Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

Retirement Systems
of Alabama

Teachers' Retirement System of Alabama
Report of the Actuary on the Annual Valuation
Prepared as of September 30, 2021

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

April 21, 2022

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

Members of the Board:

In this report are submitted the results of the annual valuation of the assets and liabilities of the Teachers' Retirement System of Alabama, prepared as of September 30, 2021 in accordance with Section 16-25-19(q) of the act governing the operation of the System.

The purpose of this report is to provide a summary of the funded status of the System as of September 30, 2021 and to recommend rates of State contribution. While not verifying the data at the source, the actuary performed tests for consistency and reasonability.

On the basis of the valuation, we have determined employer contribution rates of 12.59% of payroll for Tier I members and 11.57% of payroll for Tier II members for the fiscal year ending September 30, 2024.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation of the System for the five-year period ending September 30, 2020. **The valuation liabilities fully reflect the impact of all assumption changes. The Board approved a phase in of the increase in the required contributions due to the assumption changes over a period not to exceed five years with a floor equal to the 2023 fiscal year employer contribution rates. The contribution rates shown in this report reflect this methodology.**

In addition, the valuation reflects the provisions of the following legislative Acts:

- Act 2021-537 which allows sick leave conversion for Tier II members and increases the member contribution rates for Tier II members to 6.20% for regular members and 7.20% for police officers, firefighters, and correctional officers (FLC) effective on October 1, 2021,
- Act 2022-222 which allows Tier II members to retire with 30 years of creditable service regardless of age with an early retirement reduction of 2% for each year that the member is less than age 62 at retirement (age 56 for FLC), and
- Act 2022-184 which allows surviving spouses of retirement-eligible members who die in active service to receive an Option 2 monthly allowance.

The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the Entry Age Normal cost method. Five-year smoothed market value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded actuarial accrued liability that is being amortized by regular annual contributions as a level percentage of payroll, on the assumption that payroll will increase by 2.75% annually. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for funding purposes meet the parameters outlined in the Board's funding policy.

In this report, we provided the following information and supporting schedules in the Actuarial and Statistical Sections of the Annual Comprehensive Financial Report:

- Summary of Actuarial Assumptions and Methods
- Actuarial Cost Method
- Summary of Plan Provisions as Interpreted for Valuation Purposes
- Schedule of Funding Progress
- Solvency Test
- Schedule of Active Member Valuation Data

We also provide the following schedules for the Annual Comprehensive Financial Report in a separate supplemental report:

- Analysis of Actuarial Gains and Losses
- Schedule of Retirants and Beneficiaries Added and Removed from Rolls
- Retired Members by Type of Benefit as of September 30, 2021
- Ten-Year History of Average Monthly Benefit Payments as of September 30

The necessary GASB Statement Nos. 67 and 68 disclosure information is provided in separate supplemental reports.

This is to certify that Larry Langer and Edward Koebel are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Use of these computations for purposes other than meeting these requirements may not be appropriate.

In our opinion the System is operating on an actuarially sound basis. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,

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

Cathy Turcot
Cathy Turcot
Principal and Managing Director

Edward J. Koebel
Edward J. Koebel, EA, FCA, MAAA
Chief Executive Officer

Table of Contents

Section I: Summary of Principal Results

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below:

VALUATION DATE	September 30, 2021	September 30, 2020
Active members		
Number	134,034	132,707
Annual compensation	$ 7,221,790,242	$ 7,019,258,383
Retired members and beneficiaries		
Number	103,071	100,866
Annual allowances	$ 2,438,228,771	$ 2,350,717,232
Deferred vested members		
Number	6,826	6,606
Estimated deferred annual allowances	$ 98,752,016	$ 94,050,039
Assets		
Actuarial value	$ 28,154,228,951	$ 26,681,234,020
Market value	30,390,239,057	25,776,400,992
Unfunded actuarial accrued liability	$ 11,952,577,455	$ 11,071,566,401
Funded Ratio based on Actuarial Value of Assets	70.2%	70.7%
Blended Amortization period	26.9 years	27.1 years
CONTRIBUTIONS FOR FISCAL YEAR ENDING*	**September 30, 2024**	**September 30, 2023**
Tier I (first hired prior to January 1, 2013)		
Employer contribution rate)		
Normal	2.58%	2.41%
Unfunded actuarial accrued liability	9.69	9.82
Death benefit	0.02	0.01
Term life	0.05	0.02
Administration	0.25	0.33
Total	12.59%	12.59%
Tier II (first hired on or after January 1, 2013)		
Employer contribution rate		
Normal	1.56%	1.26%
Unfunded actuarial accrued liability	9.69	9.82
Death benefit	0.02	0.01
Term life	0.05	0.02
Administration	0.25	0.33
Total	11.57%	11.44%

* *Contribution rates reflect a phase-in of the cost of assumption changes over a period not to exceed five years with a floor equal to the 2023 fiscal year employer contribution rates.*

2. Comments on the valuation results as of September 30, 2021 are shown in Section IV and further discussion of the contribution levels is set out in Section V.

3. Section VI of this report shows the certification of the liquidation period used to determine the actuarial accrued liability contribution rate.

4. Schedule B shows the development of the actuarial value of assets.

5. The Board's Funding Policy is provided in Schedule F.

6. Schedule D of this report outlines the full set of actuarial assumptions and methods used in the current valuation. Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending September 30, 2020. **The valuation liabilities fully reflect the impact of all assumption changes. The Board approved a phase in of the increase in the required contributions due to the assumption changes over a period not to exceed five-years with a floor equal to the fiscal year 2023 employer contribution rates.** These revised assumptions, as summarized in the table on the following page, were adopted by the Board on September 13, 2021.

Section I: Summary of Principal Results

Summary of Recommended Assumptions	
Economic Assumptions	
Price Inflation	Lowered assumption from 2.75% to 2.50%
Real Rate of Investment Return	No Change in Assumption
Total Rate of Investment Return	Lowered assumption from 7.70% to 7.45%
Wage Inflation	Lowered assumption from 3.00% to 2.75%
Payroll Growth	Lowered assumption from 3.00% to 2.75%
Demographic Assumptions	
Withdrawal	Changed rates to a service-based table
Retirement	Decreased assumed rates at most ages.
Pre-Retirement Mortality	Changed to Pub-2010 Teacher Employee Below Median table, adjusted by 65% and projected generationally with adjusted MP -2020 improvement scale
Disability	Lowered assumed rates at most ages
Merit/Promotion Scale	Increase assumed merit rates by 0.25% (No change to the overall assumed rates of salary increase)
Post-Retirement Mortality	Changed to Pub-2010 family of mortality tables adjusted as outlined in Schedule D, projected generationally with adjusted MP-2020 improvement scale
Other Assumptions and Methods and Administrative Changes	
Unused Sick Leave	Changed from a 3.00% to a 2.50 % load on service retirement liabilities for actives
Asset Smoothing	No change in method.
Pre-retirement Death Benefit	Changed from 0.01% to 0.02% of payroll
Administrative Expenses	Changed from 0.33% to 0.25% of payroll
Term-Life Insurance	Changed from 0.02% to 0.05% of payroll
Spouse's Benefit	Changed assumption to 70% will elect lump sum benefit and 30% will elect spouse annuity (20% spouse/10% non-spouse)
Amortization of Liabilities	▪ Amortize entire September 30, 2021 UAAL over a closed 27-year period ▪ Implement 20-year layered amortization of future experience gains/losses beginning September 30, 2028, when the amortization period for the entire UAAL is 20 years
Funding Methodology	Phase in impact of assumption and method changes on employer contribution rates over a period not to exceed five years with a floor equal to the fiscal year 2023 employer contribution rates

7. Provisions of the System, as summarized in Schedule H, were taken into account in the current valuation. The valuation reflects, the provisions of the following benefit improvements

   - Act 2021-537 which allows sick leave conversion for Tier II members and increases the member contribution rates for Tier II members to 6.20% for regular members and 7.20% for police officers, firefighters, and correctional officers (FLC) effective on October 1, 2021,
   - Act 2022-222 which allows Tier II members to retire with 30 years of creditable service regardless of age with an early retirement reduction of 2% for each year that the member is less than age 62 at retirement (age 56 for FLC), and
   - Act 2022-184 which allows surviving spouses of retirement-eligible members who die in active service to receive an Option 2 monthly allowance.

