	2,819	1,867	2,604	-	595	5,066	3,766	(192)	3,574	
Midfield City Board of Education	TMID	8,652	-	516	-	516	371	517	-	355	1,243	749	(140)	609	



SCHEDULE B (continued)

			Deferred Outflows of Resources				Deferred Inflows of Resources					Pension Expense		
					Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources		Net Difference Between Projected and Actual Investment Earnings on Pension Plan		Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources		Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	
Employer	Employer Code	2017 Net Pension Liability	Differences Between Expected and Actual Experience	Change of Assumptions			Differences Between Expected and Actual Experience		Change of Assumptions			Proportionate Share of Plan Pension Expense		Total Employer Pension Expense
Mobile School Commissioners	TMOB	423,929	-	25,302	-	25,302	18,175	25,347	-	7,904	51,426	36,646	(2,615)	34,031
Monroe County Board of Education	TMON	26,653	-	1,591	3	1,594	1,143	1,594	-	437	3,174	2,304	(166)	2,138
Montgomery City and County Board of Education	TMTG	229,167	-	13,678	860	14,538	9,825	13,702	-	1,361	24,888	19,810	(192)	19,618
Morgan County Board of Education	TMOR	60,704	-	3,623	529	4,152	2,603	3,630	-	485	6,718	5,248	92	5,340
Mountain Brook City Board of Education	TMTB	49,274	-	2,941	501	3,442	2,112	2,946	-	214	5,272	4,259	196	4,455
Muscle Shoals City Schools	TMSC	24,282	-	1,449	1,434	2,883	1,041	1,452	-	-	2,493	2,099	486	2,585
Northeast Alabama Community College	TNEC	12,955	-	773	262	1,035	555	775	-	120	1,450	1,121	48	1,169
Northwest Shoals Community College	TNWC	18,486	-	1,103	21	1,124	793	1,105	-	946	2,844	1,599	(289)	1,310
Oneonta City Board of Education	TONE	9,911	-	592	96	688	425	593	-	49	1,067	857	3	860
Opelika City Board of Education	TOPK	37,669	-	2,248	859	3,107	1,615	2,252	-	17	3,884	3,256	222	3,478
Opp City Board of Education	TOPP	10,050	-	600	159	759	431	601	-	-	1,032	869	63	932
Organized Community Action Program Inc	TOCA	5,615	-	335	245	580	241	336	-	133	710	486	92	578
Oxford City Schools	TOXF	33,443	-	1,996	523	2,519	1,434	2,000	-	-	3,434	2,891	173	3,064
Ozark City Board of Education	TOZK	16,120	-	962	77	1,039	691	964	-	1,443	3,098	1,394	(405)	989
Pelham City Board of Education	TPLS	23,623	-	1,410	5,545	6,955	1,013	1,412	-	476	2,901	2,041	4,141	6,182
Pell City School System	TPEL	29,331	-	1,751	55	1,806	1,257	1,754	-	401	3,412	2,535	(99)	2,436
Perry County Board of Education	TPRY	11,647	-	695	-	695	499	696	-	1,394	2,589	1,006	(499)	507
Phenix City Board of Education	TPHC	49,811	-	2,973	1,233	4,206	2,136	2,978	-	868	5,982	4,306	256	4,562
Pickens County Board of Education	TPKS	20,350	-	1,215	-	1,215	872	1,217	-	507	2,596	1,760	(254)	1,506
Piedmont City Schools	TPMT	9,056	-	541	232	773	388	541	-	77	1,006	781	111	892
Pike County Board of Education	TPIK	18,365	-	1,096	170	1,266	787	1,098	-	30	1,915	1,588	26	1,614
Pike Road City Schools	TPRB	6,860	-	409	3,467	3,876	294	410	-	-	704	593	1,265	1,858
Randolph County Board of Education	TRAN	17,244	-	1,029	404	1,433	739	1,031	-	269	2,039	1,491	30	1,521
Reid State Technical College	TEVN	4,558	-	272	53	325	195	273	-	1,181	1,649	395	(318)	77
Roanoke City Schools	TROK	10,486	-	626	89	715	450	627	-	46	1,123	907	37	944
Russell County Board of Education	TRUS	26,176	-	1,562	613	2,175	1,122	1,565	-	-	2,687	2,262	293	2,555
Russellville City Board of Education	TRSV	20,879	-	1,246	854	2,100	895	1,248	-	-	2,143	1,804	309	2,113
Saraland Board of Education	TSAR	19,227	-	1,148	1,817	2,965	824	1,150	-	-	1,974	1,662	799	2,461
Satsuma City Schools	TSTM	8,721	-	520	365	885	374	521	-	59	954	754	153	907
School Superintendents of Alabama	TSAL	681	-	41	176	217	29	41	-	-	70	59	62	121
Scottsboro Board of Education	TSCO	20,536	-	1,226	186	1,412	880	1,228	-	840	2,948	1,774	(131)	1,643
Selma Public Schools	TSMA	27,016	-	1,612	501	2,113	1,158	1,615	-	1,764	4,537	2,335	(272)	2,063
Sheffield City Board of Education	TSHF	9,797	-	585	74	659	420	586	-	391	1,397	846	(74)	772
Shelby County Board of Education	TSBY	165,195	-	9,860	1,258	11,118	7,082	9,877	-	17,246	34,205	14,280	(9,817)	4,463
Shelton State Community College	TTVS	25,386	-	1,515	-	1,515	1,088	1,518	-	1,257	3,863	2,195	(399)	1,796
Snead State Community College	TSJC	10,314	-	616	350	966	442	617	-	5	1,064	890	96	986
Southern Union State Community College	TSUC	18,788	-	1,121	323	1,444	805	1,123	-	699	2,627	1,623	(186)	1,437
Special Programming for Achievement Network	TBSC	3,275	-	195	93	288	140	196	-	85	421	284	(11)	273
St. Clair County Board of Education	TSTC	63,547	-	3,793	1,493	5,286	2,724	3,799	-	-	6,523	5,492	625	6,117
State of Alabama--Commission on Higher Education	TCHE	3,309	-	197	185	382	142	198	-	3	343	286	96	382
State of Alabama--Department of Rehab Services	TDRS	56,115	-	3,349	1,034	4,383	2,406	3,355	-	2,047	7,808	4,851	14	4,865
State of Alabama--Department of Post-Secondary Ed	TPSE	8,918	-	532	1,748	2,280	382	533	-	191	1,106	771	346	1,117
State of Alabama--Department of Youth Services	TDYS	26,006	-	1,552	-	1,552	1,115	1,555	-	2,434	5,104	2,248	(1,060)	1,188
State of Alabama--High School of Math & Science	THMS	3,999	-	239	272	511	171	239	-	119	529	345	81	426
State of Alabama--PEEHIP	TPHP	3,112	-	186	229	415	133	186	-	17	336	269	96	365
State of Alabama--State Board of Education	TSBE	69,226	-	4,132	1,947	6,079	2,968	4,139	-	4,540	11,647	5,984	103	6,087
State of Alabama--Teachers Retirement System	TTRS	19,504	-	1,164	1,678	2,842	836	1,166	-	104	2,106	1,685	687	2,372



