

Component Units of the State of Alabama

Comprehensive Annual Financial Report

For the Fiscal Year Ended September 30, 2019





The Retirement Systems of Alabama

COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Fiscal Year Ended September 30, 2019

The Retirement Systems of Alabama
Consists of:

TEACHERS' RETIREMENT SYSTEM of ALABAMA
EMPLOYEES' RETIREMENT SYSTEM of ALABAMA
JUDICIAL RETIREMENT FUND

(Each a Component Unit of the State of Alabama)

David G. Bronner, Ph.D., J.D., Chief Executive Officer

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Introductory Section



Component Units of the State of Alabama
Comprehensive Annual Financial Report

Teachers

Luther P. Hallmark, Chair
John R. Whaley, Vice Chair

**Employees**

State State Police Public Judicial
Kay Ivey, Chair
James E. Fibbe, Vice Chair

THE RETIREMENT SYSTEMS OF ALABAMA

David G. Bronner, CEO
Donald L. Yancey, Deputy Director

March 9, 2020

The Boards of Control
Teachers' Retirement System of Alabama
Employees' Retirement System of Alabama
201 South Union Street
Montgomery, Alabama 36104

Dear Board Members:

It is with great pleasure that we submit the Comprehensive Annual Financial Report (CAFR) of the Retirement Systems of Alabama (RSA or Systems) for the fiscal year ended September 30, 2019. The Retirement Systems of Alabama includes the Teachers' Retirement System of Alabama (TRS), the Employees' Retirement System of Alabama (ERS), and the Judicial Retirement Fund (JRF). Each system is considered a component unit of the State of Alabama for financial reporting purposes, and, as such, the financial statements contained in this report are also included in the State of Alabama Comprehensive Annual Financial Report.

Responsibility for both the accuracy of the data, and the completeness and fairness of the presentation, including all disclosures, rests with the management of the Systems. Sufficient internal controls exist to provide reasonable assurance regarding the safekeeping of assets and fair presentation of the financial statements, supporting schedules, and statistical tables. We trust that you and the members of the Systems will find this report helpful in understanding your retirement system.

Administration and Plan History

The TRS, ERS, and JRF operate under common management and are collectively referred to as the Retirement Systems of Alabama. In addition to executive management, the TRS, ERS, and JRF share investment management, accounting, and information system services, the costs of which are allocated to the funds on an equitable basis. The TRS was established pursuant to the *Code of Alabama 1975, Title 16, Chapter 25* (Act 419 of the Legislature of 1939) to provide benefits to qualified persons employed by State-supported educational institutions. The ERS was established pursuant to the *Code of Alabama 1975, Title 36, Chapter 27* (Act 515 of the Legislature of 1945) to provide benefits to State employees, State Police, and, on an elective basis, to qualified persons of cities, towns, and quasi-public organizations. The JRF was established pursuant to the *Code of Alabama 1975, Title 12, Chapter 18* (Act 1163 of the Legislature of 1973) to provide benefits to qualified judges and justices. Additional information regarding the administration and history of each system, including laws establishing each plan and services provided, can be found in the Financial Section - Notes to the Combined Financial Statements portion of this report.

Financial Information

Accounting Method - As required by Generally Accepted Accounting Principles (GAAP), the financial information of the TRS, ERS, and JRF is reported on the accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when the corresponding liability is incurred. Investments are reported at fair value.

Internal Controls - The management of the RSA is responsible for maintaining the system of internal controls (system). The system provides management with reasonable, but not absolute, assurance regarding the safeguarding of assets against loss or unauthorized disposition and the reliability of the financial records from which the financial reports are prepared. The concept of reasonable assurance recognizes that the cost of a control should not exceed the resulting benefits.

Summary Comparative Data – Management’s Discussion and Analysis (MD&A) includes a narrative introduction, an overview of the financial statements, including the notes and required supplementary information, and summary comparative data for fiscal years 2019 and 2018. Also, an analysis of significant variances between fiscal years 2019 and 2018 is provided in the MD&A.

Plan Financial Condition

The funding objective of the RSA pension trust funds is to accumulate sufficient assets during a member’s employment by requiring employer and member contributions to fully finance the benefits the member is expected to receive throughout retirement.

At September 30, 2018, the date of the most recent actuarial valuation, the number of participants in the TRS was 282,553, ERS participants totaled 170,399, and JRF participants totaled 789. The following table compares the funded status as of September 30, 2018 and 2017:

Funded Status (%)			
System	9/30/2018	9/30/2017	% Increase/ (Decrease)
TRS	70.2	68.9	1.3
ERS	68.7	67.8	0.9
JRF	66.7	65.4	1.3

The funded status of TRS increased because salary increases were lower than expected and investment earnings were higher than expected, despite the decrease in the rate of return on investments used in the actuarial valuation. The funded status of ERS did not increase significantly because the rate of return on investments used in the actuarial valuations decreased. The actuarial gains from investment earnings were only slightly greater than the losses. The funded status of JRF increased because salary increases were lower than expected, investment earnings were higher than expected, and fewer members retired during the year than expected, despite the decrease in the rate of return on investments used in the actuarial valuations,

Investment Activity

Total investments for the RSA decreased in fiscal year 2019, primarily due to decreases in the fair value of investments. Total pension fund investments managed by the RSA decreased from \$38.5 billion at September 30, 2018, to \$38.0 billion at September 30, 2019, a decrease of 1.30%.

	Investments, at Fair Value		Interest & Dividend Income	
	9/30/2019	9/30/2018	9/30/2019	9/30/2018
TRS	\$25.3 billion	\$25.6 billion	\$583.3 million	\$650.3 million
ERS	\$12.5 billion	\$12.6 billion	\$291.0 million	\$323.2 million
JRF	\$308.1 million	\$313.1 million	\$7.5 million	\$7.5 million

Net Change in Fair Value of Investments		
	9/30/2019	9/30/2018
TRS	\$33.7 million	\$1.62 billion
ERS	\$30.1 million	\$775 million
JRF	\$3.5 million	\$20.0 million

Total returns were 2.63%, 2.78%, and 3.82% for TRS, ERS, and JRF, respectively. The fiscal year started off very poorly as global growth concerns hammered equity markets in the December ending quarter. The Federal Reserve (the Fed) raised the Fed Funds target rate in mid-December which sent global equity markets into a tailspin. By the end of the fiscal year, the Fed ended up having two 0.25% rate cuts that helped allay heightened economic slowdown fears. Fixed income investments proved to be the big winner for the year as rates rallied lower and credit spreads remained tight. The RSA continues to maintain a higher than normal cash (short-term investment) balance as the interest rate curve has flattened and equities moved higher throughout the year. With that said, we will continue to invest in a diverse mix of assets and monitor asset class ranges per the guidance given in the respective Investment Policy Statements of each system, with the long-term goal of achieving our actuarial assumed rate of return. Additional information concerning investments, including investment policy statements, is located in the Investment Section of this report. The Schedule of Broker Commissions Paid can be found on the last page of the Investment Section in this report.

Management's Discussion and Analysis

GASB Statement No. 34 requires that management provide a narrative introduction, overview, and analysis to accompany the Financial Statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is intended to complement the MD&A and should be read in conjunction with it. The MD&A can be found immediately following the Independent Auditors' Report.

Professional Services

Professional consultants are appointed by the Boards of Control to perform professional services that are essential to the effective operation of the TRS, ERS, and JRF. The certification letters from the independent actuary are included in this report. The professional consultants appointed by the Boards of Control are listed on the last page of the Introductory Section in this report.

Financial Statement Audit

Carr, Riggs & Ingram, LLC, Certified Public Accountants, issued an unqualified ("clean") opinion on the RSA's financial statements for the fiscal year ended September 30, 2019. The independent auditors' report is located at the front of the Financial Section of this report.

Highlights and Initiatives

The RSA's office building located in New York City, 55 Water Street, announced the lease renewal for EmblemHealth. The company is one of the largest non-profit health insurers and has maintained its headquarters in the building since 2003. The transaction is one of the largest leases of the year in Lower Manhattan and will extend their lease for 15 years.

Marriott International named the RSA's Riverview Renaissance Plaza Hotel in Mobile its "2018 Marriott Franchise Hotel of the Year" among Marriott's Distinctive Premium Hotels in North America. This award's honors are based on reviews for guest satisfaction, employee opinions, financial records, market share, and overall property performance. The Grand Hotel Golf Resort & Spa was also honored; USA Today named The Grand Hotel in its Top 5 Historic Hotels as voted on by industry experts as well as a public vote. Lastly, the Renaissance Ross Bridge Golf Resort & Spa was named as one of Golf Magazine's 100 Best Golf Resorts in North America. More than 3,700 golfers reviewed 250 golf resorts across North America for the rankings. This was the first time that Ross Bridge was named to Golf Magazine's listing.

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Retirement Systems of Alabama for its comprehensive annual financial report for the fiscal year ended September 30, 2018. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current comprehensive annual financial report continues to conform to the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

The Retirement Systems received the Public Pension Coordinating Council (PPCC) Recognition Award for Funding 2019. The award recognizes organizations that meet professional standards for plan funding as set forth in the Public Pension Standards.

Acknowledgments

The compilation of this report reflects the combined effort of the staff under the leadership of the Boards of Control. It is intended to provide extensive and reliable information as a basis for making management decisions, determining compliance with legal provisions, and determining responsible stewardship of the funds of the TRS, ERS, and JRF.

We would like to take this opportunity to express our gratitude to the staff, the Boards of Control, the consultants, the Legislature, and to the many people who have worked so diligently through continued cooperative efforts to assure the successful operation and financial soundness of the TRS, ERS, and JRF.

Sincerely,

Diane E. Scott

Diane E. Scott, C.P.A., C.G.M.A.
Chief Accountant & Financial Officer

David G. Bronner

David G. Bronner, Ph.D., J.D.
Chief Executive Officer



Government Finance Officers Association

**Certificate of
Achievement
for Excellence
in Financial
Reporting**

Presented to

The Retirement Systems of Alabama

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

September 30, 2018

Christopher P. Morill

Executive Director/CEO



Public Pension Coordinating Council

***Recognition Award for Funding
2019***

Presented to

The Retirement Systems of Alabama

In recognition of meeting professional standards for
plan funding as
set forth in the Public Pension Standards.

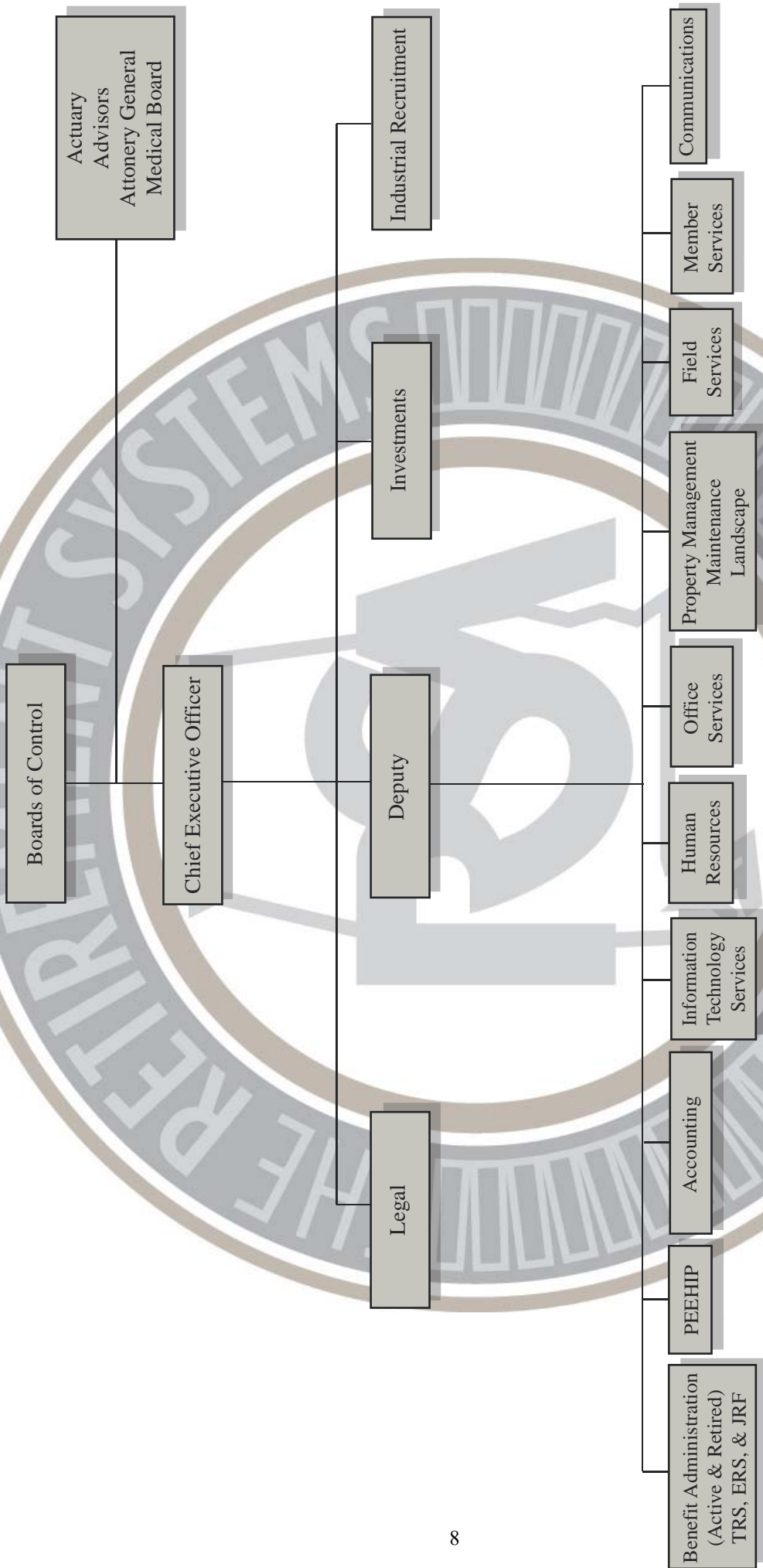
Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in black ink, reading 'Alan H. Winkle', is positioned above the printed name and title.

Alan H. Winkle
Program Administrator

Retirement Systems of Alabama



Note: The Retirement Systems of Alabama (“RSA”) is a public pension plan statutorily formed under the laws of the State of Alabama. RSA consists of the Teachers’ Retirement System of Alabama and the Employees’ Retirement System of Alabama which includes and administers the Judicial Retirement Fund. Each system is considered a body corporate of the State of Alabama and they are referred to collectively for financial reporting purposes as “RSA.” While each system has distinct boards of control, they share executive management and certain other services.

Teachers' Retirement System Board of Control

Ex Officio Members

Honorable John McMillan, Jr., State Treasurer

Mr. Kelly Butler, State Finance Director

Dr. Eric Mackey, State Superintendent of Education

Elected Members

Chair, Mr. Luther P. Hallmark, Superintendent Position

Vice Chair, Mr. John R. Whaley, Teacher Position

Ms. Peggy Mobley, Retired Position

Mr. Joseph E. Ward, Retired Position

Ms. Kelli D. Shomaker, Higher Education Position

Dr. Joseph G. Van Matre, Higher Education Position

Dr. Susan Williams Brown, Postsecondary Position

Mr. Richard Brown, Principal Position

Ms. Charlene McCoy, Teacher Position

Ms. Amy C. Crew, Teacher Position

Mrs. Susan Lockridge, Support Personnel Position

Mr. Russell J. Twilley, Support Personnel Position

Employees' Retirement System Board of Control**

Ex Officio Members

Chair, Honorable Kay Ivey, Governor

Mrs. Jackie B. Graham, State Personnel Director

Honorable John McMillan, Jr., State Treasurer

Mr. Kelly Butler, State Finance Director

Elected Members

Vice Chair, Mr. James Fibbe, Retired Local Employee Position

Mr. Norris Green, Retired State Employee Position

Mr. David Bollie, Active State Employee Position

Mr. Stephen C. Walkley, Active State Employee Position

Mr. Ben Powell, Active Local Employee Position

Mr. David J. Harer, Active Local Employee Position

Appointed Members

Mr. John D. Free

Ms. Tammy Rolling

Lt. David Colston

** The Employees' Retirement System Board of Control is responsible for the administration of both the Employees' Retirement System and the Judicial Retirement Fund.

RETIREMENT SYSTEMS OF ALABAMA

Introductory Section

Staff, Advisors, and Medical Board

Staff, Advisors, and Medical Board

David G. Bronner, Ph.D., J.D., Chief Executive Officer

Donald L. Yancey, M.P.A., J.D., Deputy Director

Administrative Staff

Chief Accountant & Financial Officer, Diane E. Scott, B.S., C.P.A., C.G.M.A.

Teachers' Retirement Executive, Christopher P. Townes, M.B.A.

Employees' & Judicial Retirement Executive, William F. Kelley, Jr., J.D.

Information Technology Services, Michael T. Baker, B.S.

General Counsel, Leura G. Canary, J.D.

Legislative Counsel, Neah M. Scott, J.D.

Communications, Michael E. Pegues, M.A.

Field Services, Christopher C. Gallup, B.S.

Member Services, Penny K. Wilson, B.S.

Investment Staff

Director of Investments, R. Marc Green, M.B.A., CFA

Director of Private Placements, M. Hunter Harrell, M.B.A., J.D., CFA

Private Placements Analyst, Rachel W. Daniels, M.A., C.P.A.

Director of Fixed Income, Julie S. Barranco, M.B.A., CFA

Chief Economist, C. Lance Lachney, M.B.A., CFA

Fixed Income Analyst/Portfolio Manager, Nicholas A. Prillaman, M.S., CFA

Director of Equities, G. Allan Carr Jr., M.B.A., CFA

Assistant Director of Equities, Steven R. Lambdin, M.B.A., CFA

Assistant Director of Equities, Z. Hunter Bronson, M.S., CFA

Senior Equity Analyst/Portfolio Manager, Adam M. Rogers, M.A., CFA

Equity Analyst/Portfolio Manager, Bobby Long, M.B.A., CFA

Equity Analyst/Portfolio Manager, Kevin W. Gamble, M.B.A., CFA

Equity Analyst, Michael J. McNair, M.B.A., CFA

Equity Analyst, Joshua A. Husted, M.B.A., CFA

Cash Management & Operations, Catherine S. Ray, B.A.

Advisors

Independent Certified Public Accountants, Carr, Riggs, & Ingram, LLC

Investment Consultant, Regions Bank N.A., Mr. Alan McKnight

Investment Custodian, State Street Bank and Trust Company

Consulting Actuary, Cavanaugh Macdonald Consulting, LLC, Mr. Edward A. Macdonald

Attorney General, Honorable Steve Marshall

Chief Examiner, Honorable Rachel Riddle

Medical Board

Chair, Glenn Yates, M.D.

Gregory Borg, M.D.

Malcolm Brown, M.D.



Financial Section

Component Units of the State of Alabama
Comprehensive Annual Financial Report



INDEPENDENT AUDITORS' REPORT

To the Boards of Control
Teachers' Retirement System of Alabama
Employees' Retirement System of Alabama
Judicial Retirement Fund

We have audited the accompanying combined financial statements of the Retirement Systems of Alabama (consisting of the Teachers' Retirement System of Alabama, the Employees' Retirement System of Alabama, and the Judicial Retirement Fund (the RSA), a component unit of the State of Alabama), which comprise the combining statement of fiduciary net position as of September 30, 2019 and the related combining statement of changes in fiduciary net position, for the year then ended, and the related notes to the combined financial statements, which collectively comprise the Retirement Systems of Alabama's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these combined financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the combined financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Retirement Systems of Alabama, as of September 30, 2019, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Prior-Year Comparative Information

The financial statements include partial prior-year comparative information. Such information does not include all of the information required to constitute a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Retirement Systems of Alabama's financial statements for the year ended September 30, 2018, from which such partial information was derived. We have previously audited the Retirement Systems of Alabama's financial statements and we expressed an unmodified opinion on the respective financial statements in our report dated January 15, 2019. In our opinion, the summarized comparative information presented herein as of and for the year ended September 30, 2018, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in the net pension liability and related ratios, schedules of employer pension contributions, schedule of investment returns, schedules of proportionate share of the net pension liability, schedules of pension contributions, schedules of proportionate share of the net OPEB liability and schedules of net OPEB contributions for TRS, ERS and JRF be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary and Other Information

Our audit was conducted for the purpose of forming an opinion on the combined financial statements that collectively comprise the Retirement Systems of Alabama's basic financial statements. The introductory section, investment section, actuarial section, statistical section, schedule of administrative expenses, schedule of investment expenses and schedule of professional/consultant fees (supplementary information) are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The schedule of administrative expenses, schedule of investment expenses and schedule of professional/consultant fees are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of administrative expenses, schedule of investment expenses and schedule of professional/consultant fees are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory, investment, actuarial, and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Carri Riggs & Ingram, L.L.C.

March 9, 2020
Montgomery, Alabama

The Retirement Systems of Alabama (RSA) is comprised of the Teachers' Retirement System (TRS), Employees' Retirement System (ERS), and Judicial Retirement Fund (JRF). The following discussion provides an overview of the financial position and results of operations for RSA as of and for the fiscal year ended September 30, 2019. For more detailed information, please refer to the financial statements, including the Notes to the Combined Financial Statements and the Required Supplementary Information.

Financial Statements and Required Supplementary Information

The financial statements (statements) include the Combining Statement of Fiduciary Net Position and the Combining Statement of Changes in Fiduciary Net Position. The Notes to the Combined Financial Statements are considered an integral part of the financial statements. The statements are prepared using the economic resources measurement focus and accrual basis of accounting. Revenues are recognized when earned, pursuant to plan requirements, and expenses are recognized when incurred, regardless of when cash is received or expended. Investments are reported at fair value.

Combining Statement of Fiduciary Net Position – Includes all assets, deferred outflows of resources, liabilities, and deferred inflows of resources of RSA and provides a snapshot of the financial position of RSA as of the end of the fiscal year. Assets and deferred outflows of resources less liabilities and deferred inflows of resources results in the net position restricted for pension benefits at the end of the fiscal year.

Combining Statement of Changes in Fiduciary Net Position – Reports all additions and deductions of RSA for the fiscal year. Additions primarily consist of employer contributions, employee contributions, and investment income. Deductions are principally made up of retirement allowance payments. Additions minus deductions provide the change in fiduciary net position during the fiscal year. The change in fiduciary net position plus the beginning fiduciary net position results in the fiduciary net position at the end of the fiscal year.

The Notes to the Combined Financial Statements include plan descriptions, a summary of significant accounting policies, a description of legally required reserves and corresponding reserve balances at the end of the fiscal year, credit risk disclosures for cash and investments, concentration of investments disclosures, securities lending disclosures, funded status, net pension liability, net other postemployment benefits (OPEB) liability, contributions required and made, and additional actuarial information relevant to the latest actuarial valuations.

The Required Supplementary Information following the Notes to the Combined Financial Statements includes Schedules of Changes in the Net Pension Liability & Related Ratios, Schedules of Participating Employer Contributions to the Teachers' Retirement System (TRS) and the Judicial Retirement Fund (JRF), Schedule of Investment Returns, Schedules of Proportionate Share of the Net Pension Liability, Schedules of Retirement Contributions for TRS, ERS, and JRF Employees, Schedules of Proportionate Share of the Net OPEB Liability, and Schedules of SEHIP Contributions for TRS, ERS, and JRF Employees. The Schedules of Employer Contributions provides trend data on the annual required employer contributions and the percentage actually contributed.

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Management's Discussion and Analysis (Continued)

Comparative Summary Statements

Summary Comparative Combining Statement of Fiduciary Net Position

As of September 30, 2019 and 2018

(Dollar Amounts in Thousands)

	2019	2018	Variance	% Increase/ (Decrease)
<i>Assets & Deferred Outflows of Resources</i>				
Cash	\$ 92,506	\$ 50,246	\$ 42,260	84.11
Receivables	294,607	308,668	(14,061)	(4.56)
Investment Sales Receivable	11,927	-	11,927	100.00
Investments, at Fair Value	38,028,895	38,533,116	(504,221)	(1.31)
Invested Securities Lending Collateral	961,787	1,605,767	(643,980)	(40.10)
Property and Equipment, Net	161,424	155,615	5,809	3.73
Total Assets	39,551,146	40,653,412	(1,102,266)	
Deferred Outflows of Resources	9,640	8,405	1,235	14.69
Total Assets & Deferred Outflows of Resources	39,560,786	40,661,817	(1,101,031)	(2.71)
<i>Liabilities & Deferred Inflows of Resources</i>				
Accounts Payable and Other Liabilities	12,609	10,718	1,891	17.64
Investment Purchases Payable	13,505	2,274	11,231	493.89
Net Other Postemployment Benefit Liability	27,175	28,678	(1,503)	(5.24)
Net Pension Liability	36,026	34,247	1,779	5.19
Securities Lending Collateral	961,787	1,605,767	(643,980)	(40.10)
Total Liabilities	1,051,102	1,681,684	(630,582)	(37.50)
Deferred Inflows of Resources	9,222	7,034	2,188	31.11
Total Liabilities & Deferred Inflows of Resources	1,060,324	1,688,718	(628,394)	(37.21)
<i>Net Position</i>	\$ 38,500,462	\$ 38,973,099	\$ (472,637)	(1.21)

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Management's Discussion and Analysis (Continued)

Summary Comparative Combining Statement of Changes in Fiduciary Net Position For the Fiscal Years Ended September 30, 2019 and 2018 (Dollar Amounts in Thousands)

	2019	2018	Variance	% Increase/ (Decrease)
Additions				
Employee Contributions	\$ 770,840	\$ 729,101	\$ 41,739	5.72
Employer Contributions	1,354,911	1,246,118	108,793	8.73
Investment Income	946,028	3,390,268	(2,444,240)	(72.10)
Transfers Between Systems	10,610	9,973	637	6.39
Transfer In from the Public Education Employees' Health Insurance Plan	-	24,700	(24,700)	(100.00)
Total Additions	<u>3,082,389</u>	<u>5,400,160</u>	<u>(2,317,771)</u>	<u>(42.92)</u>
Deductions				
Retirement Allowance Payments	3,393,573	3,334,333	59,240	1.78
Return of Contributions, Unit Withdrawals & Death Benefits	106,562	104,088	2,474	2.38
Transfers Between Systems	10,610	9,973	637	6.39
Administrative Expenses	33,874	27,499	6,375	23.18
Depreciation	10,407	8,882	1,525	17.17
Total Deductions	<u>3,555,026</u>	<u>3,484,775</u>	<u>70,251</u>	<u>2.02</u>
Net (Decrease)/Increase in Fiduciary Net Position	<u>(472,637)</u>	<u>1,915,385</u>	<u>(2,388,022)</u>	<u>(124.68)</u>
Beginning Net Position, as previously reported	38,973,099	37,076,506	1,896,593	5.12
Adjustment for Application of GASB 75	-	(18,792)	18,792	100.00
Beginning of Year - as adjusted	<u>38,973,099</u>	<u>37,057,714</u>	<u>1,915,385</u>	<u>5.17</u>
Net Position - End of Year	<u>\$ 38,500,462</u>	<u>\$ 38,973,099</u>	<u>\$ (472,637)</u>	<u>(1.21)</u>

Comparison of Individual Fiduciary Net Position As of September 30, 2019 and 2018 (Dollar Amounts in Thousands)

	2019	2018	Variance	% Increase/ (Decrease)
TRS	\$ 25,619,448	\$ 25,935,433	\$ (315,985)	(1.22)
ERS	12,568,473	12,720,352	(151,879)	(1.19)
JRF	312,541	317,314	(4,773)	(1.50)
Total	<u>\$ 38,500,462</u>	<u>\$ 38,973,099</u>	<u>\$ (472,637)</u>	<u>(1.21)</u>

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Management's Discussion and Analysis (Continued)

Financial Analysis

- Primarily all cash on hand at September 30, 2019, was held for administrative expenses.
- In the Summary Comparative Combining Statement of Fiduciary Net Position, receivables consist primarily of employee contributions, employer contributions, interest, dividends, real estate, and member transfers between systems at September 30, 2019.
- Investment sales receivable and investment purchases payable occur as a result of trade date accounting. The increase in the receivable and payable for fiscal year 2019 was due to the value of securities traded in the current fiscal year and settling in the following fiscal year being greater than the value of the securities traded but settled in the previous fiscal year.
- The RSA's investment portfolio presented in percentages by investment type:

	TRS	ERS	JRF
Equity	67.97%	68.41%	64.68%
Fixed	22.25%	21.97%	33.95%
Real Estate	9.78%	9.62%	1.37%
Total	100.00%	100.00%	100.00%

- Employer contributions increased as a result of higher employer contribution rates for fiscal year 2019. The employer contribution rates for fiscal year 2019 are in the table below. ERS local participating employer contribution rates differ for each employer.