8. The funded ratio shown in the Summary of Principal Results is the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status would be different based on the market value of assets. The funded ratio is an indication of progress in funding the promised benefits. Since the ratio is less than 100%, there is a need for additional contributions towards payment of the unfunded actuarial accrued liability. In addition, this funded ratio does not have any relationship to measuring sufficiency if the plan had to settle its liabilities.

Section II: Membership

1. The following table shows the number of active members and their annual compensation as of September 30, 2021 on the basis of which the valuation was prepared.

TABLE 1

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF SEPTEMBER 30, 2021

GROUP	NUMBER	COMPENSATION
Tier I	78,580	$ 4,706,840,531
Tier II	55,454	2,514,949,711
Subtotal	134,034	$ 7,221,790,242

The table reflects the active membership for whom complete valuation data were submitted. The results of the valuation include an estimated liability for an additional 94 vested inactive members where complete data was not available (with liabilities equal to contribution balances multiplied by a factor of two) and contribution balances for 19,409 non-vested inactive members who have contributed in the last 5 years and 31,446 non-vested inactive members who have not contributed for more than 5 years.

2. The following table shows a six-year history of active member valuation data.

TABLE 2

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date	Number	Annual Payroll	% Increase in Annual Payroll*	Annual Average Pay	% Increase in Average Pay**
9/30/2021	134,034	$ 7,221,790,242	2.89%	$ 53,880	1.87%
9/30/2020	132,707	7,019,258,383	(2.43)	52,893	0.23
9/30/2019	136,325	7,193,832,116	6.47	52,770	7.13
9/30/2018	137,161	6,756,474,151	0.86	49,259	0.70
9/30/2017	136,941	6,698,834,819	4.20	48,918	4.00
9/30/2016	136,731	6,430,999,445	2.11	47,034	1.56

* 2.35% annual increase for Annual Payroll since 2016.
** 2.76% annual increase for Average Pay since 2016.

3. The following table shows the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date.

TABLE 3

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS AND BENEFICIARIES ON THE ROLL AS OF SEPTEMBER 30, 2021

GROUP	NUMBER*	ANNUAL RETIREMENT ALLOWANCES*
Service Retirements	91,200	$ 2,268,675,584
Disability Retirements	5,917	71,627,809
Beneficiaries of Deceased Members	5,954	97,925,378
Total	103,071	$ 2,438,228,771

** In addition, there were 6,826 vested inactive members with estimated deferred annual allowances totaling $98,752,016 included in the valuation.*

4. Schedule I shows the distribution by age and service of the number and average annual compensation of active members included in the valuation and a distribution by age of the number and benefits of retired members and beneficiaries included in the valuation.

Section III: Assets

1. The current retirement law provides for the maintenance of six funds for the purpose of recording the fiscal transactions of the System, namely, the Annuity Savings Fund, the Pension Accumulation Fund, the Deferred Retirement Option Plan Fund, the Pre-Retirement Death Benefit Fund, the Life Insurance Fund, and the Expense Fund.

(a) ***Annuity Savings Fund***

The Annuity Savings Fund is the fund to which are credited all contributions made by members together with regular interest thereon. When a member retires or when a survivor allowance becomes payable the amount of the member's accumulated contributions are transferred from the Annuity Savings Fund to the Pension Accumulation Fund. The market value of assets credited to the Annuity Savings Fund on September 30, 2021, which represent the accumulated contributions of active members to that date, including interest, amounted to $6,589,860,298.

(b) ***Pension Accumulation Fund***

The Pension Accumulation Fund is the fund to which are credited all contributions made by the employer, except those contributions made to the Pre-Retirement Death Benefit Fund, the Life Insurance Fund, or the Expense Fund. When a member retires or when a survivor allowance becomes payable, the pension is paid from this fund. In addition, the amount of the member's accumulated contributions is transferred from the Annuity Savings Fund to the Pension Accumulation Fund and the annuity is paid from this fund. On September 30, 2021 the market value of assets credited to this fund amounted to $23,697,619,279.

(c) ***DROP Fund***

The DROP Fund is the fund to which are credited deferred retirement benefits on behalf of members who elect to participate in the DROP, together with regular interest thereon. In addition, member contributions while participating in the DROP, together with regular interest therein, are credited to the Fund. At the end of the DROP deferral period, the member receives the amount of the deferred retirement benefits and contributions plus interest in the member's DROP account. The DROP is closed to new participants as of June 1, 2011. On September 30, 2021, the market value of assets credited to this Fund amounted to $102,759,480.

(d) ***Pre-Retirement Death Benefit Fund***

The Pre-Retirement Death Benefit Fund is the fund to which are credited contributions made by the employer for the special pre-retirement death benefit which became effective October 1, 1983. On September 30, 2021, the market value of assets credited to this fund amounted to $57,850,447. These assets are not included in the valuation and the liabilities associated with these death benefits are not included in the valuation.

(e) ***Life Insurance Fund***

The Life Insurance Fund is the fund to which are credited contributions made by the employer for life insurance benefits which became effective October 1, 1987. On September 30, 2021, the market value of assets credited to this fund amounted to $4,371,054. These assets are not included in the valuation and the liabilities associated with these life insurance benefits are not included in the valuation.

(f) ***Expense Fund***

The Expense Fund is the fund from which the expenses of the administration of the retirement system are paid. Any amounts credited to the accounts of members withdrawing before retirement and not returnable under the provisions of subsection (g) of Section 16-25-14 are credited to the Expense Fund. Additional contributions required to meet the expenses of the retirement system made by the employer are also credited to this fund. On September 30, 2021, the market value of assets credited to this fund amounted to $13,151,041. These assets are not included in the valuation.

2. As of September 30, 2021, the total market value of assets reported exclusive of the Pre-Retirement Death Benefit Fund, the Life Insurance Fund and the Expense Fund amounted to $30,390,239,057 as shown in the following table.

TABLE 4

MARKET VALUE OF ASSETS BY FUND
AS OF SEPTEMBER 30, 2021

FUND	MARKET VALUE OF ASSETS
Annuity Savings Fund	$ 6,589,860,298
Pension Accumulation Fund	23,697,619,279
DROP Fund	102,759,480
Total Market Value of Assets	$ 30,390,239,057

3. The five-year market related actuarial value of assets as of September 30, 2021 was $28,154,228,951. Schedule B shows the development of the actuarial value of assets as of September 30, 2021.

4. Schedule C shows the receipts and disbursements of the System for the year preceding the valuation date and a reconciliation of the fund balances at market value.

Section IV: Comments on Valuation

1. Schedule A of this report contains the valuation balance sheet, which shows the present and prospective assets and liabilities of the System as of September 30, 2021.

2. The valuation balance sheet shows that the System has total prospective liabilities of $45,533,797,921. Of this amount, $23,111,616,480 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and DROP participants, $904,778,189 is for the prospective benefits payable on account of present inactive members and $21,517,403,252 is for the prospective benefits payable on account of present active members. Against these liabilities, the System has total actuarial value of assets, exclusive of the Pre-Retirement Death Benefit Fund, the Life Insurance Fund, and the Expense Fund, of $28,154,228,951 as of September 30, 2021. The difference of $17,379,568,970 between the total liabilities and the total actuarial value of assets represents the present value of contributions to be made in the future. Of this amount, $3,949,113,026 is the present value of future contributions expected to be made by members to the Annuity Savings Fund, and the balance of $13,430,455,944 represents the present value of future contributions payable by the employer.

3. The employer's regular contributions to the System consist of normal contributions and unfunded actuarial accrued liability (UAAL) contributions. Prospective normal contributions have a present value of $1,477,878,489. When this amount is subtracted from $13,430,455,944, which is the present value of the total future contributions to be made by the employer, there remains $11,952,577,455 as the amount of future UAAL contributions.