SCHEDULE B (continued)

Employer	Employer Code	2017 Net Pension Liability	Deferred Outflows of Resources				Deferred Inflows of Resources				Pension Expense			
			Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions		Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	
					Proportionate Share of Contributions	Total Deferred Outflows of Resources				Proportionate Share of Contributions	Total Deferred Inflows of Resources		Proportionate Share of Contributions	Total Employer Pension Expense
Sumter County Board of Education	TSUM	14,263	-	851	180	1,031	612	853	-	839	2,304	1,233	(317)	916
Sylacauga City Board of Education	TSYL	17,687	-	1,056	155	1,211	758	1,058	-	703	2,519	1,528	(115)	1,413
Talladega City Board of Education	TTAL	17,238	-	1,029	1,130	2,159	739	1,031	-	1,009	2,779	1,490	(141)	1,349
Talladega County Board of Education	TTDG	57,012	-	3,403	121	3,524	2,444	3,409	-	602	6,455	4,928	(128)	4,800
Tallapoosa County Board of Education	TTPS	21,451	-	1,280	395	1,675	920	1,283	-	802	3,005	1,856	(142)	1,714
Tallassee City Board of Education	TTAS	13,636	-	814	168	982	585	815	-	179	1,579	1,179	52	1,231
Tarrant Board of Education	TTAR	9,728	-	581	152	733	417	582	-	152	1,151	841	(13)	828
Thomasville City Schools	TTOM	10,755	-	642	23	665	461	643	-	41	1,145	930	7	937
Troy City Board of Education	TTRY	15,499	-	925	-	925	664	927	-	684	2,275	1,339	(306)	1,033
Troy University	TTST	130,798	-	7,807	369	8,176	5,608	7,820	-	10,428	23,856	11,307	(2,729)	8,578
Trussville City Board of Education	TTCB	37,054	-	2,212	2,276	4,488	1,589	2,215	-	-	3,804	3,203	695	3,898
Tuscaloosa City Schools	TTUS	93,324	-	5,570	4,498	10,068	4,001	5,580	-	748	10,329	8,068	982	9,050
Tuscaloosa County Schools	TTLS	130,288	-	7,776	4,887	12,663	5,586	7,790	-	-	13,376	11,263	1,848	13,111
Tuscumbia City Board of Education	TTSC	11,504	-	687	115	802	493	688	-	74	1,255	995	33	1,028
University Chancellor's Office	TUCO	15,575	-	930	1,445	2,375	668	931	-	1,010	2,609	1,345	209	1,554
University of Alabama	TUVA	565,233	-	33,736	32,815	66,551	24,233	33,795	-	602	58,630	48,860	13,358	62,218
University of Alabama--Birmingham	TUMC	1,161,162	-	69,307	-	69,307	49,787	69,426	-	27,849	147,062	100,395	(14,196)	86,199
University of Alabama--Huntsville	TUAH	147,428	-	8,799	1,921	10,720	6,321	8,815	-	5,715	20,851	12,745	(605)	12,140
University of Montevallo	TALC	41,126	-	2,455	2,382	4,837	1,763	2,459	-	-	4,222	3,554	929	4,483
University of North Alabama	TFST	63,227	-	3,774	1,985	5,759	2,711	3,780	-	470	6,961	5,465	630	6,095
University of South Alabama	TUSA	296,654	-	17,706	-	17,706	12,718	17,737	-	21,769	52,224	25,644	(8,852)	16,792
University of West Alabama	TLVC	35,603	-	2,125	1,789	3,914	1,526	2,129	-	-	3,655	3,077	795	3,872
Vestavia Hills Board of Education	TVES	65,261	-	3,895	2,043	5,938	2,798	3,902	-	-	6,700	5,642	832	6,474
Walker County Board of Education	TWLK	60,231	-	3,595	48	3,643	2,582	3,601	-	1,121	7,304	5,205	(388)	4,817
Wallace Community College--Dothan	TGWD	25,239	-	1,506	540	2,046	1,082	1,509	-	-	2,591	2,182	250	2,432
Wallace State College--Hanceville	TCUT	26,140	-	1,560	516	2,076	1,121	1,563	-	37	2,721	2,261	115	2,376
Washington County Board of Education	TWSH	21,397	-	1,277	-	1,277	917	1,279	-	991	3,187	1,850	(428)	1,422
Wilcox County Board of Education	TWIL	14,698	-	877	-	877	630	879	-	657	2,166	1,270	(214)	1,056
Winfield City Board of Education	TWFD	9,877	-	589	358	947	423	591	-	-	1,014	855	126	981
Winston Education Board	TWIN	20,059	-	1,197	87	1,284	860	1,199	-	1,095	3,154	1,733	(244)	1,489
Total for All Entities		\$ 9,828,479	\$ -	\$ 586,611	\$ 203,214	\$ 789,825	\$ 421,370	\$ 587,643	\$ -	\$ 203,214	\$ 1,212,227	\$ 849,606	\$ -	\$ 849,606



