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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, 2019





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

April 13, 2020

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, 2019 (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, 2018. 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. Larry Langer and Ed Koebel are members of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Board of Control
April 13, 2020
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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 be 'LL'.

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

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

Cathy Turcot
Principal and Managing Director

A handwritten signature in blue ink, appearing to be 'Edward J. Koebel'.

Edward Koebel, EA, FCA, MAAA
Chief Executive Officer

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, 2019

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, 2019 (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 2020 (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, 2018. The results of the valuation were detailed in a report dated April 25, 2019.

The NPL shown in the GASB Statement No. 67 Report for the Teachers' Retirement System of Alabama Prepared as of September 30, 2019, and submitted February 28, 2020, 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, 2018, and September 30, 2019, 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)

	2019	2018
Valuation Date:	September 30, 2018	September 30, 2017
Measurement Date:	September 30, 2019	September 30, 2018
Reporting Date:	September 30, 2020	September 30, 2019
Single Equivalent Interest Rate (SEIR):		
Long-Term Expected Rate of Return	7.70%	7.70%
Municipal Bond Index Rate	2.81%	4.09%
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	7.70%	7.70%
Net Pension Liability:		
Total Pension Liability (TPL)	\$ 36,676,350	\$ 35,878,014
Plan Fiduciary Net Position (FNP)	<u>25,619,448</u>	<u>25,935,433</u>
Net Pension Liability (NPL = TPL – FNP)	\$ 11,056,902	\$ 9,942,581
FNP as a percentage of TPL	69.85%	72.29%
Collective Pension Expense (PE):	\$ 1,175,061	\$ 780,447
Deferred Outflows of Resources:	\$ 889,138	\$ 767,218
Deferred Inflows of Resources:	\$ 366,691	\$ 1,053,367



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, 2018, using the following key 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	7.70 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 for the purposes of determining the TPL were based on the results of an actuarial experience study for the period October 1, 2010 – September 30, 2015 and a discount rate of 7.70%, as adopted by the Board of Trustees on December 4, 2018.

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 most recent target asset allocation and best estimates of geometric real rates of return for each major asset class are summarized in the following table:



Asset Class	Target Allocation	Long-Term Expected Rate of Return*
Fixed Income	17.0%	4.4%
US Large Stocks	32.0%	8.0%
US Mid Stocks	9.0%	10.0%
US Small Stocks	4.0%	11.0%
Int'l Developed Mkt Stocks	12.0%	9.5%
Int'l Emerging Mkt Stocks	3.0%	11.0%
Alternatives	10.0%	10.1%
Real Estate	10.0%	7.5%
Cash Equivalents	3.0%	1.5%
Total	<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 7.70 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 7.70 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 (6.70 percent) or 1-percentage-point higher (8.70 percent) than the current rate (\$ thousands):

	1% Decrease (6.70%)	Current Discount Rate (7.70%)	1% Increase (8.70%)
System's Net Pension Liability	\$15,010,404	\$11,056,902	\$7,711,324

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, 2018, is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of September 30, 2019, using standard roll forward techniques. The procedure used to determine the TPL as of September 30, 2019, is shown on page 7 of the GASB 67 report for TRS submitted on February 28, 2020.

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	\$163,474	\$366,691
Changes of actuarial assumptions	340,658	0
Net difference between projected and actual earnings on plan investments	<u>385,006</u>	<u>0</u>
Total	<u>\$ 889,138</u>	<u>\$ 366,691</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)
2019	\$0	\$226,777	5.1	\$0	\$0	\$0	\$226,777	\$0	\$44,466	\$0	\$182,311
2018	265,644	0	5.2	214,559	0	0	0	51,085	0	163,474	0
2017	0	261,067	5.2	0	160,657	0	0	0	50,205	0	110,452
2016	0	290,388	5.3	0	126,018	0	0	0	54,790	0	71,228
2015	0	70,200	5.2	0	16,200	0	0	0	13,500	0	2,700
Total				\$214,559	\$302,875	\$0	\$226,777			\$163,474	\$366,691

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)
2019	\$0	\$0	5.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	178,049	0	5.2	143,809	0	0	0	34,240	0	109,569	0
2017	0	0	5.2	0	0	0	0	0	0	0	0
2016	942,133	0	5.3	408,850	0	0	0	177,761	0	231,089	0
2015	0	0	5.2	0	0	0	0	0	0	0	0
Total				\$552,659	\$0	\$0	\$0			\$340,658	\$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)
2019	\$1,346,780	\$0	5.0	\$0	\$0	\$1,346,780	\$0	\$269,356	\$0	\$1,077,424	\$0
2018	0	391,210	5.0	0	312,968	0	0	0	78,242	0	234,726
2017	0	894,221	5.0	0	536,533	0	0	0	178,844	0	357,689
2016	0	500,011	5.0	0	200,005	0	0	0	100,002	0	100,003
2015	1,495,062	0	5.0	299,014	0	0	0	299,014	0	0	0
Total				\$299,014	\$1,049,506	\$1,346,780	\$0			\$1,077,424	\$692,418
Net difference between projected and actual earnings on investments										\$385,006	



Summary of Amortization of Deferred Outflows and Inflows of Resources (\$ thousands)

Amortization Year	Actual and Expected Experience					Assumption Changes				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
2021	(\$2,700)	(\$54,790)	(\$50,205)	\$51,085	(\$44,466)	\$0	\$177,761	\$0	\$34,240	\$0
2022	0	(16,438)	(50,205)	51,085	(44,466)	0	53,328	0	34,240	0
2023	0	0	(10,042)	51,085	(44,466)	0	0	0	34,240	0
2024	0	0	0	10,219	(44,466)	0	0	0	6,849	0
2025	0	0	0	0	(4,447)	0	0	0	0	0
Thereafter	0	0	0	0	0	0	0	0	0	0
TOTAL	(\$2,700)	(\$71,228)	(\$110,452)	\$163,474	(\$182,311)	\$0	\$231,089	\$0	\$109,569	\$0

Summary of Amortization of Deferred Outflows and Inflows of Resources (\$ thousands)

Amortization Year	Investment Gains/Losses					Total
	2015	2016	2017	2018	2019	
2021	\$0	(\$100,003)	(\$178,844)	(\$78,242)	\$269,356	\$23,192
2022	0	0	(178,845)	(78,242)	269,356	39,813
2023	0	0	0	(78,242)	269,356	221,931
2024	0	0	0	0	269,356	241,958
2025	0	0	0	0	0	(4,447)
Thereafter	0	0	0	0	0	0
TOTAL	\$0	(\$100,003)	(\$357,689)	(\$234,726)	\$1,077,424	\$522,447



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	\$ 23,192
Year 2	39,813
Year 3	221,931
Year 4	241,958
Year 5	(4,447)
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 7.70% 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, 2019, 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, 2019, 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 5.1 years. The amount to be recognized due to actual versus expected experience for the year is \$(44,466,000).

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	7.70%
b. Beginning of year FNP (BOY)	\$ 25,935,433
c. End of year FNP	25,619,448
d. Expected return on BOY for the plan year (a x b)	1,997,028
e. External Cash Flow	
(i) Employer contributions	869,336
(ii) Member contributions	522,909
(iii) Refunds of contributions	(55,596)
(iv) Benefit Payments	(2,238,966)
(v) Administrative expenses	(28,095)
(vi) Other	<u>0</u>
(vii) Total net external cash flow	(930,412)
f. Expected return on net cash flow (a x 0.5 x (e(vii) – e(vi))) + (a x e(vi))	(35,821)
g. Projected earnings for plan year (d + f)	1,961,207
h. Net investment income (c – b – e(vii))	614,427
i. Investment earnings (gain)/loss (g – h)	<u>\$ 1,346,780</u>
j. Amount recognized in Pension Expense (i / 5)	<u>\$ 269,356</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	\$ 645,409
Interest on the TPL and net cash flow	2,674,266
Current-period benefit changes	0
Expensed portion of current-period difference between expected and actual experience in the total pension liability	(44,466)
Expensed portion of current-period changes of assumptions	0
Member contributions	(522,909)
Projected earnings on plan investments	(1,961,207)
Expensed portion of current-period differences between projected and actual earnings on plan investments	269,356
Administrative expense	28,095
Other	0
Recognition of beginning deferred outflows of resources as pension expense	263,086
Recognition of beginning deferred inflows of resources as pension expense	<u>(176,569)</u>
Collective Pension Expense	<u>\$ 1,175,061</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 2018, the discount rate was changed from 7.75% to 7.70%.

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, 2019
(Dollar Amounts Not in Thousands)

Employer	Employer Code	2019 Annualized Employer Contributions	2019 Employer Allocation Percentage
Accel Academy Charter School	TACL	\$ 138,346	0.015913%
AL School of Cyber Tech & Engineering	TCYB	27,044	0.003111%
Alabama A&M University	TAMI	6,266,973	0.720850%
Alabama Association of School Boards	TAAB	144,489	0.016620%
Alabama Education Association	TAEA	727,205	0.083646%
Alabama Fire College	TAFC	318,413	0.036625%
Alabama High School Athletic Association	TAAA	155,261	0.017859%
Alabama Higher Education Partnership	TAHP	26,803	0.003083%
Alabama Industrial Development Training	TIDT	1,238,138	0.142415%
Alabama Institute for Deaf and Blind	TAID	4,985,664	0.573469%
Alabama Retired State Employees Association	TREA	59,303	0.006821%
Alabama School of Fine Arts	THFA	582,148	0.066961%
Alabama State Employees Association	TASE	96,822	0.011137%
Alabama State University	TMST	5,574,292	0.641175%
Alabama Technology Network	TATN	538,566	0.061948%
Alabama Vocational Association	TAVA	10,211	0.001175%
Alabaster City School System	TALR	4,497,241	0.517289%
Albertville City Board of Education	TALB	3,141,872	0.361390%
Alexander City Board of Education	TALX	2,000,028	0.230050%
Andalusia City Board of Education	TADL	1,118,026	0.128599%
Anniston Board of Education	TANN	1,733,416	0.199384%
Arab City Board of Education	TARB	1,671,258	0.192234%
Athens City Board of Education	TATH	2,817,806	0.324114%
Athens State University	TATC	2,159,059	0.248343%
Attalla City Schools	TATT	1,162,551	0.133721%
Auburn City Board of Education	TAUB	5,876,236	0.675906%
Auburn University	TAPI	55,613,616	6.396880%