Section IV: Comments on Valuation

4. The funding policy adopted by the Board, as shown in Schedule F, provides that the initial total UAAL established as of September 30, 2021, shall be amortized over a closed 27-period. Each subsequent valuation may produce a New Incremental UAAL consisting of all benefit changes that have occurred since the previous valuation which shall be amortized over a closed 15-year period. Each valuation beginning with the September 30, 2028 valuation will produce a New Incremental UAAL consisting of all assumption and method changes and experience gains and/or losses that have occurred since the previous valuation. All gains and losses occurring after the establishment of the initial total UAL and before September 30, 2028, except for those due to benefit improvements, shall be included in the remaining initial total UAAL each year and amortized over the remaining closed period.

5. The total UAAL contribution rate is 9.69% of payroll determined in accordance with the Board's funding policy and the phase-in methodology adopted by the Board. The UAAL contribution rate has been calculated on the assumption that each incremental component of actuarial accrued liability contribution will increase by 2.75% each year. Schedule G of this report shows the amortization schedules for all bases on September 30, 2021.

Section IV: Comments on Valuation

6. The following table shows the components of the total unfunded actuarial accrued liability (UAAL) and the derivation of the actuarial accrued liability contribution rate in accordance with the funding policy.

TABLE 5
TOTAL UAAL AND UAAL CONTRIBUTION

	UAAL	Amortization Period	Amortization Payment
Initial Total UAAL 9/30/2021	$11,896,322,737	27	$797,507,849
Benefit Improvements Effective 10/1/2021*	56,254,718	15	5,409,633
Total	$11,952,577,455		$802,917,482
Total Amortized Payment Adjusted for Timing			$774,082,894
Total Estimated Payroll**			$7,485,354,421
UAAL Contribution Rate			10.34%
UAAL Contribution Rate Phase-in Methodology***			9.69%

* *The benefit improvements effective with the 10/1/2021 valuation are as follows:*

- *Act 2021-537 which allows sick leave conversion for Tier II members and increases the member contribution rates for Tier II members to 6.20% for regular members and 7.20% for police officers, firefighters, and correctional officers (FLC) effective on October 1, 2021,*
- *Act 2022-222 which allows Tier II members to retire with 30 years of creditable service regardless of age with an early retirement reduction of 2% for each year that the member is less than age 62 at retirement (age 56 for FLC), and*
- *Act 2022-184 which allows surviving spouses of retirement-eligible members who die in active service to receive an Option 2 monthly allowance.*

** *Estimated payroll based on applying the assumed salary scale to current salaries.*

*** *Phase in impact of assumption and method changes on employer contribution rates over a period not to exceed five years with a floor equal to the fiscal year 2023 employer contribution rates*

7. The Pre-Retirement Death Benefit Program (PRDB) was established October 1, 1983 under Alabama Code Section 36-27B. The liabilities and assets associated with the PRDB are not included in the annual actuarial valuation of the System; however, the sufficiency of the Fund to provide the promised benefits is reviewed annually. The contribution requirements are determined every five years during our experience investigation. A contribution of 0.02% is required to meet the cost of the pre-retirement death benefit program this year.

Section IV: Comments on Valuation

8. The Term Life Insurance fund was established under Alabama Code Section 16-25-33. The liabilities and assets associated with the term life insurance benefit are not included in the annual actuarial valuation of the System; however, the sufficiency of the Fund to provide the promised benefits is reviewed annually. The contribution requirements are determined every five years during our experience investigation. A contribution of 0.05% is required to meet the cost of life insurance premiums.

9. An additional contribution of 0.25% of payroll is required to cover the expenses of administering the System.

10. In our opinion, the current experience, assumptions, and methods adopted by the Board support the funding policy and generally accepted and emerging practice. Assuming that required contributions continue to be made each year, the funding of the System will continue to remain on track.

Section V: Contributions Payable By Employer

1. The retirement law provides that the employer contributions are to be paid from the same source from which employees' salaries are paid.

2. On the basis of the actuarial valuation prepared as of September 30, 2021 it is recommended that the employer make contributions at the following rates beginning October 1, 2023:

TABLE 6

EMPLOYER CONTRIBUTION RATES
AS A PERCENTAGE OF MEMBERS' COMPENSATION*

EMPLOYER CONTRIBUTION RATE**	FISCAL YEAR ENDING SEPTEMBER 30, 2024	
	Tier I	Tier II
Contribution Rates		
Employer Normal Cost***	2.58%	1.56%
Unfunded Actuarial Accrued Liability	9.69	9.69
Death Benefit	0.02	0.02
Term-Life	0.05	0.05
Administration	0.25	0.25
Total	12.59%	11.57%

* All members initially joining the System on and after January 1, 2013 are Tier II members.

** Contribution rates reflect a phase-in of the cost of assumption changes over a period not to exceed five years with a floor equal to the 2023 fiscal year employer contribution rates.

*** The Total Normal Cost rate is 10.08% for Tier I and 7.76% for Tier II. Tier I members contribute 7.50% (8.50% for FLC members) and Tier II members contribute 6.20% (7.20% for FLC members

3. The total employer contribution rates without the phase-in would have been 13.71% of compensation for Tier I and 12.65% of compensation for Tier II.

Section VI: Annual Actuarial Certification

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

We hereby certify that there has been a change since the previous valuation in the liquidation period used to determine the actuarial accrued liability contribution rate from 27.1 years to 26.9 years. The unfunded actuarial accrued liability rate of 9.69% to be paid by employers to the Teachers' Retirement System of Alabama has been determined in accordance with the Funding Policy shown in Schedule F of this report and the phase in methodology adopted by the Board.

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

Section VII: Analysis of Financial Experience

The calculation of the System's liabilities and actuarial value of assets requires the use of several assumptions concerning the future experience of the System and its members. In each annual actuarial valuation, the experience of the System is compared with what was expected based on the actuarial assumptions. The differences between the actual and expected experience are called actuarial gains or losses depending on whether the difference increases or decreases the UAAL. The UAAL increased from $11,071,566,401 on September 30, 2020 to 11,952,577,455 on September 30, 2021. The most significant item contributing to the increase in the UAAL was the changes in assumptions due to the experience study. This increase was partially offset by gains due to investment earnings in excess of expected. Other sources of gains and losses were relatively small and there appear to be no trends developing that would be of concern to the System. The following tables show the reconciliation of the UAAL of the System and a breakdown by source of the actuarial gains and losses. These sources include the expected return on assets, salary increases, retirement, withdrawal, disability, and mortality.

RECONCILIATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY
FOR THE YEAR ENDING SEPTEMBER 30, 2021
(Dollar amounts in thousands)

(1)	UAAL at beginning of year	$ 11,071,566
(2)	Total normal cost at beginning of the year	604,761
(3)	Actual contributions	1,373,909
(4)	Interest accrual: [[(1) + (2)] - ½ [(3)]] x 0.07700	846,182
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	11,148,600
(6)	Increase from benefit changes	56,255
(7)	Changes from revised actuarial assumptions and methods	1,233,659
(8)	Expected UAAL after changes: (5) + (6) + (7)	12,438,514
(9)	Actual UAAL at end of year	11,952,577
(10)	(Gain)/Loss: (9) - (8)	$ (485,937)

DEVELOPMENT OF (GAIN)/LOSS
FROM INVESTMENT RETURN
FOR THE YEAR ENDING SEPTEMBER 30, 2021
(Dollar amounts in thousands)

(1)	Actuarial Value of Assets (BOY)	$ 26,681,234
(2)	Net Cash Flow	(1,101,748)
(3)	Expected Return [(1) + ½ [(2)]] x 0.07700	2,012,038
(4)	Expected Actuarial Value of Assets [(1) + (2) + (3)]	27,591,524
(5)	Actual Actuarial Value of Assets (EOY)	28,154,229
(6)	(Gain)/Loss: (4) – (5)	$ (562,705)