	Tier 1	Tier 2
TRS	12.41%	11.35%
ERS - State Employees	14.51%	14.14%
ERS - State Police	50.08%	43.43%
JRF - Groups 1 & 2	41.40%	-
JRF - Group 3 - Judges & Clerks' Plan	34.32%	-
JRF - District Attorneys' Plan	19.77%	-

- During fiscal year 2019, returns on investments of TRS, ERS, and JRF were 2.63%, 2.78%, and 3.82%, respectively. The returns were calculated by State Street Bank.
- During fiscal year 2019, investment income decreased by 72.10% primarily due to a large decrease in the unrealized gains and losses which were offset by an increase in interest and dividend income and realized gains and losses. Net securities lending income decreased by 12.40% for RSA which was primarily driven by an increase in borrower rebates. At September 30, 2019, cash and non-cash loan balances decreased approximately 40% and 13%, respectively, from their balances at September 30, 2018. Non-cash loans continue to be the collateral of choice for brokers due to the regulations imposed by the Frank-Dodd Act. Although non-cash loans are more beneficial to the brokers' balance sheet due to the lower overall demand, these types of loans decreased by approximately 13%.
- Retirement allowance payments increased as a result of those members who retired during fiscal year 2019.

Funding Status

The Governmental Accounting Standards Board (GASB) has issued Statement No. 67, *Financial Reporting for Pension Plans*, which amends GASB Statement No. 25. Under GASB Statement No. 67, the methodology for determining the net pension liability disclosed in the Notes to the Combined Financial Statements has shifted from a funding perspective to an accounting perspective.

At September 30, 2019, TRS and JRF employers' total pension liability was \$36.7 billion and \$463.5 million, respectively. The plan fiduciary net position of TRS and JRF employers was \$25.6 billion and \$312.5 million, respectively, resulting in a net pension liability of \$11.1 billion and \$150.9 million, respectively. The plan fiduciary net position as a percentage of the total pension liability for TRS and JRF employers was 69.85% and 67.44%, respectively, using GASB Statement No. 67 measurements.

Under the provisions of GASB Statement No. 67, agent-multiple employer plans such as ERS apply the measurements and recognition of net pension liability at the individual plan level for each retirement plan administered. Therefore, aggregate information for ERS related to the net pension liability has not been presented.

Financial Highlights

- Net position held in trust of \$39 billion at September 30, 2019, was available to meet future benefit payments.
- At September 30, 2018, the date of the most recent actuarial valuation, the funding level (actuarial value of assets as a percentage of actuarial accrued liabilities) was 70.2% for TRS, 68.7% for ERS, and 66.7% for JRF.



RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Combining Statement of Fiduciary Net Position
September 30, 2019 with comparative figures for 2018
(Dollar Amounts in Thousands)

	2019			
	Teachers' Retirement System	Employees' Retirement System	Judicial Retirement Fund	Total
Assets				
Cash (Note 4)	\$ 71,531	\$ 17,875	\$ 3,100	\$ 92,506
Receivables				
Employee Contributions	52,968	14,276	162	67,406
Employer Contributions	90,488	27,711	639	118,838
Transfers Receivable from Teachers' Retirement System	-	235	-	235
Transfers Receivable from Employees' Retirement System	111	-	18	129
Investment Sales Receivable	7,678	4,249	-	11,927
Real Estate Investment Receivable	764	382	-	1,146
Dividends and Interest	71,155	34,359	992	106,506
Miscellaneous Receivable	153	194	-	347
Total Receivables	223,317	81,406	1,811	306,534
Investments, at Fair Value (Note 5)				
Domestic Equity	13,785,646	6,925,941	156,306	20,867,893
Domestic Fixed Income	3,434,749	1,693,333	78,997	5,207,079
International Equities	3,385,579	1,594,696	42,977	5,023,252
Real Estate	2,470,955	1,198,136	4,227	3,673,318
Short-Term	2,187,771	1,043,998	25,584	3,257,353
Total Investments	25,264,700	12,456,104	308,091	38,028,895
Invested Securities Lending Collateral (Note 5)	699,940	256,550	5,297	961,787
Property and Equipment less Accumulated Depreciation (Note 8)	112,159	49,265	-	161,424
Total Assets	26,371,647	12,861,200	318,299	39,551,146
Deferred Outflows of Resources - Pensions	5,412	2,247	41	7,700
Deferred Outflows of Resources - Other Postemployment Benefits	1,647	290	3	1,940
Total Assets and Deferred Outflows of Resources	26,378,706	12,863,737	318,343	39,560,786
Liabilities				
Accounts Payable and Other Liabilities	7,882	4,295	68	12,245
Transfers Payable to Teachers' Retirement System	-	111	-	111
Transfers Payable to Employees' Retirement System	235	-	-	235
Transfers Payable to Judicial Retirement Fund	-	18	-	18
Investment Purchases Payable	8,818	4,666	21	13,505
Net Other Postemployment Benefits Liability (Note 9)	16,182	10,902	91	27,175
Net Pension Liability (Note 10)	20,897	14,845	284	36,026
Securities Lending Collateral (Note 5)	699,940	256,550	5,297	961,787
Total Liabilities	753,954	291,387	5,761	1,051,102
Deferred Inflows of Resources - Pensions	2,271	1,645	24	3,940
Deferred Inflows of Resources - Other Postemployment Benefits	3,033	2,232	17	5,282
Total Liabilities and Deferred Inflows of Resources	759,258	295,264	5,802	1,060,324
Net Position Restricted for Pension Benefits (Note 3)	\$ 25,619,448	\$ 12,568,473	\$ 312,541	\$ 38,500,462

See accompanying Notes to the Combined Financial Statements.

	2018			
	Teachers' Retirement System	Employees' Retirement System	Judicial Retirement Fund	Total
Assets				
Cash	\$ 34,831	\$ 12,547	\$ 2,868	\$ 50,246
Receivables				
Employee Contributions	40,209	18,268	176	58,653
Employer Contributions	67,229	32,457	602	100,288
Real Estate Investment Receivable	815	408	-	1,223
Dividends and Interest	81,420	41,407	977	123,804
Transfer from Public Education Employees' Health Insurance Plan	24,700	-	-	24,700
Total Receivables	<u>214,373</u>	<u>92,540</u>	<u>1,755</u>	<u>308,668</u>
Investments, at Fair Value				
Domestic Equity	14,407,115	7,277,756	168,449	21,853,320
Domestic Fixed Income	4,044,570	1,997,706	72,713	6,114,989
International Equities	3,417,268	1,602,600	44,473	5,064,341
Real Estate	2,415,071	1,171,372	4,107	3,590,550
Short-Term	1,337,670	548,882	23,364	1,909,916
Total Investments	<u>25,621,694</u>	<u>12,598,316</u>	<u>313,106</u>	<u>38,533,116</u>
Invested Securities Lending Collateral	1,052,082	543,229	10,456	1,605,767
Property and Equipment less Accumulated Depreciation	<u>107,508</u>	<u>48,107</u>	<u>-</u>	<u>155,615</u>
Total Assets	<u>27,030,488</u>	<u>13,294,739</u>	<u>328,185</u>	<u>40,653,412</u>
Deferred Outflows of Resources - Pensions	4,567	2,501	48	7,116
Deferred Outflows of Resources - Other Postemployment Benefits	980	306	3	1,289
Total Assets and Deferred Outflows of Resources	<u>27,036,035</u>	<u>13,297,546</u>	<u>328,236</u>	<u>40,661,817</u>
Liabilities				
Accounts Payable and Other Liabilities	7,093	3,566	59	10,718
Investment Purchases Payable	1,475	799	-	2,274
Net Other Postemployment Benefits Liability	16,708	11,871	99	28,678
Net Pension Liability	19,504	14,468	275	34,247
Securities Lending Collateral	1,052,082	543,229	10,456	1,605,767
Total Liabilities	<u>1,096,862</u>	<u>573,933</u>	<u>10,889</u>	<u>1,681,684</u>
Deferred Inflows of Resources - Pensions	2,106	1,859	23	3,988
Deferred Inflows of Resources - Other Postemployment Benefits	1,634	1,402	10	3,046
Total Liabilities and Deferred Inflows of Resources	<u>1,100,602</u>	<u>577,194</u>	<u>10,922</u>	<u>1,688,718</u>
Net Position Restricted for Pension Benefits	<u>\$ 25,935,433</u>	<u>\$ 12,720,352</u>	<u>\$ 317,314</u>	<u>\$ 38,973,099</u>

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Combining Statement of Changes in Fiduciary Net Position

For the Fiscal Year Ended September 30, 2019 with comparative figures for 2018

(Dollar Amounts in Thousands)

	2019			
	Teachers' Retirement System	Employees' Retirement System	Judicial Retirement Fund	Total
Additions				
Contributions				
Employee	\$ 516,675	\$ 250,253	\$ 3,912	\$ 770,840
Employer	869,336	467,553	18,022	1,354,911
Transfers from Teachers' Retirement System	-	4,187	-	4,187
Transfers from Employees' Retirement System	6,234	-	189	6,423
Total Contributions	<u>1,392,245</u>	<u>721,993</u>	<u>22,123</u>	<u>2,136,361</u>
Investment Income (Note 5)				
From Investing Activities				
Net Increase in Fair Value of Investments	33,671	30,092	3,476	67,239
Interest and Dividends	<u>583,329</u>	<u>291,011</u>	<u>7,463</u>	<u>881,803</u>
Total Investment Income from Investing Activities	<u>617,000</u>	<u>321,103</u>	<u>10,939</u>	<u>949,042</u>
Less: Investment Expenses, Net	<u>9,205</u>	<u>3,661</u>	<u>-</u>	<u>12,866</u>
Net Investment Income from Investing Activities	<u>607,795</u>	<u>317,442</u>	<u>10,939</u>	<u>936,176</u>
From Securities Lending Activities				
Securities Lending Income	28,905	13,884	327	43,116
Less Securities Lending Expenses:				
Borrower Rebates	19,431	9,394	218	29,043
Management Fees	<u>2,842</u>	<u>1,347</u>	<u>32</u>	<u>4,221</u>
Total Securities Lending Expenses	<u>22,273</u>	<u>10,741</u>	<u>250</u>	<u>33,264</u>
Net Income from Securities Lending Activities	<u>6,632</u>	<u>3,143</u>	<u>77</u>	<u>9,852</u>
Total Net Investment Income	<u>614,427</u>	<u>320,585</u>	<u>11,016</u>	<u>946,028</u>
Total Additions	<u>2,006,672</u>	<u>1,042,578</u>	<u>33,139</u>	<u>3,082,389</u>
Deductions				
Retirement Allowance Payments	2,233,514	1,123,150	36,909	3,393,573
Return of Contributions and Death Benefits	56,861	48,675	646	106,182
Unit Withdrawals	-	380	-	380
Transfers to Employees' Retirement System	4,187	-	-	4,187
Transfers to Teachers' Retirement System	-	6,234	-	6,234
Transfers to Judicial Retirement Fund	-	189	-	189
Administrative Expenses	20,583	12,934	357	33,874
Depreciation (Note 8)	<u>7,512</u>	<u>2,895</u>	<u>-</u>	<u>10,407</u>
Total Deductions	<u>2,322,657</u>	<u>1,194,457</u>	<u>37,912</u>	<u>3,555,026</u>
Net (Decrease)	<u>(315,985)</u>	<u>(151,879)</u>	<u>(4,773)</u>	<u>(472,637)</u>
Net Position Restricted for Pension Benefits (Note 3)				
Beginning of Year	<u>25,935,433</u>	<u>12,720,352</u>	<u>317,314</u>	<u>38,973,099</u>
End of Year	<u>\$ 25,619,448</u>	<u>\$ 12,568,473</u>	<u>\$ 312,541</u>	<u>\$ 38,500,462</u>

See accompanying Notes to the Combined Financial Statements.

2018				
	Teachers' Retirement System	Employees' Retirement System	Judicial Retirement Fund	Total
Additions				
Contributions				
Employee	\$ 488,503	\$ 236,842	\$ 3,756	\$ 729,101
Employer	802,598	426,340	17,180	1,246,118
Transfers from Teachers' Retirement System	-	4,899	9	4,908
Transfers from Employees' Retirement System	4,963	-	102	5,065
Transfers from PEEHIP	24,700	-	-	24,700
Total Contributions	<u>1,320,764</u>	<u>668,081</u>	<u>21,047</u>	<u>2,009,892</u>
Investment Income				
<i>From Investing Activities</i>				
Net Increase in Fair Value of Investments	1,615,440	775,132	20,071	2,410,643
Interest and Dividends	650,293	323,182	7,471	980,946
Total Investment Income from Investing Activities	<u>2,265,733</u>	<u>1,098,314</u>	<u>27,542</u>	<u>3,391,589</u>
Less: Investment Expenses, Net	9,171	3,395	-	12,566
Net Investment Income from Investing Activities	<u>2,256,562</u>	<u>1,094,919</u>	<u>27,542</u>	<u>3,379,023</u>
<i>From Securities Lending Activities</i>				
Securities Lending Income	23,246	10,589	248	34,083
Less Securities Lending Expenses:				
Borrower Rebates	12,385	5,647	134	18,166
Management Fees	3,189	1,449	34	4,672
Total Securities Lending Expenses	<u>15,574</u>	<u>7,096</u>	<u>168</u>	<u>22,838</u>
Net Income from Securities Lending Activities	<u>7,672</u>	<u>3,493</u>	<u>80</u>	<u>11,245</u>
Total Net Investment Income	<u>2,264,234</u>	<u>1,098,412</u>	<u>27,622</u>	<u>3,390,268</u>
Total Additions	<u>3,584,998</u>	<u>1,766,493</u>	<u>48,669</u>	<u>5,400,160</u>
Deductions				
Retirement Allowance Payments	2,204,031	1,096,883	33,419	3,334,333
Return of Contributions and Death Benefits	58,538	45,070	130	103,738
Unit Withdrawals	-	350	-	350
Transfers to Employees' Retirement System	4,899	-	-	4,899
Transfers to Teachers' Retirement System	-	4,963	-	4,963
Transfers to Judicial Retirement Fund	9	102	-	111
Administrative Expenses	15,952	11,219	328	27,499
Depreciation	6,338	2,544	-	8,882
Total Deductions	<u>2,289,767</u>	<u>1,161,131</u>	<u>33,877</u>	<u>3,484,775</u>
Net Increase	<u>1,295,231</u>	<u>605,362</u>	<u>14,792</u>	<u>1,915,385</u>
Net Position Restricted for Pension Benefits				
Beginning of Year - as previously reported	24,651,457	12,122,471	302,578	37,076,506
Adjustment for Application of GASB 75	(11,255)	(7,481)	(56)	(18,792)
Beginning of Year - as adjusted	<u>24,640,202</u>	<u>12,114,990</u>	<u>302,522</u>	<u>37,057,714</u>
End of Year	<u>\$ 25,935,433</u>	<u>\$ 12,720,352</u>	<u>\$ 317,314</u>	<u>\$ 38,973,099</u>

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Notes to the Combined Financial Statements

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

1) PLAN DESCRIPTION

The Teachers' Retirement System (TRS), Employees' Retirement System (ERS), and Judicial Retirement Fund (JRF) operate under common management and are collectively referred to as the Retirement Systems of Alabama (RSA or Systems). In addition to executive management, the TRS, ERS, and JRF share investment management, accounting, and information system services, the costs of which are allocated to the funds on an equitable basis.

The TRS, a cost-sharing multiple-employer public employee retirement plan, was established as of September 15, 1939, pursuant to the *Code of Alabama 1975, Title 16, Chapter 25* (Act 419 of the Legislature of 1939) for the purpose of providing retirement allowances and other specified benefits for qualified persons employed by State-supported educational institutions. The responsibility for the general administration and operation of the TRS is vested in its Board of Control, which consists of 15 trustees as follows:

- 1) The State Superintendent of Education, ex officio.
- 2) The State Treasurer, ex officio.
- 3) The State Director of Finance, ex officio.
- 4) Twelve members of TRS who are elected by members from the same category of TRS for a term of three years as follows:
 - a. Teacher Place #1.
 - b. Teacher Place #2.
 - c. Teacher Place #3.
 - d. Educational Support Personnel Place #1.
 - e. Educational Support Personnel Place #2.
 - f. Retired Place #1.
 - g. Retired Place #2.
 - h. Superintendents' Place.
 - i. Principals' Place.
 - j. Postsecondary Place.
 - k. Higher Education Place #1.
 - l. Higher Education Place #2.

The ERS, an agent multiple-employer public employee retirement plan, was established as of October 1, 1945, pursuant to the *Code of Alabama 1975, Title 36, Chapter 27* (Act 515 of the Legislature of 1945). The purpose of the ERS is to provide retirement allowances and other specified benefits for state employees, State Police, and, on an elective basis, to all cities, counties, towns, and quasi-public organizations. Assets of the ERS are pooled for investment purposes. However, separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of its employees only. The responsibility for the general administration and operation of the ERS is vested in its Board of Control, which consists of 13 trustees as follows:

- 1) The Governor, ex officio.
- 2) The State Treasurer, ex officio.
- 3) The State Personnel Director, ex officio.
- 4) The State Director of Finance, ex officio.
- 5) Three vested members of ERS appointed by the Governor for a term of four years, no two of whom are from the same department of state government nor from any department of which an ex officio trustee is the head.
- 6) Six members of ERS who are elected by members from the same category of ERS for a term of four years as follows:
 - a. Two retired members with one from the ranks of retired state employees and one from the ranks of retired employees of a city, county, or a public agency each of whom is an active beneficiary of ERS.
 - b. Two vested active state employees.
 - c. Two vested active employees of an employer participating in ERS pursuant to the *Code of Alabama 1975, Section 36-27-6*.

The JRF, a cost-sharing multiple-employer public employee retirement plan, was established as of September 18, 1973, pursuant to the *Code of Alabama 1975, Title 12, Chapter 18* (Act 1163 of the Legislature of 1973) for the purpose of providing retirement allowances and other specified benefits for any Justice of the Supreme Court of Alabama, Judge of the Court of Civil Appeals, Judge of the Court of Criminal Appeals, Judge of the Circuit Court, or office holder of any newly created judicial office receiving compensation from the State Treasury. The *Code of Alabama 1975, Title 12, Chapter 18, Articles 3 & 4* (Act 1205 of the Legislature of 1975) enlarged the scope and coverage of the JRF to include District and Probate Judges, respectively. The *Code of Alabama 1975, Title 12, Chapter 18, Article 7* (Act 498 of the Legislature of 2015) established the Judges' and Clerks' Plan within the JRF for any Judge or Clerk who was first elected or appointed on or after November 8, 2016, and was not a member of the JRF or the Clerks' and Registers' Supernumerary Fund prior to that date. The *Code of Alabama 1975, Section 12-17-22* (Act 498 of the Legislature of 2015) established the District Attorneys' Plan within the JRF for any District Attorney serving in the capacity of District Attorney on or after November 8, 2016. The responsibility for the general administration and operation of the JRF is vested in the Board of Control of the ERS.

At September 30, 2019, the number of participating units in each system was as follows:

	<u>TRS</u>	<u>ERS</u>	<u>JRF</u>
Cities	-	297	-
Counties	-	65	67
Other Public Entities	-	511	-
Universities	13	-	-
Postsecondary			
Institutions	25	-	-
City and County			
Boards of Education	138	-	-
State Agencies & Other	35	1	1
Total	<u>211</u>	<u>874</u>	<u>68</u>

At September 30, 2018, the date of the most recent actuarial valuation, membership consisted of:

	<u>TRS</u>	<u>ERS</u>	<u>JRF</u>
Retirees and beneficiaries currently receiving benefits:			
General	96,231	24,187	404
State Police	-	915	-
Employees of Local Employers	-	24,959	-
Terminated employees entitled to benefits but not yet receiving benefits:			
General	17,513	3,559	14
State Police	-	19	-
Employees of Local Employers	-	9,280	-
Non-vested inactive members who have not contributed for more than 5 years	31,648	20,915	26
Active Employees:			
General	137,161	29,004	345
State Police	-	660	-
Employees of Local Employers	-	56,901	-
Total	<u>282,553</u>	<u>170,399</u>	<u>789</u>

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Notes to the Combined Financial Statements For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

State law establishes retirement benefits as well as death and disability benefits and any ad hoc increase in postretirement benefits for the TRS, ERS, and JRF. Benefits for TRS and ERS members vest after 10 years of creditable service. Teachers and state employees who retire after age 60 (52 for State Police) with 10 years or more of creditable service or with 25 years of service (regardless of age) are entitled to an annual retirement benefit, payable monthly for life. Local employees who retire after age 60 with 10 years or more of creditable service or with 25 or 30 years of service (regardless of age), depending on the particular entity's election, are entitled to an annual retirement benefit, payable monthly for life. Service and disability retirement benefits are based on a guaranteed minimum or a formula method, with the member receiving payment under the method that yields the highest monthly benefit. Under the formula method, members of the TRS and ERS (except State Police) are allowed 2.0125% of their average final compensation (highest 3 of the last 10 years) for each year of service. State Police are allowed 2.875% for each year of State Police service in computing the formula method.

Act 377 of the Legislature of 2012 established a new tier of benefits (Tier 2) for members hired on or after January 1, 2013. Tier 2 TRS and ERS members are eligible for retirement after age 62 (56 for State Police) with 10 years or more of creditable service and are entitled to an annual retirement benefit, payable monthly for life. Service and disability retirement benefits are based on a guaranteed minimum or a formula method, with the member receiving payment under the method that yields the highest monthly benefit. Under the formula method, Tier 2 members of the TRS and ERS (except State Police) are allowed 1.65% of their average final compensation (highest 5 of the last 10 years) for each year of service. State Police are allowed 2.375% for each year of state police service in computing the formula method.

The JRF benefits vest from five to eighteen years. Except for justices or judges who were either disabled, elected prior to July 30, 1979, or have at least 25 years of creditable service, no justice or judge is eligible to receive judicial service retirement pay prior to attaining age 60. Service retirement benefits for justices and judges are dependent upon the particular office held in the judicial branch of government. A retirement benefit is payable upon the request of any member who has: (1) 25 years of creditable service (regardless of age), (2) completed 12 years of creditable service and has attained age 65, (3) completed 15 years of creditable service and whose age plus service equals or exceeds 77, (4) completed 10 years of creditable service and has attained age 70 or (5) been elected prior to July 30, 1979, and has 18 years of service (regardless of age). A member eligible to retire who has not requested his or her retirement benefit to commence at the end of the term in which the member's 70th birthday occurs is entitled only to the refund of his or her contributions (except for members with at least 25 years of creditable service). The service retirement benefit for circuit, appellate, and probate judges is 75% of the member's salary at the time of separation from service. The service retirement benefit for a district judge is 75% of the position's salary immediately prior to retirement.

Act 498 of the Legislature of 2015 established a new group (Group 3) of members within JRF which consists of all justices, judges, and circuit clerks first elected or appointed on or after November 8, 2016, and district attorneys serving in the capacity of district attorney on or after November 8, 2016. Group 3 members are eligible for retirement after age 62 with 10 years or more of creditable service and are entitled to an annual retirement benefit, payable monthly for life. A district attorney who has Tier 1 ERS transferred service as an assistant or deputy district attorney is eligible for service retirement with 25 years of service credit, regardless of age. Service and disability retirement benefits are calculated using a retirement formula. Group 3 members who are judges or justices are allowed 4% of their average final compensation (highest 5 of the last 10 years) for each year of service up to 75% of their average final compensation. Group 3 members who are clerks or district attorneys are allowed 3% of their average final compensation (highest 5 of the last 10 years) for each year of service up to 80% of their average final compensation.

Covered members of the TRS and ERS (except State Police and certified law enforcement, correctional officers, and firefighters) contributed 5% of earnable compensation to the TRS and ERS as required by statute until September 30, 2011. From October 1, 2011, to September 30, 2012, covered members of the TRS and ERS (except State Police and certified law enforcement, correctional officers, and firefighters) were required by statute to contribute 7.25% of earnable compensation. Effective October 1, 2012, covered members of the TRS and ERS (except State Police and certified law enforcement, correctional officers, and firefighters) are required by statute to contribute 7.50% of earnable compensation. JRF members and certified law enforcement, correctional officers, and firefighters of the TRS and ERS contributed 6% of earnable compensation as required by statute until September 30, 2011. From October 1, 2011, to September 30, 2012, JRF members and certified law enforcement, correctional officers, and firefighters of the TRS and ERS were required by statute to contribute 8.25% of earnable compensation. Effective October 1, 2012, JRF members and certified law enforcement, correctional officers, and firefighters of the TRS and ERS are required by statute to contribute 8.50% of earnable compensation. State Police members of the ERS contribute 10% of earnable compensation. ERS local participating employers are not required by statute to increase contribution rates for their members.

Tier 2 covered members of the TRS and ERS (except State Police and certified law enforcement, correctional officers, and firefighters) contribute 6% of earnable compensation to the TRS and ERS as required by statute. Tier 2 certified law enforcement, correctional officers, and firefighters of the TRS and ERS are required by statute to contribute 7% of earnable compensation. Tier 2 State Police members of the ERS contribute 10% of earnable compensation. These contribution rates are the same for Tier 2 covered members of ERS local participating employers.

Group 3 members of the JRF contribute 8.50% of earnable compensation to the JRF as required by statute.

2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**A. Basis of Accounting**

The TRS, ERS, and JRF financial statements are prepared using the economic resources measurement focus and accrual basis of accounting. Contributions are recognized as revenues when earned, pursuant to plan requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the plans. Expenses are recognized when the corresponding liability is incurred, regardless of when the payment is made. The accompanying financial statements are prepared in accordance with the requirements of the Governmental Accounting Standards Board (GASB). Under these requirements, the TRS, ERS, and JRF are considered component units of the State of Alabama and are included in the State's Comprehensive Annual Financial Report. Subsequent events were evaluated by management through the date the financial statements were issued.

B. Investments

The Boards of Control of the Systems have the responsibility and authority to invest and reinvest available funds, through the Secretary-Treasurer (CEO) and Investment Committee, in bonds, mortgage-backed securities, common and preferred stock, and other investment vehicles with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use. All plan assets are carried at fair value. Securities traded on national or international exchanges are valued at the last reported sales price at current exchange rates. Short-term investments are reported at cost, which approximates fair value. Mortgage-backed securities are reported based on future principal and interest payments discounted at the prevailing interest rate for similar instruments. The fair value of real estate investments is based on independent appraisals or cost, when cost approximates fair value. Generally, private placements are valued based on the selling price of similar investments sold in the open market. In those instances where there are no similar investments sold in the open market, an independent appraisal is performed to determine the fair value of the private placements. RSA invests in limited partnerships which are long-term and generally illiquid. As a result, investors are subject to redemption restrictions which generally limit distributions and restrict the ability of limited partners to exit a partnership investment prior to its dissolution. These partnership investments are valued using their respective net asset values (NAV) and are generally audited annually. The most significant element of the NAV is the fair value of the investment holdings. These holdings are valued by the general partners in conjunction with management, investment advisors, and valuation specialists. The valuation techniques vary based on investment type and involve a certain degree of expert judgment. The fair value for these investments could differ significantly if a ready market for these assets existed.

C. Comparative Combining Statements

The basic financial statements include the prior year Combining Statement of Fiduciary Net Position and Combining Statement of Changes in Fiduciary Net Position (Statements) for comparative purposes only. Prior year note disclosures are not included. Therefore, the prior year basic financial statement presentation does not meet the minimum level of detail required for a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, the prior year Statements should be read in conjunction with the RSA's prior year financial report from which the prior year Statements were derived.

D. Interfund Transfers

Interfund transfers result from transfers of members between retirement systems and transfers between related parties as described in Note 12.

E. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts and disclosure in the financial statements. Actual results may differ from these estimates.

F. Deferred Outflows & Inflows of Resources

In addition to assets, the Combining Statement of Fiduciary Net Position reports a separate section for deferred outflows of resources. This separate financial statement element, *Deferred Outflows of Resources*, represents a consumption of fiduciary net position that applies to future periods and will not be recognized as an outflow of resources until that period. Employer contributions subsequent to the measurement date related to both the employer's net pension liability and net OPEB liability are reported as deferred outflows of resources until the next measurement date.

In addition to liabilities, the Combining Statement of Fiduciary Net Position reports a separate section for *Deferred Inflows of Resources*. This separate financial statement element represents an acquisition of fiduciary net position that applies to future periods and will not be recognized until then. Net differences between projected and actual experience, projected and actual earnings on plan investments and changes in assumptions between employer contributions and the proportionate share of contributions identified during the measurement period are deferred and amortized as a component of pension expense and other postemployment benefit expense.

3) LEGALLY REQUIRED RESERVES

A. Annuity Savings

Member contributions are credited to the Annuity Savings account. Interest at 4% per annum is credited to the annuity savings account of each member on the basis of the average of the beginning and end of year balances (as of June 30 for the TRS and September 30 for the ERS and JRF).

When a member withdraws from service prior to becoming vested, the member's accumulated contributions and a portion of accumulated interest credited to the Annuity Savings account are returned to the member. The portion of accumulated interest that, by law, is not payable to the member is transferred to the Expense fund.

When a TRS or ERS member dies prior to becoming eligible for retirement, the member's accumulated contributions and accumulated interest credited to the Annuity Savings account are returned to the member's designated beneficiary. If the preretirement death benefit defined below is not payable, an additional death benefit equal to the member's accumulated contributions, up to five thousand dollars, is paid from the Pension Accumulation account to the member's beneficiary.