SCHEDULE A (continued)

Employer	Employer Code	2019 Annualized Employer Contributions	2019 Employer Allocation Percentage
Autauga County Board of Education	TATG	5,404,073	0.621596%
Baldwin County Board of Education	TBLD	21,337,435	2.454309%
Barbour County Schools	TBAR	646,771	0.074394%
Bessemer Board of Education	TBSM	2,762,748	0.317781%
Bevill State Community College	TWCT	2,084,228	0.239735%
Bibb County Board of Education	TBIB	2,272,057	0.261340%
Birmingham City Schools	TBMH	18,287,171	2.103457%
Bishop State Community College	TMJC	1,718,233	0.197637%
Blount County Board of Education	TBLT	4,770,252	0.548692%
Boaz City Board of Education	TBOZ	1,719,568	0.197791%
Brewton City Board of Education	TBWT	767,790	0.088314%
Bullock County Board of Education	TBLK	970,667	0.111650%
Butler County Board of Education	TBLR	1,871,724	0.215293%
Calhoun Community College	TDEC	2,993,152	0.344283%
Calhoun County Board of Education	TCAL	6,189,929	0.711988%
CAPNA, Inc.	TNCA	1,603,186	0.184404%
Central Alabama Community College	TACC	956,772	0.110051%
Chambers County Board of Education	TCHB	2,397,441	0.275762%
Chattahoochee Valley Community College	TCVS	763,326	0.087801%
Cherokee County Board of Education	TCHK	2,973,251	0.341994%
Chickasaw City School System	TCKW	762,137	0.087664%
Chilton County Board of Education	TCHT	4,550,836	0.523454%
Choctaw County Board of Education	TCHW	996,521	0.114623%
Clarke County Board of Education	TCLK	1,859,958	0.213939%
Clay County Board of Education	TCLY	1,180,791	0.135819%
Cleburne County Board of Education	TCLB	1,794,912	0.206457%
Coastal Alabama Community College	TBMC	2,996,394	0.344656%
Coffee County Board of Education	TCOF	1,318,925	0.151708%
Colbert County Board of Education	TCOL	2,297,111	0.264222%
Community Svc Programs of West Alabama	TCSP	670,212	0.077090%
Conecuh County Board of Education	TCON	1,253,398	0.144170%
Coosa County Board of Education	TCSA	685,941	0.078899%
Council for Leaders in Alabama Schools	TACA	78,077	0.008981%
Covington County Board of Education	TCOV	2,026,794	0.233129%
Crenshaw County Board of Education	TCRW	1,427,696	0.164219%



SCHEDULE A (continued)

Employer	Employer Code	2019 Annualized Employer Contributions	2019 Employer Allocation Percentage
Cullman City Board of Education	TCMN	2,262,336	0.260222%
Cullman County Commission on Education	TCUL	6,844,966	0.787333%
Dale County Board of Education	TDAL	2,083,693	0.239674%
Daleville City Board of Education	TDLV	694,708	0.079908%
Dallas County Board of Education	TDLS	2,274,278	0.261596%
Dauphin Island Sea Lab	TMES	629,696	0.072430%
Decatur Board of Education	TDTR	7,147,387	0.822118%
Dekalb County Board of Education	TDKB	6,129,369	0.705022%
Demopolis City Schools	TDPL	1,379,453	0.158670%
Developing Alabama Youth Foundation	TDAY	63,805	0.007339%
Dothan Board of Education	TDTN	5,893,841	0.677931%
Elba City Board of Education	TELB	448,331	0.051569%
Elmore County Board of Education	TELM	6,782,836	0.780186%
Enterprise Board of Education	TENP	4,591,479	0.528129%
Enterprise Ozark Community College	TEPC	960,481	0.110478%
Escambia County Board of Education	TESC	3,193,438	0.367321%
Etowah County Board of Ed	TETH	5,880,619	0.676410%
Etowah County Community Service Program, Inc.	TECA	17,701	0.002036%
Eufaula City Board of Education	TEFL	1,850,922	0.212900%
Fairfield Board of Education	TFRF	1,168,085	0.134357%
Fayette County Board of Education	TFAY	1,634,201	0.187972%
Florence City Board of Education	TFLO	3,239,378	0.372605%
Fort Payne City Board of Education	TFTP	1,933,891	0.222443%
Franklin County Board of Education	TFRK	2,471,673	0.284301%
Gadsden City Board of Education	TGDS	3,817,861	0.439144%
Gadsden State Community College	TGDC	2,675,320	0.307725%
Gardendale Board of Education	TGBE	0	0.000000%
Geneva City Board of Education	TGCB	855,930	0.098452%
Geneva County Board of Education	TGEN	1,846,589	0.212401%
George Corley Wallace State Community College	TGWS	1,015,645	0.116823%
Greene County Board of Education	TGRN	898,722	0.103374%
Gulf Shores City Board of Education	TGSC	223,750	0.025737%
Guntersville City Board of Education	TGUN	1,273,673	0.146503%
H. Councill Trenholm State Technical College	TMGT	1,137,644	0.130856%
Hale County Board of Education	THAL	1,533,040	0.176336%



SCHEDULE A (continued)

Employer	Employer Code	2019 Annualized Employer Contributions	2019 Employer Allocation Percentage
Haleyville City Board of Education	THAV	1,128,817	0.129841%
Hartselle City Board of Education	THCS	2,253,918	0.259254%
Henry County Board of Education	THNY	1,557,763	0.179180%
Homewood City Board of Education	THOM	3,980,350	0.457834%
Hoover City Board of Education	THOV	12,468,843	1.434212%
Houston County Board of Education	THST	4,089,543	0.470394%
Huntsville City Schools	THTS	16,445,926	1.891670%
J. F. Drake State Technical College	THVS	506,841	0.058299%
J. F. Ingram State Technical College	TDRT	872,784	0.100391%
Jackson County Board of Education	TJKS	4,104,760	0.472144%
Jacksonville City Board of Education	TJCS	1,092,086	0.125616%
Jacksonville State University	TJST	6,700,868	0.770758%
Jasper City Board of Education	TJSP	1,875,208	0.215693%
Jefferson County American Federation of Teachers	TJFT	22,294	0.002564%
Jefferson County Board of Education	TJEF	24,259,239	2.790386%
Jefferson State Community College	TJJC	2,814,145	0.323693%
Lamar County Schools	TLAM	1,532,919	0.176322%
Lanett City Schools	TLNT	637,629	0.073342%
Lauderdale County Board of Ed	TLAU	5,752,511	0.661675%
Law Enforcement Academy--Baldwin County	TSWP	8,225	0.000946%
Law Enforcement Academy--Tuscaloosa	TLET	18,791	0.002161%
Lawrence County Board of Education	TLAW	3,094,273	0.355915%
Lawson State College	TLSC	1,847,052	0.212455%
Lee County Board of Education	TLEE	6,296,653	0.724264%
Leeds Board of Education, City of	TLDS	1,395,887	0.160560%
Limestone County Board of Education	TLST	6,179,769	0.710820%
Linden City Board of Education	TLND	370,891	0.042661%
Lowndes County Board of Education	TLDN	1,353,173	0.155647%
Lurleen B. Wallace Community College	TLUR	989,723	0.113842%
Macon County Board of Education	TMAC	1,419,586	0.163286%
Madison City Board of Education	TMDC	7,787,367	0.895731%
Madison County Board of Education	TMAD	13,626,418	1.567360%
Marengo County Board of Education	TMNG	755,294	0.086877%
Marion County Board of Education	TMAR	2,074,544	0.238622%
Marion Military Institute	TMMI	697,314	0.080208%



SCHEDULE A (continued)

Employer	Employer Code	2019 Annualized Employer Contributions	2019 Employer Allocation Percentage
Marshall County Board of Education	TMSH	3,820,347	0.439430%
Midfield City Board of Education	TMID	840,226	0.096646%
Mobile School Commissioners	TMOB	37,867,519	4.355660%
Monroe County Board of Education	TMON	2,228,425	0.256322%
Montgomery City and County Board of Education	TMTG	20,255,347	2.329844%
Morgan County Board of Education	TMOR	5,161,653	0.593712%
Mountain Brook City Board of Education	TMTB	4,563,091	0.524863%
Muscle Shoals City Schools	TMSC	2,252,192	0.259055%
Northeast Alabama Community College	TNEC	1,110,417	0.127724%
Northwest Shoals Community College	TNWC	1,547,215	0.177966%
Oneonta City Board of Education	TONE	875,397	0.100691%
Opelika City Board of Education	TOPK	3,494,706	0.401974%
Opp City Board of Education	TOPP	884,101	0.101693%
Organized Community Action Program Inc	TOCA	447,675	0.051493%
Oxford City Schools	TOXF	2,816,520	0.323966%
Ozark City Board of Education	TOZK	1,363,740	0.156862%
Pelham City Board of Education	TPLS	2,246,552	0.258407%
Pell City School System	TPEL	2,425,310	0.278968%
Perry County Board of Education	TPRY	924,319	0.106319%
Phenix City Board of Education	TPHC	4,670,207	0.537184%
Pickens County Board of Education	TPKS	1,859,304	0.213864%
Piedmont City Schools	TPMT	750,448	0.086319%
Pike County Board of Education	TPIK	1,727,334	0.198684%
Pike Road City Schools	TPRB	968,868	0.111443%
Randolph County Board of Education	TRAN	1,489,055	0.171277%
Reid State Technical College	TEVN	409,031	0.047048%
Roanoke City Schools	TROK	968,500	0.111400%
Russell County Board of Education	TRUS	2,259,198	0.259861%
Russellville City Board of Education	TRSV	1,728,029	0.198764%
Saraland Board of Education	TSAR	1,907,018	0.219352%
Satsuma City Schools	TSTM	802,982	0.092362%
School Superintendents of Alabama	TSAL	59,190	0.006808%
Scottsboro Board of Education	TSCO	1,849,996	0.212793%
Selma Public Schools	TSMA	2,241,570	0.257834%
Sheffield City Board of Education	TSHF	814,647	0.093704%