Section VII: Analysis of Financial Experience

(GAINS)/LOSSES BY SOURCE
FOR THE YEAR ENDING SEPTEMBER 30, 2021
(Dollar amounts in thousands)

SOURCE	Total	% of Actuarial Accrued Liability
Age and Service Retirements. Generally, earlier retirements cause losses and later retirements cause gains.	$ 20,640	0.05%
Withdrawal. More withdrawals than expected usually cause gains and fewer withdrawals than expected cause losses.	31,005	0.08%
Disability Retirements. More disabilities than expected generally cause losses and fewer disabilities than expected cause gains.	3,821	0.01%
Death-In-Service Benefits. If survivor claims are less than assumed, there is a gain. If claims are greater than assumed, there is a loss.	(530)	0.00%
Salary Increases. If salaries increase more than expected, there is a loss. If salaries increase less than expected, there is a gain.	41,499	0.10%
New Members/Rehires. Any past service causes losses.	20,469	0.05%
Retiree Mortality. More deaths than expected cause gains, fewer than expected cause losses.	(44,624)	(0.11)%
Investment Return. Investment income greater than expected causes gains while investment income less than expected cause losses.	(562,705)	(1.40)%
Other. Miscellaneous gains and losses resulting from data corrections, timing of financial transactions, unit transfers, changes in valuation software, etc.	4,488	0.01%
Total (Gain)/Loss	$ (485,937)	(1.21)%

Section VII: Analysis of Financial Experience

(GAINS)/ LOSSES BY SOURCE
Historical Trends
(Dollar amounts in thousands)

	September 30				
SOURCE	**2021**	**2020**	**2019**	**2018**	**2017**
Age and Service Retirements	$ 20,640	$ (39,224)	$ 5,637	$ (5,683)	$ 8,651
Withdrawal	31,005	22,293	29,495	30,805	75,236
Disability Retirements	3,821	1,231	3,557	2,979	3,170
Death-In-Service Benefits	(530)	4,611	4,205	7,054	14,960
Salary Increases	41,499	(516,747)	592,855	(245,066)	175,807
New Members/Rehires	20,469	17,306	21,617	22,534	27,797
Retiree Mortality	(44,624)	179	9,712	8,480	(8,515)
Investment Return	(562,705)	49,582	149,503	(275,913)	(412,731)
Other	4,488	(3,554)	(80,098)	(21,610)	(67,116)
Total (Gain)/Loss	$ (485,937)	$ (464,323)	$ 736,483	$ (476,420)	$ (182,741)

Section VIII: Accounting Information

The information required under Governmental Accounting Standard Board (GASB) Statements No. 67 and 68 will be issued in separate reports. The following information is provided for informational purposes only.

1. The following is a distribution of the number of employees by type of membership.

NUMBER OF ACTIVE AND RETIRED MEMBERS
AS OF SEPTEMBER 30, 2021

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	103,071
Terminated employees entitled to benefits but not yet receiving benefits	26,329
Non-vested inactive members who have not contributed for more than 5 years	31,446
Active members	134,034
Total	294,880

2. The schedule of funding progress is shown below.

SCHEDULE OF FUNDING PROGRESS
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
9/30/2016[1]	$22,645,512	$33,143,834	$10,498,322	68.3%	$6,430,999	163.2%
9/30/2017[2]	23,887,077	34,688,078	10,801,001	68.9	6,698,835	161.2
9/30/2018[2]	25,006,419	35,628,398	10,621,979	70.2	6,756,474	157.2
9/30/2019	25,821,326	37,215,470	11,394,144	69.4	7,193,832	158.4
9/30/2020	26,681,234	37,752,800	11,071,566	70.7	7,019,258	157.7
9/30/2021[1]	28,154,229	40,106,806	11,952,577	70.2	7,221,790	165.5

[1] Reflects changes in actuarial assumptions and methods.
[2] Reflects changes in actuarial assumptions.

3. The information presented above was determined as part of the actuarial valuation at September 30, 2021. Additional information as of the latest actuarial valuation follows.

Valuation date	09/30/2021
Actuarial cost method	Entry Age Normal
Amortization method	Level percent closed
Single equivalent remaining amortization period	26.9 years
Asset valuation method	Five-year market related value
Actuarial assumptions:	
Investment Rate of Return*	7.45%
Projected salary increases*	3.25 - 5.00%
Cost-of-living adjustments	None
*Includes price inflation at	2.50%

Section IX: Risk Assessment

Overview

Actuarial Standards of Practice (ASOP) No. 51, issued by the Actuarial Standards Board, provides guidance on assessing and disclosing risks related to pension plan funding. This guidance is binding on all credentialed actuaries practicing in the United States. This standard was issued as final in September 2017 with application to measurement dates on or after November 1, 2018.

The term “risk” frequently has a negative connotation, but from an actuarial perspective, it can simply be considered that what actually happens in the real world will not always match what was expected, based on actuarial assumptions. Of course, when actual experience is better than expected, the favorable risk is easily absorbed. The risk of unfavorable experience will likely be unpleasant, and so understandably, there is a focus on aspects of risk that are negative.

Risk can usually be reduced or eliminated at some cost. Consumers, for example, buy auto and home insurance to reduce the risk of accidents or catastrophes. Another way to express this concept, however, is that there is generally some reward for assuming risk. Thus, retirement plans invest not just in US Treasury bonds, which have almost no risk, but also in equities, which are considerably riskier – because they have an expected reward of a higher return that justifies the risk.

Under ASOP 51, the actuary is called upon to identify the significant risks to the pension plan and provide information to help those sponsoring and administering the plan understand the implications of these risks. In this section, we identify some of the key risks for the System and provide information to help interested parties better understand these risks.

Investment Risk

The investment return on assets is the most obvious risk – and usually the largest risk – to funding a pension plan. To illustrate the magnitude of this risk, the following chart shows the Asset Volatility Ratio (AVR), defined as the fair value of assets divided by covered payroll.

($ in thousands)

Valuation	Fair Value of Assets	Covered Payroll	Asset Volatility Ratio
2016	$22,758,954	$6,430,999	3.54
2017	$24,467,518	$6,698,835	3.65
2018	$25,756,495	$6,756,474	3.81
2019	$25,443,975	$7,193,832	3.54
2020	$25,776,401	$7,019,258	3.67
2021	$30,390,239	$7,221,790	4.21

The asset volatility ratio is especially useful to compare across plans or through time. It is also frequently useful to consider how the AVR translates into changes in the Required Contribution Rate (actuarially determined employer contribution rate). The greater the AVR, the more volatility there is in the Required Contribution Rate. For plans with low AVRs, the impact of investment gains and losses on Required Contribution Rates is less than for plans with high AVRs. The AVR for TRS at September 30, 2021 is 4.21. As shown in the table below, if the market value return is 5% below assumed, or 2.45% (7.45% minus 5.00%) for the System, there will be an increase in the Required Contribution Rate of 0.27% of payroll in the first year. Without asset smoothing or without returns above the expected return in the next four years, the impact on the Required Contribution Rate would be 1.37%.

Investment Rate of Return 5% Less Than Assumed		
AVR	Unsmoothed Amortization	Smoothed Amortization
3.00	0.98%	0.20%
4.21	1.37%	0.27%
5.00	1.63%	0.33%

Section IX: Risk Assessment

Sensitivity Measures

Valuations are generally performed with a single set of assumptions that reflects the best estimate of future conditions, in the opinion of the actuary and typically the governing board. Note that under actuarial standards of practice, the set of economic assumptions used for funding must be consistent. To enhance the understanding of the importance of an assumption, a sensitivity test can be performed where the valuation results are recalculated using a different assumption or set of assumptions.

The following tables contains the key measures for the System using the valuation assumption for investment return of 7.45%, along with the results if the assumption were 6.45% or 8.45%. In this analysis, only the investment return assumption is changed. Consequently, there may be inconsistencies between the investment return and other economic assumptions such as inflation or payroll increases. In addition, simply because the valuation results under alternative assumptions are shown here, it should not be implied that CMC believes that either assumption (6.45% or 8.45%) would comply with actuarial standards of practice. The contribution rates below represent the full ADEC with no phase in.