SCHEDULE C

Teachers' Retirement System of Alabama Schedule of Discount Rate Sensitivity, Amortization of Deferred Outflows/(Inflows) and Employer Contribution As of and for the Fiscal Year Ending September 30, 2018 (Dollar Amounts in Thousands)

Employer	Employer Code	NPL @ Minus 1% (6.75%)	NPL @ Plus 1% (8.75%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2017 Actual Employer Contributions
				2019	2020	2021	2022	2023	Thereafter	
Accel Academy Charter School	TACL	\$ 1,905	\$ 938	\$ 243	\$ 267	\$ 227	\$ 229	\$ 51	\$ 0	\$ 12
Alabama A&M University	TAMI	97,536	48,023	(726)	528	(1,483)	(1,401)	(82)	0	5,632
Alabama Association of School Boards	TAAB	2,256	1,111	28	53	(23)	(31)	1	0	130
Alabama Education Association	TAEA	11,997	5,907	(360)	(277)	(482)	(328)	(27)	0	693
Alabama Fire College	TAFC	5,598	2,756	(9)	87	(17)	6	16	0	323
Alabama High School Athletic Association	TAAA	2,415	1,189	43	60	(11)	(23)	0	0	139
Alabama Higher Education Partnership	TAHP	430	212	(15)	(3)	(14)	(18)	0	0	25
Alabama Industrial Development Training	TIDT	20,432	10,060	87	288	(199)	(259)	(17)	0	1,180
Alabama Institute for Deaf and Blind	TAID	75,678	37,261	(46)	785	(934)	(819)	(4)	0	4,370
Alabama Retired State Employees Association	TREA	848	417	(5)	7	(20)	(19)	0	0	49
Alabama School of Fine Arts	THFA	8,892	4,378	25	140	(92)	(124)	(6)	0	513
Alabama State Employees Association	TASE	1,714	844	(43)	(21)	(62)	(66)	(10)	0	99
Alabama State University	TMST	91,147	44,877	(2,698)	(1,915)	(3,426)	(2,403)	(223)	0	5,263
Alabama Technology Network	TATN	9,189	4,524	(297)	(126)	(247)	(191)	(14)	0	531
Alabama Vocational Association	TAVA	91	45	(3)	(1)	(2)	(1)	1	0	5
Alabaster City School System	TALR	68,530	33,741	(943)	1,014	(415)	(503)	35	0	3,957
Albertville City Board of Education	TALB	49,780	24,510	708	1,133	(268)	(371)	21	0	2,874
Alexander City Board of Education	TALX	32,491	15,997	(89)	299	(399)	(404)	(13)	0	1,876
Andalusia City Board of Education	TADL	16,453	8,101	(157)	32	(295)	(256)	(14)	0	950
Anniston Board of Education	TANN	24,383	12,005	(277)	7	(551)	(444)	(29)	0	1,408
Arab City Board of Education	TARB	26,850	13,220	25	255	(481)	(460)	(32)	0	1,550
Athens City Board of Education	TATH	44,348	21,835	516	985	(84)	(299)	11	0	2,561
Athens State University	TATC	35,071	17,267	(234)	352	(279)	(299)	10	0	2,025
Attalla City Schools	TATT	17,746	8,738	(54)	116	(314)	(310)	(27)	0	1,025
Auburn City Board of Education	TAUB	89,378	44,006	758	1,546	(786)	(968)	(25)	0	5,161
Auburn University	TAPI	854,988	420,963	6,194	15,867	(5,894)	(7,966)	(5)	0	49,368
Autauga County Board of Education	TATG	88,260	43,456	(537)	562	(1,288)	(1,291)	(85)	0	5,096
Baldwin County Board of Education	TBLD	323,279	159,170	2,335	5,148	(3,679)	(3,952)	(140)	0	18,667
Barbour County Schools	TBAR	10,080	4,963	(315)	(159)	(271)	(183)	(8)	0	582
Bessemer Board of Education	TBSM	41,398	20,383	(703)	(124)	(908)	(726)	(52)	0	2,390
Bevill State Community College	TWCT	37,054	18,244	(131)	418	(240)	(151)	49	0	2,140
Bibb County Board of Education	TBIB	35,003	17,234	(241)	272	(538)	(535)	(32)	0	2,021
Birmingham City Schools	TBMH	274,673	135,239	(3,469)	782	(4,782)	(3,955)	(173)	0	15,860
Bishop State Community College	TMJC	24,590	12,107	(1,309)	(926)	(1,278)	(945)	(113)	0	1,420
Blount County Board of Education	TBLT	77,328	38,073	(625)	319	(1,331)	(1,144)	(59)	0	4,465
Boaz City Board of Education	TBOZ	24,208	11,919	(40)	246	(283)	(296)	(11)	0	1,398
Brewton City Board of Education	TBWT	12,550	6,179	(108)	70	(168)	(151)	(7)	0	725
Bullock County Board of Education	TBLK	16,629	8,188	(245)	(23)	(357)	(283)	(16)	0	960
Butler County Board of Education	TBLR	32,275	15,891	(524)	(4)	(753)	(667)	(59)	0	1,864
Calhoun Community College	TDEC	47,761	23,516	143	800	(368)	(457)	(3)	0	2,758
Calhoun County Board of Education	TCAL	95,495	47,018	(547)	703	(1,488)	(1,463)	(95)	0	5,514
CAPNA, Inc.	TNCA	24,545	12,085	1,141	885	(194)	(293)	(10)	0	1,417
Central Alabama Community College	TACC	16,205	7,979	(309)	26	(313)	(244)	(8)	0	936
Chambers County Board of Education	TCHB	39,504	19,450	(210)	211	(612)	(573)	(33)	0	2,281
Chattahoochee Valley Community College	TCVS	11,209	5,519	(143)	8	(227)	(212)	(20)	0	647
Cherokee County Board of Education	TCHK	43,766	21,549	(207)	332	(573)	(565)	(23)	0	2,527
Chickasaw City School System	TCKW	10,466	5,153	352	375	97	(3)	12	0	604
Chilton County Board of Education	TCHT	73,600	36,238	(127)	795	(803)	(759)	0	0	4,250
Choctaw County Board of Education	TCHW	16,415	8,082	(309)	(54)	(351)	(299)	(21)	0	948
Clarke County Board of Education	TCLK	29,840	14,692	(766)	(368)	(823)	(623)	(52)	0	1,723