When a member retires or when a survivor allowance becomes payable, the amount of the member's accumulated contributions and accumulated interest is transferred from the Annuity Savings account to the Pension Accumulation account.

B. Pension Accumulation

The Pension Accumulation account is credited with contributions made by the employer and net investment income. The lump sum death benefit is paid from this account when a TRS or ERS member dies prior to becoming eligible for the preretirement death benefit or retirement. Periodic interest representing member's earnings is transferred from the Pension Accumulation account to the Annuity Savings account. When a TRS, ERS, or JRF member retires or when a survivor allowance becomes payable, the member's accumulated contributions and accumulated interest is credited to the Pension Accumulation account, and all monthly benefit payments are paid from this account.

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Notes to the Combined Financial Statements

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(Dollar Amounts in Thousands)

C. Preretirement Death Benefit

The Preretirement Death Benefit (PRDB) was established as of October 1, 1983, pursuant to the *Code of Alabama 1975, Title 36, Chapter 27B* (Act 616 of the Legislature of 1983). The PRDB account is credited with contributions made by TRS, ERS, and JRF Group 3 members' employers and investment income on such funds. The preretirement death benefit (in the form of group term life insurance) is paid in addition to the return of member contributions upon the death of an active TRS, ERS, and JRF Group 3 member who has completed at least one year of active membership in the system and whose date of death was within 180 days of such member's last date of actual service. However, a surviving spouse beneficiary of a deceased member who was eligible for service retirement may elect a survivor allowance in lieu of this benefit. The preretirement death benefit is equal to the annual earnable compensation of the member as reported to the System for the preceding year ending June 30 for the TRS and September 30 for the ERS and the JRF. These assets are not included in the actuarial valuation and the liabilities associated with these death benefits are not included in the actuarial valuation.

D. Term Life Insurance

The Alabama Teacher's Group Term Life Insurance Plan (established October 1, 1987) is credited with a portion of the employer contributions. All active contributing members of the TRS are covered by this plan. Contingent on availability of funds, upon death, a benefit is paid to the designated beneficiary of an insured member of the TRS. Beneficiaries of full-time employees receive fifteen thousand dollars while beneficiaries of part-time employees receive a prorated amount of fifteen thousand dollars. These assets are not included in the actuarial valuation and the liabilities associated with these life insurance benefits are not included in the valuation.

E. Expense

The Expense fund is used to pay the administrative expenses of the RSA. A portion of the employer contributions and the interest not payable upon member withdrawal provide the funding of the expense fund. The majority of expenses are directly identifiable as expenses of the TRS, ERS, or JRF. As discussed in Note 1, certain administrative salaries and other expenses are shared on an equitable basis between the TRS and ERS. These assets are not included in the actuarial valuation.

F. Deferred Retirement Option Plan (DROP)

The DROP was established for election to participate on or after June 1, 2002, pursuant to the *Code of Alabama 1975, Title 16, Chapter 25, Article 9* for TRS participants and the *Code of Alabama 1975, Title 36, Chapter 27B, Article 9* for ERS participants (Act 23 of the Legislature of 2002). Eligible members may elect to retire, and, in lieu of immediate withdrawal from service, continue employment for a period of three to five years. The retirement allowance, employee contributions, and interest earned are accumulated in an account for the benefit of the member. At the end of participation, the account balance is paid to the member. DROP participation is an option available to eligible members that have at least 25 years of service (exclusive of sick leave), are at least 55 years of age, and are eligible for retirement. See the actuarial section for additional information.

The DROP was repealed by Act 27 of the Legislature of 2011. The effect of Act 27 is that no new participants were allowed to enter the DROP with an effective participation date after June 1, 2011.

G. Reserves

The reserves of the RSA included in the Net Position Restricted for Pension Benefits in the accompanying Combining Statement of Fiduciary Net Position are funded to the full extent required by statute. The reserve balances as of September 30, 2019, are as follows (dollar amounts in thousands):

	TRS	ERS	JRF
Annuity Savings	\$ 6,100,489	\$ 3,038,594	\$ 40,993
Pension Accumulation	19,178,247	9,380,020	268,790
Deferred Retirement Option Plan	165,239	88,037	-
Preretirement Death Benefit	55,360	27,624	61
Term Life Insurance	9,164	-	-
Plant Fund	112,159	49,265	-
Expense	(1,210)	(15,067)	2,697
Net Position at 9/30/2019	\$ 25,619,448	\$ 12,568,473	\$ 312,541

4) CASH

Cash consists of deposits held by the State Treasurer in the respective retirement systems' name. Deposits are entirely insured by the Federal Deposit Insurance Corporation or protected under the Security for Alabama Funds Enhancement (SAFE) Program. The *Code of Alabama 1975*, as amended, requires all State organizations to participate in the SAFE Program. The SAFE Program is a multiple financial institution collateral pool. The SAFE Program requires all public funds to be deposited in a financial institution designated by the State Treasurer as a qualified public depository. Each qualified public depository is required to pledge collateral in accordance with the rules established by the SAFE Board of Directors. In the event that a qualified public depository defaults or becomes insolvent and the pledged collateral is insufficient to satisfy the claims of public depositors, the *Code of Alabama 1975, Section 41-14A-9(3)* authorizes the State Treasurer to make assessments against the other qualified public depositories in the pool so that there will be no loss of public funds. Virtually all cash on hand at September 30, 2019, was held for administrative expenses.

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(Dollar Amounts in Thousands)

5) INVESTMENTS

A. Investment Authority

Investment authority is granted to the Boards of Control, as Trustees of the Teachers' Retirement System and Employees' Retirement System (Systems), by Alabama statutes. Each System's Board of Control, therefore, has full power, through each System's Secretary-Treasurer, to invest and reinvest System funds in accordance with the Prudent Person Rule: "with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims." An important component of any investment strategy is the decision regarding allocation of investments among the various asset classes. The purpose of formulating asset allocation guidelines is to maximize investment returns within the standards of prudence established for the whole portfolio.

Each System's Board of Control is responsible for approving an Investment Policy Statement (IPS) that outlines investment strategies and the related asset allocation guidelines. The Boards of Control adopted a revised IPS that was effective on October 1, 2018, as outlined below. Below are the asset allocation guidelines for both Systems.

Asset Class	TRS		ERS		JRF	
	Target Allocation	Strategic Range	Target Allocation	Strategic Range	Target Allocation	Strategic Range
Domestic Equity	45%	30-60%	45%	30-60%	55%	30-60%
International Equity	15%	10-25%	15%	10-25%	15%	10-25%
Fixed Income	15%	10-50%	15%	10-40%	22%	10-40%
Alternative Investments	10%	0-20%	10%	0-15%	1%	0-15%
Real Estate	10%	0-15%	10%	0-15%	2%	0-15%
Short-Term Investments	5%	1-10%	5%	1-10%	5%	1-10%

B. Money-Weighted Rate of Return

The annual money-weighted rates of return for TRS, ERS, and JRF are 2.44%, 2.58%, and 3.58%, respectively. A money-weighted rate of return expresses investment performance, which is net of investment expense and is adjusted for the changing amounts actually invested. The annual money-weighted rate of return on investments is calculated as the internal rate of return on plan investments, net of plan investment expense.

C. Investment Risks

Investments are subject to certain types of risks, including interest rate risk, custodial credit risk, credit quality risk, foreign currency risk, and concentration of credit risk. The following describes those risks and the RSA's policies regarding those risks:

Interest Rate Risk – The fair value of fixed-maturity investments fluctuates in response to changes in market interest rates. Increases in prevailing interest rates generally translate into decreases in fair value of those instruments. There is no stated limitation on the duration level of the fixed income portfolio; however, this level is assessed on a regular basis to determine if adjustments are needed. The fair value of interest sensitive instruments may also be affected by the creditworthiness of the issuer, prepayment options, relative values of alternative investments, and other general market conditions. Certain fixed maturity investments have call provisions that could result in shorter maturity periods.

Custodial Credit Risk – For an investment, custodial credit risk is the risk that an entity will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party if the counterparty fails. The RSA's custodial credit risk policy requires the custodial agent to hold or direct its agents or sub custodians to hold, for the account of the RSA, all securities and other non-cash property other than securities in the Federal Reserve book-entry system, in a clearing agency which acts as a securities depository, or in another book-entry system. The RSA's safekeeping agent holds all investments of the RSA in the RSA's name with the exception of securities purchased with securities lending cash collateral.

Credit Quality Risk – Nationally recognized statistical rating organizations provide ratings of debt securities' quality based on a variety of factors, such as the financial condition of the issuers, which provide investors with some idea of the issuer's ability to meet its obligations. Domestic fixed-maturity investments may consist of rated or non-rated securities. There are no stated limitations on the credit quality of the fixed income portfolio; however, ratings are assessed on a regular basis. The Systems may hedge against the possible adverse effects of currency fluctuations on each System's portfolio of international fixed income obligations when it is considered appropriate. Short-term investments may consist of commercial paper rated at least A-2 and/or P-2, repurchase agreements, short-term U.S. securities, and other money market investments.

Foreign Currency Risk – The risk that changes in exchange rates will adversely affect the fair value of an investment. In order for an international security to be eligible for purchase by the Systems, the issuing company must be incorporated in a country whose debt securities are eligible for purchase and the fair value of the aggregate outstanding equity of the issuing company must be at least \$100 million.

Concentration of Credit Risk – As of September 30, 2019, the TRS owned equity securities of New Water Street Corporation which represented approximately 5.17% of the TRS investments.

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The following tables provide information as of September 30, 2019, concerning the fair value of investments, interest rate risk, and foreign currency risk:

Type of Investment	TRS				Total Fair Value	Cost
	Maturity in Years at Fair Value					
	Less Than 1	1-5	6-10	More Than 10		
<i>Fixed Maturity</i>						
Domestic						
Money Market Funds	\$ 1,706,067	\$ -	\$ -	\$ -	\$ 1,706,067	\$ 1,706,067
Commercial Paper	481,704	-	-	-	481,704	481,704
U.S. Agency	21,588	74,465	57,702	9,184	162,939	158,909
U.S. Government Guaranteed	202,273	376,885	192,717	176,191	948,066	918,583
Corporate Bonds	120,208	447,100	306,636	372,941	1,246,885	1,164,325
Private Placements	6,365	220,882	138,087	115,001	480,335	516,429
GNMAs	2	776	2,599	116,342	119,719	116,071
CMOs	7	88	30,136	446,574	476,805	468,449
Total Domestic Fixed Maturity	<u>\$ 2,538,214</u>	<u>\$ 1,120,196</u>	<u>\$ 727,877</u>	<u>\$ 1,236,233</u>	<u>5,622,520</u>	<u>5,530,537</u>
<i>Equities</i>						
Preferred					24,113	24,441
Domestic					12,732,653	7,873,794
Private					1,028,880	825,615
International						
Australian Dollar					188,786	118,109
Swiss Franc					275,034	120,335
Danish Krone					45,161	16,510
Euro					812,023	620,464
Pound Sterling					430,106	435,298
Hong Kong Dollar					95,092	51,448
New Israeli Shekel					10,262	15,353
Japanese Yen					686,813	497,243
Norwegian Krone					17,196	12,510
New Zealand Dollar					1,946	2,218
Swedish Krona					72,986	43,164
Singapore Dollar					33,930	28,324
US Dollar					716,244	708,277
South African Rand					-	5
Total International Equities					3,385,579	2,669,258
Total Equities					17,171,225	11,393,108
Real Estate					2,470,955	1,862,758
Total Investments					\$ 25,264,700	\$ 18,786,403

ERS						
Type of Investment	Maturity in Years at Fair Value				Total Fair Value	Cost
	Less Than 1	1-5	6-10	More Than 10		
Fixed Maturity						
Domestic						
Money Market Funds	\$ 740,277	\$ -	\$ -	\$ -	\$ 740,277	\$ 740,277
Commercial Paper	303,721	-	-	-	303,721	303,721
U.S. Agency	13,080	35,400	27,666	4,398	80,544	78,612
U.S. Government Guaranteed	95,547	191,408	94,895	83,224	465,074	450,760
Corporate Bonds	57,441	226,983	154,522	173,506	612,452	572,879
Private Placements	3,135	108,793	65,488	57,796	235,212	253,574
GNMAs	-	239	999	56,805	58,043	56,245
CMOs	3	-	13,738	228,267	242,008	237,599
Total Domestic Fixed Maturity	\$ 1,213,204	\$ 562,823	\$ 357,308	\$ 603,996	2,737,331	2,693,667
Equities						
Preferred					10,963	11,112
Domestic					6,284,827	3,866,359
Private					630,151	521,785
International						
Australian Dollar					83,026	51,952
Swiss Franc					120,909	52,215
Danish Krone					19,856	7,220
Euro					357,182	271,361
Pound Sterling					189,178	190,514
Hong Kong Dollar					41,816	22,728
New Israeli Shekel					4,514	6,753
Japanese Yen					302,017	219,143
Norwegian Krone					7,560	5,583
New Zealand Dollar					855	988
Swedish Krona					32,105	19,089
Singapore Dollar					14,919	12,406
US Dollar					420,759	426,317
South African Rand					-	2
Total International Equities					1,594,696	1,286,271
Total Equities					8,520,637	5,685,527
Real Estate					1,198,136	928,909
Total Investments					\$ 12,456,104	\$ 9,308,103

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JRF							
Maturity in Years at Fair Value						Total Fair Value	Cost
Type of Investment	Less Than 1	1-5	6-10	More Than 10			
Fixed Maturity							
Domestic							
Money Market Funds	\$ 19,578	\$ -	\$ -	\$ -	\$ 19,578	\$ 19,578	
Commercial Paper	6,006	-	-	-	6,006	6,006	
U.S. Agency	597	2,317	1,333	243	4,490	4,390	
U.S. Government Guaranteed	4,619	13,782	3,475	4,038	25,914	25,237	
Corporate Bonds	2,166	13,336	7,381	8,782	31,665	29,715	
Private Placements	-	-	-	1,114	1,114	1,000	
GNMAs	-	-	-	2,708	2,708	2,614	
CMOs	-	-	749	12,357	13,106	12,887	
Total Domestic Fixed Maturity	\$ 32,966	\$ 29,435	\$ 12,938	\$ 29,242	104,581	101,427	
Equities							
Preferred					598	607	
Domestic					155,632	73,980	
Private					76	71	
International							
Australian Dollar					2,479	2,133	
Swiss Franc					3,579	2,115	
Danish Krone					599	297	
Euro					10,678	8,977	
Pound Sterling					5,644	6,157	
Hong Kong Dollar					1,267	802	
New Israeli Shekel					134	201	
Japanese Yen					9,114	6,961	
Norwegian Krone					226	222	
New Zealand Dollar					26	23	
Swedish Krona					959	740	
Singapore Dollar					434	394	
US Dollar					7,838	7,456	
South African Rand					-	-	
Total International Equities					42,977	36,478	
Total Equities					199,283	111,136	
Real Estate					4,227	1,067	
Total Investments					\$ 308,091	\$ 213,630	

The following tables provide information as of September 30, 2019, concerning credit risk (dollar amounts in thousands):

TRS			
Moody's Ratings	Cost	Fair Value	Fair Value as a Percentage of Total Fair Value of Fixed Maturities
Aaa	\$ 175,695	\$ 182,298	3.242
Aa1	16,433	17,425	0.310
Aa2	21,592	21,878	0.389
Aa3	16,875	17,153	0.305
P-1	10,008	10,008	0.178
P-2	471,696	471,696	8.390
A1	49,915	55,137	0.981
A2	56,084	61,306	1.090
A3	278,094	301,683	5.366
Baa1	247,529	263,191	4.681
Baa2	298,590	320,770	5.705
Baa3	84,150	86,171	1.533
Ba1	28,657	30,588	0.544
Ba2	10,967	11,083	0.197
Ba3	8,014	7,995	0.142
B1	66,833	66,833	1.189
NR	2,186,302	2,152,716	38.287
Total Moody's Rated Fixed Maturities	4,027,434	4,077,931	72.529
U.S. Agency Mortgage-Backed Securities	468,449	476,805	8.480
U.S. Government Guaranteed	1,034,654	1,067,784	18.991
Total Fixed Maturities	\$ 5,530,537	\$ 5,622,520	100.000

Standard & Poor's Ratings	Cost	Fair Value	Fair Value as a Percentage of Total Fair Value of Fixed Maturities
AAA	\$ 14,887	\$ 17,054	0.303
AA+	175,342	180,365	3.208
AA-	15,431	17,717	0.315
A-2	481,704	481,704	8.568
A+	76,052	81,191	1.444
A	80,939	88,177	1.568
A-	228,187	255,494	4.544
BBB+	328,917	342,896	6.099
BBB	262,053	280,504	4.989
BBB-	93,025	97,095	1.727
BB+	10,967	11,083	0.197
BB	2,126	2,055	0.037
BB-	8,014	7,995	0.142
B+	66,833	66,833	1.189
D	3,064	3,056	0.054
NR	2,179,893	2,144,712	38.145
Total S&P Rated Fixed Maturities	4,027,434	4,077,931	72.529
U.S. Agency Mortgage-Backed Securities	468,449	476,805	8.480
U.S. Government Guaranteed	1,034,654	1,067,784	18.991
Total Fixed Maturities	\$ 5,530,537	\$ 5,622,520	100.000

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Notes to the Combined Financial Statements For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

ERS			
Moody's Ratings	Cost	Fair Value	Fair Value as a Percentage of Total Fair Value of Fixed Maturities
Aaa	\$ 86,281	\$ 89,388	3.266
Aa1	9,041	9,559	0.349
Aa2	10,457	10,596	0.387
Aa3	8,280	8,417	0.307
P-1	8,991	8,991	0.329
P-2	294,729	294,729	10.767
A1	22,608	24,970	0.912
A2	30,194	32,646	1.193
A3	138,173	149,299	5.454
Baa1	116,009	123,221	4.501
Baa2	155,172	166,620	6.087
Baa3	39,930	40,865	1.493
Ba1	12,960	13,822	0.505
Ba2	4,917	4,950	0.181
Ba3	3,582	3,566	0.130
B1	32,918	32,917	1.203
NR	974,821	957,650	34.985
Total Moody's Rated Fixed Maturities	1,949,063	1,972,206	72.049
U.S. Agency Mortgage-Backed Securities	237,599	242,008	8.841
U.S. Government Guaranteed	507,005	523,117	19.110
Total Fixed Maturities	\$ 2,693,667	\$ 2,737,331	100.000

Standard & Poor's Ratings	Cost	Fair Value	Fair Value as a Percentage of Total Fair Value of Fixed Maturities
AAA	\$ 6,807	\$ 7,797	0.285
AA+	87,652	90,104	3.292
AA-	7,092	8,128	0.297
A-2	303,721	303,721	11.095
A+	35,854	38,205	1.396
A	37,258	40,529	1.481
A-	115,997	128,939	4.710
BBB+	160,195	166,965	6.100
BBB	135,828	145,120	5.301
BBB-	42,113	44,100	1.611
BB+	4,917	4,950	0.181
BB	975	942	0.034
BB-	3,582	3,566	0.130
B+	32,918	32,917	1.203
D	1,366	1,363	0.050
NR	972,788	954,860	34.883
Total S&P Rated Fixed Maturities	1,949,063	1,972,206	72.049
U.S. Agency Mortgage-Backed Securities	237,599	242,008	8.841
U.S. Government Guaranteed	507,005	523,117	19.110
Total Fixed Maturities	\$ 2,693,667	\$ 2,737,331	100.000

JRF

Moody's Ratings	Cost	Fair Value	Fair Value as a Percentage of Total Fair Value of Fixed Maturities
Aaa	\$ 4,868	\$ 5,041	4.820
Aa1	508	536	0.513
Aa2	584	592	0.566
Aa3	538	546	0.522
P-2	6,006	6,006	5.743
A1	1,075	1,188	1.136
A2	1,095	1,208	1.155
A3	6,124	6,618	6.328
Baa1	6,483	6,861	6.560
Baa2	8,627	9,214	8.810
Baa3	2,440	2,502	2.393
Ba1	748	799	0.764
Ba2	246	247	0.237
Ba3	179	179	0.171
NR	21,168	21,316	20.382
Total Moody's Rated Fixed Maturities	60,689	62,853	60.100
U.S. Agency Mortgage-Backed Securities	12,887	13,106	12.532
U.S. Government Guaranteed	27,851	28,622	27.368
Total Fixed Maturities	\$ 101,427	\$ 104,581	100.000

Standard & Poor's Ratings	Cost	Fair Value	Fair Value as a Percentage of Total Fair Value of Fixed Maturities
AAA	\$ 435	\$ 499	0.477
AA+	4,897	5,027	4.806
AA-	388	443	0.424
A-2	6,006	6,006	5.743
A+	1,921	2,036	1.947
A	1,752	1,916	1.832
A-	5,323	5,898	5.640
BBB+	8,618	8,973	8.580
BBB	6,895	7,348	7.026
BBB-	2,837	2,948	2.819
BB+	246	247	0.237
BB	63	61	0.058
BB-	179	179	0.171
D	73	72	0.069
NR	21,056	21,200	20.271
Total S&P Rated Fixed Maturities	60,689	62,853	60.100
U.S. Agency Mortgage-Backed Securities	12,887	13,106	12.532
U.S. Government Guaranteed	27,851	28,622	27.368
Total Fixed Maturities	\$ 101,427	\$ 104,581	100.000

RETIREMENT SYSTEMS OF ALABAMA

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Notes to the Combined Financial Statements

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

D. Fair Value Measurement

The RSA categorizes its fair value measurements within the fair value hierarchy established by accounting principles generally accepted in the United States of America. The hierarchy prioritizes the inputs to valuation used to measure the fair value of the asset, giving the highest priority to quoted prices in an active market for identical assets (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The inputs to the three levels of the fair value hierarchy are described as follows:

- Level 1: Quoted (unadjusted) prices in an active market for identical assets or liabilities.
- Level 2: Significant other inputs which are observable either directly or indirectly, including quoted prices for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in a less active market, or other market-corroborated inputs.
- Level 3: Valuations derived from valuation techniques using significant unobservable inputs for the asset or liabilities.

The categorization of investments within the hierarchy is based upon pricing transparency of the instrument and should not be perceived as the particular investment's risk.

Investments in equity securities classified as Level 1 are valued using quoted prices in an active market for those securities.

Investments in securities classified as Level 2 are valued using non-proprietary information that is readily available to market participants from multiple independent sources, which are known to be actively involved in the market. Pricing inputs may include market quotation, yields, maturities, call features, and ratings.

Investments in non-market traded private equity, debt, and direct investments in real estate are classified as Level 3 due to lack of observable pricing inputs and are valued using annual appraisals based on a combination of market data and projected cash flows.

The following tables provide information as of September 30, 2019, concerning fair value measurement (dollar amounts in thousands):

	9/30/2019	TRS		
		Fair Value Measurements Using:		
		Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<i>Domestic Fixed Maturity</i>				
Money Market Funds	\$ 1,706,067	\$ -	\$ 1,706,067	\$ -
Commercial Paper	481,704	-	481,704	-
U.S. Agency	162,939	-	162,939	-
U.S. Government Guaranteed	948,066	-	948,066	-
Corporate Bonds	1,246,885	-	1,246,885	-
Private Placements	480,335	-	-	480,335
GNMAs	119,719	-	119,719	-
CMOs	476,805	-	476,805	-
Total Domestic Fixed Maturity	5,622,520	-	5,142,185	480,335
<i>Equities</i>				
Preferred	24,113	24,113	-	-
Domestic	12,732,653	11,564,838	1,167,815	-
Private	1,028,880	67,869	-	961,011
International	3,385,579	3,385,579	-	-
Total Equities	17,171,225	15,042,399	1,167,815	961,011
<i>Real Estate</i>				
Real Estate	2,470,955	-	-	2,470,955
Total Real Estate	2,470,955	-	-	2,470,955
Total Investments	25,264,700	15,042,399	6,310,000	3,912,301
Securities Lending Collateral	699,940	-	699,940	-
Total Fair Value	\$ 25,964,640	\$ 15,042,399	\$ 7,009,940	\$ 3,912,301

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Notes to the Combined Financial Statements For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

	9/30/2019	ERS		
		Fair Value Measurements Using:		
		Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Domestic Fixed Maturity				
Money Market Funds	\$ 740,277	\$ -	\$ 740,277	\$ -
Commercial Paper	303,721	-	303,721	-
U.S. Agency	80,544	-	80,544	-
U.S. Government Guaranteed	465,074	-	465,074	-
Corporate Bonds	612,452	-	612,452	-
Private Placements	235,212	-	-	235,212
GNMAs	58,043	-	58,043	-
CMOs	242,008	-	242,008	-
Total Domestic Fixed Maturity	2,737,331	-	2,502,119	235,212
Equities				
Preferred	10,963	10,963	-	-
Domestic	6,284,827	5,804,555	480,272	-
Private	630,151	48,439	-	581,712
International	1,594,696	1,594,696	-	-
Total Equities	8,520,637	7,458,653	480,272	581,712
Real Estate				
Real Estate	1,198,136	-	-	1,198,136
Total Real Estate	1,198,136	-	-	1,198,136
Total Investments	12,456,104	7,458,653	2,982,391	2,015,060
Securities Lending Collateral	256,550	-	256,550	-
Total Fair Value	\$ 12,712,654	\$ 7,458,653	\$ 3,238,941	\$ 2,015,060

		JRF		
		Fair Value Measurements Using:		
	9/30/2019	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<i>Domestic Fixed Maturity</i>				
Money Market Funds	\$ 19,578	\$ -	\$ 19,578	\$ -
Commercial Paper	6,006	-	6,006	-
U.S. Agency	4,490	-	4,490	-
U.S. Government Guaranteed	25,914	-	25,914	-
Corporate Bonds	31,665	-	31,665	-
Private Placements	1,114	-	-	1,114
GNMAs	2,708	-	2,708	-
CMOs	13,106	-	13,106	-
Total Domestic Fixed Maturity	104,581	-	103,467	1,114
<i>Equities</i>				
Preferred	598	598	-	-
Domestic	155,632	145,112	10,520	-
Private	76	-	-	76
International	42,977	42,977	-	-
Total Equities	199,283	188,687	10,520	76
<i>Real Estate</i>				
Real Estate	4,227	-	-	4,227
Total Real Estate	4,227	-	-	4,227
Total Investments	308,091	188,687	113,987	5,417
Securities Lending Collateral	5,297	-	5,297	-
Total Fair Value	\$ 313,388	\$ 188,687	\$ 119,284	\$ 5,417

(Dollar Amounts in Thousands)

E. Securities Lending Program

The TRS, ERS, and JRF are authorized by the Boards of Control to participate in a securities lending program. The Systems' custodian, State Street Bank and Trust Company (State Street), administers the program. Certain securities from the TRS, ERS, and JRF are loaned to borrowers approved by the Systems for collateral that will be returned for the same type of securities. Approved borrowers of securities provide acceptable collateral in the form of cash (U.S. and foreign currency), any other assets permissible under Rule 15c3-3 under the Exchange Act of 1934, U.S. and non-U.S. equities, and such other collateral as the parties may agree to in writing from time to time. All security loans are open loans and can be terminated on demand by the TRS, ERS, JRF, or borrower. The initial collateral received shall have (depending on the nature of the loaned securities and the collateral received) a value of 102% or 105% of the fair value of the loaned securities, or such other value, but not less than 102% of the fair value of the loaned securities, as may be applicable in the jurisdiction in which such loaned securities are customarily traded. Pursuant to the terms of the applicable securities loan agreement, State Street shall, in accordance with State Street's reasonable and customary practices, mark loaned securities and collateral to their fair value each business day based upon the fair value of the collateral and the loaned securities at the close of the business day employing the most recently available pricing information and shall receive and deliver collateral in order to maintain the value of the collateral at no less than 100% of the fair value of the loaned securities.

The TRS, ERS, and JRF cannot pledge or sell collateral securities received unless the borrower defaults. Cash collateral is invested in the State Street Quality D Short-term Investments Fund (QDF). The collateral fund is separated into two pools, a liquidity pool and a duration pool. This split allows greater flexibility in managing the available liquidity in the investment in the fund and the outstanding balance of securities on loan.

The following describes the QDF's guidelines. The QDF's Investment Manager (State Street Bank) shall maintain the dollar-weighted average maturity of QDF in a manner that the Investment Manager believes is appropriate to the objective of QDF; provided, that (i) in no event shall any eligible security be acquired with a remaining legal final maturity (i.e., the date on which principal must be repaid) of greater than 18 months, (ii) the Investment Manager shall endeavor to maintain a dollar-weighted average maturity of the QDF not to exceed 75 calendar days, and (iii) the Investment Manager shall endeavor to maintain a dollar-weighted average maturity to final of the QDF not to exceed 180 calendar days. At the time of purchase (i) all eligible securities with maturities of 13 months or less shall (x) be rated at least A1, P1, or F1 by at least any two of the following nationally recognized statistical rating organizations: Standard & Poor's Corp. ("S&P"), Moody's Investor Services, Inc. ("Moody's"), or Fitch, Inc. ("Fitch"), or (y) be determined by the Investment Manager to be of comparable quality and (ii) all eligible securities with maturities in excess of 13 months shall (x) be rated at least A-, A3, or A- by at least any two of S & P, Moody's, or Fitch, or (y) be determined by the Investment Manager to be of comparable quality. The QDF may invest up to 10% of its assets at a time of purchase in commingled vehicles managed by State Street Global Advisors or its affiliates that conform to the Investment Policy Guidelines. The QDF duration pool includes all asset-backed securities (regardless of maturity) and securities of any type with a remaining maturity of 91 days or greater. Each QDF investor owns a specified percentage interest in the duration pool which is redeemable only in kind, not in cash. The QDF duration pool will not make additional investments.