SCHEDULE A (continued)

Employer	Employer Code	2019 Annualized Employer Contributions	2019 Employer Allocation Percentage
Shelby County Board of Education	TSBY	15,763,359	1.813159%
Shelton State Community College	TTVS	2,256,980	0.259606%
Snead State Community College	TSJC	897,639	0.103250%
Southern Union State Community College	TSUC	1,703,188	0.195907%
Special Programming for Achievement Network	TBSC	277,957	0.031972%
St. Clair County Board of Education	TSTC	6,044,257	0.695232%
State of Alabama--Commission on Higher Education	TCHE	277,980	0.031974%
State of Alabama--Department of Rehab Services	TDRS	4,977,067	0.572480%
State of Alabama--Department of Post-Secondary Ed	TPSE	1,037,314	0.119316%
State of Alabama--Department of Youth Services	TDYS	2,176,168	0.250311%
State of Alabama--High School of Math & Science	THMS	371,942	0.042782%
State of Alabama--PEEHIP	TPHP	308,784	0.035518%
State of Alabama--State Board of Education	TSBE	5,793,530	0.666393%
State of Alabama--Teachers Retirement System	TTRS	1,906,457	0.219288%
Sumter County Board of Education	TSUM	1,104,774	0.127075%
Sylacauga City Board of Education	TSYL	1,619,831	0.186319%
Talladega City Board of Education	TTAL	1,374,060	0.158049%
Talladega County Board of Education	TTDG	4,828,137	0.555350%
Tallapoosa County Board of Education	TTPS	1,851,794	0.213000%
Tallassee City Board of Education	TTAS	1,112,570	0.127972%
Tarrant Board of Education	TTAR	925,144	0.106413%
Thomasville City Schools	TTOM	886,549	0.101974%
Troy City Board of Education	TTRY	1,360,427	0.156481%
Troy University	TTST	11,287,734	1.298356%
Trussville City Board of Education	TTCB	3,332,602	0.383328%
Tuscaloosa City Schools	TTUS	8,305,160	0.955290%
Tuscaloosa County Schools	TTLS	12,450,481	1.432100%
Tuscumbia City Board of Education	TTSC	1,135,890	0.130654%
University Chancellor's Office	TUCO	1,409,357	0.162109%
University Charter School	TUWC	156,897	0.018047%
University of Alabama	TUVA	50,808,493	5.844178%
University of Alabama--Birmingham	TUMC	97,898,885	11.260686%
University of Alabama--Huntsville	TUAH	12,686,411	1.459237%
University of Montevallo	TALC	3,578,403	0.411601%
University of North Alabama	TFST	5,823,031	0.669786%



SCHEDULE A (continued)

Employer	Employer Code	2019 Annualized Employer Contributions	2019 Employer Allocation Percentage
University of South Alabama	TUSA	23,165,117	2.664536%
University of West Alabama	TLVC	3,061,235	0.352114%
Vestavia Hills Board of Education	TVES	6,412,767	0.737620%
Walker County Board of Education	TWLK	5,656,732	0.650658%
Wallace Community College--Dothan	TGWD	2,132,031	0.245234%
Wallace State College--Hanceville	TCUT	2,172,297	0.249866%
Washington County Board of Education	TWSH	1,653,736	0.190219%
Wilcox County Board of Education	TWIL	1,298,476	0.149355%
Winfield City Board of Education	TWFD	837,562	0.096339%
Winston Education Board	TWIN	1,667,888	0.191847%
Woodlawn Comm Charter School (i3 Academy)	TWDL	<u>32,885</u>	<u>0.003783%</u>
Total		\$ <u>869,386,516</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, 2020 with Net Pension Liability as of September 30, 2019
(Dollar Amounts in Thousands)**

Employer	Employer Code	2019 Net Pension Liability	Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense		
			Differences Between Expected and Actual Experience	Investment Earnings on Pension Plan	Change of Assumptions	Net Difference Between Projected and Actual Contributions and Proportionate Share of	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	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	Total Employer Pension Expense
Accel Academy Charter School	TACL	\$ 1,759	\$ 26	\$ 61	\$ 54	\$ 832	\$ 973	\$ 58	\$ -	\$ 88	\$ 146	\$ 186	\$ 294	\$ 480
AL School of Cyber Tech & Engineering	TCYB	344	5	12	11	239	267	11	-	-	11	36	58	94
Alabama A&M University	TAMI	79,704	1,178	2,775	2,456	346	6,755	2,643	-	321	2,964	8,471	(18)	8,453
Alabama Association of School Boards	TAAB	1,838	27	64	57	50	198	61	-	47	108	196	39	235
Alabama Education Association	TAEA	9,249	137	322	285	-	744	307	-	839	1,146	983	(444)	539
Alabama Fire College	T AFC	4,050	60	141	125	209	535	134	-	357	491	430	(39)	391
Alabama High School Athletic Association	TAAA	1,975	29	69	61	72	231	65	-	40	105	209	46	255
Alabama Higher Education Partnership	TAHP	341	5	12	11	7	35	11	-	34	45	36	(9)	27
Alabama Industrial Development Training	TIDT	15,747	233	548	485	151	1,417	522	-	622	1,144	1,674	3	1,677
Alabama Institute for Deaf and Blind	TAID	63,408	937	2,208	1,954	1,794	6,893	2,103	-	63	2,166	6,738	647	7,385
Alabama Retired State Employees Association	TREA	754	11	26	23	44	104	25	-	24	49	80	14	94
Alabama School of Fine Arts	THFA	7,404	109	258	228	211	806	246	-	93	339	787	113	900
Alabama State Employees Association	TASE	1,231	18	43	38	15	114	41	-	195	236	131	(62)	69
Alabama State University	TMST	70,894	1,048	2,469	2,184	-	5,701	2,351	-	5,837	8,188	7,534	(3,073)	4,461
Alabama Technology Network	TATN	6,850	101	239	211	97	648	227	-	779	1,006	728	(298)	430
Alabama Vocational Association	TAVA	130	2	5	4	44	55	4	-	2	6	13	8	21
Alabaster City School System	TALR	57,196	846	1,992	1,762	2,589	7,189	1,897	-	324	2,221	6,078	850	6,928
Albertville City Board of Education	TALB	39,959	591	1,391	1,231	1,414	4,627	1,325	-	1,161	2,486	4,248	722	4,970
Alexander City Board of Education	TALX	25,436	376	886	784	170	2,216	844	-	775	1,619	2,703	(84)	2,619
Andalusia City Board of Education	TADL	14,219	210	495	438	642	1,785	472	-	103	575	1,512	81	1,593
Anniston Board of Education	TANN	22,046	326	768	679	4,590	6,363	731	-	2,577	3,308	2,343	268	2,611
Arab City Board of Education	TARB	21,255	314	740	655	118	1,827	705	-	782	1,487	2,259	(19)	2,240
Athens City Board of Education	TATH	35,837	530	1,248	1,104	1,397	4,279	1,188	-	802	1,990	3,809	662	4,471
Athens State University	TATC	27,459	406	956	846	506	2,714	911	-	848	1,759	2,918	(60)	2,858
Attalla City Schools	TATT	14,785	219	515	456	611	1,801	490	-	408	898	1,569	71	1,640
Auburn City Board of Education	TAUB	74,734	1,105	2,602	2,303	1,998	8,008	2,478	-	26	2,504	7,941	1,350	9,291
Auburn University	TAPI	707,297	10,457	24,628	21,791	22,688	79,564	23,457	-	6,442	29,899	75,168	12,609	87,777
Autauga County Board of Education	TATG	68,729	1,016	2,393	2,118	222	5,749	2,279	-	2,430	4,709	7,303	(541)	6,762
Baldwin County Board of Education	TBLD	271,371	4,012	9,449	8,361	6,928	28,750	9,000	-	-	9,000	28,840	4,637	33,477
Barbour County Schools	TBAR	8,226	122	286	253	59	720	273	-	201	474	875	(216)	659
Bessemer Board of Education	TBSM	35,137	519	1,223	1,083	1,158	3,983	1,165	-	535	1,700	3,735	(118)	3,617
Bevill State Community College	TWCT	26,507	392	923	817	847	2,979	879	-	2,596	3,475	2,816	(469)	2,347
Bibb County Board of Education	TBIB	28,896	427	1,006	890	724	3,047	958	-	413	1,371	3,071	132	3,203
Birmingham City Schools	TBMH	232,577	3,439	8,098	7,166	8,638	27,341	7,713	-	2,412	10,125	24,716	733	25,449
Bishop State Community College	TMJC	21,853	323	761	673	1,177	2,934	725	-	1,591	2,316	2,323	(747)	1,576
Blount County Board of Education	TBLT	60,668	897	2,112	1,869	27	4,905	2,012	-	2,010	4,022	6,448	(570)	5,878
Boaz City Board of Education	TBOZ	21,870	323	762	674	1,692	3,451	725	-	-	725	2,323	489	2,812
Brewton City Board of Education	TBWT	9,765	144	340	301	60	845	324	-	343	667	1,039	(89)	950



SCHEDULE B (continued)