($ in thousands)

As of September 30, 2021	Current Discount Rate (7.45%)	-1% Discount Rate (6.45%)	+1% Discount Rate (8.45%)
Accrued Liability	$40,106,806	$44,607,470	$36,317,703
Unfunded Liability	$11,952,577	$16,453,241	$8,163,474
Funded Ratio (AVA)	70.2%	63.1%	77.5%
ADEC Rate*			
Tier I	13.71%	18.73%	9.24%
Tier II	12.65%	16.94%	8.72%

** Contribution rates are determined based on the Board's current Funding Policy and do not reflect phase in of contributions*

Section IX: Risk Assessment

Mortality Risk

The mortality assumption is a significant assumption for valuation results, second only to the investment assumption in most situations. The System's mortality assumption utilizes a mortality table (with separate rates for males and females, as well as different rates by status) and a projection scale for how the mortality table is expected to improve through time.

The future, however, is unknown, and actual mortality improvements may occur at a faster rate than expected, or at a slower rate than expected. Although changes in mortality will affect the benefits paid, this assumption is reviewed carefully during the regular experience studies that the System conducts so that incremental changes can be made to smoothly reflect emerging experience. Since the last valuation, an experience investigation was prepared for the five-year period ending September 30, 2020, and based on the results of the investigation, a new mortality table with generational approach to future improvements in mortality was adopted. The risk to the System due to mortality is significantly reduced due to the use of the generational improvement method. The next actuarial experience study will be for the period from October 1, 2020 to September 30, 2025.

Contribution Risk

The System is funded primarily by member and employer contributions to the trust fund, together with the earnings on those accumulated contributions. Each year in the valuation, the Actuarial Determined Employer Contribution (ADEC) rate is determined, based on the System's funding policy. This rate is the sum of the rates for the normal cost for the plan (which includes expected administrative expenses), and the rate necessary to amortize the UAAL. Since the level percentage of payroll method is used to determine the UAAL amortization amounts, there is an expectation that future payments will grow at the assumed 2.75% annual rate of increase in covered payroll. If payroll grows at a slower rate, under this amortization method, less than expected UAAL amortization payments would result in a greater UAAL in future years and may require increases to either the amortization rate or the amortization period. From a policy perspective, since the ADEC rate has always been made by the plan sponsors, and that procedure is expected to continue, there is no risk to the System associated with the contribution amounts being less than the ADEC.

Schedule A: Valuation Balance Sheet & Solvency Test

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE TEACHERS' RETIREMENT SYSTEM OF ALABAMA
AS OF SEPTEMBER 30, 2021

ASSETS		
Actuarial Value of Assets	$	28,154,228,951
Present value of future members' contributions to the Annuity Savings Fund	$	3,949,113,026
Present value of future employer contributions to the Pension Accumulation Fund		
Normal contributions	$	1,477,878,489
Unfunded actuarial accrued liability contributions		11,952,577,455
Total prospective employer contributions	$	13,430,455,944
Total Assets	$	45,533,797,921
LIABILITIES		
Present value of benefits payable on account of retired members, beneficiaries of deceased members now drawing retirement allowances, and DROP participants		
Service Retirements	$	21,625,609,647
Disability Retirements		626,645,666
Beneficiaries of Deceased Members		756,601,687
DROP Participant Accounts		102,759,480
Total	$	23,111,616,480
Inactive Members	$	828,486,399
Inactive T-Section Accounts	$	76,291,790
Present value of prospective benefits payable on account of present active members:		
Service retirement allowances	$	19,441,651,957
Disability retirement allowances		779,975,441
Death Benefits		101,891,193
Termination Benefits		1,193,884,661
Total	$	21,517,403,252
Total Liabilities	$	45,533,797,921

SOLVENCY TEST
(Dollar amounts in thousands)

Valuation Date	Aggregate Accrued Liabilities For (1) Active Member Contributions	(2) Retirants and Beneficiaries	(3) Active Members (Employer Financed Portion)	Reported Assets	Portion of Accrued Liabilities Covered by Reported Asset (1)	(2)	(3)
9/30/2021[2]	$6,589,860	$23,111,616	$10,405,330	$28,154,229	100%	93%	0.0%
9/30/2020	6,356,922	21,781,149	9,614,729	26,681,234	100	93	0.0
9/30/2019	6,100,489	21,093,665	10,021,316	25,821,326	100	93	0.0
9/30/2018[1]	5,788,187	20,511,811	9,328,400	25,006,419	100	94	0.0
9/30/2017[1]	5,504,125	19,886,016	9,297,937	23,887,077	100	92	0.0
9/30/2016[2]	5,197,469	19,257,160	8,689,205	22,645,512	100	91	0.0

[1] Reflects changes in actuarial assumptions.
[2] Reflects changes in actuarial assumptions and methods.

Schedule B: Actuarial Value of Assets

DEVELOPMENT OF SEPTEMBER 30, 2021 ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets on September 30, 2020	$ 26,681,234,020
(2)	Market Value of Assets on September 30, 2021	30,390,239,057
(3)	Market Value of Assets on September 30, 2020	25,776,400,992
(4)	Net Cash Flow During the Fiscal Year	
	a. Contributions	1,373,909,125
	b. Benefit Payments and DROP Distributions	2,415,335,538
	c. Refunds to Members	60,321,517
	d. Transfer to Expense Fund – Interest Forfeiture	0
	e. Investment Expenses	14,741,439
	f. Net Cash Flow: (a. - b. - c. - d. - e.)	(1,116,489,369)
(5)	Actual Investment Return ((2) - (3) - (4)f.)	5,730,327,434
(6)	Assumed Rate of Return on Assets	7.700%
(7)	Amount for Immediate Recognition ((3) * (6)) + (((4)a. - (4)b. - (4)c. - (4)d.) * 0.5 * (6)) + (4)e.	1,957,107,020
(8)	Investment Gain/(Loss) for the Fiscal Year ((5) - (7))	3,773,220,414
(9)	Phased-In Recognition of Investment Gain/(Loss)	
	a. Current Fiscal Year: (0.2 * (8))	754,644,083
	b. Prior Fiscal Year	(109,601,480)
	c. Second Prior Fiscal Year	(266,937,275)
	d. Third Prior Fiscal Year	80,112,762
	e. Fourth Prior Fiscal Year	174,159,190
	f. Total Recognized Investment Gain/(Loss) for Fiscal Year	632,377,280
(10)	Actuarial Value of Assets on September 30, 2021 ((1) + (4)f. + (7) + (9)f.)	$ 28,154,228,951

Date	Investment Gain/(Loss)	Amount Recognized	Remaining Balance as of September 30, 2021
9/30/2017	$ 870,795,950	$ 870,795,950	$ 0
9/30/2018	400,563,810	320,451,048	80,112,762
9/30/2019	(1,334,686,373)	(800,811,825)	(533,874,548)
9/30/2020	(548,007,399)	(219,202,960)	(328,804,439)
9/30/2021	3,773,220,414	754,644,083	3,018,576,331

Schedule C: Summary of Receipts & Disbursements

FOR THE PERIOD ENDING SEPTEMBER 30, 2021

Receipts for the Period		
Contributions:		
Members	$ 525,755,326	
Employer	848,153,799	
Total		$ 1,373,909,125
Investment Income		5,739,030,795*
TOTAL		$ 7,112,939,920
Disbursements for the Period		
Benefit Payments		$ 2,380,785,957
Refunds to Members		60,321,517
DROP Distributions		34,549,581
Miscellaneous:		
Transfers from Plant Fund	$ 0	
Transfers to Expense Fund –Interest Forfeiture	0	
Transfers to Expense Fund –Investment Expenses	11,188,439	
Transfers to Pre-retirement Death Benefit Fund	12,256,361	
Total		23,444,800
TOTAL		$ 2,499,101,855
Excess of Receipts over Disbursements		$ 4,613,838,065
Reconciliation of Asset Balances		
Market Value of Assets as of September 30, 2020		$ 25,776,400,992
Excess of Receipts over Disbursements		4,613,838,065
Market Value of Assets as of September 30, 2021		$ 30,390,239,057

* Net of $3,553,000 in investment expenses.