SCHEDULE C (continued)

Employer	Employer Code	NPL @ Minus 1% (6.75%)	NPL @ Plus 1% (8.75%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2017 Actual Employer Contributions
				2019	2020	2021	2022	2023	Thereafter	
Clay County Board of Education	TCLY	19,811	9,754	(198)	29	(405)	(330)	(22)	0	1,144
Cleburne County Board of Education	TCLB	26,902	13,245	(173)	52	(599)	(543)	(51)	0	1,553
Coastal Alabama Community College	TBMC	50,247	24,740	(333)	403	(597)	(521)	1	0	2,901
Coffee County Board of Education	TCOF	20,607	10,146	104	342	(174)	(229)	(6)	0	1,190
Colbert County Board of Education	TCOL	34,297	16,887	(359)	116	(524)	(440)	(16)	0	1,980
Community Svc Programs of West Alabama	TCSP	9,591	4,722	(346)	(156)	(311)	(267)	(31)	0	554
Conecuh County Board of Education	TCON	19,872	9,784	(285)	(13)	(377)	(263)	(5)	0	1,147
Coosa County Board of Education	TCSA	11,034	5,433	(384)	(157)	(302)	(228)	(18)	0	637
Council for Leaders in Alabama Schools	TACA	1,163	573	(4)	9	(15)	(16)	(2)	0	67
Covington County Board of Education	TCOV	32,921	16,209	(135)	283	(457)	(455)	(22)	0	1,901
Crenshaw County Board of Education	TCRW	23,893	11,764	(27)	279	(212)	(252)	(9)	0	1,380
Cullman City Board of Education	TCMN	32,844	16,171	(100)	278	(495)	(448)	(21)	0	1,896
Cullman County Commission on Education	TCUL	100,759	49,610	(409)	702	(1,631)	(1,466)	(78)	0	5,818
Dale County Board of Education	TDAL	30,739	15,135	12	346	(352)	(322)	1	0	1,775
Daleville City Board of Education	TDLV	10,797	5,316	(279)	(153)	(347)	(263)	(23)	0	623
Dallas County Board of Education	TDLS	38,443	18,928	(684)	(138)	(839)	(649)	(39)	0	2,220
Dauphin Island Sea Lab	TMES	9,843	4,847	66	172	3	(37)	10	0	568
Decatur Board of Education	TDTR	102,836	50,633	(1,335)	52	(1,724)	(1,456)	(72)	0	5,938
Dekalb County Board of Education	TDKB	91,476	45,039	(78)	965	(1,141)	(1,126)	(37)	0	5,282
Demopolis City Schools	TDPL	22,292	10,976	(136)	112	(380)	(338)	(19)	0	1,287
Developing Alabama Youth Foundation	TDAY	1,052	518	23	11	(26)	(17)	(1)	0	61
Dothan Board of Education	TDTN	96,336	47,432	(397)	645	(1,715)	(1,596)	(111)	0	5,563
Elba City Board of Education	TELB	7,796	3,838	(154)	(20)	(152)	(122)	(5)	0	450
Elmore County Board of Education	TELM	105,665	52,025	(597)	666	(1,535)	(1,399)	(62)	0	6,101
Enterprise Board of Education	TENP	68,705	33,828	135	838	(744)	(643)	14	0	3,967
Enterprise Ozark Community College	TEPC	16,188	7,970	(833)	(428)	(344)	(147)	9	0	935
Escambia County Board of Education	TESC	48,944	24,098	(397)	223	(781)	(691)	(35)	0	2,826
Etowah County Board of Ed	TETH	87,430	43,047	(819)	271	(1,519)	(1,339)	(81)	0	5,048
Etowah County Community Service Program, Inc.	TECA	286	141	(27)	(19)	(9)	(4)	(1)	0	16
Eufaula City Board of Education	TEFL	29,534	14,542	(117)	218	(389)	(378)	(18)	0	1,705