Employer	Employer Code	2019 Net Pension Liability	Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense		
			Differences Between Expected and Actual Experience	Investment Earnings on Pension Plan	Change of Assumptions	Net Difference Between Projected and Actual Contributions	Changes in Proportion and Differences Between Employer Contributions and Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Total Employer Pension Expense	Proportionate Share of Plan Pension Expense	Proportionate Share of Contributions
Bullock County Board of Education	TBLK	12,345	183	430	380	-	993	409	-	948	1,357	1,312	(339)	973
Butler County Board of Education	TBLR	23,805	352	829	733	27	1,941	789	-	2,300	3,089	2,530	(647)	1,883
Calhoun Community College	TDEC	38,067	563	1,326	1,173	620	3,682	1,262	-	562	1,824	4,043	361	4,404
Calhoun County Board of Education	TCAL	78,724	1,164	2,741	2,425	1,992	8,322	2,611	-	1,232	3,843	8,368	300	8,668
CAPNA, Inc.	TNCA	20,389	301	710	628	529	2,168	676	-	4	680	2,167	807	2,974
Central Alabama Community College	TACC	12,168	180	424	375	50	1,029	404	-	788	1,192	1,293	(257)	1,036
Chambers County Board of Education	TCHB	30,491	451	1,062	939	43	2,495	1,011	-	1,245	2,256	3,240	(332)	2,908
Chattahoochee Valley Community College	TCVS	9,708	144	338	299	337	1,118	322	-	136	458	1,031	44	1,075
Cherokee County Board of Education	TCHK	37,814	559	1,317	1,165	1,683	4,724	1,254	-	4	1,258	4,019	459	4,478
Chickasaw City School System	TCKW	9,693	143	338	299	1,230	2,010	321	-	-	321	1,030	523	1,553
Chilton County Board of Education	TCHT	57,878	856	2,015	1,783	669	5,323	1,919	-	1,500	3,419	6,151	(23)	6,128
Choctaw County Board of Education	TCHW	12,674	187	441	390	27	1,045	420	-	600	1,020	1,348	(278)	1,070
Clarke County Board of Education	TCLK	23,655	350	824	729	51	1,954	784	-	1,021	1,805	2,512	(664)	1,848
Clay County Board of Education	TCLY	15,017	222	523	463	1	1,209	498	-	969	1,467	1,595	(293)	1,302
Cleburne County Board of Education	TCLB	22,828	338	795	703	854	2,690	757	-	527	1,284	2,426	56	2,482
Coastal Alabama Community College	TBMC	38,108	563	1,327	1,174	418	3,482	1,264	-	2,020	3,284	4,050	(410)	3,640
Coffee County Board of Education	TCOF	16,774	248	584	517	413	1,762	556	-	282	838	1,782	214	1,996
Colbert County Board of Education	TCOL	29,215	432	1,017	900	1,014	3,363	969	-	54	1,023	3,106	140	3,246
Community Svc Programs of West Alabama	TCSP	8,524	126	297	263	514	1,200	283	-	318	601	905	(85)	820
Conecuh County Board of Education	TCON	15,941	236	555	491	246	1,528	529	-	529	1,058	1,694	(178)	1,516
Coosa County Board of Education	TCSA	8,724	129	304	269	64	766	289	-	418	707	926	(271)	655
Council for Leaders in Alabama Schools	TACA	993	15	35	31	97	178	33	-	48	81	104	10	114
Covington County Board of Education	TCOV	25,777	381	898	794	70	2,143	855	-	780	1,635	2,740	(105)	2,635
Crenshaw County Board of Education	TCRW	18,158	268	632	559	253	1,712	602	-	939	1,541	1,931	(102)	1,829
Cullman City Board of Education	TCMN	28,772	425	1,002	886	1,522	3,835	954	-	36	990	3,057	446	3,503
Cullman County Commission on Education	TCUL	87,055	1,287	3,031	2,682	4,044	11,044	2,887	-	447	3,334	9,253	998	10,251
Dale County Board of Education	TDAL	26,501	392	923	816	1,303	3,434	879	-	879	2,817	425	3,242	
Daleville City Board of Education	TDLV	8,835	131	308	272	57	768	293	-	359	652	938	(211)	727
Dallas County Board of Education	TDLS	28,924	428	1,007	891	-	2,326	959	-	2,007	2,966	3,073	(801)	2,272
Dauphin Island Sea Lab	TMES	8,009	118	279	247	424	1,068	266	-	207	473	853	110	963
Decatur Board of Education	TDTR	90,901	1,344	3,165	2,801	5,216	12,526	3,015	-	182	3,197	9,660	723	10,383
Dekalb County Board of Education	TDKB	77,954	1,153	2,714	2,402	3,330	9,599	2,585	-	287	2,872	8,285	1,038	9,323
Demopolis City Schools	TDPL	17,544	259	611	541	147	1,558	582	-	725	1,307	1,864	(135)	1,729
Developing Alabama Youth Foundation	TDAY	811	12	28	25	-	65	27	-	44	71	86	(4)	82
Dothan Board of Education	TDTN	74,958	1,108	2,610	2,309	59	6,086	2,486	-	3,196	5,682	7,967	(573)	7,394
Elba City Board of Education	TELB	5,702	84	199	176	-	459	189	-	418	607	606	(183)	423
Elmore County Board of Education	TELM	86,264	1,275	3,004	2,658	947	7,884	2,861	-	895	3,756	9,167	59	9,226
Enterprise Board of Education	TENP	58,395	863	2,033	1,799	3,012	7,707	1,937	-	432	2,369	6,207	865	7,072
Enterprise Ozark Community College	TEPC	12,215	181	425	376	271	1,253	405	-	837	1,242	1,298	(700)	598
Escambia County Board of Education	TESC	40,614	600	1,414	1,251	739	4,004	1,347	-	199	1,546	4,317	63	4,380
Etowah County Board of Ed	TETH	74,790	1,106	2,604	2,304	2,687	8,701	2,480	-	363	2,843	7,948	391	8,339
Etowah County Community Service Program, Inc.	TECA	225	3	8	7	2	20	7	-	14	21	25	(24)	1
Eufaula City Board of Education	TEFL	23,540	348	820	725	121	2,014	781	-	400	1,181	2,501	(54)	2,447
Fairfield Board of Education	TFRF	14,856	220	517	458	33	1,228	493	-	571	1,064	1,579	(126)	1,453
Fayette County Board of Education	TFAY	20,784	307	724	640	900	2,571	689	-	292	981	2,209	(56)	2,153
Florence City Board of Education	TFLO	41,199	609	1,435	1,269	75	3,388	1,366	-	1,046	2,412	4,378	(255)	4,123
Fort Payne City Board of Education	TFTP	24,595	364	856	758	133	2,111	816	-	202	1,018	2,614	113	2,727
Franklin County Board of Education	TFRK	31,435	465	1,095	968	590	3,118	1,043	-	43	1,086	3,341	386	3,727



SCHEDULE B (continued)

Employer	Employer Code	2019 Net Pension Liability	Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense		
			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 Share of Resources	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Share of Resources	Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Share of Resources	Total Employer Pension Expense
Gadsden City Board of Education	TGDS	48,556	718	1,691	1,496	1,497	5,402	1,610	-	666	2,276	5,160	232	5,392
Gadsden State Community College	TGDC	34,025	503	1,185	1,048	-	2,736	1,128	-	2,785	3,913	3,616	(1,305)	2,311
Gardendale Board of Education	TGBE	-	-	-	-	2	2	-	-	524	524	-	(100)	(100)
Geneva City Board of Education	TGCB	10,886	161	379	335	203	1,078	361	-	370	731	1,157	24	1,181
Geneva County Board of Education	TGEN	23,485	347	818	724	1,114	3,003	779	-	5	784	2,496	430	2,926
George Corley Wallace State Community College	TGWS	12,917	191	450	398	54	1,093	428	-	921	1,349	1,372	(400)	972
Greene County Board of Education	TGRN	11,430	169	398	352	46	965	379	-	338	717	1,215	(158)	1,057
Gulf Shores City Board of Education	TGSC	2,846	42	99	88	2,058	2,287	94	-	-	94	302	513	815
Guntersville City Board of Education	TGUN	16,199	239	564	499	79	1,381	537	-	859	1,396	1,723	(168)	1,555
H. Council Trenholm State Technical College	TMGT	14,469	214	504	446	832	1,996	480	-	292	772	1,539	(80)	1,459
Hale County Board of Education	THAL	19,497	288	679	601	-	1,568	647	-	2,127	2,774	2,073	(718)	1,355
Haleyville City Board of Education	THAV	14,356	212	500	442	201	1,355	476	-	510	986	1,525	(64)	1,461
Hartselle City Board of Education	THCS	28,665	424	998	883	1,123	3,428	951	-	202	1,153	3,046	244	3,290
Henry County Board of Education	THNY	19,812	293	690	610	-	1,593	657	-	583	1,240	2,107	(187)	1,920
Homewood City Board of Education	THOM	50,622	748	1,763	1,560	3,846	7,917	1,679	-	353	2,032	5,379	649	6,028
Hoover City Board of Education	THOV	158,579	2,345	5,522	4,886	10,685	23,438	5,259	-	1,235	6,494	16,851	2,216	19,067
Houston County Board of Education	THST	52,011	769	1,811	1,602	2,035	6,217	1,725	-	148	1,873	5,528	591	6,119
Huntsville City Schools	THTS	209,160	3,092	7,283	6,444	7,751	24,570	6,937	-	2,907	9,844	22,229	570	22,799
J. F. Drake State Technical College	THVS	6,446	95	224	199	8	526	214	-	1,070	1,284	686	(348)	338
J. F. Ingram State Technical College	TDRT	11,100	164	387	342	-	893	368	-	1,125	1,493	1,180	(520)	660
Jackson County Board of Education	TJCS	52,204	772	1,818	1,608	1,187	5,385	1,731	-	784	2,515	5,548	(28)	5,520
Jacksonville City Board of Education	TJCS	13,889	205	484	428	783	1,900	461	-	42	503	1,477	192	1,669
Jacksonville State University	TJST	85,222	1,260	2,967	2,626	2,544	9,397	2,826	-	929	3,755	9,056	733	9,789
Jasper City Board of Education	TJSP	23,849	353	830	735	7	1,925	791	-	1,051	1,842	2,535	(374)	2,161
Jefferson County American Federation of Teachers	TJFT	283	4	10	9	22	45	9	-	58	67	29	(14)	15
Jefferson County Board of Education	TJEF	308,530	4,562	10,743	9,506	187	24,998	10,232	-	7,974	18,206	32,788	(2,250)	30,538
Jefferson State Community College	TJJC	35,790	529	1,246	1,103	266	3,144	1,187	-	740	1,927	3,803	(77)	3,726
Lamar County Schools	TLAM	19,496	288	679	601	481	2,049	647	-	73	720	2,073	108	2,181
Lanett City Schools	TLNT	8,109	120	282	250	105	757	269	-	64	333	862	72	934
Lauderdale County Board of Ed	TLAU	73,161	1,082	2,547	2,254	3,419	9,302	2,426	-	176	2,602	7,774	830	8,604
Law Enforcement Academy--Baldwin County	TSWP	105	2	4	3	9	18	3	-	85	88	10	(12)	(2)
Law Enforcement Academy--Tuscaloosa	TLET	239	4	8	7	43	62	8	-	2	10	26	(6)	20
Lawrence County Board of Education	TLAW	39,353	582	1,370	1,212	-	3,164	1,305	-	1,894	3,199	4,183	(894)	3,289
Lawson State College	TLSC	23,491	347	818	724	303	2,192	779	-	412	1,191	2,496	(5)	2,491
Lee County Board of Education	TLEE	80,081	1,184	2,788	2,467	134	6,573	2,656	-	4,365	7,021	8,511	(611)	7,900
Leeds Board of Education, City of	TLDS	17,753	262	618	547	1,278	2,705	589	-	-	589	1,888	518	2,406
Limestone County Board of Education	TLST	78,595	1,162	2,737	2,421	1,667	7,987	2,607	-	684	3,291	8,353	887	9,240
Linden City Board of Education	TLND	4,717	70	164	145	80	459	156	-	133	289	501	(6)	495
Lowndes County Board of Education	TLDN	17,210	254	599	530	408	1,791	571	-	1,078	1,649	1,830	(566)	1,264
Lurleen B. Wallace Community College	TLUR	12,587	186	438	388	131	1,143	417	-	596	1,013	1,337	(133)	1,204
Macon County Board of Education	TMAC	18,054	267	629	556	23	1,475	599	-	1,940	2,539	1,919	(754)	1,165
Madison City Board of Education	TMDC	99,040	1,464	3,449	3,051	9,758	17,722	3,285	-	-	3,285	10,526	3,364	13,890
Madison County Board of Education	TMAD	173,301	2,562	6,034	5,339	6,525	20,460	5,747	-	1,408	7,155	18,418	1,191	19,609
Marengo County Board of Education	TMNG	9,606	142	334	296	-	772	319	-	504	823	1,022	(384)	638
Marion County Board of Education	TMAR	26,384	390	919	813	130	2,252	875	-	1,476	2,351	2,803	(394)	2,409
Marion Military Institute	TMMI	8,869	131	309	273	255	968	294	-	348	642	942	153	1,095
Marshall County Board of Education	TMSH	48,587	718	1,692	1,497	714	4,621	1,611	-	1,241	2,852	5,162	(215)	4,947
Midfield City Board of Education	TMID	10,686	158	372	329	1,187	2,046	354	-	491	845	1,135	84	1,219