Schedule D: Outline of Actuarial Assumptions & Methods

The assumptions and methods used in the valuation are based on the results of the Experience Investigation for the Five-Year Period Ending September 30, 2020, dated July 12, 2021, and adopted by the Board on September 13, 2021.

LONG-TERM INVESTMENT RATE OF RETURN: 7.45% per annum, compounded annually, including price inflation at 2.50%.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at 2.75% per annum:

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

SEPARATIONS BEFORE SERVICE RETIREMENT:

Representative values of the assumed annual rates of death and disability are as follows:

AGE	Annual Rates							
			Disability Retirement**					
	Death*		Tier 1				Tier 2	
			Males		Females			
	Males	Females	Years of Service		Years of Service		Males	Females
			<25	>=25	<25	>=25		
25	0.0143%	0.0072%	0.1000%		0.0700%		0.1000%	0.0700%
30	0.0195	0.0111	0.1000		0.0700		0.1000	0.0700
35	0.0267	0.0169	0.1000		0.0700		0.1000	0.0700
40	0.0371	0.0260	0.1300		0.1700		0.1300	0.1700
45	0.0585	0.0403	0.2500	0.2000%	0.3200	0.2000%	0.2500	0.3200
50	0.0969	0.0605	0.5000	0.2000	0.5800	0.2000	0.5000	0.5800
55	0.1508	0.0878	0.8000	0.2000	0.9000	0.2250	0.8000	0.9000
60	0.2321	0.1326	0.5000	0.2000	0.6500	0.3000	0.5000	0.6500
65	0.3809	0.2223	0.5000	0.2000	0.6500	0.3000	0.5000	0.6500

**Base mortality rates as of 2010 before application of the improvement scale.*
***No rates of disability are assumed for members with less than 10 years of service.*

Values of the assumed annual rates of withdrawal are as follows:

Years of Service	Annual Rates of Withdrawal*	
	Males	**Females**
0-3	12.00%	11.00%
4	10.00	9.00
5	7.25	6.50
6	6.25	5.50
7	5.25	5.00
8	5.00	4.25
9	4.25	3.50
10	3.25	3.25
11	3.25	3.00
12	3.00	2.75
13	3.00	2.50
14	2.75	2.25
15	2.50	2.25
16	2.00	2.00
17	2.00	1.90
18	2.00	1.85
19	2.00	1.70
>=20	1.00	1.00

**No rates after eligibility for retirement.*

Values of the assumed annual rates of service retirement for Tier 1 are as follows:

AGE	Annual Rates				
	Males		Females		
	Years of Service		Years of Service		
	<25	>=25	<25	25	>=25
40-47		25.00%		25.00%	25.00%
48		22.00		18.00	18.00
49		17.50		15.50	15.50
50		16.00		17.50	12.50
51		16.00		19.00	14.00
52		16.00		19.50	14.50
53		16.00		20.00	15.00
54		16.00		21.50	16.50
55		15.50		22.00	17.00
56		15.50		22.00	17.00
57		15.50		22.50	17.50
58		15.50		23.50	18.50
59		18.00		25.00	20.00
60	12.00%	18.00	15.00%	29.00	24.00
61	9.50	18.00	12.00	29.00	24.00
62	22.00	32.00	21.00	45.00	40.00
63	16.00	27.50	16.00	36.00	31.00
64	14.00	21.50	15.50	32.50	27.50
65	25.00	27.50	27.00	38.00	38.00
66	25.00	27.50	28.00	40.00	40.00
67	22.00	23.50	23.00	33.00	33.00
68	21.00	22.50	25.00	33.00	33.00
69	21.00	22.50	20.50	30.00	30.00
70	21.00	22.50	24.50	30.00	30.00
71-74	20.00	22.50	22.00	30.00	30.00
75-76	30.00	22.50	30.00	30.00	30.00
77-79	30.00	22.50	30.00	30.00	30.00
80	100.00	100.00	100.00	100.00	100.00

Schedule D: Outline of Actuarial Assumptions & Methods

Values of the assumed annual rates of service retirement for Tier 2 (Non-FLC) are as follows:

AGE	Annual Rates								
	Males				Females				
	Years of Service				Years of Service				
	<25	25-29	30	>=31	<25	25	26-29	30	>=31
40-47			10.00%	10.00%				10.00%	10.00%
48			10.00	10.00				10.00	10.00
49			10.00	10.00				10.00	10.00
50			10.00	10.00				10.00	10.00
51			10.00	10.00				10.00	10.00
52			10.00	10.00				10.00	10.00
53			10.00	10.00				10.00	10.00
54			10.00	10.00				10.00	10.00
55			20.00	10.00				20.00	10.00
56			20.00	10.00				20.00	10.00
57			20.00	10.00				20.00	10.00
58			20.00	10.00				20.00	10.00
59			20.00	10.00				20.00	10.00
60			40.00	40.00				45.00	45.00
61			40.00	40.00				45.00	45.00
62	50.00%	60.00%	60.00	60.00	50.00%	70.00%	70.00%	70.00	70.00
63	16.00	27.50	27.50	27.50	16.00	36.00	31.00	31.00	31.00
64	14.00	21.50	21.50	21.50	15.50	32.50	27.50	27.50	27.50
65	25.00	27.50	27.50	27.50	27.00	38.00	38.00	38.00	38.00
66	25.00	27.50	27.50	27.50	28.00	40.00	40.00	40.00	40.00
67	22.00	23.50	23.50	23.50	23.00	33.00	33.00	33.00	33.00
68	21.00	22.50	22.50	22.50	25.00	33.00	33.00	33.00	33.00
69	21.00	22.50	22.50	22.50	20.50	30.00	30.00	30.00	30.00
70	21.00	22.50	22.50	22.50	24.50	30.00	30.00	30.00	30.00
71-74	20.00	22.50	22.50	22.50	22.00	30.00	30.00	30.00	30.00
75-76	30.00	22.50	22.50	22.50	30.00	30.00	30.00	30.00	30.00
77-79	30.00	30.00	22.50	22.50	30.00	30.00	30.00	30.00	30.00
80	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Values of the assumed annual rates of service retirement for Tier 2 (FLC) (for both males and females) are as follows:

AGE	Annual Rates		
	Years of Service		
	10	11-29	30
40-47			2.50%
48			2.50
49			5.00
50			5.00
51			10.00
52			10.00
53			10.00
54			10.00
55			10.00
56	15.00%	15.00%	15.00
57	15.00	15.00	15.00
58	15.00	15.00	15.00
59	15.00	15.00	15.00
60	17.00	17.00	17.00
61	40.00	18.50	18.50
62	40.00	30.00	30.00
63	40.00	25.00	25.00
64	40.00	22.00	22.00
65	40.00	27.00	27.00
66	40.00	38.00	38.00
67	40.00	30.00	30.00
68	40.00	30.00	30.00
69	40.00	30.00	30.00
70-74	60.00	30.00	30.00
75	100.00	100.00	100.00

Schedule D: Outline of Actuarial Assumptions & Methods

DEATHS AFTER RETIREMENT: Mortality rates were based on the Pub-2010 Teacher tables with the following adjustments, projected generationally using scale MP-2020 adjusted by 66-2/3% beginning with year 2019:

Group	Membership Table	SetForward(+)/ Setback (-)	Adjustment to Rates
Service Retirees	Teacher Retiree - Below Median	Male: +2, Female: +2	Male: 108% ages < 63, 96% ages > 67; Phasing down 63 -67 Female: 112% ages < 69 98% > age 74 Phasing down 69-74
Beneficiaries	Contingent Survivor Below Median	Male: +2, Female: None	None
Disabled Retirees	Teacher Disability	Male: +8, Female: +3	None

PRE-RETIREMENT DEATH BENEFITS: For those eligible for pre-retirement death benefits, it is assumed that 70% will elect the lump sum death benefit payable from the death benefit fund and 30% will elect the monthly benefit payable from the pension accumulation fund (20% spouses and 10% non-spouse beneficiaries).