Fairfield Board of Education	TFRF	18,980	9,345	(157)	96	(369)	(359)	(33)	0	1,096
Fayette County Board of Education	TFAY	24,119	11,875	(403)	(117)	(544)	(403)	(19)	0	1,393
Florence City Board of Education	TFLO	51,774	25,491	(540)	234	(872)	(856)	(64)	0	2,989
Fort Payne City Board of Education	TFTP	30,452	14,993	(3)	335	(378)	(409)	(22)	0	1,758
Franklin County Board of Education	TFRK	38,602	19,006	199	621	(290)	(311)	16	0	2,229
Gadsden City Board of Education	TGDS	57,793	28,455	(312)	312	(1,001)	(979)	(78)	0	3,337
Gadsden State Community College	TGDC	45,601	22,452	(1,246)	(467)	(1,089)	(811)	(53)	0	2,633
Gardendale Board of Education	TGBE	866	426	104	33	(16)	(17)	(1)	0	50
Geneva City Board of Education	TGCB	13,788	6,789	23	171	(133)	(155)	(7)	0	796
Geneva County Board of Education	TGEN	27,094	13,340	84	338	(351)	(331)	(10)	0	1,564
George Corley Wallace State Community College	TGWS	17,221	8,479	(269)	(95)	(351)	(242)	(9)	0	994
Greene County Board of Education	TGRN	14,590	7,183	(205)	11	(209)	(193)	(9)	0	842
Guntersville City Board of Education	TGUN	20,707	10,195	(163)	79	(425)	(410)	(40)	0	1,196
H. Councili Trenholm State Technical College	TMGH	16,557	8,152	(456)	(156)	(370)	(184)	8	0	956
Hale County Board of Education	THAL	26,863	13,226	(457)	(126)	(673)	(526)	(36)	0	1,551
Haleyville City Board of Education	THAV	18,056	8,890	(124)	111	(270)	(247)	(14)	0	1,043
Hartselle City Board of Education	THCS	33,100	16,297	(186)	137	(619)	(546)	(39)	0	1,911
Henry County Board of Education	THNY	25,152	12,384	(226)	87	(434)	(379)	(22)	0	1,452
Homewood City Board of Education	THOM	55,994	27,569	(527)	82	(964)	(687)	(3)	0	3,233
Hoover City Board of Education	THOV	176,816	87,057	(1,346)	650	(3,136)	(3,012)	(243)	0	10,210
Houston County Board of Education	THST	61,009	30,039	(172)	539	(839)	(807)	(37)	0	3,523
Huntsville City Schools	THTS	250,076	123,128	(2,139)	1,079	(3,907)	(3,313)	(122)	0	14,440
J. F. Drake State Technical College	THVS	9,373	4,615	(168)	(78)	(307)	(243)	(25)	0	541
J. F. Ingram State Technical College	TDRT	15,504	7,634	(260)	(153)	(378)	(305)	(25)	0	895
Jackson County Board of Education	TJKS	63,579	31,304	(502)	278	(1,040)	(910)	(45)	0	3,671
Jacksonville City Board of Education	TJCS	15,679	7,720	(98)	85	(264)	(226)	(14)	0	905
Jacksonville State University	TJST	100,958	49,708	(459)	814	(1,388)	(1,431)	(87)	0	5,829
Jasper City Board of Education	TJSP	30,565	15,049	(410)	0	(664)	(538)	(32)	0	1,765
Jefferson County American Federation of Teachers	TJFT	383	189	(1)	(7)	(19)	(5)	3	0	22
Jefferson County Board of Education	TJEF	389,538	191,794	(3,181)	1,697	(6,730)	(5,735)	(280)	0	22,492
Jefferson State Community College	TJJC	45,201	22,255	(266)	382	(550)	(537)	(17)	0	2,610



SCHEDULE C (continued)