SCHEDULE B (continued)

Employer	Employer Code	2019 Net Pension Liability	Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense		
			Differences Between Expected and Actual Experience	Investment Earnings on Pension Plan	Change of Assumptions	Net Difference Between Projected and Actual Contributions and Proportionate Share of	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of	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
Mobile School Commissioners	TMOB	481,601	7,120	16,770	14,838	10,770	49,498	15,972	-	8,508	24,480	51,181	(1,482)	49,699
Monroe County Board of Education	TMON	28,341	419	987	873	-	2,279	940	-	1,312	2,252	3,012	(416)	2,596
Montgomery City and County Board of Education	TMTG	257,609	3,809	8,970	7,937	2,287	23,003	8,543	-	2,186	10,729	27,376	(44)	27,332
Morgan County Board of Education	TMOR	65,646	971	2,286	2,023	136	5,416	2,177	-	2,038	4,215	6,975	(470)	6,505
Mountain Brook City Board of Education	TMTB	58,034	858	2,021	1,788	5,797	10,464	1,925	-	3,020	4,945	6,168	629	6,797
Muscle Shoals City Schools	TMSC	28,643	423	997	882	1,479	3,781	950	-	-	950	3,045	635	3,680
Northeast Alabama Community College	TNEC	14,122	209	492	435	95	1,231	468	-	354	822	1,500	(67)	1,433
Northwest Shoals Community College	TNWC	19,678	291	685	606	-	1,582	653	-	1,081	1,734	2,092	(506)	1,586
Oneonta City Board of Education	TONE	11,133	165	388	343	176	1,072	369	-	205	574	1,182	14	1,196
Opelika City Board of Education	TOPK	44,446	657	1,548	1,369	1,930	5,504	1,474	-	-	1,474	4,724	604	5,328
Opp City Board of Education	TOPP	11,244	166	392	346	197	1,101	373	-	229	602	1,195	27	1,222
Organized Community Action Program Inc	TOCA	5,694	84	198	175	18	475	189	-	436	625	607	(39)	568
Oxford City Schools	TOXF	35,821	530	1,247	1,104	532	3,413	1,188	-	1,749	2,937	3,806	(195)	3,611
Ozark City Board of Education	TOZK	17,344	256	604	534	32	1,426	575	-	1,146	1,721	1,844	(588)	1,256
Pelham City Board of Education	TPLS	28,572	422	995	880	1,391	3,688	948	-	230	1,178	3,038	1,518	4,556
Pell City School System	TPEL	30,845	456	1,074	950	8	2,488	1,023	-	1,673	2,696	3,277	(507)	2,770
Perry County Board of Education	TPRY	11,756	174	409	362	-	945	390	-	1,450	1,840	1,250	(683)	567
Phenix City Board of Education	TPHC	59,396	878	2,068	1,830	3,108	7,884	1,970	-	559	2,529	6,312	735	7,047
Pickens County Board of Education	TPKS	23,647	350	823	729	531	2,433	784	-	108	892	2,512	(9)	2,503
Piedmont City Schools	TPMT	9,544	141	332	294	18	785	317	-	511	828	1,015	(50)	965
Pike County Board of Education	TPIK	21,968	325	765	677	1,451	3,218	729	-	310	1,039	2,334	279	2,613
Pike Road City Schools	TPRB	12,322	182	429	380	4,013	5,004	409	-	-	409	1,310	2,058	3,368
Randolph County Board of Education	TRAN	18,938	280	659	583	453	1,975	628	-	847	1,475	2,014	(23)	1,991
Reid State Technical College	TEVN	5,202	77	181	160	52	470	173	-	481	654	553	(329)	224
Roanoke City Schools	TROK	12,317	182	429	379	431	1,421	408	-	48	456	1,309	112	1,421
Russell County Board of Education	TRUS	28,733	425	1,000	885	175	2,485	953	-	616	1,569	3,055	81	3,136
Russellville City Board of Education	TRSV	21,977	325	765	677	295	2,062	729	-	1,049	1,778	2,336	(22)	2,314
Saraland Board of Education	TSAR	24,254	359	845	747	2,282	4,233	804	-	-	804	2,577	1,003	3,580
Satsuma City Schools	TSTM	10,212	151	356	315	469	1,291	339	-	193	532	1,085	132	1,217
School Superintendents of Alabama	TSAL	753	11	26	23	102	162	25	-	72	97	80	57	137
Scottsboro Board of Education	TSCO	23,528	348	819	725	331	2,223	780	-	388	1,168	2,501	(73)	2,428
Selma Public Schools	TSMA	28,508	421	993	878	256	2,548	945	-	2,032	2,977	3,029	(575)	2,454
Sheffield City Board of Education	TSHF	10,361	153	361	319	8	841	344	-	664	1,008	1,102	(184)	918
Shelby County Board of Education	TSBY	200,479	2,964	6,981	6,177	11,207	27,329	6,649	-	1,465	8,114	21,305	(2,717)	18,588
Shelton State Community College	TTVS	28,704	424	999	884	275	2,582	952	-	778	1,730	3,051	(304)	2,747
Snead State Community College	TSJC	11,416	169	398	352	174	1,093	379	-	168	547	1,212	65	1,277
Southern Union State Community College	TSUC	21,661	320	754	667	479	2,220	718	-	232	950	2,302	(33)	2,269
Special Programming for Achievement Network	TBSC	3,535	52	123	109	61	345	117	-	180	297	375	(12)	363
St. Clair County Board of Education	TSTC	76,871	1,137	2,677	2,368	4,427	10,609	2,549	-	-	2,549	8,169	1,373	9,542
State of Alabama--Commission on Higher Education	TCHE	3,535	52	123	109	65	349	117	-	175	292	375	14	389
State of Alabama--Department of Rehab Services	TDRS	63,299	936	2,204	1,950	512	5,602	2,099	-	1,024	3,123	6,728	(516)	6,212
State of Alabama--Department of Post-Secondary Ed	TPSE	13,193	195	459	406	2,952	4,012	438	-	-	438	1,403	1,015	2,418
State of Alabama--Department of Youth Services	TDYS	27,677	409	964	853	-	2,226	918	-	1,595	2,513	2,941	(1,184)	1,757
State of Alabama--High School of Math & Science	THMS	4,730	70	165	146	226	607	157	-	13	170	501	61	562
State of Alabama--PEEHIP	TPHP	3,927	58	137	121	302	618	130	-	9	139	418	164	582
State of Alabama--State Board of Education	TSBE	73,682	1,089	2,566	2,270	101	6,026	2,444	-	4,515	6,959	7,830	(1,561)	6,269
State of Alabama--Teachers Retirement System	TTRS	24,246	358	844	747	1,980	3,929	804	-	10	814	2,576	822	3,398
Sumter County Board of Education	TSUM	14,051	208	489	433	72	1,202	466	-	1,500	1,966	1,493	(553)	940



SCHEDULE B (continued)