As of September 30, 2019, the average term of the loans secured by QDF was 15, 19, and 41 days, respectively for the TRS, ERS, and JRF. Cash collateral investments in the QDF are matured as needed to fulfill loan obligations. There is no direct matching of the maturities of the loans with the investments made with cash collateral.

At September 30, 2019, the fair value of the securities on loan was \$3,128,839, \$1,337,749, and \$32,777 for the TRS, ERS, and JRF, respectively. The fair value of the collateral pledged by the borrowers was \$3,307,314, \$1,414,210, and \$34,835 for the TRS, ERS, and JRF, respectively. Since the amounts owed by the TRS, ERS, and JRF exceeded the amounts the borrowers owed to the TRS, ERS, and JRF, there was no credit risk exposure as of September 30, 2019. There were no significant violations of legal or contractual provisions, no borrower or lending agent default losses, and no recoveries of prior period losses during the year.

Investments purchased with cash collateral are held by the custodial agent, but not in the name of the Systems. Securities pledged as collateral are held by the custodial agent, but not in the name of the Systems. Letters of credit pledged as collateral are issued by the borrower's bank and are irrevocable. Tri Party Collateral is held by a third party bank in the name of the custodial agent. State Street, as custodial agent, is authorized to request a third party bank to undertake certain custodial functions in connection with holding of the collateral provided by a borrower. State Street may instruct the third party bank to establish and maintain a borrower's account and a State Street account wherein all collateral, including cash shall be maintained by the third party bank in accordance with the terms of the agreement.

The following table provides information as of September 30, 2019, concerning securities lent (dollar amounts in thousands):

Securities Lending - Investments Lent & Collateral Received				
(at Fair Value)				
Type of Investment Lent	TRS	ERS	JRF	Total
<i>For Cash Collateral</i>				
Domestic Fixed Maturities	\$ 197,328	\$ 77,382	\$ 3,839	\$ 278,549
Domestic Equity	471,834	166,741	1,234	639,809
International Equity - JPY	6,782	2,434	22	9,238
International Equity - USD	11,422	5,222	95	16,739
Total Lent for Cash Collateral	687,366	251,779	5,190	944,335
<i>For Non-Cash Collateral</i>				
Domestic Fixed Maturities	665,734	345,600	17,409	1,028,743
Domestic Equity	1,691,394	711,982	8,748	2,412,124
International Equity	84,345	28,388	1,430	114,163
Total Lent for Non-Cash Collateral	2,441,473	1,085,970	27,587	3,555,030
Total Securities Lent	\$3,128,839	\$1,337,749	\$32,777	\$4,499,365
Type of Collateral Received				
<i>Cash Collateral</i>				
Invested in State Street Global Securities Lending Trust - JPY	\$ 7,121	\$ 2,556	\$ 23	\$ 9,700
Invested in State Street Global Securities Lending Trust - USD	692,819	253,994	5,274	952,087
Total Cash Collateral Denominated in USD	699,940	256,550	5,297	961,787
<i>Non-Cash Collateral</i>				
Domestic Fixed Securities				
CAD	8,076	-	-	8,076
EUR	20,207	3,514	1,515	25,236
GBP	3,436	598	257	4,291
USD	330,073	149,430	8,227	487,730
Domestic Equity Securities				
USD	1,837,140	762,237	9,545	2,608,922
International Fixed Maturities & Equity				
AUD	9	3	-	12
DKK	2,189	795	-	2,984
EUR	14,618	3,036	4,663	22,317
GBP	5,422	2,065	2	7,489
SEK	20,328	7,378	-	27,706
USD	365,876	228,604	5,329	599,809
Total Non-Cash Collateral	2,607,374	1,157,660	29,538	3,794,572
Total Collateral Received	\$3,307,314	\$1,414,210	\$34,835	\$4,756,359

RETIREMENT SYSTEMS OF ALABAMA

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F. Mortgage-backed Securities

As of September 30, 2019, the TRS, ERS, and JRF had investments in mortgage-backed securities. Embedded prepayment options cause these investments to be highly sensitive to changes in interest rates. Prepayments of the underlying assets reduce the total interest payments to be received. Generally, when interest rates fall, obligees tend to prepay the mortgages thus eliminating the stream of interest payments that would have been received under the original amortization schedule. The resulting reduction in cash flow diminishes the fair value of the mortgage-backed securities. Additionally, the prepayment activity associated with this type of security can lead to changes in the average life and duration of the security; higher prepayments will effectively shorten the expected life of the security while slower prepayments can lengthen the expected life of the security.

G. Investment Derivatives

Derivative instruments are financial arrangements used by governments to manage specific risks or to make investments. From time to time, the RSA enters into certain derivative transactions, specifically call options and put options. The RSA uses these derivative instruments to make an investment, control risk with certain investment positions, or as a yield enhancement strategy. During the fiscal year, these investment derivative instruments were used exclusively within the RSA's domestic and international equity portfolios and are presented in the financial statements in their respective equity classifications. These derivative instruments are either listed options or executed in the over-the-counter (OTC) market using only credit worthy counterparties. The fair value of the investment derivative instruments is based on market prices. Investment risks related to investment derivatives have been considered and included in the Investment Risks note in the preceding pages. The following table presents the investment derivative instruments outstanding as of September 30, 2019, as reported in the System's Combining Statement of Fiduciary Net Position and Combining Statement of Changes in Fiduciary Net Position:

Investment Derivative Instruments					
Changes in Fair Value			Fair Value as of September 30, 2019		
	Classification	Amount	Classification	Amount	Notional
TRS					
Domestic Options Written	Investment Income	\$ 654	Domestic Equity	\$ -	\$ -
Domestic Options Purchased	Investment Income	17,465	Domestic Equity	-	-
Total Domestic Options		18,119		-	-
International Options Written	Investment Income	-	International Equity	-	-
Grand Total TRS Options		\$18,119		\$ -	\$ -
ERS					
Domestic Options Written	Investment Income	\$ 320	Domestic Equity	\$ -	\$ -
Domestic Options Purchased	Investment Income	8,326	Domestic Equity	-	-
Total Domestic Options		8,646		-	-
International Options Written	Investment Income	-	International Equity	-	-
Grand Total ERS Options		\$ 8,646		\$ -	\$ -
JRF					
Domestic Options Written	Investment Income	\$ 1	Domestic Equity	\$ -	\$ -
Domestic Options Purchased	Investment Income	291	Domestic Equity	-	-
Total Domestic Options		292		-	-
International Options Written	Investment Income	-	International Equity	-	-
Grand Total JRF Options		\$ 292		\$ -	\$ -
Total					
Domestic Options Written	Investment Income	\$ 975	Domestic Equity	\$ -	\$ -
Domestic Options Purchased	Investment Income	26,082	Domestic Equity	-	-
Total Domestic Options		27,057		-	-
International Options Written	Investment Income	-	International Equity	-	-
Grand Total Options		\$27,057		\$ -	\$ -

6) NET PENSION LIABILITY OF THE PLANS

The components of the net pension liability related to the TRS, ERS, and JRF retirement plans determined in accordance with GASB Statement No. 67, *Financial Reporting for Pension Plans*, as of September 30, 2019, were as follows (dollar amounts in thousands):

	TRS	ERS	JRF
Total Pension Liability	\$ 36,676,350	\$ 18,353,891	\$ 463,450
Less: Plan Net Position (see Note 3G)	(25,619,448)	(12,568,473)	(312,541)
Net Pension Liability	\$ 11,056,902	\$ 5,785,418	\$ 150,909
 Plan Net Position as a Percentage of the Total Pension Liability	 69.85%	 68.48%	 67.44%

The net pension liability is allocated to employers in accordance with GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*. The net pension liability was determined by an actuarial valuation as of September 30, 2018, and rolled forward in accordance with GASB Statement No. 67 to the measurement date of September 30, 2019, using the following actuarial assumptions, applied to all periods included in the measurement:

	TRS	ERS	JRF
Inflation	2.75%	2.75%	2.75%
Projected Salary Increases	3.25% - 5.00%	3.25% - 5.00%	3.25% - 3.50%
Investment Rate of Return*	7.70%	7.70%	7.65%

*Net of pension plan investment expense.

There were no ad hoc postemployment benefit changes, including ad hoc COLAs, during fiscal year 2019.

The actuarial assumptions used in the actuarial valuation as of September 30, 2018, were based on the results of an investigation of the economic and demographic experience for the TRS, ERS, and JRF based upon participant data as of September 30, 2015, completed by the RSA and its actuaries. The purpose of the investigation was to assess the reasonableness of the actuarial assumptions and methods currently used by the RSA. This investigation resulted in changes to the actuarial assumptions. The Boards of Control for each accepted and approved these changes in September 2016 which became effective at the beginning of fiscal year 2016.

The assumed investment rates of return used to prepare the actuarial valuations as of September 30, 2018, were 7.70% for TRS & ERS and 7.65 for JRF. The Boards of Control accepted and approved these new assumed investment rates of return in December 2018 which became effective September 30, 2018. The new assumed investment rates of return were used to measure the total pension liability as of September 30, 2019.

Mortality rates for TRS and JRF were based on the sex distinct RP-2000 White Collar Mortality Table projected to 2020 using scale BB and adjusted 115% for males and 112% for females age 78 and older. The rates of disabled mortality for TRS and JRF were based on the sex distinct RP-2000 Disabled Mortality Table projected to 2020 using scale BB and adjusted 105% for males and 120% for females. Mortality rates for ERS were based on the sex distinct RP-2000 Blue Collar Mortality Table projected to 2020 using scale BB with an adjustment of 125% for males and 120% for females age 78 and older. The rates of disabled mortality for ERS were based on the sex distinct RP-2000 Disabled Retiree Mortality Table projected to 2020 using scale BB with an adjustment of 130% for females.

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The total pension liability related to the cost-sharing retirement plans is based on the actuarial valuation as of September 30, 2018. The expected total pension liability is determined as of September 30, 2019, using standard roll-forward techniques as shown in the following table:

	TRS	
	Expected	Actual
Total Pension Liability as of 9/30/2018 (a)	\$ 35,878,014	\$ 35,667,450
Entry Age Normal Cost* for 10/1/2018 - 9/30/2019 (b)	\$ 645,409	\$ 645,409
Actual Benefit Payments (including refunds) for 10/1/2018 - 9/30/2019 (c)	\$ 2,294,562	\$ 2,294,562
Total Pension Liability as of 9/30/2019 [(a) x (1.0770)] + (b) - [(c) x (1.0385)]	\$ 36,903,127	\$ 36,676,350
Difference between Expected & Actual Experience (Gain)/Loss		\$ (226,777)

	ERS	
	Expected	Actual
Total Pension Liability as of 9/30/2018 (a)	\$ 17,861,887	\$ 17,884,917
Entry Age Normal Cost* for 10/1/2018 - 9/30/2019 (b)	\$ 315,841	\$ 315,841
Actual Benefit Payments (including refunds) for 10/1/2018 - 9/30/2019 (c)	\$ 1,178,628	\$ 1,178,628
Total Pension Liability as of 9/30/2019 [(a) x (1.0770)] + (b) - [(c) x (1.0385)]	\$ 18,329,088	\$ 18,353,891
Difference between Expected & Actual Experience (Gain)/Loss		\$ 24,803

	JRF	
	Expected	Actual
Total Pension Liability as of 9/30/2018 (a)	\$ 462,040	\$ 457,843
Entry Age Normal Cost* for 10/1/2018 - 9/30/2019 (b)	\$ 9,574	\$ 9,574
Actual Benefit Payments (including refunds) for 10/1/2018 - 9/30/2019 (c)	\$ 37,555	\$ 37,555
Total Pension Liability as of 9/30/2019 [(a) x (1.0765)] + (b) - [(c) x (1.03825)]	\$ 467,969	\$ 463,451
Difference between Expected & Actual Experience (Gain)/Loss		\$ (4,518)

*Also called the Service Cost.

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

	Target Allocation			Long-Term Expected Rate of Return*		
	TRS	ERS	JRF	TRS	ERS	JRF
Fixed Income	17.00%	17.00%	25.00%	4.40%	4.40%	5.00%
U.S. Large Stocks	32.00%	32.00%	34.00%	8.00%	8.00%	9.00%
U.S. Mid Stocks	9.00%	9.00%	8.00%	10.00%	10.00%	12.00%
U.S. Small Stocks	4.00%	4.00%	3.00%	11.00%	11.00%	15.00%
International Developed Market Stocks	12.00%	12.00%	15.00%	9.50%	9.50%	11.00%
International Emerging Market Stocks	3.00%	3.00%	3.00%	11.00%	11.00%	16.00%
Alternatives	10.00%	10.00%	0.00%	10.10%	10.10%	0.00%
Real Estate	10.00%	10.00%	10.00%	7.50%	7.50%	7.50%
Cash	3.00%	3.00%	2.00%	1.50%	1.50%	1.50%
Total	100.00%	100.00%	100.00%			

*Includes assumed rate of inflation of 2.50%.

The discount rate used to measure the total pension liability was 7.70% for TRS and ERS and 7.65% for JRF. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, components of the pension plan's fiduciary net position were projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following table presents the net pension liability of the TRS, ERS, and JRF calculated using their respective discount rates, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate (dollar amounts in thousands):

	Current		
	1% Decrease (6.70%)	Discount Rate (7.70%)	1% Increase (8.70%)
TRS	\$ 15,010,404	\$ 11,056,902	\$ 7,711,324
ERS	\$ 7,758,372	\$ 5,785,418	\$ 4,112,608

	Current		
	1% Decrease (6.65%)	Discount Rate (7.65%)	1% Increase (8.65%)
JRF	\$ 192,969	\$ 150,909	\$ 114,437

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Notes to the Combined Financial Statements For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

7) CONTRIBUTIONS REQUIRED AND MADE

The actuary has computed, as of the date of the latest available actuarial valuations, the estimated present value of benefits payable to retired members, beneficiaries, and active members. The actuarial valuations for the TRS, ERS, and JRF are prepared on the projected benefit basis utilizing the entry age normal method. The present value of all expected benefits payable from each system to the present group of members and beneficiaries is calculated by adding the present value of the expected benefits payable to the active members to the present value of the expected future payments to retired members and beneficiaries.

As required by statute, the TRS, ERS, and JRF provide for employer contributions at actuarially determined rates (expressed as percentages of annual covered payroll) that accumulate sufficient assets to pay benefits when due. The employer contributions required to support the benefits of each system are determined following a level funding approach and consist of a normal contribution, an accrued liability contribution, and a portion to finance administrative costs. Additionally, a portion of the TRS and ERS employer contributions fund a preretirement death benefit. Also, a portion of the TRS employer contributions fund a term-life benefit.

For the TRS, ERS, and JRF, the normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contributions which, if applied to the compensation of the average new member during the entire period of the member's anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on the member's behalf.

The 2019 retirement contributions were made in accordance with actuarially determined contribution requirements.

The RSA and its actuaries completed an investigation of the economic and demographic experience for the TRS, ERS, and JRF based upon participant data as of September 30, 2015. The purpose of the investigation was to assess the reasonableness of the actuarial assumptions and methods currently used by the RSA. This investigation resulted in changes to actuarial assumptions which are outlined in Note 6. The Boards of Control for each accepted and approved these changes in September 2016, which became effective at the beginning of fiscal year 2016.

8) PROPERTY AND EQUIPMENT

Plan assets used in plan operations are reported at historical cost less accumulated depreciation. Depreciation is determined on the straight-line basis using estimated useful lives of 30 years for buildings and 3 to 10 years for furniture and equipment. Property and equipment was comprised of the following amounts as of September 30, 2019:

	TRS	ERS
Land	\$ 5,085	\$ 2,535
Building and Improvements	107,896	53,948
Software	42,889	14,264
Furniture and Equipment	8,816	2,152
Intangible Assets in Progress	-	-
Total Property and Equipment	164,686	72,899
Less: Accumulated Depreciation	(52,527)	(23,634)
Net Property and Equipment	\$ 112,159	\$ 49,265

Software represents the capitalizable of software and professional services related to RSA's pension administration system. RSA entered into a contract with Deloitte Consulting, LLP, for an initial term of 3 years beginning October 24th, 2014, with an option to renew for two additional 1-year periods for a total term of no more than 5 years. The cost of the system is being split between TRS and ERS with TRS incurring 75% of the cost and ERS incurring 25%. This project is being accounted for pursuant to the requirements of GASB Statement No. 51, *Accounting and Financial Reporting for Intangible Assets*.

9) POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS FOR RSA EMPLOYEES

The Alabama Retired State Employees' Health Care Trust (SEIF Retired - Trust) financial statements are prepared by using the economic resources measurement focus and accrual basis of accounting. This includes for purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the SEIF Retired - Trust and additions to/deductions from its fiduciary net position. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due pursuant to plan requirements. Benefits are recognized when due and payable in accordance with the terms of the plan. Subsequent events were evaluated by management through the date the financial statements were issued.

The SEIF - Retired Trust is a single employer defined benefit health care plan, also known as other postemployment benefits (OPEB) trust, established in 2007 under the provisions of the Alabama Retiree Health Care Funding Act of 2007 (2007-16) as an irrevocable trust fund. Constitutional amendment 798 provides further legal authority to the SEIF - Retired Trust as an irrevocable trust fund. Active and retiree health insurance benefits are paid through the State Employees' Insurance Board (SEIB) pursuant to Act 833 of the Legislature of 1965. The assets of the SEIF - Retired Trust may not be used for any purpose other than to acquire permitted investments, pay administrative expenses, and provide postemployment health care benefits to or for retired employees and their dependents in accordance with the terms of the plan. Plan assets of SEIF - Retired Trust are legally protected from creditors. The legislature has no authority or power to appropriate the assets of the SEIF - Retired Trust. Responsibility for the general administration and operations of the SEIF - Retired Trust is vested in its trustees who consist of the Board's members. In accordance with GASB pronouncements, the SEIF Retired - Trust is considered a component unit of the State of Alabama (State) and is included in the State's Comprehensive Annual Financial Report.

The SEIF plan (the Plan) provides basic medical coverage for up to 365 days of care during each hospital confinement, outpatient care, physicians' benefits, radiation therapy, and major medical benefits with no lifetime maximum. A group dental contract provides basic dental maintenance coverage with a maximum benefit amount of \$1,500 during each year for each eligible participant who elects coverage.

At September 30, 2018, the membership covered by the benefit terms consisted of:

Active Members	32,031
Inactive Members	<u>23,761</u>
Total	<u>55,792</u>

The Plan provides that the employers contribute monthly for the medical and dental insurance of participating employees. Coverage is also available to dependents of employees with their medical premiums typically being paid by the employee. Employee and dependent premium amounts are determined annually and are set at a rate necessary to provide sufficient funds to pay all claims and reasonable expenses of administering the plans.

At September 30, 2019, the TRS reported a liability of \$16,182 (dollar amount in thousands) for its proportionate share of the net OPEB liability. The net OPEB liability was measured as of September 30, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of September 30, 2017. The TRS's proportion of the net OPEB liability was based on a projection of the TRS's long-term share of contributions to the OPEB plan relative to the projected contributions of all participating employers, actuarially determined. At September 30, 2018, the TRS's proportion was 0.556916%, which was an increase of 0.028726% from its proportion measured as of September 30, 2017.

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Notes to the Combined Financial Statements

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

For the year ended September 30, 2019, the TRS recognized OPEB expense of \$1,943. At September 30, 2019, the TRS reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected & Actual Experience	\$ -	\$ 243
Changes of Assumptions	-	2,754
Net Difference between Projected & Actual Earnings on OPEB Plan Investments	-	36
Changes in Proportion & Differences between Employer Contributions & Proportionate Share of Contributions	1,219	-
Employer Contributions Subsequent to the Measurement Date	428	-
Total	\$ 1,647	\$ 3,033

The TRS will recognize \$428 of reported deferred outflows of resources related to OPEB resulting from contributions subsequent to the measurement date as a reduction of net OPEB liability in the fiscal year ended September 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Fiscal Year Ended September 30:	
2020	\$ (477)
2021	\$ (477)
2022	\$ (477)
2023	\$ (302)
2024	\$ (82)
Thereafter	\$ -

At September 30, 2019, the ERS reported a liability of \$10,902 for its proportionate share of the net OPEB liability. The net OPEB liability was measured as of September 30, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of September 30, 2017. The ERS's proportion of the net OPEB liability was based on a projection of the ERS's long-term share of contributions to the OPEB plan relative to the projected contributions of all participating employers, actuarially determined. At September 30, 2018, the ERS's proportion was 0.375195%, which was a decrease of 0.000082% from its proportion measured as of September 30, 2017.

For the year ended September 30, 2019, the ERS recognized OPEB expense of \$1,025. At September 30, 2019, the ERS reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected & Actual Experience	\$ -	\$ 164
Changes of Assumptions	-	1,855
Net Difference between Projected & Actual Earnings on OPEB Plan Investments	-	25
Changes in Proportion & Differences between Employer Contributions & Proportionate Share of Contributions	-	188
Employer Contributions Subsequent to the Measurement Date	290	-
Total	\$ 290	\$ 2,232

The ERS will recognize \$290 of reported deferred outflows of resources related to OPEB resulting from contributions subsequent to the measurement date as a reduction of net OPEB liability in the fiscal year ended September 30, 2020 (dollar amount in thousands). Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows (dollar amounts in thousands):

Fiscal Year Ended	
September 30:	
2020	\$ (582)
2021	\$ (582)
2022	\$ (582)
2023	\$ (378)
2024	\$ (106)
Thereafter	\$ -

At September 30, 2019, the JRF reported a liability of \$91 for its proportionate share of the net OPEB liability (dollar amount in thousands). The net OPEB liability was measured as of September 30, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of September 30, 2017. The JRF's proportion of the net OPEB liability was based on a projection of the JRF's long-term share of contributions to the OPEB plan relative to the projected contributions of all participating employers, actuarially determined. At September 30, 2018, the JRF's proportion was 0.003148%, which was an increase of 0.000007% from its proportion measured as of September 30, 2017.

For the year ended September 30, 2019, the JRF recognized OPEB expense of \$11 (dollar amount in thousands). At September 30, 2019, the JRF reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources (dollar amounts in thousands):

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected & Actual Experience	\$ -	\$ 1
Changes of Assumptions	-	16
Net Difference between Projected & Actual		
Earnings on OPEB Plan Investments	-	-
Changes in Proportion & Differences between Employer		
Contributions & Proportionate Share of Contributions	1	-
Employer Contributions Subsequent to the Measurement Date	2	-
Total	\$ 3	\$ 17

The JRF will recognize \$2 of reported deferred outflows of resources related to OPEB resulting from contributions subsequent to the measurement date as a reduction of net OPEB liability in the fiscal year ended September 30, 2020 (dollar amount in thousands). Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows (dollar amounts in thousands):

Fiscal Year Ended	
September 30:	
2020	\$ (4)
2021	\$ (4)
2022	\$ (4)
2023	\$ (3)
2024	\$ (1)
Thereafter	\$ -

RETIREMENT SYSTEMS OF ALABAMA

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Notes to the Combined Financial Statements For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

The total OPEB liability was determined by an actuarial valuation as of September 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary Increases*	5.00-3.25% for State and Local Employees 4.50% for State Police 3.50-3.25% for Judges
Long-Term Investment Rate of Return**	7.50%
Municipal Bond Index Rate at Measurement Date	4.18%
Municipal Bond Index Rate at Prior Measurement Date	3.57%
Projected Year for Fiduciary Net Position to be Depleted	2024
Single Equivalent Interest Rate at Measurement Date	4.50%
Single Equivalent Interest Rate at Prior Measurement Date	3.60%
Healthcare Cost Trend Rate	
Pre-Medicare Eligible	7.00%
Medicare Eligible	5.50%
Ultimate Trend Rate	
Pre-Medicare Eligible	4.75%
Medicare Eligible	4.75%
Year of Ultimate Trend Rate	2026 for Pre-Medicare Eligible 2024 for Medicare Eligible

*Includes 3.00% wage inflation.

**Compounded annually, net of investment expense, and includes inflation.

The rates of mortality for the period after service retirement are according to the sex distinct RP-2000 Blue Collar Mortality Table projected to 2020 using scale BB with an adjustment of 125% for males and 120% for females age 78 and older. The rates of mortality for the period after disability retirement are according to the sex distinct RP-2000 Disabled Retiree Mortality Table projected to 2020 using scale BB with an adjustment of 130% for females.

The decremental assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2015, submitted to and adopted by the State Employees' Insurance Board on September 29, 2016.

The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends, rate of plan participation, rates of plan election, etc.) used in the September 30, 2017 valuation were based on a review of recent plan experience done concurrently with the September 30, 2017 valuation.

The long-term expected rate of return on OPEB 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 OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of geometric real rates of return for each major asset class are as follows:

	Target Allocation	Long-Term Expected Rate of Return*
Fixed Income	28.20%	4.40%
U.S. Domestic Stocks	55.20%	8.70%
International Developed Market Stocks	10.80%	9.80%
Cash	5.80%	1.50%
Total	100.00%	

*Includes assumed rate of inflation of 2.50%.

The discount rate (also known as the Single Equivalent Interest Rate (SEIR), as described by GASB 74) used to measure the total OPEB liability was 4.25% at September 30, 2018. The discount rate used to measure the total OPEB liability at the prior measurement date was 3.60%. The projection of cash flows used to determine the discount rate assumed that plan contributions will be made based on the average of the last five years of current contribution rates, indexed with inflation. The discount rate determination will use a municipal bond rate to the extent the trust is projected to run out of money before all benefits are paid. The rate used, if necessary, for this purpose is the monthly average of the Bond Buyers General Obligation 20-year Municipal Bond Index Rate (formerly published monthly by the Board of Governors of the Federal Reserve System). Projected future benefit payments for all current plan members were projected through 2116.

The following table presents the TRS, ERS, and JRF's proportionate shares of the net OPEB liability of the Trust calculated using the current healthcare trend rate, as well as what the net OPEB liability would be if calculated using one percentage point lower or one percentage point higher than the current rate (dollar amounts in thousands):

	1% Decrease (6.00% decreasing to 3.75% for Pre-Medicare and 4.50% decreasing to 3.75% Medicare Eligible)	Current Healthcare Trend Rate (7.00% decreasing to 4.75% for Pre-Medicare and 5.50% decreasing to 4.75% for Medicare Eligible)	1% Increase (8.00% decreasing to 5.75% for Pre-Medicare and 6.50% decreasing to 5.75% for Medicare Eligible)
TRS	\$ 13,589	\$ 16,182	\$ 19,489
ERS	\$ 9,155	\$ 10,902	\$ 13,130
JRF	\$ 77	\$ 91	\$ 110

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(Dollar Amounts in Thousands)

The following table presents the proportionate share of the net OPEB liability for TRS, ERS, and JRF calculated using the discount rate of 4.25%, as well as what the net OPEB liability would be if calculated using one percentage point lower or one percentage point higher than the current rate:

		Current	
	1% Decrease	Discount Rate	1% Increase
	(3.25%)	(4.25%)	(5.25%)
TRS	\$ 19,028	\$ 16,182	\$ 13,895
ERS	\$ 12,814	\$ 10,902	\$ 9,361
JRF	\$ 108	\$ 91	\$ 79

10) PENSION PLAN FOR RSA EMPLOYEES

A portion of the RSA employees participates in the TRS pension plan, which is a cost-sharing plan, and a portion of the RSA employees participates in the ERS pension plan, which is an agent multiple-employer pension plan. As a component unit, RSA employees participating in the ERS pension plan are valued with all other State of Alabama employees, and therefore, report under the requirements of a cost-sharing unit.

A. Teachers' Retirement System of Alabama

The TRS, a cost-sharing multiple-employer public employee retirement plan, was established as of September 15, 1939, pursuant to the *Code of Alabama 1975, Title 16, Chapter 25* (Act 419 of the Legislature of 1939) for the purpose of providing retirement allowances and other specified benefits for qualified persons employed by State-supported educational institutions. The responsibility for the general administration and operation of the TRS is vested in its Board of Control. The TRS Board of Control consists of 15 trustees. Note 1 of this report outlines the composition of the TRS Board of Control. The Plan is administered by RSA and the Plan issues a Comprehensive Annual Financial Report each year. It is available at www.rsa-al.gov.