Employer	Employer Code	NPL @ Minus 1% (6.75%)	NPL @ Plus 1% (8.75%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2017 Actual Employer Contributions
				2019	2020	2021	2022	2023	Thereafter	
Lamar County Schools	TLAM	23,164	11,405	(143)	135	(384)	(346)	(21)	0	1,338
Lanett City Schools	TLNT	9,811	4,831	25	110	(145)	(160)	(14)	0	566
Lauderdale County Board of Ed	TLAU	83,713	41,217	(577)	438	(1,393)	(1,246)	(69)	0	4,834
Law Enforcement Academy--Baldwin County	TSWP	280	138	23	13	0	(4)	1	0	16
Law Enforcement Academy--Tuscaloosa	TLET	228	112	(41)	(15)	(4)	(3)	3	0	13
Lawrence County Board of Education	TLAW	50,872	25,047	(820)	(211)	(1,091)	(828)	(48)	0	2,937
Lawson State College	TLSC	29,415	14,483	(299)	256	(286)	(323)	(9)	0	1,698
Lee County Board of Education	TLEE	105,596	51,991	27	1,100	(1,570)	(1,486)	(71)	0	6,097
Leeds Board of Education, City of	TLDS	20,231	9,961	265	411	(114)	(117)	18	0	1,168
Limestone County Board of Education	TLST	94,965	46,757	229	1,233	(1,382)	(1,425)	(86)	0	5,483
Linden City Board of Education	TLND	5,881	2,895	(21)	42	(70)	(90)	(7)	0	340
Lowndes County Board of Education	TLDN	21,029	10,354	(938)	(455)	(806)	(576)	(55)	0	1,214
Lurleen B. Wallace Community College	TLUR	16,197	7,975	(165)	75	(286)	(206)	0	0	935
Macon County Board of Education	TMAC	24,794	12,208	(602)	(217)	(681)	(432)	(16)	0	1,432
Madison City Board of Education	TMDC	106,905	52,636	634	1,846	(836)	(1,141)	(37)	0	6,173
Madison County Board of Education	TMAD	204,088	100,485	(1,416)	1,139	(3,273)	(3,038)	(181)	0	11,784
Marengo County Board of Education	TMNG	12,446	6,128	(502)	(212)	(284)	(217)	(17)	0	719
Marion County Board of Education	TMAR	34,817	17,142	(355)	174	(529)	(452)	(12)	0	2,010
Marion Military Institute	TMMI	11,485	5,655	200	310	(36)	(68)	11	0	663
Marshall County Board of Education	TMSH	60,065	29,574	(595)	213	(997)	(831)	(37)	0	3,468
Midfield City Board of Education	TMD	11,934	5,876	(220)	(21)	(254)	(214)	(18)	0	689
Mobile School Commissioners	TMOB	584,734	287,901	(6,534)	1,062	(10,955)	(9,169)	(528)	0	33,763
Monroe County Board of Education	TMON	36,763	18,101	(412)	97	(667)	(566)	(32)	0	2,123
Montgomery City and County Board of Education	TMTG	316,095	155,633	(2,310)	1,834	(5,093)	(4,554)	(227)	0	18,252
Morgan County Board of Education	TMOR	83,731	41,226	(469)	498	(1,368)	(1,177)	(50)	0	4,835
Mountain Brook City Board of Education	TMTB	67,965	33,463	(259)	539	(1,075)	(984)	(51)	0	3,924
Muscle Shoals City Schools	TMSC	33,493	16,491	262	592	(248)	(238)	22	0	1,934
Northeast Alabama Community College	TNEC	17,869	8,798	(72)	121	(233)	(220)	(11)	0	1,032
Northwest Shoals Community College	TNWC	25,497	12,554	(460)	(155)	(615)	(461)	(29)	0	1,472
Oneonta City Board of Education	TONE	13,670	6,731	(89)	97	(202)	(181)	(4)	0	789
Opelika City Board of Education	TOPK	51,957	25,582	(126)	533	(586)	(585)	(13)	0	3,000
Opp City Board of Education	TOPP	13,862	6,825	(30)	120	(185)	(170)	(8)	0	800
Organized Community Action Program Inc	TOCA	7,744	3,813	40	118	(132)	(142)	(14)	0	447
Oxford City Schools	TOXF	46,129	22,712	(136)	404	(602)	(563)	(18)	0	2,664
Ozark City Board of Education	TOZK	22,235	10,948	(554)	(314)	(641)	(503)	(47)	0	1,284
Pelham City Board of Education	TPLS	32,584	16,043	3,923	1,349	(611)	(563)	(44)	0	1,881
Pell City School System	TPEL	40,457	19,920	(370)	119	(728)	(597)	(30)	0	2,336
Perry County Board of Education	TPRY	16,064	7,909	(607)	(345)	(539)	(375)	(28)	0	928
Phenix City Board of Education	TPHC	68,706	33,828	(204)	528	(1,152)	(922)	(26)	0	3,967
Pickens County Board of Education	TPKS	28,069	13,820	(442)	19	(489)	(439)	(30)	0	1,621
Piedmont City Schools	TPMT	12,491	6,150	27	140	(194)	(193)	(13)	0	721
Pike County Board of Education	TPIK	25,331	12,472	(144)	188	(342)	(337)	(14)	0	1,463
Pike Road City Schools	TPRB	9,462	4,659	1,202	1,285	421	207	57	0	546
Randolph County Board of Education	TRAN	23,785	11,711	(129)	202	(300)	(351)	(28)	0	1,373
Reid State Technical College	TEVN	6,287	3,095	(360)	(306)	(386)	(245)	(27)	0	363
Roanoke City Schools	TROK	14,464	7,121	(60)	102	(222)	(215)	(13)	0	835
Russell County Board of Education	TRUS	36,105	17,777	51	423	(474)	(486)	(26)	0	2,085
Russellville City Board of Education	TRSV	28,799	14,180	116	419	(281)	(294)	(3)	0	1,663
Saraland Board of Education	TSAR	26,520	13,057	621	684	(125)	(198)	9	0	1,531
Satsuma City Schools	TSTM	12,029	5,922	72	131	(140)	(130)	(2)	0	695
School Superintendents of Alabama	TSAL	939	462	56	66	29	(2)	(2)	0	54
Scottsboro Board of Education	TSCO	28,325	13,946	(321)	16	(650)	(540)	(41)	0	1,636
Selma Public Schools	TSMA	37,264	18,347	(522)	(22)	(983)	(824)	(73)	0	2,152
Sheffield City Board of Education	TSHF	13,514	6,654	(165)	15	(291)	(273)	(24)	0	780
Shelby County Board of Education	TSBY	227,856	112,188	(11,344)	(4,031)	(4,481)	(3,125)	(106)	0	13,157
Shelton State Community College	TTVS	35,015	17,240	(634)	(124)	(832)	(700)	(58)	0	2,022
Snead State Community College	TSJC	14,227	7,005	1	182	(134)	(146)	(1)	0	821
Southern Union State Community College	TSUC	25,915	12,759	(360)	25	(502)	(343)	(3)	0	1,496
Special Programming for Achievement Network	TBSC	4,517	2,224	(41)	42	(71)	(63)	0	0	261
St. Clair County Board of Education	TSTC	87,652	43,157	38	912	(1,090)	(1,062)	(35)	0	5,061
State of Alabama--Commission on Higher Education	TCHE	4,564	2,247	65	75	(45)	(52)	(4)	0	264