Employer	Employer Code	2019 Net Pension Liability	Deferred Outflows of Resources					Deferred Inflows of Resources				Pension Expense		
			Differences Between Expected and Actual Experience	Investment Earnings on Plan	Change of Assumptions	Net Difference Between Projected and Actual Contributions and Proportionate Share of Resources	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Resources	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Change of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Resources	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
Sylacauga City Board of Education	TSYL	20,601	305	717	635	526	2,183	683	-	311	994	2,188	(7)	2,181
Talladega City Board of Education	TTAL	17,475	258	608	538	464	1,868	580	-	1,286	1,866	1,859	(458)	1,401
Talladega County Board of Education	TTDG	61,405	908	2,138	1,892	49	4,987	2,036	-	2,291	4,327	6,526	(602)	5,924
Tallapoosa County Board of Education	TTPS	23,551	348	820	726	180	2,074	781	-	697	1,478	2,502	(292)	2,210
Tallassee City Board of Education	TTAS	14,150	209	493	436	8	1,146	469	-	912	1,381	1,504	(199)	1,305
Tarrant Board of Education	TTAR	11,766	174	410	363	605	1,552	390	-	35	425	1,249	183	1,432
Thomasville City Schools	TTOM	11,275	167	393	347	21	928	374	-	506	880	1,197	(152)	1,045
Troy City Board of Education	TTRY	17,302	256	602	533	135	1,526	574	-	312	886	1,840	(270)	1,570
Troy University	TTST	143,558	2,122	4,999	4,423	2,197	13,741	4,761	-	10,459	15,220	15,257	(3,053)	12,204
Trussville City Board of Education	TTCB	42,384	627	1,476	1,306	1,960	5,369	1,406	-	780	2,186	4,503	742	5,245
Tuscaloosa City Schools	TTUS	105,625	1,562	3,678	3,254	3,311	11,805	3,503	-	1,250	4,753	11,225	906	12,131
Tuscaloosa County Schools	TTLS	158,346	2,341	5,514	4,879	9,900	22,634	5,251	-	-	5,251	16,827	3,558	20,385
Tuscumbia City Board of Education	TTSC	14,446	214	503	445	1,085	2,247	479	-	28	507	1,535	293	1,828
University Chancellor's Office	TUCO	17,924	265	624	552	674	2,115	594	-	473	1,067	1,904	341	2,245
University Charter School	TUWC	1,995	30	69	61	1,202	1,362	66	-	190	256	212	330	542
University of Alabama	TUVA	646,185	9,554	22,500	19,909	22,272	74,235	21,430	-	11,355	32,785	68,673	13,047	81,720
University of Alabama--Birmingham	TUMC	1,245,086	18,412	43,352	38,364	-	100,128	41,296	-	48,756	90,052	132,332	(20,247)	112,085
University of Alabama--Huntsville	TUAH	161,346	2,385	5,618	4,971	1,151	14,125	5,351	-	6,404	11,755	17,148	(2,460)	14,688
University of Montevallo	TALC	45,510	673	1,585	1,402	677	4,337	1,509	-	512	2,021	4,835	640	5,475
University of North Alabama	TFST	74,058	1,095	2,579	2,282	2,398	8,354	2,456	-	184	2,640	7,871	1,041	8,912
University of South Alabama	TUSA	294,615	4,356	10,259	9,077	-	23,692	9,771	-	31,969	41,740	31,310	(13,728)	17,582
University of West Alabama	TLVC	38,933	576	1,356	1,200	590	3,722	1,291	-	912	2,203	4,136	262	4,398
Vestavia Hills Board of Education	TVES	81,558	1,206	2,840	2,513	6,290	12,849	2,705	-	-	2,705	8,667	2,015	10,682
Walker County Board of Education	TWLK	71,943	1,064	2,505	2,217	3,032	8,818	2,386	-	332	2,718	7,645	386	8,031
Wallace Community College--Dothan	TGWD	27,115	401	944	835	85	2,265	899	-	942	1,841	2,881	(27)	2,854
Wallace State College--Hanceville	TCUT	27,627	408	962	851	232	2,453	916	-	1,181	2,097	2,936	(188)	2,748
Washington County Board of Education	TWSH	21,032	311	732	648	-	1,691	698	-	2,217	2,915	2,235	(878)	1,357
Wilcox County Board of Education	TWIL	16,514	244	575	509	392	1,720	548	-	545	1,093	1,755	(212)	1,543
Winfield City Board of Education	TWFD	10,652	157	371	328	135	991	353	-	320	673	1,132	14	1,146
Winston Education Board	TWIN	21,212	314	739	654	-	1,707	703	-	1,443	2,146	2,252	(536)	1,716
Woodlawn Comm Charter School (i3 Academy)	TWDL	418	6	15	13	288	322	14	-	-	14	44	70	114
Total for All Entities		\$ 11,056,902	\$ 163,474	\$ 385,006	\$ 340,658	\$ 283,875	\$ 1,173,013	\$ 366,691	\$ -	\$ 283,875	\$ 650,566	\$ 1,175,061	\$ -	\$ 1,175,061



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, 2020
 (Dollar Amounts in Thousands)**

Employer	Employer Code	NPL @ Minus 1% (6.70%)	NPL @ Plus 1% (8.70%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2019 Actual Employer Contributions
				2021	2022	2023	2024	2025	Thereafter	
Accel Academy Charter School	TACL	\$ 2,389	\$ 1,227	\$ 298	\$ 300	\$ 126	\$ 97	\$ 6	\$ 0	\$ 138
AL School of Cyber Tech & Engineering	TCYB	467	240	59	59	65	66	7	0	6
Alabama A&M University	TAMI	108,202	55,587	212	295	1,617	1,703	(36)	0	6,267
Alabama Association of School Boards	TAAB	2,495	1,282	15	9	36	32	(2)	0	144
Alabama Education Association	TAEA	12,556	6,450	(375)	(222)	71	135	(11)	0	727
Alabama Fire College	TAFB	5,498	2,824	(16)	7	9	46	(2)	0	318
Alabama High School Athletic Association	TAAA	2,681	1,377	30	18	43	35	0	0	155
Alabama Higher Education Partnership	TAHP	463	238	(8)	(13)	5	5	1	0	27
Alabama Industrial Development Training	TIDT	21,377	10,982	(16)	(77)	149	236	(19)	0	1,238
Alabama Institute for Deaf and Blind	TAID	86,080	44,222	669	787	1,629	1,646	(4)	0	4,986
Alabama Retired State Employees Association	TREA	1,024	526	7	5	26	19	(2)	0	59
Alabama School of Fine Arts	THFA	10,051	5,164	88	56	175	153	(5)	0	582
Alabama State Employees Association	TASE	1,672	859	(62)	(68)	(12)	21	(1)	0	97
Alabama State University	TMST	96,243	49,443	(2,497)	(1,480)	643	938	(91)	0	5,574
Alabama Technology Network	TATN	9,299	4,777	(209)	(154)	11	9	(15)	0	539
Alabama Vocational Association	TAVA	176	91	9	12	13	13	2	0	10
Alabaster City School System	TALR	77,647	39,890	998	912	1,474	1,574	10	0	4,497
Albertville City Board of Education	TALB	54,246	27,868	464	360	740	622	(45)	0	3,142
Alexander City Board of Education	TALX	34,531	17,740	(39)	(44)	328	380	(28)	0	2,000
Andalusia City Board of Education	TADL	19,303	9,917	133	173	428	464	12	0	1,118
Anniston Board of Education	TANN	29,928	15,375	275	385	835	1,454	106	0	1,733
Arab City Board of Education	TARB	28,855	14,824	(139)	(119)	297	328	(27)	0	1,671
Athens City Board of Education	TATH	48,651	24,993	611	396	699	614	(31)	0	2,818
Athens State University	TATC	37,277	19,151	112	90	379	404	(30)	0	2,159
Attalla City Schools	TATT	20,072	10,312	49	54	342	451	7	0	1,163
Auburn City Board of Education	TAUB	101,456	52,121	1,075	896	1,869	1,695	(31)	0	5,876
Auburn University	TAPI	960,198	493,284	10,509	8,452	16,578	14,571	(445)	0	55,614
Autauga County Board of Education	TATG	93,304	47,933	(371)	(379)	775	1,082	(67)	0	5,404
Baldwin County Board of Education	TBLD	368,402	189,260	3,252	2,990	6,928	6,636	(56)	0	21,337
Barbour County Schools	TBAR	11,167	5,737	(97)	(8)	166	189	(4)	0	647
Bessemer Board of Education	TBSM	47,700	24,505	53	237	933	1,045	15	0	2,763
Bevill State Community College	TWCT	35,985	18,487	(283)	(201)	(61)	100	(51)	0	2,084
Bibb County Board of Education	TBIB	39,228	20,153	127	130	638	777	4	0	2,272
Birmingham City Schools	TBMH	315,737	162,204	1,496	2,335	6,258	7,019	108	0	18,287
Bishop State Community College	TMJC	29,666	15,240	(530)	(194)	666	669	7	0	1,718
Blount County Board of Education	TBLT	82,361	42,311	(449)	(266)	781	887	(70)	0	4,770
Boaz City Board of Education	TBOZ	29,689	15,252	521	511	831	836	27	0	1,720
Brewton City Board of Education	TBWT	13,256	6,810	(40)	(23)	114	137	(10)	0	768
Bullock County Board of Education	TBLK	16,759	8,610	(294)	(222)	25	144	(17)	0	971
Butler County Board of Education	TBLR	32,316	16,602	(660)	(578)	(11)	148	(47)	0	1,872
Calhoun Community College	TDEC	51,678	26,549	289	198	637	752	(18)	0	2,993
Calhoun County Board of Education	TCAL	106,872	54,904	305	331	1,712	2,117	14	0	6,190
CAPNA, Inc.	TNCA	27,680	14,220	293	194	486	514	1	0	1,603
Central Alabama Community College	TACC	16,519	8,486	(225)	(158)	59	175	(14)	0	957
Chambers County Board of Education	TCHB	41,393	21,265	(252)	(215)	296	442	(32)	0	2,397
Chattahoochee Valley Community College	TCVS	13,179	6,771	68	84	285	228	(5)	0	763
Cherokee County Board of Education	TCHK	51,335	26,372	563	574	1,151	1,158	20	0	2,973
Chickasaw City School System	TCKW	13,159	6,760	487	389	424	375	14	0	762
Chilton County Board of Education	TCHT	78,573	40,365	64	105	830	959	(54)	0	4,551
Choctaw County Board of Education	TCHW	17,205	8,839	(199)	(148)	117	258	(3)	0	997