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: 2.5% load on service retirement liabilities for active 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: Actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected 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 E: Actuarial Cost Method

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.45%), of each member's expected benefit payable at retirement or death is determined, based on his age, service, sex, and compensation. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the probability of his terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach and consist of a normal contribution and an actuarial accrued liability contribution.
3. The normal contribution is determined using the "individual entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded actuarial accrued liability contributions are determined by subtracting the present value of prospective employer normal contributions and member contributions together with the current assets held from the present value of expected benefits to be paid from the System.

Schedule F: Board Funding Policy

**FUNDING POLICY OF THE
TEACHERS' RETIREMENT SYSTEM BOARD OF CONTROL
EFFECTIVE 9/30/2021**

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

The funding policy reflects the Board's long-term strategy for stability in funding of the plan.

I. Funding Objectives

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

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

II. Benchmarks

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

- **Funded ratio** – The funded ratio, defined as the actuarial value of assets divided by the actuarial accrued liability, should increase over time, before adjustments for changes in benefits, actuarial methods, and or actuarial assumptions.

Schedule F: Board Funding Policy

- **Unfunded Actuarial Accrued Liability (UAAL)**
  - **Initial Total UAAL -** The initial total UAAL established as of the initial valuation date (September 30, 2021) for which this funding policy is adopted shall be amortized over a closed period. (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). All gains and losses occurring after the initial valuation date and before September 30, 2028, with the exception of those due to benefit improvements, shall be included in the remaining initial total UAAL each year and amortized over the remaining closed period. (applicable only to employers participating in the System as of the adoption date of the funding policy).
  - **New Incremental UAAL -** Each valuation after the initial valuation date will produce a New Incremental UAAL consisting of all benefit changes that have occurred since the previous valuation. Each valuation beginning with the September 30, 2028 valuation will produce a New Incremental UAAL consisting of all assumption and method changes and experience gains and/or losses that have occurred since the previous valuation.
- **UAAL Amortization Period and Contribution Rates**
  - The Initial Total UAAL will be amortized over a 27-year closed period.
  - Except as noted later, each New Incremental UAAL shall be amortized over a closed 20-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 Incremental UAAL bases, and the amortization rate of the remaining initial UAAL.

Schedule F: Board Funding Policy

- **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 20 years.
  - ➢ In subsequent years the UAAL and employer contribution rate shall be determined in accordance with the rules of the Funding Policy described in the previous section.

III. Methods and Assumptions

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

IV. Funding Policy Progress

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

Schedule G: Amortization of Bases

**AMORTIZATION SCHEDULE FOR THE INITIAL TOTAL UAAL
ON SEPTEMBER 30, 2021**

Valuation Date	Balance of Initial UAAL as of 9/30/2021	Amortization Period	Annual Amortization Payment
9/30/2021	**$11,896,322,737**	**27**	**$797,507,849**
9/30/2022	11,985,090,931	26	819,439,315
9/30/2023	12,058,540,891	25	841,973,896
9/30/2024	12,114,928,291	24	865,128,179
9/30/2025	12,152,362,270	23	888,919,204
9/30/2026	12,168,794,055	22	913,364,482
9/30/2027	12,162,004,731	21	938,482,005
9/30/2028	12,129,592,078	20	964,290,260
9/30/2029	12,068,956,428	19	990,808,242
9/30/2030	11,977,285,440	18	1,018,055,469
9/30/2031	11,851,537,736	17	1,046,051,994
9/30/2032	11,688,425,303	16	1,074,818,424
9/30/2033	11,484,394,564	15	1,104,375,931
9/30/2034	11,235,606,029	14	1,134,746,269
9/30/2035	10,937,912,409	13	1,165,951,791
9/30/2036	10,586,835,093	12	1,198,015,465
9/30/2037	10,177,538,841	11	1,230,960,891
9/30/2038	9,704,804,594	10	1,264,812,315
9/30/2039	9,163,000,222	9	1,299,594,654
9/30/2040	8,546,049,084	8	1,335,333,507
9/30/2041	7,847,396,234	7	1,372,055,178
9/30/2042	7,059,972,075	6	1,409,786,696
9/30/2043	6,176,153,299	5	1,448,555,830
9/30/2044	5,187,720,890	4	1,488,391,115
9/30/2045	4,085,814,981	3	1,529,321,871
9/30/2046	2,860,886,326	2	1,571,378,222
9/30/2047	1,502,644,135	1	1,614,591,123
9/30/2048	0	0	0

Schedule G: Amortization of Bases

AMORTIZATION SCHEDULE FOR BASE
CLOSED ON SEPTEMBER 30, 2021
DUE TO BENEFIT IMPROVEMENTS

Valuation Date	Balance of UAAL Due to Benefit Improvements as of 9/30/2021	Amortization Period	Annual Amortization Payment
9/30/2021	**$56,254,718**	**15**	**$5,409,633**
9/30/2022	55,036,062	14	5,558,398
9/30/2023	53,577,851	13	5,711,254
9/30/2024	51,858,147	12	5,868,313
9/30/2025	49,853,266	11	6,029,692
9/30/2026	47,537,643	10	6,195,508
9/30/2027	44,883,689	9	6,365,885
9/30/2028	41,861,639	8	6,540,946
9/30/2029	38,439,385	7	6,720,822
9/30/2030	34,582,297	6	6,905,645
9/30/2031	30,253,033	5	7,095,550
9/30/2032	25,411,333	4	7,290,678
9/30/2033	20,013,799	3	7,491,172
9/30/2034	14,013,656	2	7,697,179
9/30/2035	7,360,494	1	7,908,851
9/30/2036	0	0	0

Schedule G: Amortization of Bases

AMORTIZATION SCHEDULE FOR TOTAL UAAL
AS OF SEPTEMBER 30, 2021

Year	Projected UAAL	Payment for year Beginning September 30,
2021	**$11,952,577,455**	**$802,917,482**
2022	12,040,126,993	824,997,713
2023	12,112,118,741	847,685,150
2024	12,166,786,438	870,996,492
2025	12,202,215,536	894,948,895
2026	12,216,331,698	919,559,990
2027	12,206,888,420	944,847,889
2028	12,171,453,717	970,831,206
2029	12,107,395,813	997,529,065
2030	12,011,867,736	1,024,961,114
2031	11,881,790,769	1,053,147,545
2032	11,713,836,637	1,082,109,102
2033	11,504,408,364	1,111,867,102
2034	11,249,619,685	1,142,443,448
2035	10,945,272,904	1,173,860,642
2036	10,586,835,093	1,198,015,465
2037	10,177,538,841	1,230,960,891
2038	9,704,804,594	1,264,812,315
2039	9,163,000,222	1,299,594,654
2040	8,546,049,084	1,335,333,507
2041	7,847,396,234	1,372,055,178
2042	7,059,972,075	1,409,786,696
2043	6,176,153,299	1,448,555,830
2044	5,187,720,890	1,488,391,115
2045	4,085,814,981	1,529,321,871
2046	2,860,886,326	1,571,378,222
2047	1,502,644,135	1,614,591,123
2048	0	0

Schedule H: Summary of Main Plan Provisions

AS INTERPRETED FOR VALUATION PURPOSES

The Teachers' Retirement System of Alabama was established on September 15, 1939 and went into effect September 30, 1941. The valuation took into account amendments to the System through the valuation date. 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 completed 30 years of creditable service or 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).