State law establishes retirement benefits as well as death and disability benefits and any ad hoc increase in postretirement benefits for the TRS. Benefits for TRS members vest after 10 years of creditable service. TRS members who retire after age 60 with 10 years or more of creditable service or with 25 years of service (regardless of age) are entitled to an annual retirement benefit, payable monthly for life. Service and disability retirement benefits are based on a guaranteed minimum or a formula method, with the member receiving payment under the method that yields the highest monthly benefit. Under the formula method, members of the TRS are allowed 2.0125% of their average final compensation (highest 3 of the last 10 years) for each year of service.

Act 377 of the Legislature of 2012 established a new tier of benefits (Tier 2) for members hired on or after January 1, 2013. Tier 2 TRS members are eligible for retirement after age 62 with 10 years or more of creditable service and are entitled to an annual retirement benefit, payable monthly for life. Service and disability retirement benefits are based on a guaranteed minimum or a formula method, with the member receiving payment under the method that yields the highest monthly benefit. Under the formula method, Tier 2 members of the TRS are allowed 1.65% of their average final compensation (highest 5 of the last 10 years) for each year of service. Members are eligible for disability retirement if they have 10 years of credible service, are currently in-service, and determined by the RSA Medical Board to be permanently incapacitated from further performance of duty. Preretirement death benefits are calculated and paid to the beneficiary based on the member's age, service credit, employment status, and eligibility for retirement.

Covered members of the TRS contributed 5% of earnable compensation to the TRS as required by statute until September 30, 2011. From October 1, 2011, to September 30, 2012, covered members of the TRS were required by statute to contribute 7.25% of earnable compensation. Effective October 1, 2012, covered members of the TRS are required by statute to contribute 7.50% of earnable compensation. Certified law enforcement, correctional officers, and firefighters of the TRS contributed 6% of earnable compensation as required by statute until September 30, 2011. From October 1, 2011, to September 30, 2012, certified law enforcement, correctional officers, and firefighters of the TRS were required by statute to contribute 8.25% of earnable compensation. Effective October 1, 2012, certified law

enforcement, correctional officers, and firefighters of the TRS are required by statute to contribute 8.50% of earnable compensation. Tier 2 covered members of the TRS contribute 6% of earnable compensation to the TRS as required by statute. Tier 2 certified law enforcement, correctional officers, and firefighters of the TRS are required by statute to contribute 7% of earnable compensation.

Participating employers' contractually required contribution rate for the fiscal year ended September 30, 2019, was 12.41% of annual pay for Tier 1 members and 11.35% of annual pay for Tier 2 members. These required contribution rates are a percent of annual payroll, actuarially determined as an amount that, when combined with member contributions, is expected to finance the costs of benefits earned by members during the year, with an additional amount to finance any unfunded accrued liability. Total TRS employer contributions to the pension plan from the System were \$1,883 for the fiscal year ended September 30, 2019 (dollar amounts in thousands).

At September 30, 2019, in accordance with GASB Statement No. 68, the TRS reported a net pension liability of \$20,897 for its proportionate share of the TRS pension plan's total net pension liability as determined under GASB Statement No. 67 (dollar amount in thousands). The TRS pension plan's total pension liability used to calculate the TRS's net pension liability was determined by an actuarial valuation as of September 30, 2017 and rolled forward to TRS's measurement date of September 30, 2018. The TRS's share of the net pension liability was based on the TRS's share of contributions to the pension plan relative to the total employer contributions of all participating TRS employers. At September 30, 2018, the TRS's proportion was 0.2101819%, which was an increase of 0.011734% from its proportion measured as of September 30, 2017.

For the year ended September 30, 2019, the TRS recognized pension expense of \$2,411 (dollar amounts in thousands). At September 30, 2019, the TRS reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources (dollar amounts in thousands):

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected & Actual Experience	\$ 451	\$ 637
Changes of Assumptions	1,162	-
Net Difference between Projected & Actual		
Earnings on Pension Plan Investments	-	1,577
Changes in Proportion & Differences between Employer		
Contributions & Proportionate Share of Contributions	1,916	57
Employer Contributions Subsequent to the Measurement Date	1,883	-
Total	\$ 5,412	\$ 2,271

The TRS will recognize \$1,883 of reported deferred outflows of resources related to pensions resulting from contributions subsequent to the measurement date as a reduction of net pension liability in the fiscal year ended September 30, 2020 (dollar amount in thousands). Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (dollar amounts in thousands):

Fiscal Year Ended September 30:	
2020	\$ 821
2021	\$ 134
2022	\$ (14)
2023	\$ 237
2024	\$ 80
Thereafter	\$ -

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The total pension liability was determined by an actuarial valuation as of September 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Projected Salary Increases	3.25% - 5.00%
Investment Rate of Return*	7.75%

*Net of pension plan investment expense

The actuarial assumptions used in the actuarial valuation as of September 30, 2017, were based on the results of an investigation of the economic and demographic experience for the TRS based upon participant data as of September 30, 2015. This investigation resulted in changes to the actuarial assumptions. The Board of Control accepted and approved these changes in September 2016, which became effective at the beginning of fiscal year 2016.

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

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

	Target Allocation	Long-Term Expected Rate of Return*
Fixed Income	17.00%	4.40%
U.S. Large Stocks	32.00%	8.00%
U.S. Mid Stocks	9.00%	10.00%
U.S. Small Stocks	4.00%	11.00%
International Developed Market Stocks	12.00%	9.50%
International Emerging Market Stocks	3.00%	11.00%
Alternatives	10.00%	10.10%
Real Estate	10.00%	7.50%
Cash	3.00%	1.50%
Total	100.00%	

*Includes assumed rate of inflation of 2.50%.

The discount rate used to measure the total pension liability was 7.70%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, components of the pension plan's fiduciary net position were projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following table presents the net pension liability of the TRS calculated using the discount rate of 7.70%, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate (dollar amounts in thousands):

	1% Decrease (6.70%)	Current Discount Rate (7.70%)	1% Increase (8.70%)
TRS's Proportionate Share of Collective Net Pension Liability	\$ 29,089	\$ 20,897	\$ 13,968

Detailed information about the pension plan's fiduciary net position is available in the separately issued RSA Comprehensive Annual Financial Report for the fiscal year ended September 30, 2018. The supporting actuarial information is included in the GASB Statement No. 67 Report for the TRS prepared as of September 30, 2018. The auditor's report dated August 16, 2019, on the total pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the sum of all participating entities as of September 30, 2018, along with supporting schedules is also available. The additional financial and actuarial information is available at www.rsa-al.gov.

B. Employees' Retirement System of Alabama

The ERS, an agent multiple-employer public employee retirement plan, was established as of October 1, 1945, pursuant to the *Code of Alabama 1975, Title 36, Chapter 27* (Act 515 of the Legislature of 1945). The purpose of the ERS is to provide retirement allowances and other specified benefits for state employees, State Police, and on an elective basis, to all cities, counties, towns, and quasi-public organizations. RSA employees who participate in the ERS are employees of the ERS and JRF. The responsibility for the general administration and operation of the ERS is vested in its Board of Control. The ERS Board of Control consists of 13 trustees. Note 1 of this report outlines the composition of the ERS Board of Control. The Plan is administered by RSA and the Plan issues a Comprehensive Annual Financial Report each year. It is available at www.rsa-al.gov.

State law establishes retirement benefits as well as death and disability benefits and any ad hoc increase in postretirement benefits for the ERS. Benefits for ERS members vest after 10 years of creditable service. State employees who retire after age 60 (52 for State Police) with 10 years or more of creditable service or with 25 years of service (regardless of age) are entitled to an annual retirement benefit, payable monthly for life. Local employees who retire after age 60 with 10 years or more of creditable service or with 25 or 30 years of service (regardless of age), depending on the particular entity's election, are entitled to an annual retirement benefit, payable monthly for life. Service and disability retirement benefits are based on a guaranteed minimum or a formula method, with the member receiving payment under the method that yields the highest monthly benefit. Under the formula method, members of the ERS (except State Police) are allowed 2.0125% of their average final compensation (highest 3 of the last 10 years) for each year of service. State Police are allowed 2.875% for each year of State Police service in computing the formula method.

Act 377 of the Legislature of 2012 established a new tier of benefits (Tier 2) for members hired on or after January 1, 2013. Tier 2 ERS members are eligible for retirement after age 62 (56 for State Police) with 10 years or more of creditable service and are entitled to an annual retirement benefit, payable monthly for life. Service and disability retirement benefits are based on a guaranteed minimum or a formula method, with the member receiving payment under the method that yields the highest monthly benefit. Under the formula method, Tier 2 members of the ERS (except State Police) are allowed 1.65% of their average final compensation (highest 5 of the last 10 years) for each year of service. State Police are allowed 2.375% for each year of state police service in computing the formula method.

RETIREMENT SYSTEMS OF ALABAMA

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Notes to the Combined Financial Statements

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

Members are eligible for disability retirement if they have 10 years of credible service, are currently in-service, and determined by the RSA Medical Board to be permanently incapacitated from further performance of duty. Preretirement death benefits are calculated and paid to the beneficiary on the member's age, service credit, employment status, and eligibility for retirement.

As of September 30, 2018, ERS membership included approximately 90,999 active participants. Note 1 of this report contains details about the classifications of participants and the number of participants within each classification.

Covered members of the ERS contributed 5% of earnable compensation to the ERS as required by statute until September 30, 2011. From October 1, 2011, to September 30, 2012, covered members of the ERS were required by statute to contribute 7.25% of earnable compensation. Effective October 1, 2012, covered members of the ERS are required by statute to contribute 7.50% of earnable compensation. Certified law enforcement, correctional officers, and firefighters of the ERS contributed 6% of earnable compensation as required by statute until September 30, 2011. From October 1, 2011, to September 30, 2012, certified law enforcement, correctional officers, and firefighters of the ERS were required by statute to contribute 8.25% of earnable compensation. Effective October 1, 2012, certified law enforcement, correctional officers, and firefighters of the ERS are required by statute to contribute 8.50% of earnable compensation. State Police of the ERS contribute 10% of earnable compensation. ERS local participating employers are not required by statute to increase contribution rates for their members. Tier 2 covered members of the ERS contribute 6% of earnable compensation to the ERS as required by statute. Tier 2 certified law enforcement, correctional officers, and firefighters of the ERS are required by statute to contribute 7% of earnable compensation. Tier 2 State Police members of the ERS contribute 10% of earnable compensation. These contributions rates are the same for Tier 2 covered members of ERS local participating employers.

The participating employer contribution rate for the ERS State Regular Employees contractually required contribution rate for the year ended September 30, 2019, was 14.51% of annual pay for Tier 1 members and 14.14% of annual pay for Tier 2 members. These required contribution rates are a percent of annual payroll, actuarially determined as an amount that, when combined with member contributions, is expected to finance the costs of benefits earned by members during the year, with an additional amount to finance any unfunded accrued liability. Total employer contributions to the pension plan from ERS were \$1,209 and from JRF were \$23 for the fiscal year ended September 30, 2019.

At September 30, 2019, in accordance with GASB Statement No. 68, the ERS reported a net pension liability of \$14,845 and the JRF reported a net pension liability of \$284 for their respective proportionate shares of the total net pension liability of the ERS State Regular Employees' retirement plan. The ERS pension plan's total net pension liability was measured as of September 30, 2018, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of September 30, 2017 and rolled forward to the ERS and JRF's measurement date of September 30, 2018. ERS and JRF's proportion of the total net pension liability was based on the employers' shares of contributions to the pension plan relative to the total employer contributions of all participating ERS State Regular employers. At September 30, 2018, ERS's proportion was 0.567403%, which was an increase of 0.017431% from its proportion measured as of September 30, 2017. At September 30, 2018, the JRF's proportion was 0.010863%, which was an increase of 0.000421% from its proportion measured as of September 30, 2017.

For the fiscal year ended September 30, 2019, the ERS recognized pension expense of \$1,471 (dollar amounts in thousands). At September 30, 2019, ERS reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources (dollar amounts in thousands):

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected & Actual Experience	\$ 4	\$ 208
Changes of Assumptions	341	-
Net Difference between Projected & Actual		
Earnings on Pension Plan Investments	-	972
Changes in Proportion & Differences between Employer		
Contributions & Proportionate Share of Contributions	693	465
Employer Contributions Subsequent to the Measurement Date	1,209	-
Total	\$ 2,247	\$ 1,645

The ERS will recognize \$1,209 of reported deferred outflows of resources related to pensions resulting from contributions subsequent to the measurement date as a reduction of net pension liability in the fiscal year ended September 30, 2020 (dollar amount in thousands). Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (dollar amounts in thousands):

**Fiscal Year Ended
September 30:**

2020	\$ -
2021	\$ 246
2022	\$ (511)
2023	\$ (259)
2024	\$ (82)
Thereafter	\$ -

For the fiscal year ended September 30, 2019, the JRF recognized pension expense of \$41 (dollar amount in thousands). At September 30, 2019, the JRF reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources (dollar amounts in thousands):

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected & Actual Experience	\$ -	\$ 4
Changes of Assumptions	7	-
Net Difference between Projected & Actual		
Earnings on Pension Plan Investments	-	19
Changes in Proportion & Differences between Employer		
Contributions & Proportionate Share of Contributions	11	1
Employer Contributions Subsequent to the Measurement Date	23	-
Total	\$ 41	\$ 24

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Notes to the Combined Financial Statements

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

The JRF will recognize \$23 of reported deferred outflows of resources related to pensions resulting from contributions subsequent to the measurement date as a reduction of net pension liability in the fiscal year ended September 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

**Fiscal Year Ended
September 30:**

2020	\$	-
2021	\$	6
2022	\$	(6)
2023	\$	(5)
2024	\$	(2)
Thereafter	\$	-

The total pension liability was determined by an actuarial valuation as of September 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Projected Salary Increases	3.25% - 5.00%
Investment Rate of Return*	7.75%

*Net of pension plan investment expense

Mortality rates for ERS were based on the sex distinct RP-2000 Blue Collar Mortality Table projected to 2020 using scale BB with an adjustment of 125% for males and 120% for females age 78 and older. The rates of disabled mortality were based on the sex distinct RP-2000 Disabled Retiree Mortality Table projected to 2020 using scale BB with an adjustment of 130% for females.

The actuarial assumptions used in the actuarial valuation as of September 30, 2017, were based on the results of an investigation of the economic and demographic experience for the TRS, ERS, and JRF based upon participant data as of September 30, 2015, completed by the RSA and its actuaries. The purpose of the investigation was to assess the reasonableness of the actuarial assumptions and methods currently used by the RSA. This investigation resulted in changes to the actuarial assumptions. The Boards of Control for each accepted and approved these changes in September 2016, which became effective at the beginning of fiscal year 2016.

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

	Target Allocation	Long-Term Expected Rate of Return*
Fixed Income	17.00%	4.40%
U.S. Large Stocks	32.00%	8.00%
U.S. Mid Stocks	9.00%	10.00%
U.S. Small Stocks	4.00%	11.00%
International Developed Market Stocks	12.00%	9.50%
International Emerging Market Stocks	3.00%	11.00%
Alternatives	10.00%	10.10%
Real Estate	10.00%	7.50%
Cash	3.00%	1.50%
Total	100.00%	

*Includes assumed rate of inflation of 2.75%.

The discount rate used to measure the total pension liability was 7.70%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, components of the pension plan's fiduciary net position were projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following table presents the net pension liability of the ERS and JRF calculated using the discount rate of 7.70%, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate (dollar amounts in thousands):

	1% Decrease (6.70%)	Current Discount Rate (7.70%)	1% Increase (8.70%)
ERS's Proportionate Share of			
Collective Net Pension Liability	\$ 19,300	\$ 14,485	\$ 11,053
JRF's Proportionate Share of			
Collective Net Pension Liability	\$ 370	\$ 284	\$ 212

Detailed information about the pension plan's fiduciary net position is available in the separately issued RSA Comprehensive Annual Financial Report for the fiscal year ended September 30, 2018. The supporting actuarial information is included in the GASB Statement No. 68 Report for the ERS prepared as of September 30, 2018. The auditor's report dated September 17, 2019, on the Schedule of Changes in Fiduciary Net Position by Employer and accompanying notes is also available. The additional financial and actuarial information is available at www.rsa-al.gov.

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Notes to the Combined Financial Statements For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

11) RELATED PARTY TRANSACTIONS

The TRS and ERS jointly own office buildings in Montgomery and Mobile and lease office space to agencies of the State of Alabama. These agencies are obligated to the TRS and ERS to lease space for varying terms through the year 2029. Rental payments and other agreed upon payments (reported as investment income) from leases with state agencies totaled \$34,467,871 (dollar amount not in thousands) during the 2019 fiscal year.



RETIREMENT SYSTEMS OF ALABAMA

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Required Supplementary Information

For the Fiscal Year Ended September 30, 2019

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY & RELATED RATIOS TRS

For the Fiscal Years Ended September 30

(Dollar Amounts in Thousands)

	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service Cost*	\$ 645,409	\$ 637,532	\$ 617,120	\$ 627,938	\$ 660,390	\$ 602,605
Interest	2,674,266	2,584,330	2,532,457	2,488,310	2,421,604	2,352,804
Benefit Changes	-	-	-	-	-	-
Difference Between Expected & Actual Experience	(226,777)	265,644	(261,067)	(290,388)	(70,200)	-
Changes of Assumptions	-	178,049	-	942,133	-	-
Benefit Payments	(2,238,966)	(2,208,925)	(2,117,351)	(2,161,570)	(2,080,896)	(1,997,877)
Refunds of Contributions	(55,596)	(58,552)	(53,526)	(57,566)	(55,898)	(56,145)
Net Change in Total Pension Liability	798,336	1,398,078	717,633	1,548,857	875,000	901,387
Total Pension Liability - Beginning	35,878,014	34,479,936	33,762,303	32,213,446	31,338,446	30,437,059
Total Pension Liability - Ending (A)	\$ 36,676,350	\$ 35,878,014	\$ 34,479,936	\$ 33,762,303	\$ 32,213,446	\$ 31,338,446
Plan Fiduciary Net Position reserved to fund Total Pension Liability						
Contributions - Employer	\$ 869,336	\$ 802,598	\$ 782,702	\$ 751,909	\$ 737,677	\$ 716,753
Contributions - Member	522,909	493,466	489,638	475,980	477,918	480,849
Other	-	13,445	-	-	172,982	-
Net Investment Income	614,427	2,264,234	2,636,098	2,199,396	261,461	2,468,499
Benefit Payments	(2,238,966)	(2,208,925)	(2,117,351)	(2,161,570)	(2,080,896)	(1,997,877)
Refunds of Contributions	(55,596)	(58,552)	(53,526)	(57,566)	(55,898)	(56,145)
Administrative Expenses	(28,095)	(22,290)	(22,402)	(19,582)	(19,331)	-
Net Change in Plan Fiduciary Net Position	(315,985)	1,283,976	1,715,159	1,188,567	(506,087)	1,612,079
Plan Fiduciary Net Position - Beginning	25,935,433	24,651,457	22,936,298	21,747,731	22,253,818	20,641,739
Plan Fiduciary Net Position - Ending (B)	\$ 25,619,448	\$ 25,935,433	\$ 24,651,457	\$ 22,936,298	\$ 21,747,731	\$ 22,253,818
Net Pension Liability - Ending (A - B)	\$ 11,056,902	\$ 9,942,581	\$ 9,828,479	\$ 10,826,005	\$ 10,465,715	\$ 9,084,628
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	69.85%	72.29%	71.50%	67.93%	67.51%	71.01%
Covered Payroll**	\$ 6,959,168	\$ 6,899,800	\$ 6,623,929	\$ 6,541,310	\$ 6,541,054	\$ 6,466,923
Net Pension Liability as a Percentage of Covered Payroll	158.88%	144.10%	148.38%	165.50%	160.00%	140.48%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

*Also called the Entry Age Normal Cost.

**Payroll from the annual actuarial valuation, which was used to calculate the total pension liability, increased with assumed annual payroll growth.

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
& RELATED RATIOS**

ERS

For the Fiscal Years Ended September 30

(Dollar Amounts in Thousands)

Total Pension Liability	2019	2018	2017	2016	2015	2014
Service Cost*	\$ 315,841	\$ 307,064	\$ 325,138	\$ 308,840	\$ 346,440	\$ 298,985
Interest	1,329,988	1,303,322	1,271,712	1,233,415	1,199,079	1,164,853
Benefit Changes	-	-	-	-	-	-
Difference Between Expected & Actual						
Experience	24,803	(79,478)	(64,111)	101	(35,546)	-
Changes of Assumptions	-	87,608	-	544,310	-	-
Benefit Payments	(1,123,150)	(1,102,478)	(1,056,006)	(1,043,293)	(1,023,732)	(948,645)
Refunds of Contributions	(55,478)	(44,890)	(46,374)	(44,660)	(49,865)	(49,767)
Net Change in Total Pension Liability	492,004	471,148	430,359	998,713	436,376	465,426
Total Pension Liability - Beginning	17,861,887	17,390,739	16,960,380	15,961,667	15,525,291	15,059,865
Total Pension Liability - Ending (A)	\$ 18,353,891	\$ 17,861,887	\$ 17,390,739	\$ 16,960,380	\$ 15,961,667	\$ 15,525,291
Plan Fiduciary Net Position reserved to fund Total Pension Liability						
Contributions - Employer	\$ 467,553	\$ 426,340	\$ 426,369	\$ 435,243	\$ 411,087	\$ 379,163
Contributions - Member	254,440	241,741	233,901	238,017	229,254	226,015
Other	-	(7,481)	-	-	68,897	-
Net Investment Income	320,585	1,098,412	1,402,009	1,052,886	126,335	1,183,377
Benefit Payments	(1,123,150)	(1,102,478)	(1,056,006)	(1,043,293)	(1,023,732)	(948,645)
Refunds of Contributions	(55,478)	(44,890)	(46,374)	(44,660)	(49,865)	(49,767)
Administrative Expenses	(15,829)	(13,763)	(14,502)	(13,023)	(13,182)	-
Net Change in Plan Fiduciary Net Position	(151,879)	597,881	945,397	625,170	(251,206)	790,143
Plan Fiduciary Net Position - Beginning	12,720,352	12,122,471	11,177,074	10,551,904	10,803,110	10,012,967
Plan Fiduciary Net Position - Ending (B)	\$ 12,568,473	\$ 12,720,352	\$ 12,122,471	\$ 11,177,074	\$ 10,551,904	\$ 10,803,110
Net Pension Liability - Ending (A - B)	\$ 5,785,418	\$ 5,141,535	\$ 5,268,268	\$ 5,783,306	\$ 5,409,763	\$ 4,722,181
Plan Fiduciary Net Position as a						
Percentage of the Total Pension Liability	68.48%	71.22%	69.71%	65.90%	66.11%	69.58%
Covered Payroll**	\$ 3,789,556	\$ 3,692,241	\$ 3,680,078	\$ 3,592,658	\$ 3,556,282	\$ 3,511,115
Net Pension Liability as a Percentage of						
Covered Payroll	152.67%	139.25%	143.16%	160.98%	152.12%	134.49%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

*Also called the Entry Age Normal Cost.

**Payroll from the annual actuarial valuation, which was used to calculate the total pension liability, increased with assumed annual payroll growth.

RETIREMENT SYSTEMS OF ALABAMA

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For the Fiscal Year Ended September 30, 2019

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY & RELATED RATIOS

JRF

For the Fiscal Years Ended September 30

(Dollar Amounts in Thousands)

Total Pension Liability	2019	2018	2017	2016	2015	2014
Service Cost*	\$ 9,574	\$ 9,811	\$ 9,815	\$ 9,807	\$ 9,644	\$ 9,481
Interest	33,910	34,112	33,668	32,695	32,385	31,521
Benefit Changes	-	-	-	-	-	-
Difference Between Expected & Actual Experience	(4,518)	(9,134)	(4,399)	(2,487)	(7,391)	-
Changes of Assumptions	-	3,873	-	17,792	-	-
Benefit Payments	(36,909)	(33,419)	(32,807)	(30,902)	(30,356)	(29,838)
Refunds of Contributions	(646)	(130)	(353)	(106)	(147)	(46)
Net Change in Total Pension Liability	1,411	5,113	5,924	26,799	4,135	11,118
Total Pension Liability - Beginning	462,040	456,927	451,003	424,204	420,069	408,951
Total Pension Liability - Ending (A)	\$ 463,451	\$ 462,040	\$ 456,927	\$ 451,003	\$ 424,204	\$ 420,069
Plan Fiduciary Net Position reserved to fund Total Pension Liability						
Contributions - Employer	\$ 18,022	\$ 17,180	\$ 17,373	\$ 17,529	\$ 15,077	\$ 15,250
Contributions - Member	4,101	3,867	3,972	3,723	3,683	3,764
Net Investment Income	11,016	27,622	32,685	28,322	(856)	31,343
Benefit Payments	(36,909)	(33,419)	(32,807)	(30,902)	(30,356)	(29,838)
Refunds of Contributions	(646)	(130)	(353)	(106)	(147)	(46)
Administrative Expenses	(357)	(328)	(334)	(398)	(356)	-
Other	-	(56)	-	-	1,854	-
Net Change in Plan Fiduciary Net Position	(4,773)	14,736	20,536	18,168	(11,101)	20,473
Plan Fiduciary Net Position - Beginning	317,314	302,578	282,042	263,874	274,975	254,502
Plan Fiduciary Net Position - Ending (B)	\$ 312,541	\$ 317,314	\$ 302,578	\$ 282,042	\$ 263,874	\$ 274,975
Net Pension Liability - Ending (A - B)	\$ 150,910	\$ 144,726	\$ 154,349	\$ 168,961	\$ 160,330	\$ 145,094
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	67.44%	68.68%	66.22%	62.54%	62.20%	65.46%
Covered Payroll**	\$ 45,134	\$ 45,622	\$ 44,314	\$ 44,099	\$ 44,087	\$ 43,275
Net Pension Liability as a Percentage of Covered Payroll	334.36%	317.23%	348.31%	383.14%	363.67%	335.28%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

*Also called the Entry Age Normal Cost.

**Payroll from the annual actuarial valuation, which was used to calculate the total pension liability, increased with assumed annual payroll growth.

SCHEDULES OF EMPLOYER PENSION CONTRIBUTIONS

For the Ten Fiscal Years Ended September 30

(Dollar Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM §

Fiscal Year	Actuarially Determined Employer Contributions	Actual Employer Contributions	Annual Contribution Deficiency (Excess)	Covered Payroll*	Actual Contributions as a % of Covered Payroll**
2019	\$ 869,336	\$ 869,336	\$ -	\$ 7,160,923	12.14
2018	802,598	802,598	-	6,699,482	11.98
2017	782,702	782,702	-	6,633,068	11.80
2016	751,909	751,909	-	6,377,515	11.79
2015	737,677	737,677	-	6,331,991	11.65
2014	716,753	716,753	-	6,331,740	11.32
2013	605,465	605,465	-	6,241,907	9.70
2012	594,771	594,771	-	6,182,651	9.62
2011	755,944	755,944	-	6,232,020	12.13
2010	753,213	753,213	-	6,209,505	12.13

JUDICIAL RETIREMENT FUND ¥

Fiscal Year	Actuarially Determined Employer Contributions	Actual Employer Contributions	Annual Contribution Deficiency (Excess)	Covered Payroll*	Actual Contributions as a % of Covered Payroll
2019	\$ 18,022	\$ 18,022	\$ -	\$ 43,530	41.40
2018	17,180	17,180	-	42,853	40.09
2017	17,373	17,373	-	42,738	40.65
2016	17,529	17,529	-	42,775	40.98
2015	15,077	15,077	-	42,784	35.24
2014	15,250	15,250	-	43,275	35.24
2013	13,903	13,903	-	43,366	32.06
2012	10,747	10,747	-	44,136	24.35
2011	10,906	10,906	-	45,066	24.20
2010	10,814	10,814	-	44,686	24.20

§ There are no nonemployer contributing entities in TRS.

*Estimated based on employer contribution rate and/or actual employer contributions.

**Act No. 2012-377 established a new tier of benefits (Tier 2) for members hired on or after January 1, 2013, so this percentage represents a blended rate based on both the Tier 1 and Tier 2 employer contribution rates.

¥ The State of Alabama is a nonemployer contributing entity in JRF. The State pays the employer portion of the Probate Judges' contributions.

SCHEDULE OF INVESTMENT RETURNS
For the Ten Fiscal Years Ended September 30

Fiscal Year	TRS	ERS	JRF
2019	2.44%	2.58%	3.58%
2018	9.42%	9.29%	9.35%
2017	11.73%	12.80%	11.88%
2016	10.37%	10.19%	10.96%
2015	1.16%	1.15%	-0.37%
2014	12.17%	12.05%	12.55%
2013	14.85%	14.53%	14.05%
2012	18.32%	18.05%	19.17%
2011	2.04%	2.39%	0.89%
2010	8.34%	8.40%	10.66%

The following schedules pertain to employees of TRS, ERS, and JRF who participate in the TRS and ERS pension plans.