SCHEDULE C (continued)

Employer	Employer Code	NPL @ Minus 1% (6.70%)	NPL @ Plus 1% (8.70%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2019 Actual Employer Contributions
				2021	2022	2023	2024	2025	Thereafter	
Clarke County Board of Education	TCLK	32,113	16,498	(434)	(236)	323	502	(6)	0	1,860
Clay County Board of Education	TCLY	20,387	10,473	(275)	(201)	88	154	(24)	0	1,181
Cleburne County Board of Education	TCLB	30,990	15,921	25	82	590	698	11	0	1,795
Coastal Alabama Community College	TBMC	51,734	26,578	(261)	(192)	284	424	(57)	0	2,996
Coffee County Board of Education	TCOF	22,772	11,699	171	116	340	309	(12)	0	1,319
Colbert County Board of Education	TCOL	39,661	20,375	290	376	821	844	9	0	2,297
Community Svc Programs of West Alabama	TCSP	11,572	5,945	(18)	27	274	309	7	0	670
Conecuh County Board of Education	TCON	21,640	11,117	(87)	27	280	263	(13)	0	1,253
Coosa County Board of Education	TCSA	11,843	6,084	(163)	(90)	117	193	2	0	686
Council for Leaders in Alabama Schools	TACA	1,348	693	13	12	27	41	4	0	78
Covington County Board of Education	TCOV	34,994	17,977	(91)	(89)	322	391	(25)	0	2,027
Crenshaw County Board of Education	TCRW	24,650	12,663	(47)	(89)	132	200	(25)	0	1,428
Cullman City Board of Education	TCMN	39,060	20,067	431	482	941	969	22	0	2,262
Cullman County Commission on Education	TCUL	118,182	60,714	990	1,161	2,630	2,868	61	0	6,845
Dale County Board of Education	TDAL	35,976	18,482	436	468	814	822	15	0	2,084
Daleville City Board of Education	TDLV	11,995	6,162	(157)	(73)	168	183	(5)	0	695
Dallas County Board of Education	TDLS	39,267	20,173	(624)	(438)	132	328	(38)	0	2,274
Dauphin Island Sea Lab	TMES	10,872	5,585	168	128	174	134	(9)	0	630
Decatur Board of Education	TDTR	123,403	63,396	1,325	1,603	3,103	3,213	85	0	7,147
Dekalb County Board of Education	TDKB	105,827	54,367	1,041	1,061	2,204	2,384	37	0	6,129
Demopolis City Schools	TDPL	23,817	12,236	(116)	(75)	234	229	(21)	0	1,379
Developing Alabama Youth Foundation	TDAY	1,102	566	(15)	(7)	8	9	(1)	0	64
Dothan Board of Education	TDTN	101,760	52,277	(728)	(614)	809	1,029	(92)	0	5,894
Elba City Board of Education	TELB	7,741	3,977	(137)	(106)	(3)	101	(3)	0	448
Elmore County Board of Education	TELM	117,109	60,163	285	422	1,759	1,718	(56)	0	6,783
Enterprise Board of Education	TENP	79,274	40,726	866	971	1,668	1,802	31	0	4,591
Enterprise Ozark Community College	TEPC	16,583	8,519	(246)	(51)	91	223	(6)	0	960
Escambia County Board of Education	TESC	55,136	28,325	185	276	943	1,055	(1)	0	3,193
Etowah County Board of Ed	TETH	101,532	52,160	616	801	2,118	2,286	37	0	5,881
Etowah County Community Service Program, Inc.	TECA	306	157	(6)	0	4	3	(2)	0	18
Eufaula City Board of Education	TEFL	31,957	16,417	16	27	376	432	(18)	0	1,851
Fairfield Board of Education	TFRF	20,168	10,361	(157)	(148)	169	305	(5)	0	1,168
Fayette County Board of Education	TFAY	28,215	14,495	73	216	617	669	15	0	1,634
Florence City Board of Education	TFLO	55,930	28,733	(175)	(160)	615	730	(34)	0	3,239
Fort Payne City Board of Education	TFTP	33,390	17,153	99	68	450	491	(15)	0	1,934
Franklin County Board of Education	TFRK	42,675	21,923	361	340	667	680	(16)	0	2,472
Gadsden City Board of Education	TGDS	65,917	33,864	250	274	1,199	1,387	16	0	3,818
Gadsden State Community College	TGDC	46,191	23,730	(887)	(613)	93	289	(59)	0	2,675
Gardendale Board of Education	TGBE	0	0	(131)	(132)	(128)	(118)	(13)	0	0
Geneva City Board of Education	TGCB	14,778	7,592	36	13	157	155	(14)	0	856
Geneva County Board of Education	TGEN	31,882	16,379	366	389	732	721	11	0	1,847
George Corley Wallace State Community College	TGWS	17,536	9,009	(263)	(155)	59	123	(20)	0	1,016
Greene County Board of Education	TGRN	15,517	7,972	(44)	(29)	145	187	(11)	0	899
Gulf Shores City Board of Education	TGSC	3,863	1,985	519	523	570	533	48	0	224
Guntersville City Board of Education	TGUN	21,991	11,297	(198)	(184)	174	213	(20)	0	1,274
H. Council Trenholm State Technical College	TMGH	19,642	10,091	88	276	484	379	(3)	0	1,138
Hale County Board of Education	THAL	26,469	13,598	(654)	(511)	(62)	66	(45)	0	1,533
Haleyville City Board of Education	THAV	19,490	10,012	(31)	(8)	219	205	(16)	0	1,129
Hartselle City Board of Education	THCS	38,915	19,992	252	327	862	827	7	0	2,254
Henry County Board of Education	THNY	26,896	13,817	(132)	(78)	267	318	(22)	0	1,558
Homewood City Board of Education	THOM	68,723	35,305	899	1,184	1,949	1,810	43	0	3,980
Hoover City Board of Education	THOV	215,281	110,597	2,522	2,667	5,674	5,903	178	0	12,469
Houston County Board of Education	THST	70,608	36,274	619	654	1,460	1,587	24	0	4,090
Huntsville City Schools	THTS	283,947	145,873	1,339	1,941	5,217	6,140	89	0	16,446
J. F. Drake State Technical College	THVS	8,751	4,496	(364)	(302)	(105)	24	(11)	0	507
J. F. Ingram State Technical College	TDRT	15,069	7,741	(392)	(321)	(67)	184	(4)	0	873
Jackson County Board of Education	TJKS	70,871	36,409	115	246	1,118	1,381	10	0	4,105
Jacksonville City Board of Education	TJCS	18,855	9,687	205	244	478	463	7	0	1,092
Jacksonville State University	TJST	115,694	59,436	857	818	2,209	1,811	(53)	0	6,701
Jasper City Board of Education	TJSP	32,376	16,633	(338)	(214)	274	384	(23)	0	1,875
Jefferson County American Federation of Teachers	TJFT	385	198	(17)	(4)	4	(2)	(3)	0	22



SCHEDULE C (continued)