SCHEDULE C (continued)

Employer	Employer Code	NPL @ Minus 1% (6.75%)	NPL @ Plus 1% (8.75%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2017 Actual Employer Contributions
				2019	2020	2021	2022	2023	Thereafter	
State of Alabama--Department of Rehab Services	TDRS	77,400	38,109	(505)	(90)	(1,509)	(1,240)	(81)	0	4,469
State of Alabama--Department of Post-Secondary Ed	TPSE	12,301	6,056	264	517	234	122	37	0	710
State of Alabama--Department of Youth Services	TDYS	35,871	17,662	(1,300)	(689)	(882)	(634)	(47)	0	2,071
State of Alabama--High School of Math & Science	THMS	5,516	2,716	44	50	(55)	(55)	(2)	0	319
State of Alabama--PEEHIP	TPHP	4,293	2,114	67	113	(39)	(59)	(3)	0	248
State of Alabama--State Board of Education	TSBE	95,485	47,013	(537)	(252)	(2,340)	(2,195)	(244)	0	5,513
State of Alabama--Teachers Retirement System	TTRS	26,903	13,246	507	565	(88)	(238)	(10)	0	1,553
Sumter County Board of Education	TSUM	19,674	9,687	(449)	(80)	(361)	(350)	(33)	0	1,136
Sylacauga City Board of Education	TSYL	24,397	12,012	(278)	9	(560)	(449)	(30)	0	1,409
Talladega City Board of Education	TTAL	23,777	11,707	(300)	25	(121)	(213)	(11)	0	1,373
Talladega County Board of Education	TTDG	78,637	38,718	(655)	353	(1,309)	(1,237)	(83)	0	4,541
Tallapoosa County Board of Education	TTPS	29,588	14,568	(340)	(13)	(574)	(397)	(6)	0	1,708
Tallassee City Board of Education	TTAS	18,809	9,261	(74)	126	(328)	(303)	(18)	0	1,086
Tarrant Board of Education	TTAR	13,418	6,606	(103)	113	(210)	(207)	(11)	0	775
Thomasville City Schools	TTOM	14,834	7,304	(92)	81	(236)	(221)	(12)	0	857
Troy City Board of Education	TTRY	21,377	10,525	(449)	(121)	(410)	(344)	(26)	0	1,234
Troy University	TTST	180,412	88,828	(3,938)	(1,334)	(5,154)	(4,711)	(543)	0	10,417
Trussville City Board of Education	TTCB	51,110	25,164	352	919	(268)	(346)	27	0	2,951
Tuscaloosa City Schools	TTUS	128,724	63,379	119	1,551	(993)	(990)	52	0	7,433
Tuscaloosa County Schools	TTLS	179,708	88,481	644	2,484	(1,898)	(1,921)	(22)	0	10,377
Tuscumbia City Board of Education	TTSC	15,867	7,813	(73)	114	(255)	(227)	(12)	0	916
University Chancellor's Office	TUCO	21,483	10,577	65	394	(204)	(429)	(60)	0	1,240
University of Alabama	TUVA	779,637	383,863	8,133	15,821	(5,817)	(9,609)	(607)	0	45,017
University of Alabama--Birmingham	TUMC	1,601,613	788,572	(24,932)	213	(27,638)	(23,987)	(1,411)	0	92,486
University of Alabama--Huntsville	TUAH	203,351	100,122	(1,968)	(444)	(4,052)	(3,418)	(249)	0	11,742
University of Montevallo	TALC	56,726	27,930	549	1,108	(409)	(614)	(19)	0	3,275
University of North Alabama	TFST	87,210	42,939	46	1,026	(1,190)	(1,061)	(23)	0	5,036
University of South Alabama	TUSA	409,181	201,465	(11,594)	(4,295)	(9,985)	(7,990)	(654)	0	23,627
University of West Alabama	TLVC	49,109	24,179	466	754	(449)	(506)	(6)	0	2,836
Vestavia Hills Board of Education	TVES	90,016	44,320	229	1,073	(1,034)	(1,012)	(18)	0	5,198
Walker County Board of Education	TWLK	83,077	40,904	(945)	116	(1,443)	(1,304)	(85)	0	4,797
Wallace Community College--Dothan	TGWD	34,813	17,141	17	409	(480)	(469)	(22)	0	2,010
Wallace State College--Hanceville	TCUT	36,055	17,752	(127)	343	(432)	(418)	(11)	0	2,082
Washington County Board of Education	TWSH	29,513	14,531	(626)	(158)	(613)	(483)	(30)	0	1,704
Wilcox County Board of Education	TWIL	20,273	9,982	(350)	(91)	(451)	(367)	(30)	0	1,171
Winfield City Board of Education	TWFD	13,623	6,707	35	177	(133)	(145)	(1)	0	787
Winston Education Board	TWIN	27,668	13,623	(429)	(129)	(705)	(559)	(48)	0	1,598
Total for All Entities		<u>\$ 13,556,622</u>	<u>\$ 6,674,759</u>	<u>\$ (90,853)</u>	<u>\$ 79,434</u>	<u>\$ (208,781)</u>	<u>\$ (192,160)</u>	<u>\$ (10,042)</u>	<u>\$ 0</u>	<u>\$ 782,681</u>