SCHEDULES OF PROPORTIONATE SHARE OF THE NET PENSION LIABILITY

(Dollar Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM

Measurement Date	Fiscal Year Ended	Proportion of the Net Pension Liability (%)	Proportionate Share of the Net Pension Liability	Covered Payroll	Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
9/30/2018	9/30/2019	0.21	\$ 20,897	\$ 7,663	272.70	72.29
9/30/2017	9/30/2018	0.20	19,504	7,235	269.58	71.50
9/30/2016	9/30/2017	0.20	21,164	6,739	314.05	67.93
9/30/2015	9/30/2016	0.18	18,891	6,593	286.53	67.51
9/30/2014	9/30/2015	0.18	16,626	6,283	264.62	71.01

EMPLOYEES' RETIREMENT SYSTEM

Measurement Date	Fiscal Year Ended	Proportion of the Net Pension Liability (%)	Proportionate Share of the Net Pension Liability	Covered Payroll	Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
9/30/2018	9/30/2019	0.57	\$ 14,845	\$ 5,197	285.65	66.20
9/30/2017	9/30/2018	0.55	14,468	5,113	282.96	65.44
9/30/2016	9/30/2017	0.59	16,850	4,904	343.60	62.07
9/30/2015	9/30/2016	0.52	14,146	4,695	301.30	62.35
9/30/2014	9/30/2015	0.49	11,991	4,526	264.94	65.58

JUDICIAL RETIREMENT FUND

Measurement Date	Fiscal Year Ended	Proportion of the Net Pension Liability (%)	Proportionate Share of the Net Pension Liability	Covered Payroll	Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
9/30/2018	9/30/2019	0.01	\$ 284	\$ 157	180.89	66.20
9/30/2017	9/30/2018	0.01	275	152	180.92	65.44
9/30/2016	9/30/2017	0.01	302	144	209.72	62.07
9/30/2015	9/30/2016	0.01	272	136	200.00	62.35
9/30/2014	9/30/2015	0.01	170	89	191.01	65.58

RETIREMENT SYSTEMS OF ALABAMA*Financial Section***Required Supplementary Information****For the Fiscal Year Ended September 30, 2019**

The following schedules pertain to employees of TRS, ERS, and JRF who participate in the TRS and ERS pension plans.

SCHEDULES OF PENSION CONTRIBUTIONS**For the Fiscal Years Ended September 30**

(Dollar Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM

	2019	2018	2017	2016	2015
Contractually Required Contribution	\$ 1,883	\$ 1,725	\$ 1,444	\$ 1,453	\$ 1,271
Contributions in relation to the					
Contractually Required Contribution	(1,883)	(1,725)	(1,444)	(1,453)	(1,271)
Contribution Deficiency/(Excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered Payroll	\$ 8,748	\$ 7,663	\$ 7,235	\$ 6,739	\$ 6,593
Contributions as a Percentage of					
Covered Payroll	21.52%	22.51%	19.96%	21.56%	19.28%

EMPLOYEES' RETIREMENT SYSTEM

	2019	2018	2017	2016	2015
Contractually Required Contribution	\$ 1,209	\$ 1,059	\$ 1,014	\$ 1,133	\$ 896
Contributions in relation to the					
Contractually Required Contribution	(1,209)	(1,059)	(1,014)	(1,133)	(896)
Contribution Deficiency/(Excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered Payroll	\$ 5,848	\$ 5,197	\$ 5,113	\$ 4,904	\$ 4,695
Contributions as a Percentage of					
Covered Payroll	20.67%	20.38%	19.83%	23.10%	19.08%

JUDICIAL RETIREMENT FUND

	2019	2018	2017	2016	2015
Contractually Required Contribution	\$ 23	\$ 21	\$ 19	\$ 21	\$ 17
Contributions in relation to the					
Contractually Required Contribution	(23)	(21)	(19)	(21)	(17)
Contribution Deficiency/(Excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered Payroll	\$ 176	\$ 157	\$ 152	\$ 144	\$ 136
Contributions as a Percentage of					
Covered Payroll	13.07%	13.38%	12.50%	14.58%	12.50%

Schedule is intended to show information for 10 years.

Additional years will be displayed as they become available.

The following schedules pertain to employees of TRS, ERS, and JRF who participate in the State Employees' Health Insurance Plan (SEHIP) which is administered by the State Employees' Insurance Board (SEIB).

SCHEDULES OF PROPORTIONATE SHARE OF THE NET OPEB LIABILITY
(Dollar Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM

Measurement Date	Fiscal Year Ended	Proportion of the Net OPEB Liability (%)	Proportionate Share of the Net OPEB Liability	Covered Payroll	Proportionate Share of the Net OPEB Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability
9/30/2018	9/30/2019	0.57	\$ 16,182	\$ 7,663	211.17	5.96
9/30/2017	9/30/2018	0.53	16,708	7,235	230.93	5.05

EMPLOYEES' RETIREMENT SYSTEM

Measurement Date	Fiscal Year Ended	Proportion of the Net OPEB Liability (%)	Proportionate Share of the Net OPEB Liability	Covered Payroll	Proportionate Share of the Net OPEB Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability
9/30/2018	9/30/2019	0.38	\$ 10,902	\$ 5,197	209.77	5.96
9/30/2017	9/30/2018	0.38	11,871	5,113	232.17	5.05

JUDICIAL RETIREMENT FUND

Measurement Date	Fiscal Year Ended	Proportion of the Net OPEB Liability (%)	Proportionate Share of the Net OPEB Liability	Covered Payroll	Proportionate Share of the Net OPEB Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability
9/30/2018	9/30/2019	0.00	\$ 91	\$ 157	57.96	5.96
9/30/2017	9/30/2018	0.00	99	152	65.13	5.05

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

RETIREMENT SYSTEMS OF ALABAMA

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Required Supplementary Information

For the Fiscal Year Ended September 30, 2019

The following schedules pertain to employees of TRS, ERS, and JRF who participate in the State Employees' Health Insurance Plan (SEHIP) which is administered by the State Employees' Insurance Board (SEIB).

SCHEDULES OF OPEB CONTRIBUTIONS

For the Fiscal Years Ended September 30

(Dollar Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM

	<u>2019</u>	<u>2018</u>
Contractually Required Contribution	\$ 428	\$ 454
Contributions in relation to the		
Contractually Required Contribution	<u>(428)</u>	<u>(454)</u>
Contribution Deficiency/(Excess)	<u>\$ -</u>	<u>\$ -</u>
 Covered Payroll	 \$ 8,748	 \$ 7,663
 Contributions as a Percentage of		
Covered Payroll	4.89%	5.92%

EMPLOYEES' RETIREMENT SYSTEM

	<u>2019</u>	<u>2018</u>
Contractually Required Contribution	\$ 290	\$ 306
Contributions in relation to the		
Contractually Required Contribution	<u>(290)</u>	<u>(306)</u>
Contribution Deficiency/(Excess)	<u>\$ -</u>	<u>\$ -</u>
 Covered Payroll	 \$ 5,848	 \$ 5,197
 Contributions as a Percentage of		
Covered Payroll	4.96%	5.89%

JUDICIAL RETIREMENT FUND

	<u>2019</u>	<u>2018</u>
Contractually Required Contribution	\$ 2	\$ 2
Contributions in relation to the		
Contractually Required Contribution	<u>(2)</u>	<u>(2)</u>
Contribution Deficiency/(Excess)	<u>\$ -</u>	<u>\$ -</u>
 Covered Payroll	 \$ 176	 \$ 157
 Contributions as a Percentage of		
Covered Payroll	1.14%	1.27%

Schedule is intended to show information for 10 years.
Additional years will be displayed as they become available.

1) NET PENSION LIABILITY

A. Schedules of Changes in the Net Pension Liability & Related Ratios

The total pension liabilities presented in these schedules were provided by the Systems' actuarial consultants, Cavanaugh Macdonald Consulting, LLC. The net pension liability is measured as the total pension liability less plan fiduciary net position. The related ratios show plan net position as a percentage of the total pension liability and the net pension liability as a percentage of covered employee payroll.

B. Schedules of Employer Contributions

Contributions were made in accordance with actuarially determined contribution requirements. The employer contribution rate expressed as a percent of payroll is determined annually by reviewing a variety of factors including benefits promised, member contributions, investment earnings, mortality, and withdrawal experience. The employer contribution rates for fiscal year 2019 are in the table below. ERS local participating employer contribution rates differ for each employer.

	Tier 1	Tier 2
TRS	12.41%	11.35%
ERS - State Employees	14.51%	14.14%
ERS - State Police	50.08%	43.43%
JRF - Groups 1 & 2	41.41%	-
JRF - Group 3 - Judges & Clerks	34.32%	-
JRF - District Attorneys	19.77%	-

C. Schedule of Investment Returns

The annual money-weighted rate of return on investments is calculated as the internal rate of return on plan investments, net of plan investment expense. A money-weighted rate of return expresses investment performance, net of plan investment expense, adjusted for the changing amounts actually invested.

D. Actuarial Assumptions

The actuarially determined contribution rates in the schedules of employer contributions are calculated as of September 30, 2016, three years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the most recent contribution rate reported in that schedule.

	TRS	ERS	JRF
Actuarial Cost Method	Entry Age Normal	Entry Age Normal	Entry Age Normal
Asset Valuation Method	5-year smoothed market	5-year smoothed market	5-year smoothed market
Amortization Method	Level percent closed	Level percent closed	Level percent closed
Remaining Amortization Period	29.2 years	Within 29.3 years - Varies by Employer	23.3 years
Actuarial Assumptions:			
Investment Rate of Return* ‡	7.875%	7.875%	7.75%
Projected Salary Increases ‡	3.375% - 5.125%	3.375% - 5.125%	3.25% - 3.50%
Cost of Living Adjustments	None	None	3.00% †

*Net of pension plan investment expense.

‡ Includes inflation at 2.875% for TRS & ERS and 2.75% for JRF..

† Per year for certain members hired prior to July 30, 1979, and for spousal benefits subject to increase.

Financial Section

Notes to the Required Supplementary Information

For the Fiscal Year Ended September 30, 2019

Changes to Benefit Terms

- TRS and ERS's member contribution rates increased from 5% (6% 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.
- TRS and ERS members hired on or after January 1, 2013, are covered under a new benefit structure.
- JRF's member contribution rate increased from 6% of earnable compensation to 8.25% of earnable compensation on October 1, 2011, and to 8.50% of earnable compensation on October 1, 2012.
- Effective November 8, 2016, any Judge or Clerk first elected or appointed on or after that date and any District Attorney serving as a District Attorney on or after that date are covered members of the JRF under a new benefit structure.

Changes of Assumptions

In December 2018, the Boards of Control adopted new discount rates for TRS, ERS, and JRF. The new discount rates were 7.70% for TRS & ERS and 7.65% for JRF.

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

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.

2) NET OTHER POSTEMPLOYMENT BENEFIT LIABILITY

A. Changes to Benefit Terms

Effective January 1, 2017, Medicare eligible medical and prescription drug benefits are provided through a Medicare Advantage Prescription Drug (MAPD) plan.

B. Changes of Assumptions

In 2016, rates of withdrawal, retirement, disability, and mortality were adjusted to more closely reflect actual experience. In 2016, economic assumptions and the assumed rates of salary increase were adjusted to more closely reflect actual and anticipated experience.

C. Actuarial Assumptions

The actuarially determined contribution rates in the schedule of employer contributions are calculated as of September 30, 2017, two years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the recent contribution rate reported in that schedule.

Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level Percent of Pay, Open
Remaining Amortization Period	30 years
Asset Valuation Method	Market Value of Assets
Inflation	2.750%
Healthcare Cost Trend Rate	
Pre-Medicare Eligible	7.00%
Medicare Eligible	5.50%
Ultimate Trend Rate	
Pre-Medicare Eligible	4.75% in 2026
Medicare Eligible	4.75% in 2024
Investment Rate of Return*	5.00%

*Includes inflation at 2.75%

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Schedule of Administrative Expenses

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

	Teachers' Retirement System	Employees' Retirement System	Judicial Retirement Fund	Totals
Personnel Services:				
Salaries	\$ 8,748	\$ 5,848	\$ 176	\$ 14,772
Employee Fringe Benefits	3,859	2,400	63	6,322
Total Personnel Services	12,607	8,248	239	21,094
Professional Services:				
Actuarial	141	587	65	793
Accounting and Auditing	106	70	21	197
Information Technology	2,254	903	8	3,165
Education & Training	19	8	1	28
Mailing Services	137	70	-	207
Legal Services	184	119	-	303
Personnel Services	121	-	-	121
Other Professional Services and Fees	183	67	-	250
Total Professional Services	3,145	1,824	95	5,064
Communications and Travel:				
Telecommunications	156	80	-	236
Postage	1,018	668	-	1,686
Travel	90	46	2	138
Total Communications and Travel	1,264	794	2	2,060
Rentals:				
Office Space	981	653	16	1,650
Equipment Leasing	9	4	-	13
Total Rentals	990	657	16	1,663
Miscellaneous:				
Supplies	1,898	1,120	5	3,023
Maintenance & Equipment	679	291	-	970
Total Miscellaneous	2,577	1,411	5	3,993
Total Administrative Expenses	\$ 20,583	\$ 12,934	\$ 357	\$ 33,874

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Schedule of Investment Expenses

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

	Teachers' Retirement System	Employees' Retirement System	Judicial Retirement Fund	Totals
Investment Activity				
Investment Management Fees:				
Salaries and Benefits	\$ 7,250	\$ 2,616	\$ -	\$ 9,866
Dues, Subscriptions, and Supplies	1,386	919	-	2,305
Travel	26	15	-	41
Professional Services:				
Legal	2	1	-	3
Investment Advisor	60	30	-	90
Appraisal of Private Placements and Real Estate	489	292	-	781
Investment Activity Expenses before Reimbursement	9,213	3,873	-	13,086
Less: Reimbursement for Investment Management Fees	8	212	-	220
Total Investment Activity Expenses	9,205	3,661	-	12,866
Securities Lending Activity				
Securities Lending Borrower Rebates	19,431	9,394	218	29,043
Securities Lending Management Fees	2,842	1,347	32	4,221
Total Securities Lending Activity Expenses	22,273	10,741	250	33,264
Total Investment Expenses	\$ 31,478	\$ 14,402	\$ 250	\$ 46,130

RETIREMENT SYSTEMS OF ALABAMA

Financial Section

Schedule of Professional/Consultant Fees

For the Fiscal Year Ended September 30, 2019

(Dollar Amounts in Thousands)

Professional/Consultant	Nature of Service	Teachers' Retirement System	Employees' Retirement System	Judicial Retirement Fund	Totals
Cavanaugh Macdonald Consulting, LLC	Actuary	\$ 141	\$ 587	\$ 65	\$ 793
Carr, Riggs & Ingram, LLC	Auditor	84	44	18	146
The Eric Ryan Corporation	Auditor	13	9	-	22
A-LIGN	Auditor	9	17	3	29
Balch & Bingham, LLP	Legal	116	74	-	190
Bradley Arant Boulton Cummings, LLP	Legal	36	24	-	60
Jackson Walker, LLP	Legal	13	8	-	21
Morgan, Lewis, & Blockius LLP	Legal	15	10	-	25
Ice Miller LLP	Legal	2	2	-	4
Reed Smith LLP	Legal	2	1	-	3
Wells Mailing	Mail	91	39	-	130
Alabama Department of Finance	Mail	46	31	-	77
State Personnel Department	Personnel	121	-	-	121
Fine Geddie & Associates, LLC	Consultant	75	-	-	75
Alabama Department of Finance	Information Technology	128	77	8	213
Auburn University at Montgomery	Information Technology	306	102	-	408
Deloitte Consulting, LLP	Information Technology	1,714	662	-	2,376
GKR Systems, Inc.	Information Technology	29	10	-	39
Stamp Idea Group	Information Technology	64	43	-	107
Packet Ninjas	Information Technology	13	9	-	22
Various	Other	127	75	1	203
Total Professional/Consultant Fees - Administrative Services		3,145	1,824	95	5,064
Cabaniss, Johnston, Gardner, Dumas & O'Neal, LLP	Legal	2	1	-	3
Regions Bank	Investment Advisor	60	30	-	90
Pearson Realty Services, Inc.	Real Estate Appraiser	222	148	-	370
Houlihan Lokey	Investment Appraiser	267	144	-	411
Total Professional/Consultant Fees - Investment Services		551	323	-	874
Total Professional/Consultant Fees		\$ 3,696	\$ 2,147	\$ 95	\$ 5,938



Investment Section

Component Units of the State of Alabama
Comprehensive Annual Financial Report



RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Report on Investment Activity

For the Fiscal Year Ended September 30, 2019

Dear Members,

I am pleased to present the following report on investment activity for the fiscal year ended September 30, 2019. The report provides investment highlights in general as well as specific information on the Retirement Systems' investment activity for the fiscal year. The custodian calculated rates of return are based on normal industry standards using a time weighted rate of return methodology based upon market values.

Much like 2018, fiscal year 2019 was a period of heightened volatility across most asset classes. U.S. large capitalization equities again outperformed both developed and emerging international equities, while further down the market cap spectrum both midcap and smallcap stocks had negative returns for the year. Stock markets across the globe had a horrific December quarter as recession fears mounted. The Federal Reserve (Fed) hiked Fed Funds rates four times throughout the year, with the last hike occurring in December. Inverted yield curves, negative interest rates abroad, rapid economic slowing, and the U.S./China tariff battle weighed heavily on stocks. The volatility on the downside was increased as various quant and commodity trading advisor funds piled out of stocks and into safe government securities. Algorithmic trading is an unpredictable animal that exacerbates drawdowns and short covering rallies. We need to get used to it.

We generally look to earnings growth as the ultimate driver of stock prices. Valuations are very useful at extreme ends of the spectrum, however the market has been trading relatively close to the long term average for several years. In hindsight, the churn we experienced throughout the fiscal year had much to do with a resetting of growth expectations. There have been two prior mini-earnings recessions over the past ten years, and the market had much the same reaction. Looking forward, we are concerned about operating margins at companies as we are starting to see signs of wage inflation. The upside is that consumer spending is the biggest component of Gross Domestic Product (GDP) growth, and more dollars in their pockets could possibly reaccelerate corporate topline growth.

With equities at the higher end of our target range, we have continued paring back our exposure to stocks through selling of the S&P 500 index fund. We also continue to use collars to manage our downside risk. We did add some exposure in fixed income, although we remain below target in that asset class. On the flipside, we have a much higher cash weighting than normal, and view this as somewhat of a barbell approach to our equity exposure. We have quite a bit of dry powder on the sideline and are looking for opportunities to deploy that cash when we feel the risk/reward is favorable.

Within the alternative investments portfolio, the Raycom Media/Gray TV merger closed January 2, 2019. We received cash, preferred stock, and Gray common stock in the deal. Our small exposure to private equity performed well this year, and we did some co-invests on a couple of deals alongside the fund investment. Real estate returns improved versus the prior year as several capital expenditure projects were completed. 55 Water Street, RSA's biggest real estate investment, closed several tenant deals even as the Manhattan office market softened.

As usual, we will continue to closely monitor the portfolio and look for the best risk adjusted investments possible. We will also continue to demand the best execution from all RSA counterparts, and will strive to produce results that strengthen the Retirement Systems of Alabama and its beneficiaries.

RSA Performance Summary

As of September 30, 2019, aggregate defined benefit assets under management totaled \$38.13 billion. During fiscal year 2019, annualized total returns of the TRS, ERS, and JRF were 2.63%, 2.78%, and 3.82% respectively.

Equities

Equities had a tumultuous grind throughout fiscal year 2019. As we wrote about above, macro headwinds weighed on economic growth. At the beginning of the year bottoms up analyst estimates for 2019 were approximately \$175. It looks like the final number is going to be closer to \$163, an approximate 7% shortfall versus initial expectations.

That type of an earnings reset is hard to overcome, evidenced by the small returns generated in stocks for the year. Breadth was very narrow, led by the large cap growth stocks. This is very typical as investors are willing to pay up for growth when growth is scarce. Retrospectively this makes sense, as central banks started tightening monetary policy both by raising short term rates and reversing course on the quantitative easing era post the Great Recession. More recently we have seen breadth improve, with somewhat of a rotation into value and cyclical names. As mentioned previously, the RSA opportunistically sold stocks as our weighting had drifted toward the high end of the target range. We also used zero cost collars to mitigate some of the downside risk if the market broke lower, but those collars expired at fiscal year-end with no value. Barring an exogenous shock of some sort, bad policy decisions, or a surprising election outcome, we feel that the market is fairly valued at this point. It is late in the cycle and we are obviously paying close attention to all the aforementioned issues.

For the year, the RSA domestic equity portfolios returned 1.71%, 1.94%, and 2.48% for the TRS, ERS, and JRF, respectively. Both developed and emerging international equities performance lagged U.S. equities. Total international equity returns were -0.60% for the TRS, -0.74% for the ERS, and -0.56% for the JRF. The combined total returns for the overall equity portfolios were 1.23%, 1.40%, and 1.83% for the TRS, ERS, and JRF, respectively. Three-, five-, and ten-year annualized global equity returns were 11.01%, 8.82%, and 11.05% for the TRS, 11.09%, 8.86%, and 11.10% for the ERS, and 11.12%, 8.92%, and 11.52% for the JRF, respectively.

Fixed Income

As monetary policymakers raised short term interest rates at its September 2018 meeting, we questioned how global risk assets would respond to further rate increases. We found the answer to that question fairly soon in the new fiscal year.

The first quarter revealed a continuation of slowing economic data abroad and heightened volatility. Credit spreads experienced material widening and treasury yields fell precipitously through year end. The Fed pushed another rate hike through in December against the market's wishes on the back of a solid employment picture. Chairman Jay Powell would quickly change course however, as it became apparent that patience was needed to calm financial markets. Losses in the riskiest parts of the credit market were quickly restored.

As yields in Europe collapsed further due to the lowering of growth and inflation expectations, the Fed was forced to throw in the towel on additional rate adjustments and balance sheet reduction. The ensuing rate decline in the long end of the curve led to a brief inversion, historically an indicator of recession in the future. Credit proved to be pretty resilient during this time and benefited from its longer duration profile. Breakdown in trade negotiations with China in the spring provided another hit to risk assets.

In the following months, policymakers conveyed that they would act as needed to sustain the economic expansion, and ultimately delivered a 25 basis point (bp) rate cut at the end of July. Unfortunately, the market was disappointed as the move was described as a "mid-cycle adjustment" rather than the start of a more aggressive approach. This coupled with increasing trade tensions caused a third round of instability during the fiscal year. Risk-free assets were further emboldened by protests in several countries, additional tariffs on Chinese imports, and the political firestorm here at home.

The Federal Open Market Committee (FOMC) delivered another rate cut at the end of the fiscal year to help alleviate recession fears priced into the market. Global policymakers appear to be on the same page as they are providing as much ammunition as possible to combat anemic growth. It remains to be seen whether any actions will be taken on the fiscal side. Duration has been the key ingredient in producing solid returns within fixed income this year. The RSA has opportunistically added higher quality assets in the long end of the curve in order to provide a better balance of yield and safety at this stage in the cycle.

For the fiscal year, the total annual returns for the public domestic fixed income portfolios were 9.51% for the TRS,

RETIREMENT SYSTEMS OF ALABAMA

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Report on Investment Activity

For the Fiscal Year Ended September 30, 2019

9.49% for the ERS, and 9.23% for the JRF. The five-year annualized returns were 3.72% for the TRS, 3.71% for the ERS, and 3.55% for the JRF. The ten-year annualized returns were 4.45% for the TRS, 4.44% for the ERS, and 4.40% for the JRF.

Sincerely,

A handwritten signature in black ink, appearing to read "Marc Green", with a stylized, flowing script.

Marc Green
Director of Investments

Investment Section

Teachers' Retirement System Investment Policy Statement

For the Fiscal Year Ended September 30, 2019

Purpose

This Investment Policy Statement ("IPS") sets forth the investment policies by which the Teachers' Retirement System's ("TRS") fund's investments will be managed. This IPS is consistent with and complements related Alabama statutes and is intended to be binding upon all persons with authority over the investments of the TRS. Deviation from the IPS is not permitted without explicit written permission, in advance, from the TRS Board of Control ("Board of Control" or "Board"). This IPS was adopted by the Board of Control on December 9, 2015 and is effective March 1, 2016.

Roles and Responsibilities

Board of Control

The Board of Control, as Trustees, shall carry out its functions solely in the interest of the members and benefit recipients and for the exclusive purpose of providing benefits and defraying reasonable expenses incurred in performing such duties. The Trustees shall act in accordance with the provisions of the laws and with the care, skill, prudence and diligence in light of the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

Specific responsibilities include:

- Approving a statement of investment philosophy that sets forth TRS's beliefs on key investment issues.
- Approving an IPS.
- Ensuring asset allocation strategies are in place to achieve the investment goals and objectives of the TRS.
- Reviewing adherence to the investment philosophy of the TRS.
- Reviewing compliance with, and the continued appropriateness of, the IPS.
- Reviewing the investment performance of the fund, including the performance of all investment classes.
- Elect an investment committee (Ala. Code § 16-25-20(a)(3)).
- Appoint an Investment Advisor (Ala. Code § 16-25-20(a)(4)).

Investment Committee

The Investment Committee will:

- Act as agent for its appointing Board of Control (Ala. Code § 16-25-20(a)(3)).
- Consider all investment recommendations made by the Secretary-Treasurer (Ala. Code § 16-25-20(a)(3)).
- Either approve or disapprove the recommended investments in accordance with policies set by the Board (Ala. Code § 16-25-20(a)(3)).
- Confirm by written authorization of at least two members the approval of all investments, with such authorization to be attached to the invoice for the transaction (Ala. Code § 16-25-20(a)(3)).

Secretary-Treasurer

The Secretary –Treasurer is elected by the Board of Control and serves as the chief executive officer for the TRS. Ala. Code § 16-25-19(i). Specific responsibilities of the Secretary-Treasurer include:

- Recommending to the Board a written IPS and reviewing that statement with the Board at least annually.
- Developing and executing, within the policy parameters approved by the Board, investment strategies for each asset category in which the TRS invests.
- Executing portfolio rebalancing in accordance with the policies of the Board.
- Advising the Board on any other investment matters and making recommendations for Board or committee action when necessary.
- Reporting to the Board all purchases and sales of investments made by him or her at least once semiannually (Ala. Code § 16-25-20(a)(5)).
- Carrying out the investment policies fixed by the Board (Ala. Code § 16-25-20(a)(2)).

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Teachers' Retirement System Investment Policy Statement (Continued)

For the Fiscal Year Ended September 30, 2019

- Examining all offers of investments made to the funds (Ala. Code § 16-25-20(a)(2)).
- Initiating inquiries as to available investments for the funds (Ala. Code § 16-25-20(a)(2)).
- Reviewing periodically the investment quality and desirability of retention of investments held (Ala. Code § 16-25-20(a)(2)).
- Making purchases and sales of investments as he or she shall deem to be to the best interests of the fund and in accordance with policies set by the Board, and as the Investment Committee shall approve (Ala. Code § 16-25-20(a)(2)).
- Other such responsibilities as the Board may delegate or the law shall provide.

Custodian

The Custodian holds directly, through its agents, its sub-custodians, or designated clearing systems, assets as designated by the Board. The Custodian is accountable for registration of those designated assets in good delivery form, collection of income generated by those assets, and any corporate action notification. The Custodian is responsible for delivery and receipt of securities of the aforementioned transactions. The Custodian is required to provide online records and reports, performance reporting, accounting reports and other services included by contract. The Board may opt to designate other duties to the Custodian.

Investment Advisor

The Investment Advisor may be appointed and employed by the Board of Control to act as a consultant to the Secretary-Treasurer in the purchase, sale, and review of the TRS's investments to the extent the Board may designate. The Investment Advisor must be a bank having principal office in the State of Alabama, must have capital, surplus and undivided profits of not less than \$300 million, and must have an organized investment department. Ala. Code § 16-25-20(a)(4). Specific responsibilities of the Investment Advisor include:

- Assist the Secretary-Treasurer with the development of quarterly strategies for investments.
- Confirm weekly list of investment activities.
- Meet at least quarterly with the Secretary-Treasurer and Board of Control members.

Investment Goals and Objectives

The function of the TRS is to provide present and future retirement or survivor benefits for its members. This objective requires the prudent assumption of investment risk in seeking to maximize long-term investment returns while incorporating the fund's liability requirements. The future investment performance of the fund directly affects its future financial strength. However, the greater the expected return of the strategic asset allocation policy, the higher the risk, and thus the greater the volatility of expected returns. With this greater volatility, the volatility of the surplus (deficit) of the plan may also be greater. The optimal balancing of these return and risk considerations will be considered in the context of the fund's short-term and long-term benefit obligations.