Employer	Employer Code	NPL @ Minus 1% (6.70%)	NPL @ Plus 1% (8.70%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2019 Actual Employer Contributions
				2021	2022	2023	2024	2025	Thereafter	
Jefferson County Board of Education	TJEF	418,848	215,176	(1,749)	(767)	4,535	5,064	(291)	0	24,259
Jefferson State Community College	TJJC	48,588	24,961	27	39	540	639	(28)	0	2,814
Lamar County Schools	TLAM	26,467	13,597	123	161	497	542	6	0	1,533
Lanett City Schools	TLNT	11,009	5,656	42	27	174	183	(2)	0	638
Lauderdale County Board of Ed	TLAU	99,320	51,024	932	1,087	2,345	2,300	36	0	5,753
Law Enforcement Academy--Baldwin County	TSWP	142	73	(18)	(22)	(21)	(11)	2	0	8
Law Enforcement Academy--Tuscaloosa	TLET	324	167	11	11	17	13	0	0	19
Lawrence County Board of Education	TLAW	53,424	27,446	(610)	(350)	395	575	(45)	0	3,094
Lawson State College	TLSC	31,890	16,383	125	89	394	415	(22)	0	1,847
Lee County Board of Education	TLEE	108,715	55,850	(868)	(793)	522	813	(122)	0	6,297
Leeds Board of Education, City of	TLDS	24,101	12,381	461	460	615	569	11	0	1,396
Limestone County Board of Education	TLST	106,697	54,814	456	414	1,772	2,050	4	0	6,180
Linden City Board of Education	TLND	6,404	3,290	17	(4)	79	83	(5)	0	371
Lowndes County Board of Education	TLDN	23,363	12,002	(434)	(204)	318	458	4	0	1,353
Lurleen B. Wallace Community College	TLUR	17,088	8,779	(124)	(44)	150	161	(13)	0	990
Macon County Board of Education	TMAC	24,510	12,592	(653)	(408)	(27)	62	(38)	0	1,420
Madison City Board of Education	TMDC	134,453	69,073	3,162	2,875	4,175	4,080	145	0	7,787
Madison County Board of Education	TMAD	235,267	120,864	1,483	1,726	4,697	5,310	89	0	13,626
Marengo County Board of Education	TMNG	13,041	6,699	(171)	(105)	87	148	(10)	0	755
Marion County Board of Education	TMAR	35,818	18,401	(302)	(227)	179	286	(35)	0	2,075
Marion Military Institute	TMMI	12,040	6,185	70	37	107	121	(9)	0	697
Marshall County Board of Education	TMSH	65,960	33,886	(46)	119	907	835	(46)	0	3,820
Midfield City Board of Education	TMID	14,507	7,453	127	168	380	502	24	0	840
Mobile School Commissioners	TMOB	653,802	335,879	(58)	1,735	10,455	12,818	68	0	37,868
Monroe County Board of Education	TMON	38,475	19,766	(338)	(240)	268	372	(35)	0	2,228
Montgomery City and County Board of Education	TMTG	349,719	179,662	289	829	5,152	6,054	(50)	0	20,255
Morgan County Board of Education	TMOR	89,119	45,783	(417)	(231)	854	1,057	(62)	0	5,162
Mountain Brook City Board of Education	TMTB	78,784	40,474	582	676	1,652	2,492	117	0	4,563
Muscle Shoals City Schools	TMSC	38,885	19,977	567	579	861	817	7	0	2,252
Northeast Alabama Community College	TNEC	19,172	9,849	(11)	1	203	227	(11)	0	1,110
Northwest Shoals Community College	TNWC	26,713	13,724	(383)	(231)	183	298	(19)	0	1,547
Oneonta City Board of Education	TONE	15,114	7,765	29	50	225	203	(9)	0	875
Opelika City Board of Education	TOPK	60,338	30,998	682	686	1,293	1,348	21	0	3,495
Opp City Board of Education	TOPP	15,265	7,842	40	54	217	198	(10)	0	884
Organized Community Action Program Inc	TOCA	7,729	3,971	(113)	(123)	(6)	98	(6)	0	448
Oxford City Schools	TOXF	48,629	24,982	(146)	(109)	407	379	(55)	0	2,817
Ozark City Board of Education	TOZK	23,546	12,096	(407)	(270)	174	228	(20)	0	1,364
Pelham City Board of Education	TPLS	38,788	19,927	312	361	913	909	15	0	2,247
Pell City School System	TPEL	41,874	21,512	(429)	(302)	230	336	(43)	0	2,425
Perry County Board of Education	TPRY	15,959	8,199	(511)	(349)	(25)	17	(27)	0	924
Phenix City Board of Education	TPHC	80,633	41,424	641	876	1,828	1,965	45	0	4,670
Pickens County Board of Education	TPKS	32,102	16,492	129	180	601	630	1	0	1,859
Piedmont City Schools	TPMT	12,957	6,656	(99)	(99)	71	100	(16)	0	750
Pike County Board of Education	TPIK	29,823	15,321	333	340	684	798	24	0	1,727
Pike Road City Schools	TPRB	16,728	8,594	1,421	1,213	1,139	783	39	0	969
Randolph County Board of Education	TRAN	25,709	13,208	20	(32)	284	253	(25)	0	1,489
Reid State Technical College	TEVN	7,062	3,628	(264)	(123)	96	112	(5)	0	409
Roanoke City Schools	TROK	16,722	8,590	122	129	340	369	5	0	969
Russell County Board of Education	TRUS	39,006	20,039	12	(1)	448	485	(28)	0	2,259
Russellville City Board of Education	TRSV	29,835	15,327	(63)	(79)	187	270	(31)	0	1,728
Saraland Board of Education	TSAR	32,926	16,915	808	739	989	873	20	0	1,907
Satsuma City Schools	TSTM	13,864	7,122	137	149	282	198	(7)	0	803
School Superintendents of Alabama	TSAL	1,022	525	42	11	12	1	(1)	0	59
Scottsboro Board of Education	TSCO	31,941	16,409	(88)	23	529	590	1	0	1,850
Selma Public Schools	T SMA	38,702	19,882	(684)	(528)	191	599	(7)	0	2,242
Sheffield City Board of Education	TSHF	14,065	7,226	(181)	(164)	73	121	(16)	0	815
Shelby County Board of Education	TSBY	272,162	139,819	2,098	3,476	6,735	6,757	149	0	15,763
Shelton State Community College	TTVS	38,968	20,019	(208)	(76)	569	584	(17)	0	2,257
Snead State Community College	TSJC	15,498	7,962	75	63	204	212	(8)	0	898
Southern Union State Community College	TSUC	29,406	15,107	36	196	545	502	(9)	0	1,703
Special Programming for Achievement Network	TBSC	4,799	2,465	(22)	(14)	46	41	(3)	0	278



SCHEDULE C (continued)

Employer	Employer Code	NPL @ Minus 1% (6.70%)	NPL @ Plus 1% (8.70%)	Projected Deferred Outflows/(Inflows) To Be Recognized in Pension Expense for the Fiscal Year Ended September 30						2019 Actual Employer Contributions
				2021	2022	2023	2024	2025	Thereafter	
St. Clair County Board of Education	TSTC	104,357	53,612	1,396	1,432	2,548	2,619	65	0	6,044
State of Alabama--Commission on Higher Education	TCHE	4,799	2,466	(2)	(8)	37	37	(7)	0	278
State of Alabama--Department of Rehab Services	TDRS	85,932	44,146	(156)	113	1,276	1,285	(39)	0	4,977
State of Alabama--Department of Post-Secondary Ed	TPSE	17,910	9,201	1,021	914	882	725	32	0	1,037
State of Alabama--Department of Youth Services	TDYS	37,573	19,302	(557)	(311)	252	365	(36)	0	2,176
State of Alabama--High School of Math & Science	THMS	6,422	3,299	83	83	139	133	(1)	0	372
State of Alabama--PEEHIP	TPHP	5,331	2,739	111	92	154	120	2	0	309
State of Alabama--State Board of Education	TSBE	100,028	51,388	(1,464)	(1,327)	555	1,349	(46)	0	5,794
State of Alabama--Teachers Retirement System	TTRS	32,916	16,910	792	645	913	758	7	0	1,906
Sumter County Board of Education	TSUM	19,074	9,799	(387)	(378)	(94)	116	(21)	0	1,105
Sylacauga City Board of Education	TSYL	27,967	14,368	(14)	98	528	571	6	0	1,620
Talladega City Board of Education	TTAL	23,724	12,188	(62)	(157)	14	228	(21)	0	1,374
Talladega County Board of Education	TTDG	83,360	42,825	(465)	(396)	712	877	(68)	0	4,828
Tallapoosa County Board of Education	TTPS	31,972	16,425	(175)	1	384	406	(20)	0	1,852
Tallassee City Board of Education	TTAS	19,209	9,868	(223)	(200)	64	146	(22)	0	1,113
Tarrant Board of Education	TTAR	15,973	8,206	171	174	384	386	12	0	925
Thomasville City Schools	TTOM	15,307	7,864	(130)	(116)	80	219	(5)	0	887
Troy City Board of Education	TTRY	23,488	12,067	(69)	(3)	313	403	(4)	0	1,360
Troy University	TTST	194,888	100,120	(2,737)	(2,299)	1,810	1,937	(190)	0	11,288
Trussville City Board of Education	TTCB	57,539	29,560	730	653	1,037	800	(37)	0	3,333
Tuscaloosa City Schools	TTUS	143,393	73,666	1,320	1,324	2,376	2,104	(72)	0	8,305
Tuscaloosa County Schools	TTLS	214,964	110,434	3,329	3,323	5,417	5,209	105	0	12,450
Tuscumbia City Board of Education	TTSC	19,612	10,075	291	322	562	549	16	0	1,136
University Chancellor's Office	TUCO	24,333	12,501	238	14	388	416	(8)	0	1,409
University Charter School	TUWC	2,709	1,392	334	337	370	72	(7)	0	157
University of Alabama	TUVA	877,235	450,664	9,339	5,563	14,734	12,344	(530)	0	50,808
University of Alabama--Birmingham	TUMC	1,690,273	868,336	(11,431)	(7,867)	13,705	17,180	(1,511)	0	97,901
University of Alabama--Huntsville	TUAH	219,037	112,526	(1,406)	(779)	2,317	2,422	(184)	0	12,686
University of Montevallo	TALC	61,783	31,740	424	218	799	902	(27)	0	3,578
University of North Alabama	TFST	100,538	51,649	834	968	2,054	1,871	(13)	0	5,823
University of South Alabama	TUSA	399,958	205,471	(10,100)	(8,164)	(1,473)	2,165	(476)	0	23,165
University of West Alabama	TLVC	52,854	27,153	185	126	608	634	(34)	0	3,061
Vestavia Hills Board of Education	TVES	110,720	56,880	1,992	2,027	3,155	2,902	68	0	6,413
Walker County Board of Education	TWLK	97,666	50,174	744	890	2,177	2,251	38	0	5,657
Wallace Community College--Dothan	TGWD	36,811	18,911	(119)	(110)	317	368	(32)	0	2,132
Wallace State College--Hanceville	TCUT	37,506	19,268	(139)	(128)	251	403	(31)	0	2,172
Washington County Board of Education	TWSH	28,553	14,668	(661)	(536)	(134)	140	(33)	0	1,654
Wilcox County Board of Education	TWIL	22,419	11,517	(106)	(23)	315	439	2	0	1,298
Winfield City Board of Education	TWFD	14,461	7,429	16	3	141	167	(9)	0	838
Winston Education Board	TWIN	28,797	14,794	(480)	(336)	154	250	(27)	0	1,668
Woodlawn Comm Charter School (i3 Academy)	TWDL	568	292	71	72	78	79	8	0	4
Total for All Entities		\$ 15,010,404	\$ 7,711,324	\$ 23,192	\$ 39,813	\$ 221,931	\$ 241,958	\$ (4,447)	\$ 0	\$ 869,336



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: 7.70% 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 Years of Service	Tier II	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 EFFECTIVE 9/30/2019

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. For that reason, it is critical that this funding policy remain unchanged until its objectives are met.

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.



SCHEDULE F (continued)

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.
 - Incremental UAAL resulting from plan changes that grant benefit improvements shall be amortized over a period not to exceed 15 years.
 - Employer Normal Contribution Rate – the contribution rate determined as of the valuation date each year based on the provisions of Alabama Code Section 16-25-21.
 - In each valuation subsequent to the adoption of this funding policy the required employer contribution rate will be determined by the summation of the employer Normal Contribution Rate, a contribution rate for administrative expenses, a contribution rate for the pre-retirement death benefit fund, a contribution rate for the term life insurance fund, the individual amortization rate for each of the New



SCHEDULE F (continued)

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 including the Interest Smoothing methodology. 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 which shall include the Interest Smoothing Methodology.

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.