Schedule H: Summary of Main Plan Provisions

Amount of Allowance

Tier I	Upon service retirement a member receives a retirement allowance equal to 2.0125% of the member's average final compensation multiplied by the number of years of creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a full-time certified firefighter, police officer or correctional officer.
Tier II	Upon service retirement a member receives a retirement allowance equal to 1.65% of the member's average final compensation multiplied by the number of years of creditable service. The benefit is capped at 80% of the member's average final compensation. For a member whose age at retirement is less than age 62 (age 56 for a full-time certified firefighter, police officer or correctional officer), the amount of the allowance will be reduced by 2% for each year that the member's age is less than age 62 (age 56 for a full-time certified firefighter, police officer or correctional officer).
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).

Schedule H: Summary of Main Plan Provisions

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, a designated beneficiary may elect (1) to exercise Option 2 (spouse) or Option 3 (non-spouse beneficiary) defined below under "Special Privileges at Retirement" or (2) to receive a return of member contributions and total earned interest plus a death benefit payable from the pre-retirement death benefit fund equal to the salary on which the member made retirement contributions for the previous scholastic year (July 1-June 30).*

In the event of the death of a member with more than one year of service who is not eligible to retire, the designated beneficiary shall receive the return of member contributions and total earned interest. Also, the designated beneficiary shall receive an additional death benefit payable from the pre-retirement death benefit fund equal to the salary on which retirement contributions were made for the previous scholastic year (July 1-June 30).*

In the event of a job-related death of a member with less than one year of service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a death benefit payable from the pre-retirement death benefit fund equal to the annual earnable compensation of the member at the time of death.*

In the event of the death of a member with less than one year of service that is not job-related, the designated beneficiary shall receive the return of member contributions and total earned interest plus a matching death benefit which is limited to a $5,000 maximum.

*However, if the death occurred more than 180 calendar days after the member's last day in pay status, or if the deceased had applied for a refund of contributions or terminated employment, the lump sum will be the same as if the member had less than one year of service and the death was not job-related.

Schedule H: Summary of Main Plan Provisions

Special Privileges at Retirement	In lieu of the full retirement allowance, any member may, at retirement, elect to receive a reduced retirement allowance equal in value to the full allowance, with the provision that: Option 1 - If the member dies before annuity payments have equaled the present value of the annuity at the date of retirement, the balance is paid to a designated beneficiary or to his estate, or Option 2 - After the member's death, the member's allowance is continued throughout the life of the designated beneficiary, or Option 3 - After the member's death, one-half of the member's allowance is continued throughout the life of the designated beneficiary, or Option 4 - Some other benefit is paid either to the member or to such other person as the member shall designate provided such benefit, together with the reduced retirement allowance, is of equivalent actuarial value to his retirement allowance and is approved by the Board of Control.
Deferred Retirement Option Plan (DROP)	Prior to March 25, 2011, a member may elect to participate in the Deferred Retirement Option Plan (DROP) upon completion of at least 25 years of creditable service (excluding sick leave) and attainment of at least 55 years of age. Under the DROP, the member may defer receipt of a retirement allowance and continue employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member will withdraw from active service and receive the retirement benefit calculated at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits, employee contributions while participating in the DROP and interest earned on DROP deposits. The effect of Act 2011-27 is that no new participants will be allowed to enter DROP with an effective participation date after 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)

Schedule H: Summary of Main Plan Provisions

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	Prior to October 1, 2021, regular members contributed 6% of salary and full-time certified firefighters, police officers and correctional officers contributed 7% of salary. Beginning October 1, 2021, the contribution rates were increased to 6.20% for regular members and 7.20% for police officers, firefighters, and correctional officers.
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 I: Schedule of Membership Data

AS OF SEPTEMBER 30, 2021
NUMBER OF ACTIVE MEMBERS AND THEIR AVERAGE COMPENSATION
BY AGE AND YEARS OF SERVICE

Attained Age	Years of Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	≥ 40	Total
Under 25	1,612	1,577	1								3,190
Avg. Pay	37,644	36,022	31,491								36,840
25 to 29	1,702	6,884	1,571	2							10,159
Avg. Pay	38,872	41,268	48,887	50,104							42,046
30 to 34	1,286	4,924	6,224	1,129	8						13,571
Avg. Pay	39,813	44,411	51,633	58,501	38,703						48,457
35 to 39	1,111	4,430	4,385	4,560	1,673	12					16,171
Avg. Pay	39,849	46,751	55,085	60,494	62,464	50,336					54,040
40 to 44	890	3,875	3,841	3,015	5,607	1,286	8				18,522
Avg. Pay	37,799	45,065	53,900	61,646	64,362	67,168	54,631				56,627
45 to 49	705	3,111	3,353	2,736	3,635	4,861	832	2			19,235
Avg. Pay	38,359	44,592	52,119	60,610	64,460	68,988	71,149	45,881			59,023
50 to 54	660	2,745	2,980	2,690	3,427	3,733	2,868	434	7		19,544
Avg. Pay	37,486	44,118	49,024	56,530	59,448	66,032	73,080	73,518	47,434		58,128
55 to 59	468	2,117	2,198	2,129	2,995	3,037	1,672	1,090	186	7	15,899
Avg. Pay	37,331	41,859	46,767	53,270	53,397	59,071	67,843	72,643	71,097	51,780	54,583
60 to 64	246	1,348	1,675	1,448	1,918	2,050	1,271	761	367	107	11,191
Avg. Pay	33,793	40,947	45,429	53,394	51,986	54,796	63,663	69,772	77,347	69,552	53,507
65 to 69	94	629	966	613	677	603	444	301	103	69	4,499
Avg. Pay	31,143	32,354	51,067	55,399	52,868	59,202	67,792	78,118	77,624	71,640	54,370
70 & up	44	251	490	399	326	200	160	113	31	39	2,053
Avg. Pay	26,761	29,838	52,851	59,806	48,383	62,103	68,486	87,326	81,491	108,029	55,619
Total	8,818	31,891	27,684	18,721	20,266	15,782	7,255	2,701	694	222	134,034
Avg. Pay	38,289	43,046	51,356	58,453	59,949	63,913	69,556	73,179	75,597	76,400	53,880

Average Age: 45.72 Average Service: 11.15

Schedule I: Schedule of Membership Data

NUMBER OF SERVICE RETIREMENTS
AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	266	$ 8,788,722	$ 33,040
50 – 54	2,405	80,756,703	33,579
55 – 59	4,523	152,610,951	33,741
60 – 64	11,551	324,629,801	28,104
65 – 69	20,382	517,670,349	25,398
70 – 74	21,452	509,487,704	23,750
75 – 79	14,763	337,216,193	22,842
80 – 84	8,587	191,713,143	22,326
85 – 89	4,624	95,760,043	20,709
90 – 94	2,100	40,322,208	19,201
95 & Over	547	9,719,767	17,769
Total	91,200	$ 2,268,675,584	$ 24,876

Average Age: 71.4

NUMBER OF BENEFICIARIES
AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	427	$ 5,276,689	$ 12,358
50 – 54	222	2,530,808	11,400
55 – 59	289	3,566,379	12,340
60 – 64	486	7,182,358	14,779
65 – 69	709	11,705,303	16,510
70 – 74	949	16,603,614	17,496
75 – 79	988	18,119,522	18,340
80 – 84	819	15,219,227	18,583
85 – 89	595	10,241,724	17,213
90 – 94	347	5,735,696	16,529
95 & Over	123	1,744,058	14,179
Total	5,954	$ 97,925,378	$ 16,447

Average Age: 72.2

Schedule I: Schedule of Membership Data

**NUMBER OF DISABLED RETIREES
AND THEIR BENEFITS BY AGE**

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	278	$ 4,005,830	$ 14,409
50 – 54	475	6,618,806	13,934
55 – 59	823	10,726,053	13,033
60 – 64	1,205	14,894,781	12,361
65 – 69	1,310	15,285,237	11,668
70 – 74	929	10,253,573	11,037
75 – 79	555	5,994,791	10,801
80 – 84	237	2,737,414	11,550
85 – 89	76	750,217	9,871
90 – 94	22	269,132	12,233
95 & Over	7	91,975	13,139
Total	5,917	$ 71,627,809	$ 12,105

Average Age: 65.1