Investment Philosophy

The investment philosophy for the TRS is determined with careful consideration of its primary fund purpose, fiduciary obligations, statutory requirements, actuarial assumptions, funding policy, liquidity needs, income sources, benefit obligations and other general business conditions. The investment philosophy embraces the following:

- Strategic asset allocation is the most significant factor influencing long-term investment performance and asset volatility. The asset allocation targets, determined by the Board of Control, will be adhered to through a clearly defined rebalancing program.
- In controlling the risk level that is appropriate for the fund, the Board will diversify the assets of the fund among various asset classes as the Board may from time to time adopt as appropriate asset classes with the goal of minimizing large losses. The specific asset classes to be used will be set in conjunction with the strategic asset allocation adopted from time to time by the Board. The Board will diversify investment assets within asset classes to avoid concentrations.
- The fund's liabilities are long term and the investment strategy will therefore be long term in nature. Strategic decisions will prevail in determining asset allocation rather than tactical or short-term market timing decisions.
- The asset allocation policy will be reexamined every three years to ensure its appropriateness to the then prevailing liability considerations.
- Market-related risk and non-market related risk investments will be utilized. Market related risk refers to risk systematic to a market or risk embedded in the strategic asset allocation policy. Non-market risk refers to risk derived from active management or tactical decisions. Market-related risks are expected to produce returns proportional to the level of those risks over long periods of time as a natural feature of reasonably efficient capital markets; non- market related risks may produce additional returns when capitalized upon through skilled active management in the presence of some degree of market inefficiency. As a long-term investor, the TRS will invest across a wide spectrum of market-related risk investments, categorized in asset classes, in a prudent manner consistent with the strategic asset allocation policy referred to above.
- Index funds can be a desirable way of obtaining market-related risk exposure to asset classes.
- Non-market-related risks, also known as active management risk, may be expected to add value over index funds with comparable benchmarks, under appropriate conditions, and can be employed by the fund with controls in place which are appropriate to the particular investment.
- Also TRS recognizes that a stronger Alabama equates to a stronger Teachers' Retirement System and, as such, investments in Alabama businesses are encouraged to the extent the investment return meets the criteria delineated by this policy statement. Any Alabama investment must be forecast to have a return comparable to other like investments in the same asset class.
- Investment returns may be adversely affected by excessive investment related fees. TRS will utilize in-house staff expertise to minimize the cost of investing as appropriate.

Strategic Asset Allocation Policy

The **TRS** current target asset allocation and ranges are specified below.

Asset Class	Target Allocation	Strategic Range
Domestic Equity	45%	30%-60%
International Equity	15%	10%-25%
Fixed Income	15%	10%-50%
Alternative Investments	10%	0%-20%
Real Estate	10%	0%-15%
Short-term investments	5%	1%-10%
Total	100%	

The strategic asset allocation policy will be periodically reviewed, as described under “Investment Philosophy” and “Roles and Responsibilities.”

Rebalancing Policy

The purpose of the rebalancing policy is to ensure the adherence to the strategic allocation plan. Unexpected changes in market values may, on occasion, cause the actual asset allocation to fall outside of the allowable ranges. This policy applies to all asset classes in which the TRS invests and requires Investment Management Staff (“Staff”) to implement rebalancing trades if, as of any quarter end, the allocation to any asset class is outside the allowable ranges. The Board recognizes, however, the inherent difficulty in managing the allocations to illiquid asset classes.

As such, with respect to TRS’s illiquid asset classes, the Board expects the allocations to these areas to be managed as close as practical to the policy targets. The Board expects Staff to report illiquid asset class allocations that fall outside the prescribed ranges. In addition, the Board expects Staff to provide an implementation recommendation to bring the fund’s allocation to these areas back within the allowable ranges.

Managing the allocations to the marketable asset classes involves a risk reduction tradeoff with increased transaction costs. As such, the Board expects Staff to implement this policy in a manner that seeks to minimize the impact of transaction costs. In particular, the Board expects Staff to use cash contributions and cash needs to move the fund’s asset allocation as close as practical to the policy targets. When markets move such that the fund’s normal cash flows are insufficient to maintain the fund’s actual asset allocation within the permissible ranges as of any quarter end, the Board expects Staff to implement the necessary transactions to bring the fund’s allocation back to within the allowable ranges. Before a rebalancing transaction is implemented, the Board expects Staff to identify those portfolios that are likely to have the lowest cost of trading. Absent any asset class structure considerations, the Board expects these low trading cost portfolios to be utilized more frequently to implement required total fund rebalancing.

Eligible Asset Categories

The Board is responsible for approving asset categories in which the fund will invest. Listed below are the asset categories in which TRS currently invests along with a discussion of market efficiency in each category.

The efficiency of markets is relevant to expected return opportunities. Highly efficient markets provide less opportunity to add value above market returns. Highly inefficient markets provide more opportunity to add return above what is available by the market. This above market return expectation can be referred to as alpha. Market return can be referred to as beta.

Domestic Equities

Investing in the domestic equity market is a way to participate in one of the largest and most diverse economies in the world through ownership of the companies that make up the economy of the United States. Investment theory and history suggest that the domestic equity markets provide long-term price appreciation in an amount that tends to mirror the overall growth in the economy. In addition, stocks have historically provided a return that served as an effective hedge relative to inflation (i.e., the historical return of stocks has been in excess of the rate of inflation).

It is expected that the TRS will have exposure to all segments of the domestic equity market including but not limited to growth and value stocks of large to small capitalization companies. The domestic equity market is considered by many to be one of the most efficient capital markets in the world. The availability of public information regarding the future prospects of individual companies combined with the numerous market participants rendering assessments of the information contribute to this market's efficiency. With this in mind, a large portion of the domestic equity portfolio will be managed through passive index funds. A portion of the portfolio will be utilized to add alpha relative to the benchmarks. While the market is very efficient, neither it nor any other market is perfectly efficient. When appropriate skill is available, it may be possible to successfully use active management techniques to improve upon benchmark returns, with acceptable levels of risk.

International Equities

The international equity markets are an increasingly larger share of the investment opportunity set. In addition, because international company stocks tend to react to local as well as global influences, the fluctuations in the returns of international equity markets are only partially related to the movements in the domestic equity market. Further, capital market theory suggests that we should be fully diversified in a global, not just in a local sense.

Fixed Income

Bonds provide a source of diversification relative to an equity-oriented portfolio. The rate of return volatility (investment risk) of fixed income securities is substantially lower than the volatility of equities. In addition, there are significant differences in the pattern of returns between stock and bond investments. When combined with equity securities, a fixed income allocation can serve to reduce the overall risk of the portfolio without materially sacrificing return potential.

The fixed income asset class is perhaps the most diverse capital market. Securities include government, mortgage-backed and corporate bonds of U.S. and non-U.S. issuers. It also includes bonds issued by high quality as well as low quality companies and countries. The fixed income market may be more efficient than once believed. However, fixed income can experience less efficiency at times and in certain segments such as lower quality bonds. It is expected that the fixed income portfolio will make use of both active and passive investment mandates and will include allocations to all major segments of the fixed income market.

Alternative Investments

The alternative investment asset class can encompass many different and distinct asset categories. These types of investments may exhibit high levels of risk, with a concomitant expectation for high rates of investment returns. Many of these investments may exhibit a high level of correlation with the publicly-traded equity markets.

The alternative investment asset class is considered highly inefficient, as the lack of publicly available company and pricing information suggest active management is critical in this asset class. Examples of such investments are venture capital partnerships, private equity, hedge funds, leveraged buy-out funds, private debt, and direct ownership of individual assets such as oil and gas partnerships. These investments shall only be entered into after significant due diligence.

Short-term Investments

Short-term investments are an integral part of a public pension portfolio, primarily as a tool of principal preservation and as a provider of liquidity. Eligible securities within this asset class include but are not limited to, U.S. treasury bills, notes and bonds with maturities of one year or less, corporate debt obligations (primarily commercial paper), short-dated agency and mortgage backed debt with government backed principal and interest payments, various types of bank paper including time deposits, repurchase agreements as well as money market funds. Also included is any money held in the STIF (short-term investment fund) accounts at the custody bank of the RSA, State Street Corporation.

Real Estate

Real estate investments can serve as a diversifier of a stock and bond portfolio. While the factors that influence real estate returns may also influence the returns of stock and bond portfolios, these factors impact real estate in a different manner than the other asset classes. This suggests that the return patterns of real estate have a lower correlation to other asset classes, providing a diversification benefit when combined with stocks and bonds.

Risk Controls and Procedures

- The fund is to be broadly diversified across and within asset classes to limit the volatility of the total fund investment returns and to limit the impact of large losses on individual investments of the fund.
- Individual portfolios will be managed according to written investment guidelines that are approved by the Staff. These guidelines are intended to ensure that the portfolio meets its objective and operates within acceptable risk parameters.
- A process will be established by which compliance with all elements of the IPS and portfolio guidelines are measured and monitored, with compliance exceptions being reported to the Board.
- The Investment Advisor will work with the Staff to develop a quarterly strategy for investments, which will be disseminated to the Board, as it is prepared each quarter.
- The Investment Committee shall approve all investments made within the IPS. The Investment Committee, in its approval, is considered to be signing for the Board of Control. If any purchase or sale is questioned by two members of the Investment Committee as to whether it is within policy, the Board shall decide if further action is required.
- Each week, the Secretary-Treasurer will send to the Investment Advisor the list of actual activities for written confirmation, which will then be distributed to the Board of Control members upon receipt.
- All investment security purchases will be documented with an individual worksheet setting out the reason for the purchase, rating, market history and other general data relevant to the decision making process.
- An annual survey will be made of all fixed income investments held with emphasis on credit quality. A holding that has been downgraded in rating will be examined as to the reason for the downgrade and a determination should be made as to whether the security should remain in the portfolio.
- The rules of the Securities and Exchange Commission, the general policies of the Board of Control, and the Alabama Ethics Commission shall govern the ethical conduct of employees. The Investment Management Staff will provide the Alabama Ethics Commission with a quarterly report of all purchases and sales of any and all securities for personal accounts occurring within each reported quarter.
- All Alternative Investments will be documented with a comprehensive financial analysis setting out the reasons for the investment and showing the projected return on investment.

Performance Measurement

The investment objective of the TRS total fund is to earn the rate of return of the Total Plan Policy Portfolio. A Policy Portfolio is a passive representation of the specific asset allocation strategy pursued and is the most objective performance evaluation metric. The Total Plan Policy Portfolio weights each individual portfolio and its return versus the actual relative index returns. This process accounts for asset allocation shifts within and between any asset classes.

Total Plan Benchmark

The Total Plan Benchmark is calculated monthly. It is a weighted average of the asset classes and their corresponding benchmarks. The weights are calculated using the beginning market values. The asset class benchmarks are listed in the table below.

Domestic Equity	Custom Benchmark	(see description below)
International Equity	MSCI EAFE Net & Emerging Markets Net	Beginning of month weighted custom benchmark
Domestic Fixed Income	Custom Benchmark	(see description below)
International Fixed Income	WGBI Non-US	Currently, there are no International Fixed Income portfolios in the plan.
Cash	ML 90-Day T-Bill	
Alternative Investments	-If an equity investment, the Russell 3000 plus 3%. -If a debt investment, the Barclay Capital Agency plus 3%.	
Real Estate	CPI+3%	

Domestic Equity Benchmark

The Domestic Equity Benchmark is calculated monthly. It is a weighted average of the domestic equity portfolios and their corresponding benchmarks. The weights are calculated using the beginning markets' values. The portfolio benchmarks are listed in the table below:

Core Fund	S&P 500
S&P 500 Fund	S&P 500
MidCap Active Fund (SSF)	S&P 400 MidCap
S&P MidCap Index	S&P 400 MidCap
S&P SmallCap Index	S&P 600 SmallCap
Policy Fund	S&P 500
Value Fund	S&P 500

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Teachers' Retirement System Investment Policy Statement (Continued)

For the Fiscal Year Ended September 30, 2019

Fixed Income Benchmark

The Fixed Income Benchmark is calculated monthly. It is a weighted average of the Fixed Income sectors and their corresponding benchmarks. The weights are calculated using the beginning markets' values. The sector benchmarks are listed in the table below:

Agency	Barclay Capital Agency
Asset Backed	Barclay Capital ABS Index
CMO	Barclay Capital MTGE
Corporate	Barclay Capital Corp
Municipal	N/A
Mortgage Pass-Through	Barclay Capital MTGE
Private Placement	N/A
US Treasury	Barclay Capital Treasury
Yankee - Agency	Barclay Capital Agency
Yankee – Other Yankee	Barclay Capital Corp

Employees' Retirement System Investment Policy Statement For the Fiscal Year Ended September 30, 2019

Purpose

This Investment Policy Statement (IPS) sets forth the investment policies by which the fund's investments will be managed. This IPS is consistent with and complements related Alabama Statutes and is intended to be binding upon all persons with authority over the investments of the Employee Retirement System of Alabama ("ERS"). Deviation from the IPS is not permitted without explicit written permission, in advance, from the ERS Board of Control ("Board of Control" or "Board"). This IPS shall be effective April 1, 2015.

The Judicial Retirement Fund is a defined benefit plan created by and administered in accordance with Ala. Code §§ 12-18-1, et seq.. Section 12-18-2(a) states in its pertinent part as follows:

"The Judicial Retirement Fund shall be administered by the Secretary-Treasurer of the State Employees' Retirement System under the supervision of the Board of Control of the said State Employees' Retirement System and said board of control shall be the trustee of such fund and shall handle such fund in the same manner and pursuant to the same rules and regulations that it handles funds in the State Employees' Retirement System."

Therefore, the Board of Control is the trustee and responsible for handling such funds in the same manner as ERS. This IPS, therefore, will also apply to the JRF.

Roles and Responsibilities

Board of Control

The Board of Control, as Trustees, shall carry out its functions solely in the interest of the members and benefit recipients and for the exclusive purpose of providing benefits and defraying reasonable expenses incurred in performing such duties. The Trustees shall act in accordance with the provisions of the laws and with the care, skill, prudence and diligence in light of the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims by diversifying the investments of the ERS so as to minimize the risk of large losses.

Specific responsibilities include:

- Working with the Investment Management Committee to provide oversight of the investment program of the ERS.
- Approving a statement of investment philosophy that sets forth ERS's beliefs on key investment issues.
- Approving an IPS.
- Ensuring asset allocation strategies are in place to achieve the investment goals and objectives of the ERS.
- Reviewing adherence to the investment philosophy of the ERS.
- Reviewing compliance with, and the continued appropriateness of, the IPS.
- Reviewing the investment performance of the fund, including the performance of all investment classes.
- Elect an investment committee (Ala. Code §§36-27-25(d)).
- Appoint an Investment Advisor (Ala. Code §§36-27-25(e)).

Investment Section

Employees' Retirement System Investment Policy Statement (Continued)

For the Fiscal Year Ended September 30, 2019

Investment Management Committee

The Investment Management Committee is responsible for overseeing the ERS investment program. Specific responsibilities include recommending to/advising the Board:

- A written statement of investment philosophy for the fund.
- A written IPS.
- Strategies to achieve the investment goals and objectives of the ERS.
- On any other investment matters and make recommendations for Board action when necessary.
- Keeping minutes of Investment Management Committee meetings and ensure the minutes are made available to Trustees.
- Monitoring all the investment activities of the Investment Committee, Secretary-Treasurer, Staff, Investment Advisor, and Custodian.
- Ensuring the investment reporting policies are designed to provide transparency and aggregate information on target investments regardless of the investment vehicles used.

Investment Committee

The Investment Committee will:

- Act as agent for its appointing Board of Control (Ala. Code §§36-27-25(d)).
- Consider all investment recommendations made by the Secretary-Treasurer (Ala. Code §§36-27-25(d)).
- Either approve or disapprove the recommended investments in accordance with policies set by the Board (Ala. Code §§36-27-25(d)).
- Confirm by written authorization the approval of all investments, with such authorization to be attached to the invoice for the transaction (Ala. Code §§36-27-25(d)).

Secretary-Treasurer

The Secretary –Treasurer is elected by the Board of Control and serves as the chief executive officer for the ERS. Ala. Code §§36-27-23(h). Specific responsibilities of the Secretary-Treasurer include:

- Recommending to the Investment Management Committee a written statement of investment philosophy and review that statement with the committee at least every three years.
- Recommending to the Investment Management Committee a written IPS and review that statement with the committee at least annually.
- Recommending to the Investment Management Committee strategies to achieve the investment goals and objectives of ERS.
- Developing, and executing, within the policy parameters approved by the Board, investment strategies for each asset category in which the ERS invests.
- Executing portfolio rebalancing in accordance with the policies of the Board.
- Advising the Board and the Investment Management Committee on any other investment matters and making recommendations for Board or committee action when necessary.
- Reporting to the Board of Control all purchases and sales of investments made by him or her at least once semiannually (Ala. Code §§36-27-25(c)).
- Carrying out the investment policies fixed by the Board of Control (Ala. Code §§26-27-25(c)).
- Examining all offers of investments made to the funds (Ala. Code §§36-27-25(c)).
- Initiating inquiries as to available investments for the funds (Ala. Code §§36-27-25(c)).
- Reviewing periodically the investment quality and desirability of retention of investments held (Ala. Code §§36-27-25(c)).
- Making purchases and sales of investments as he or she shall deem to be to the best interests of the fund and in accordance with policies set by the Board, and as the Investment Committee shall approve (Ala. Code §§36-27-25(c)).

Custodian

The Custodian holds directly, through its agents, its sub-custodians, or designated clearing systems, assets as designated by the Board. The Custodian is accountable for registration of those designated assets in good delivery form, collection of income generated by those assets, and any corporate action notification. The Custodian is responsible for delivery and receipt of securities of the aforementioned transactions. The Custodian is required to provide online records and reports, performance reporting, accounting reports and other services included by contract. The Board may opt to designate other duties to the Custodian.

Investment Advisor

The Investment Advisor may be appointed and employed by the Board of Control to act as a consultant to the Secretary-Treasurer in the purchase, sale, and review of the ERS's investments to the extent the Board may designate. The Investment Advisor must be a bank having principal office in the State of Alabama, must have capital, surplus and undivided profits of not less than \$300 million, and must have an organized investment department. Specific responsibilities of the Investment Advisor include:

- Assist the Secretary-Treasurer with the development of quarterly strategies for investments.
- Confirm weekly list of investment activities.
- Meet at least quarterly with the Secretary-Treasurer and Board of Control members.

Investment Goals and Objectives

The function of the ERS is to provide present and future retirement or survivor benefits for its members. This objective requires the prudent assumption of investment risk in seeking to maximize long-term investment returns while incorporating the fund's liability requirements. The future investment performance of the fund directly affects its future financial strength. However, the greater the expected return of the strategic asset allocation policy, the higher the risk, and thus the greater the volatility of expected returns. With this greater volatility, the volatility of the surplus (deficit) of the plan may also be greater. The optimal balancing of these return and risk considerations will be considered in the context of the fund's short-term and long-term benefit obligations.

Investment Philosophy

The investment philosophy for the ERS is determined with careful consideration of its primary fund purpose, fiduciary obligations, statutory requirements, actuarial assumptions, funding policy, liquidity needs, income sources, benefit obligations and other general business conditions. The investment philosophy embraces the following:

- Strategic asset allocation is the most significant factor influencing long-term investment performance and asset volatility. The asset allocation targets, determined by the Board of Control, will be adhered to through a clearly defined rebalancing program.
- In controlling the risk level that is appropriate for the fund, the Board will diversify the assets of the fund among various asset classes as the Board may from time to time adopt as appropriate asset classes. The specific asset classes to be used will be set in conjunction with the strategic asset allocation adopted from time to time by the Board. The Board will diversify investment assets within asset classes to avoid concentrations.
- The fund's liabilities are long term and the investment strategy will therefore be long term in nature. Strategic decisions will prevail in determining asset allocation rather than tactical or short-term market timing decisions.
- The asset allocation policy will be reexamined every three years to ensure its appropriateness to the then prevailing liability considerations.

- Market-related risk and non-market related risk investments will be utilized. Market related risk refers to risk systematic to a market or risk embedded in the strategic asset allocation policy. Non-market risk refers to risk derived from active management or tactical decisions. Market-related risks are expected to produce returns proportional to the level of those risks over long periods of time as a natural feature of reasonably efficient capital markets; non- market related risks may produce additional returns when capitalized upon through skilled active management in the presence of some degree of market inefficiency. As a long-term investor, the ERS will invest across a wide spectrum of market-related risk investments, categorized in asset classes, in a prudent manner consistent with the strategic asset allocation policy referred to above.
- Index funds can be a desirable way of obtaining market-related risk exposure to asset classes.
- Non-market-related risks, also known as active management risk, may be expected to add value over index funds with comparable benchmarks, under appropriate conditions, and can be employed by the fund with controls in place which are appropriate to the particular investment.
- Also ERS recognizes that a stronger Alabama equates to a stronger Employee Retirement System, and as such, investments in Alabama businesses are encouraged to the extent the investment return meets the criteria delineated by this policy statement. Any Alabama investment must be forecast to have a return comparable to other investments in the same asset class. The forecast and the accompanying analysis must be presented to the Investment Committee and Investment Management Committee prior to making the investment.

Strategic Asset Allocation Policy

The ERS current target asset allocation and ranges are specified below.

Asset Class	JRF Target Allocation	ERS Target Allocation	Strategic Range
Domestic Equity	55%	45%	30%-60%
International Equity	15%	15%	10%-25%
Fixed Income	22%	15%	10%-40%
Alternative Investments	1%	10%	0%-15%
Real Estate	2%	10%	0%-15%
Short-term investments	5%	5%	1%-10%

The strategic asset allocation policy will be periodically reviewed, as described under "Investment Philosophy" and "Roles and Responsibilities."

Rebalancing Policy

The purpose of the rebalancing policy is to ensure the adherence to the strategic allocation plan. Unexpected changes in market values may, on occasion, cause the actual asset allocation to fall outside of the allowable ranges. This policy applies to all asset classes in which the ERS invests and requires Investment Management Staff (“Staff”) to implement rebalancing trades if, as of any quarter end, the allocation to any asset class is outside the allowable ranges. The Board recognizes, however, the inherent difficulty in managing the allocations to illiquid asset classes.

As such, with respect to ERS’s investments in illiquid asset classes (alternative investments and real estate), the Board expects the allocations to these areas to be managed as close as practical to the policy targets. As of any quarter-end, the Board expects Staff to report illiquid asset class allocations that fall outside the prescribed ranges. In addition, the Board expects Staff to provide an implementation recommendation to bring the fund’s allocation to these areas back within the allowable ranges. The Staff will provide annually to the Investment Management Committee a schedule for valuations on such assets.

Managing the allocations to the marketable asset classes involves a risk reduction tradeoff with increased transaction costs. As such, the Board expects Staff to implement this policy in a manner that seeks to minimize the impact of transaction costs. In particular, the Board expects Staff to use cash contributions and cash needs to move the fund’s asset allocation as close as practical to the policy targets.

When markets move such that the fund’s normal cash flows are insufficient to maintain the fund’s actual asset allocation within the permissible ranges as of any quarter end, the Board expects Staff to implement the necessary transactions to bring the fund’s allocation back to within the allowable ranges. Before a rebalancing transaction is implemented, the Board expects Staff to identify those portfolios that are likely to have the lowest cost of trading. Absent any asset class structure considerations, the Board expects these low trading cost portfolios to be utilized more frequently to implement required total fund rebalancing.

Eligible Asset Categories

The Board is responsible for approving asset categories in which the fund will invest. Listed below are the asset categories in which ERS currently invests along with a discussion of market efficiency in each category. The efficiency of markets is relevant to expected return opportunities. Highly efficient markets provide less opportunity to add value above market returns. Highly inefficient markets provide more opportunity to add return above what is available by the market. This above market return expectation can be referred to as alpha. Market return can be referred to as beta.

Domestic Equities

Investing in the domestic equity market is a way to participate in one of the largest and most diverse economies in the world through ownership of the companies that make up the economy of the United States. Investment theory and history suggest that the domestic equity markets provide long-term price appreciation in an amount that tends to mirror the overall growth in the economy. In addition, stocks have historically provided a return that served as an effective hedge relative to inflation (i.e., the historical return of stocks has been in excess of the rate of inflation).

It is expected that the ERS will have exposure to all segments of the domestic equity market including but not limited to growth and value stocks of large to small capitalization companies. The domestic equity market is considered by many to be one of the most efficient capital markets in the world. The availability of public information regarding the future prospects of individual companies combined with the numerous market participants rendering assessments of the information contribute to this market’s efficiency. With this in mind, a large portion of the domestic equity portfolio will be managed through passive index funds. A portion of the portfolio will be utilized

Investment Section

Employees' Retirement System Investment Policy Statement (Continued)

For the Fiscal Year Ended September 30, 2019

to add alpha relative to the benchmarks. While the market is very efficient, neither it nor any other market is perfectly efficient. When appropriate skill is available, it may be possible to successfully use active management techniques to improve upon benchmark returns, with acceptable levels of risk.

International Equities

The international equity markets are an increasingly larger share of the investment opportunity set. In addition, because international company stocks tend to react to local as well as global influences, the fluctuations in the returns of international equity markets are only partially related to the movements in the domestic equity market. Further, capital market theory suggests that we should be fully diversified in a global, not just in a local sense.

Fixed Income

Bonds provide a source of diversification relative to an equity-oriented portfolio. The rate of return volatility (investment risk) of fixed income securities is substantially lower than the volatility of equities. In addition, there are significant differences in the pattern of returns between stock and bond investments. When combined with equity securities, a fixed income allocation can serve to reduce the overall risk of the portfolio without materially sacrificing return potential.

The fixed income asset class is perhaps the most diverse capital market. Securities include government, mortgage-backed and corporate bonds of U.S. and non-U.S. issuers. It also includes bonds issued by high quality as well as low quality companies and countries. The fixed income market may be more efficient than once believed. However, fixed income can experience less efficiency at times and in certain segments such as lower quality bonds. It is expected that the fixed income portfolio will make use of both active and passive investment mandates and will include allocations to all major segments of the fixed income market.

Short-term Investments

Short-term investments are an integral part of a public pension portfolio, primarily as a tool of principal preservation and as a provider of liquidity. Eligible securities within this asset class include but are not limited to, U.S. treasury bills, notes and bonds with maturities of one year or less, corporate debt obligations (primarily commercial paper), short-dated agency and mortgage backed debt with government backed principal and interest payments, various types of bank paper including time deposits, repurchase agreements as well as money market funds. Also included is any money held in the STIF (short-term investment fund) account at the custody bank of the RSA, State Street Corporation.

Alternative Investments

The alternative investment asset class can encompass many different and distinct asset categories. These types of investments exhibit high levels of risk, with an expectation for high rates of investment returns. Many of these investments also exhibit a high level of correlation with the publicly-traded equity markets.

The alternative investment asset class is considered highly inefficient, as the lack of publicly available company and pricing information suggest active management is critical in this asset class. The primary benefit afforded investors in this asset class is the expectation of generating high levels of investment returns, as well as hedging instruments for risk controls.

Examples of such investments are venture capital partnerships, private equity, hedge funds, leveraged buy-out funds, private debt, and direct ownership of individual assets such as oil and gas partnerships. These investments shall only be entered into after due diligence and with approval by both the Investment Committee and the Investment Management Committee or by the Board. No final commitment shall be made until all the forgoing is met. Subsequent investments in a previously approved investment do not require additional specific approvals by the Investment Committee and the Investment Management Committee or the Board, unless there has been a material adverse change in the investment.

ERS may not engage an investment manager or invest in a fund, partnership, or other entity if the terms of the engagement or investment do not preclude an investment result that is contrary to the Investment Policy Statement.

ERS may not engage an investment manager or invest in a fund unless the investment-management or subscription agreement includes a representation, warranty, and covenant confirming the absence of any compensation (before, during, or after the agreement) to a solicitor, placement agent, lobbyist, or other intermediary except as fully disclosed in a writing attached to and made a part of the agreement.

Real Estate

Real estate investments can serve as a diversifier of a stock and bond portfolio. While the factors that influence real estate returns may also influence the returns of stock and bond portfolios, these factors impact real estate in a different manner than the other asset classes. This suggests that the return patterns of real estate have a lower correlation to other asset classes, providing a diversification benefit when combined with stocks and bonds.

Risk Controls and Procedures

- The fund is to be broadly diversified across and within asset classes to limit the volatility of the total fund investment returns and to limit the impact of large losses on individual investments of the fund.
- Individual portfolios will be managed according to written investment guidelines that are approved by the Staff. These guidelines are intended to ensure that the portfolio meets its objective and operates within acceptable risk parameters.
- A process will be established by which compliance with all elements of the IPS and portfolio guidelines are measured and monitored, with compliance exceptions being reported to the Investment Management Committee and the Board.
- The Investment Advisor will work with the Staff to develop a quarterly strategy for investments, which will be disseminated to the Board, as it is prepared each quarter.
- The Investment Committee shall approve all investments made within the IPS. The Investment Committee, in its approval, is considered to be signing for the Board of Control. If any purchase or sale is questioned by two members of the Investment Committee as to whether it is within policy, the Board shall decide and no purchase or sale shall take place until all parties are in clear agreement that said action is or is not covered by policy.
- Each week, the Secretary-Treasurer will send to the Investment Advisor the list of actual activities for written confirmation, which will then be distributed to the Board of Control members upon receipt.
- All investment security purchases will be documented with an individual worksheet setting out the reason for the purchase, rating, market history and other general data relevant to the decision making process.
- An annual survey will be made of all fixed income investments held with emphasis on credit quality. A holding that has been downgraded in rating will be examined as to the reason for the downgrade and a determination should be made as to whether the security should remain in the portfolio.
- The rules of the Securities and Exchange Commission, the general policies of the Board of Control, and the Alabama Ethics Commission shall govern the ethical conduct of employees. The Investment Management Staff will provide the Alabama Ethics Commission with a quarterly report of all purchases and sales of any and all securities for personal accounts occurring within each reported quarter.
- All Alternative Investments will be documented with a comprehensive financial analysis setting out the reasons for the investment and showing the projected return on investment.