SCHEDULE D

SUMMARY OF MAIN PLAN PROVISIONS AS INTERPRETED FOR ACCOUNTING AND REPORTING 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. 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



SCHEDULE D (continued)

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).*



SCHEDULE D (continued)

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



SCHEDULE D (continued)

this period, the member will withdraw from active service and receive the retirement benefit calculated at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits, employee contributions while participating in the DROP and interest earned on DROP deposits.

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

Term Life Insurance

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

Member Contributions

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 E

STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS

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



SCHEDULE E (continued)

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

Age	Annual Rate of						
	Death*	Disability**		Withdrawal***			
		Tier I	Tier II				
		Years of Service		Years of Service			
	10-24	25+	10+	0-4	5-9	10-19	20+
Male							
20	0.0293%	0.0008%		0.0008%	25.00%		
25	0.0319	0.0250		0.0250	14.80	11.00%	
30	0.0376	0.0425		0.0425	13.80	5.40	3.50%
35	0.0655	0.1300		0.1300	13.50	5.40	2.50
40	0.0914	0.1700		0.1700	13.00	5.40	2.25
45	0.1278	0.2700	0.2000%	0.2700	13.00	5.40	2.25
50	0.1812	0.6000	0.2000	0.6000	12.00	5.00	2.50
55	0.2567	0.9000	0.2000	0.9000	11.50	5.00	2.50
60	0.3815	0.5000	0.5000	1.3000	12.00	4.50	2.50
65	0.5353	0.5000	0.5000	0.5000	12.00	6.00	
69	0.6326	0.5000	0.5000	0.5000	12.00	6.25	
Female							
20	0.0108%	0.0100%		0.0100%	25.00%		
25	0.0117	0.0275		0.0275	12.75	9.00%	
30	0.0149	0.0425		0.0425	13.50	5.80	4.30%
35	0.0268	0.1000		0.1000	13.50	5.00	2.60
40	0.0399	0.2000		0.2000	11.50	4.75	2.00
45	0.0635	0.3500	0.2000%	0.3500	10.75	4.10	2.00
50	0.0947	0.6500	0.2000	0.6500	10.75	3.90	2.20
55	0.1371	1.0500	0.2000	1.0500	11.00	4.20	2.40
60	0.1929	0.5000	0.5000	1.4000	12.00	4.50	2.70
65	0.2743	0.5000	0.5000	0.5000	15.00	6.75	
69	0.3435	0.5000	0.5000	0.5000	15.00	7.25	

*Rates of pre-retirement mortality are according to the sex distinct RP-2000 Employee Mortality Table (with the sex distinct RP-2000 Combined Mortality Table used for ages over 70) projected with Scale BB to 2020 with an adjustment factor of 90% for males and 60% for females.

**No rates of disability are assumed for members with less than 10 years of service.

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



SCHEDULE E (continued)

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:

<u>Age Group</u>	<u>Annual Rate</u>	
	<u>Male*</u>	<u>Female**</u>
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.*



SCHEDULE E (continued)

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

<u>Age Group</u>	<u>Annual Rate</u>	
	<u>Male</u>	<u>Female</u>
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:

<u>Age Group</u>	<u>Annual Rate</u>			
	<u>Male*</u>		<u>Female**</u>	
	<u>Less than 25 years of service</u>	<u>25 or more years of service</u>	<u>Less than 25 years of service</u>	<u>25 or more years of service</u>
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.



SCHEDULE E (continued)

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:

<u>Age</u>	<u>Service Retirement</u>		<u>Disability Retirement</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
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	6.8160
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 or 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. for vested members with incomplete data and 1.0 for other inactive members.

LIABILITY FOR POST-DROP ACTIVE MEMBERS: Members are assumed to retire immediately and receive their accrued benefit.

COLA: No future ad hoc cost of living adjustments (COLAs) are assumed.

FUTURE SERVICE CREDIT: One year of creditable service per year of employment.



SCHEDULE F

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.



SCHEDULE F (continued)

- 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.