Investment Section

Employees' Retirement System Investment Policy Statement (Continued)

For the Fiscal Year Ended September 30, 2019

Performance Measurement

The investment objective of the ERS total fund is to earn the rate of return of the Total Plan Policy Portfolio. A Policy Portfolio is a passive representation of the specific asset allocation strategy pursued and is the most objective performance evaluation metric. The Total Plan Policy Portfolio weights each individual portfolio and its return versus the actual relative index returns. This process accounts for asset allocation shifts within and between any asset classes.

Total Plan Benchmark

The Total Plan Benchmark is calculated monthly. It is a weighted average of the asset classes and their corresponding benchmarks. The weights are calculated using the beginning market values. The asset class benchmarks are listed in the table below.

Domestic Equity	Custom Benchmark	(see description below)
International Equity	MSCI EAFE Net & Emerging Markets Net	
Domestic Fixed Income	Custom Benchmark	(see description below)
International Fixed Income	WGBI Non-US	Currently, there are no International Fixed Income portfolios in the
Cash	ML 90-Day T-Bill	
Alternative Investments	-If an equity investment, the Russell 3000 +3% -If a debt investment, the Barclay Capital Agency plus 3%.	
Real Estate	NCREIF NPI	-Privately held US-based commercial Real Estate properties. -Most commonly used. -Often use NPI + 1-3% to compensate for higher risk and expected returns of funds that use leverage.

Domestic Equity Benchmark

The Domestic Equity Benchmark is calculated monthly. It is a weighted average of the domestic equity portfolios and their corresponding benchmarks. The weights are calculated using the beginning markets' values. The portfolio benchmarks are listed in the table below:

Core Fund	S&P 500
S&P 500 Fund	S&P 500
MidCap Active Fund (SSF)	S&P 400 MidCap
S&P MidCap Index	S&P 400 MidCap
S&P SmallCap Index	S&P 600 SmallCap
SmallCap Active Fund	S&P 600 SmallCap
LargeCap Policy Fund	S&P 500
LargeCap Value Fund	S&P 500

Fixed Income Benchmark

The Fixed Income Benchmark is calculated monthly. It is a weighted average of the Fixed Income sectors and their corresponding benchmarks. The weights are calculated using the beginning markets' values. The sector benchmarks are listed in the table below:

Agency	Barclay Capital Agency
Asset Backed	Barclay Capital ABS Index
CMO	Barclay Capital MTGE
Corporate	Barclay Capital Corp
Municipal	N/A
Mortgage Pass-Through	Barclay Capital MTGE
Private Placement	N/A
US Treasury	Barclay Capital Treasury
Yankee - Agency	Barclay Capital Agency
Yankee – Other Yankee	Barclay Capital Corp

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Teachers' Retirement System

Schedule of Investment Performance

U.S. Equity	TIME WEIGHTED RATES OF RETURN - GROSS OF FEE			
	1 Year	3 Years	5 Years	10 Years
TRS Core Fund	3.00%	13.36%	10.46%	12.45%
TRS S&P 500 Fund	4.31%	12.84%	10.51%	13.08%
TRS Mid Cap Index	-2.39%	9.44%	8.95%	12.63%
TRS S&P Small Cap Index	-8.91%	9.87%	10.41%	13.60%
TRS Midcap Active Fund (Ssf)	0.22%	11.00%	8.70%	12.38%
TRS Large Cap Policy Fund	-2.25%	12.26%	n/a	n/a
TRS Total Domestic Equity	1.71%	12.15%	10.17%	12.78%
TRS Custom Domestic Equity Index	1.76%	12.32%	10.39%	13.08%
<i>S&P 500</i>	<i>4.25%</i>	<i>13.39%</i>	<i>10.84%</i>	<i>13.24%</i>
<i>S&P Mid Cap 400</i>	<i>-2.49%</i>	<i>9.38%</i>	<i>8.88%</i>	<i>12.56%</i>
<i>S&P Smallcap 600</i>	<i>-9.34%</i>	<i>9.33%</i>	<i>9.89%</i>	<i>13.02%</i>
International Equity				
TRS Emerging Markets Fund	-2.46%	5.62%	2.40%	n/a
TRS International Equities	-0.17%	7.18%	3.94%	5.54%
TRS Total International Equity	-0.60%	6.83%	3.73%	5.21%
TRS Custom International Equity Index	-1.54%	6.31%	3.17%	n/a
<i>MSCI Eafe (Net)</i>	<i>-1.34%</i>	<i>6.48%</i>	<i>3.27%</i>	<i>4.90%</i>
<i>MSCI Emerging Markets</i>	<i>-2.02%</i>	<i>5.97%</i>	<i>2.33%</i>	<i>3.37%</i>
TRS Total Global Equity	1.23%	11.01%	8.82%	11.05%
TRS Custom Global Equity Index	1.07%	11.03%	8.87%	11.14%
Fixed Income				
TRS Domestic Fixed Income	9.51%	3.19%	3.72%	4.45%
TRS Custom Domestic Fixed Index	10.84%	3.30%	3.71%	4.22%
<i>Barclays Aggregate Bond</i>	<i>10.30%</i>	<i>2.92%</i>	<i>3.38%</i>	<i>3.75%</i>
TRS Total Fixed Income	9.51%	3.19%	3.72%	4.45%
Alternative Investments				
TRS Private Placements	1.37%	-10.27%	-3.28%	5.83%
TRS Preferred And Private Equity	4.46%	36.50%	20.08%	16.98%
TRS Real Estate	2.73%	2.53%	4.42%	3.48%
TRS Total Alternatives	3.29%	2.12%	4.10%	6.98%
TRS Total Fixed Income Plus Alternatives	5.86%	2.63%	4.07%	5.83%
Cash				
TRS Cash Account	2.46%	1.67%	1.11%	0.64%
TRS Short Term Investments	2.70%	1.94%	1.40%	0.88%
TRS Total Cash	2.57%	1.84%	1.31%	n/a
Total Plan				
TRS Total Plan	2.63%	7.87%	6.96%	8.95%
TRS Total Plan Policy	2.60%	8.76%	7.27%	8.59%

Note: Calculations are prepared using the time-weighted rate-of-return methodology based upon market values.

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Employees' Retirement System

Schedule of Investment Performance

U.S. Equity	TIME-WEIGHTED RATES OF RETURN - GROSS OF FEE			
	1 Year	3 Years	5 Years	10 Years
ERS Core Fund	3.03%	13.35%	10.46%	12.46%
ERS S&P 500 Fund	4.31%	12.86%	10.50%	13.07%
ERS Mid Cap Index	-2.39%	9.44%	8.94%	12.63%
ERS S&P Small Cap Index	-8.91%	9.87%	10.41%	13.60%
ERS Midcap Active Fund (Ssf)	0.22%	10.99%	8.70%	12.37%
ERS Large Cap Policy Fund	-2.26%	12.25%	n/a	n/a
ERS Total Domestic Equity	1.94%	12.24%	10.17%	12.76%
ERS Custom Domestic Equity Index	2.03%	12.41%	10.43%	13.11%
<i>S&P 500</i>	<i>4.25%</i>	<i>13.39%</i>	<i>10.84%</i>	<i>13.24%</i>
<i>S&P Mid Cap 400</i>	<i>-2.49%</i>	<i>9.38%</i>	<i>8.88%</i>	<i>12.56%</i>
<i>S&P Smallcap 600</i>	<i>-9.34%</i>	<i>9.33%</i>	<i>9.89%</i>	<i>13.02%</i>
International Equity				
ERS Emerging Markets Fund	-2.50%	5.68%	2.43%	n/a
ERS International Equities	-0.17%	7.17%	3.93%	5.55%
ERS Total International Equity	-0.74%	6.68%	3.64%	5.15%
ERS Custom International Equity Index	-1.58%	6.22%	3.11%	n/a
<i>MSCI Eafe (Net)</i>	<i>-1.34%</i>	<i>6.48%</i>	<i>3.27%</i>	<i>4.90%</i>
<i>MSCI Emerging Markets</i>	<i>-2.02%</i>	<i>5.97%</i>	<i>2.33%</i>	<i>3.37%</i>
ERS Total Global Equity	1.40%	11.09%	8.86%	11.10%
ERS Custom Global Equity Index	1.30%	11.14%	8.96%	11.25%
Fixed Income				
ERS Domestic Fixed Income	9.49%	3.17%	3.71%	4.44%
ERS Custom Domestic Fixed Index	10.82%	3.29%	3.70%	4.22%
<i>Barclays Aggregate Bond</i>	<i>10.30%</i>	<i>2.92%</i>	<i>3.38%</i>	<i>3.75%</i>
ERS Total Fixed Income	9.49%	3.17%	3.71%	4.44%
Alternative Investments				
ERS Private Placements	1.35%	-10.40%	-3.36%	5.83%
ERS Preferred And Private Equity	4.29%	39.28%	21.59%	18.95%
ERS Real Estate	2.73%	2.52%	4.39%	3.43%
ERS Total Alternatives	3.32%	3.70%	4.98%	7.62%
ERS Total Fixed Income Plus Alternatives	5.78%	3.71%	4.69%	6.18%
Cash				
ERS Cash Account	2.46%	1.69%	1.12%	0.64%
ERS Short Term Investments	2.72%	1.96%	1.43%	0.89%
ERS Total Cash	2.58%	1.85%	1.34%	n/a
Total Plan				
ERS Total Plan	2.78%	8.23%	7.14%	9.02%
ERS Total Plan Policy	2.93%	9.04%	7.85%	8.84%

Note: Calculations are prepared using the time-weighted rate-of-return methodology based upon market values.

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Judicial Retirement Fund

Schedule of Investment Performance

	TIME WEIGHTED RATES OF RETURN - GROSS OF FEE			
	1 Year	3 Years	5 Years	10 Years
U.S. Equity				
JRF S&P 500 Fund	4.28%	12.97%	10.61%	13.14%
JRF Mid Cap Index	-2.41%	9.43%	8.93%	12.64%
JRF S&P Small Cap Index	-8.91%	9.87%	10.41%	13.60%
JRF Large Cap Policy Fund	-2.35%	12.22%	n/a	n/a
JRF Total Domestic Equity	2.48%	12.29%	10.35%	13.07%
JRF Custom Domestic Equity Index	2.48%	12.63%	10.51%	13.09%
<i>S&P 500</i>	4.25%	13.39%	10.84%	13.24%
<i>S&P Mid Cap 400</i>	-2.49%	9.38%	8.88%	12.56%
<i>S&P Smallcap 600</i>	-9.34%	9.33%	9.89%	13.02%
International Equity				
JRF Emerging Markets Fund	-2.42%	5.39%	2.27%	n/a
JRF International Equities	-0.16%	7.15%	3.92%	5.62%
JRF Total International Equity	-0.56%	6.86%	3.75%	5.29%
JRF Custom International Equity Index	-1.48%	6.42%	3.25%	n/a
<i>MSCI Eafe (Net)</i>	-1.34%	6.48%	3.27%	4.90%
<i>MSCI Emerging Markets</i>	-2.02%	5.97%	2.33%	3.37%
JRF Total Global Equity	1.83%	11.12%	8.92%	11.52%
JRF Custom Global Equity Index	1.63%	11.28%	8.94%	11.37%
Fixed Income				
JRF Domestic Fixed Income	9.23%	2.97%	3.55%	4.40%
JRF Custom Domestic Fixed Index	10.81%	3.20%	3.60%	4.13%
<i>Barclays Aggregate Bond</i>	10.30%	2.92%	3.38%	3.75%
JRF Total Fixed Income	9.23%	2.97%	3.55%	4.40%
Alternative Investments				
JRF Private Placements	17.59%	-48.67%	-31.83%	-14.37%
JRF Preferred And Private Equity	3.61%	n/a	n/a	n/a
JRF Real Estate	3.48%	3.76%	6.46%	8.26%
JRF Total Alternatives	6.00%	-3.20%	1.53%	3.21%
JRF Total Fixed Income Plus Alternatives	9.02%	2.57%	3.43%	4.18%
Cash				
JRF Cash Account	2.44%	1.68%	1.11%	0.64%
JRF Short Term Investments	2.55%	1.89%	1.38%	0.89%
JRF Total Cash	2.53%	1.79%	1.27%	n/a
Total Plan				
JRF Total Plan	3.82%	8.29%	6.98%	9.05%
JRF Total Plan Policy	4.07%	8.64%	7.19%	9.07%

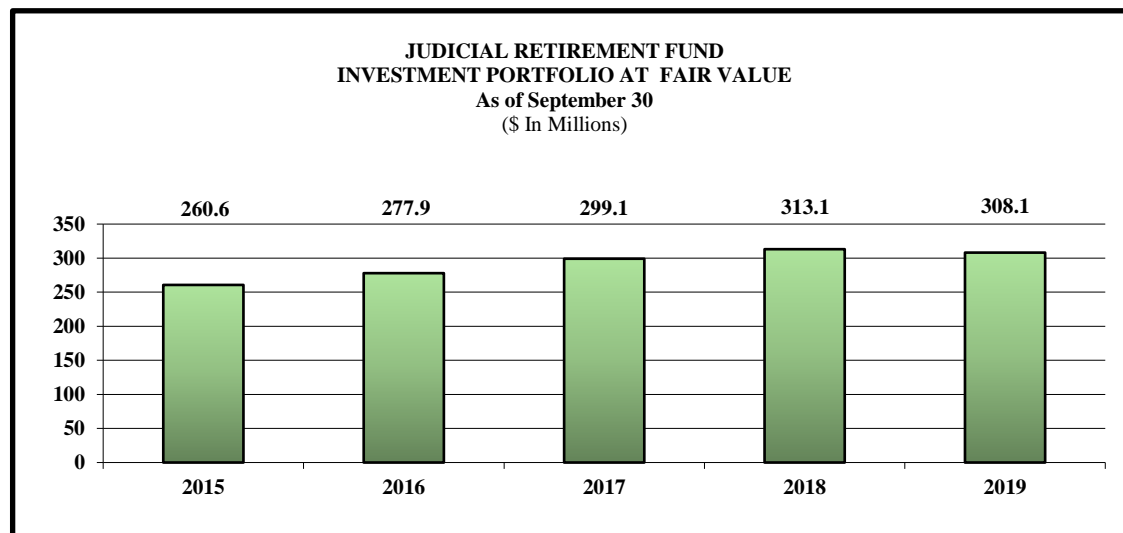
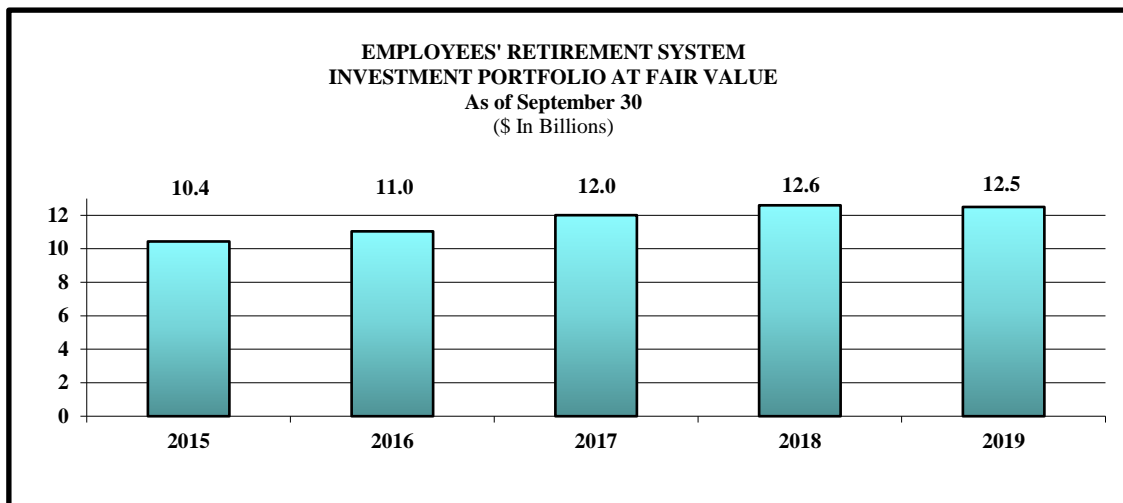
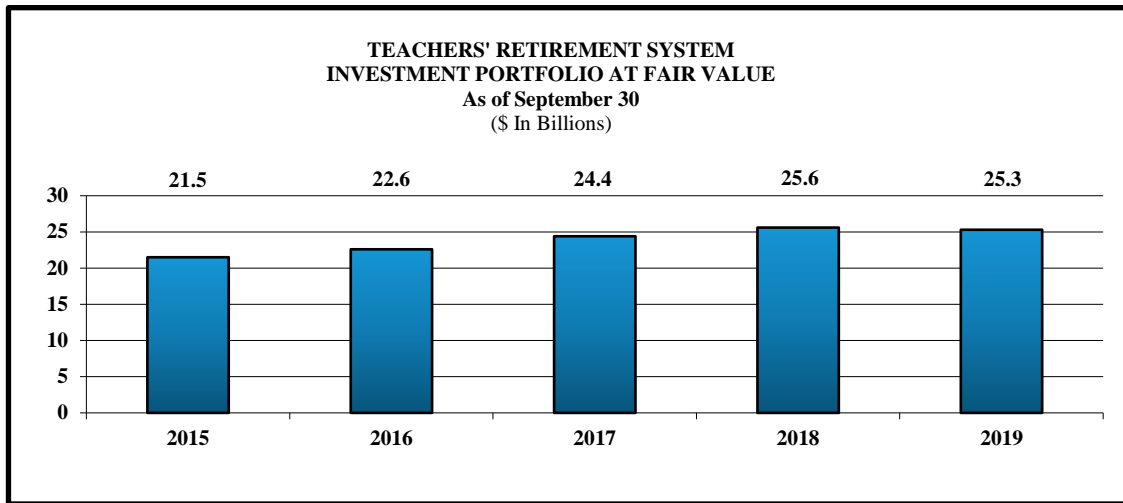
Note: Calculations are prepared using the time-weighted rate-of-return methodology based upon market values.

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Investment Portfolio at Fair Value

Five-Year Comparison

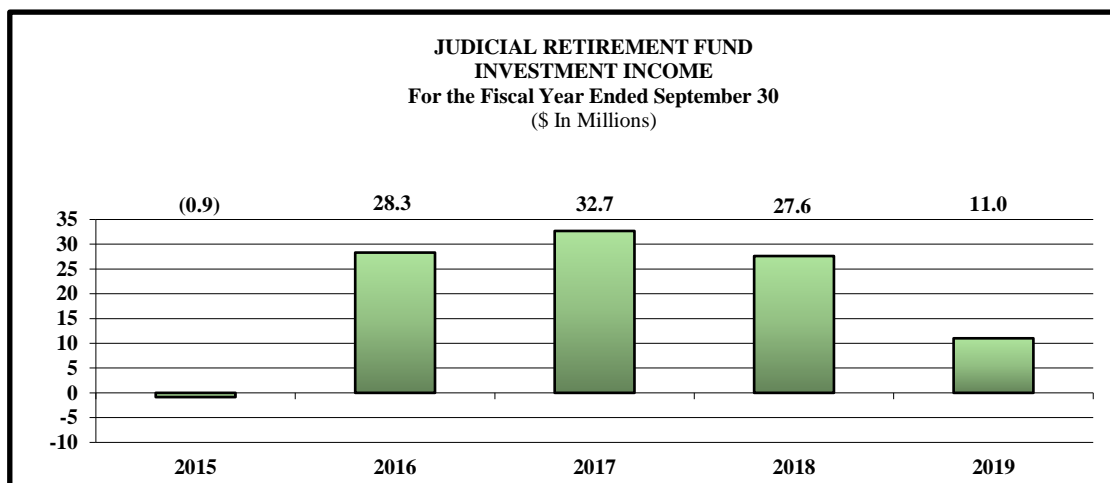
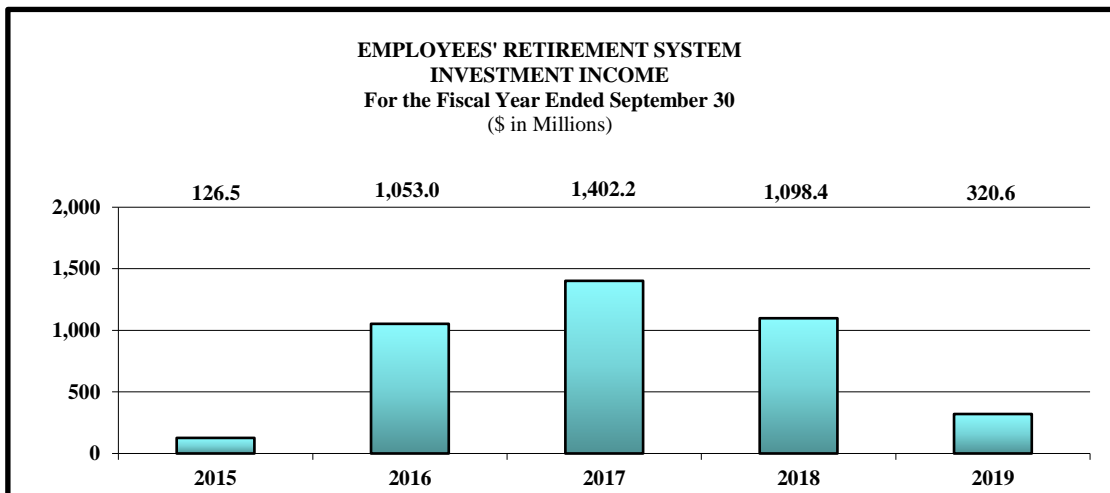
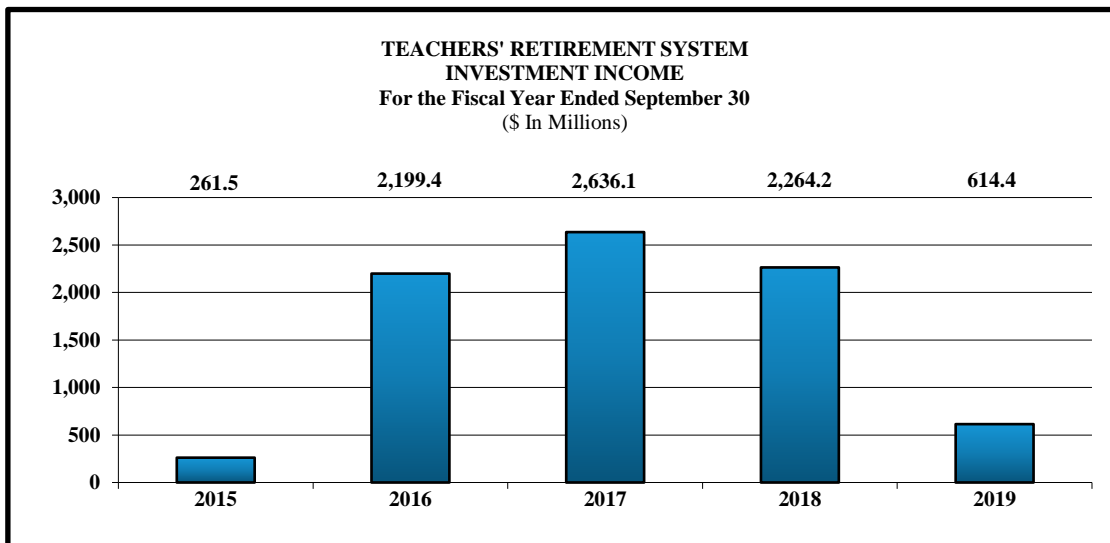


RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Investment Income

Five-Year Comparison

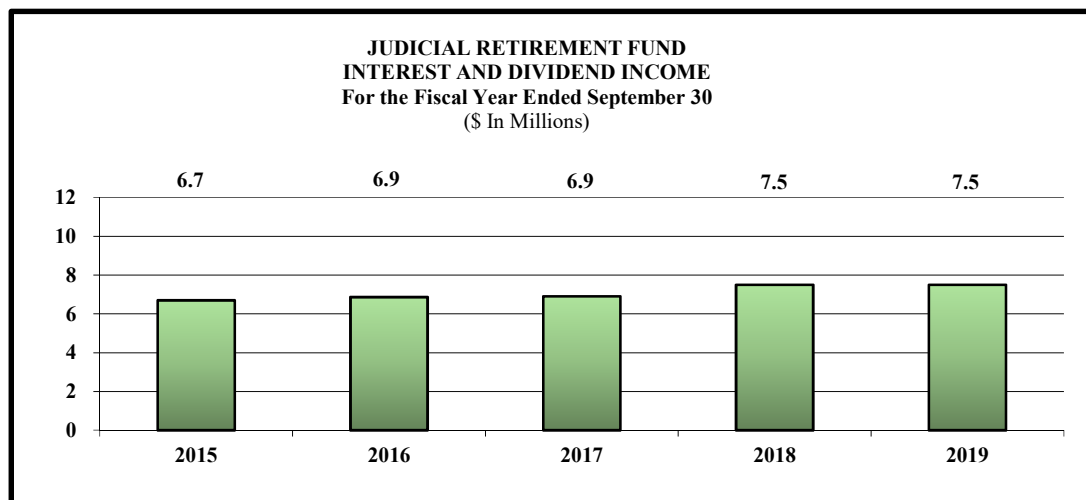
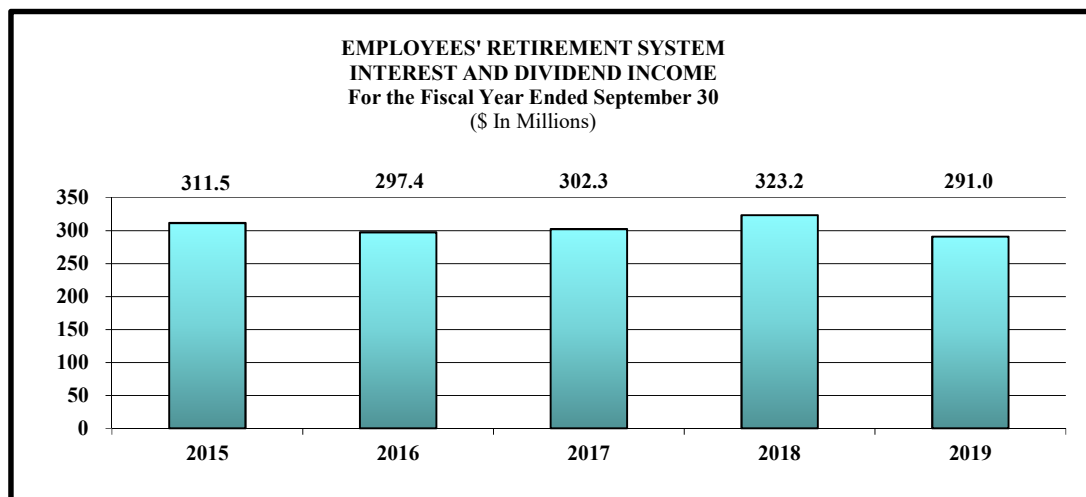
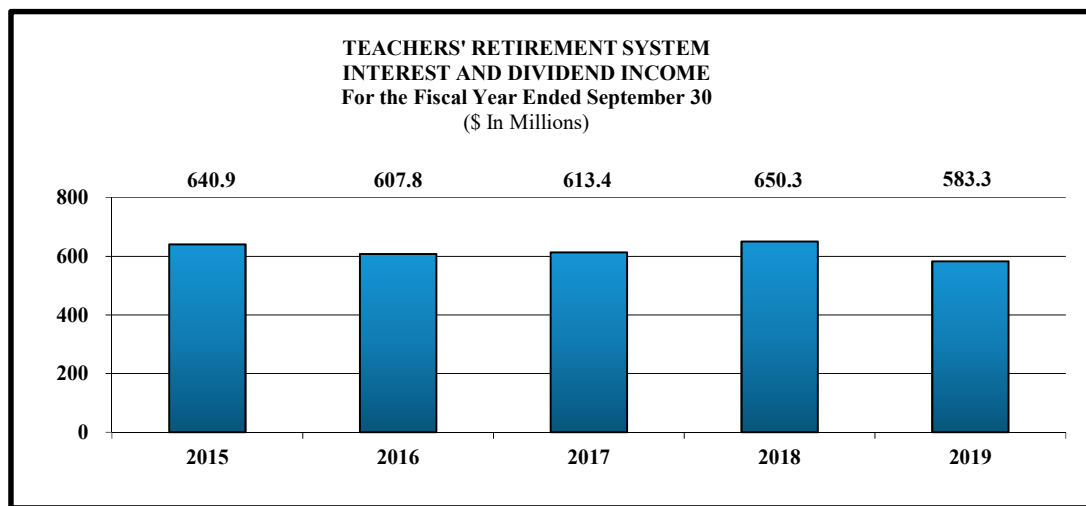


RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Interest and Dividend Income

Five-Year Comparison

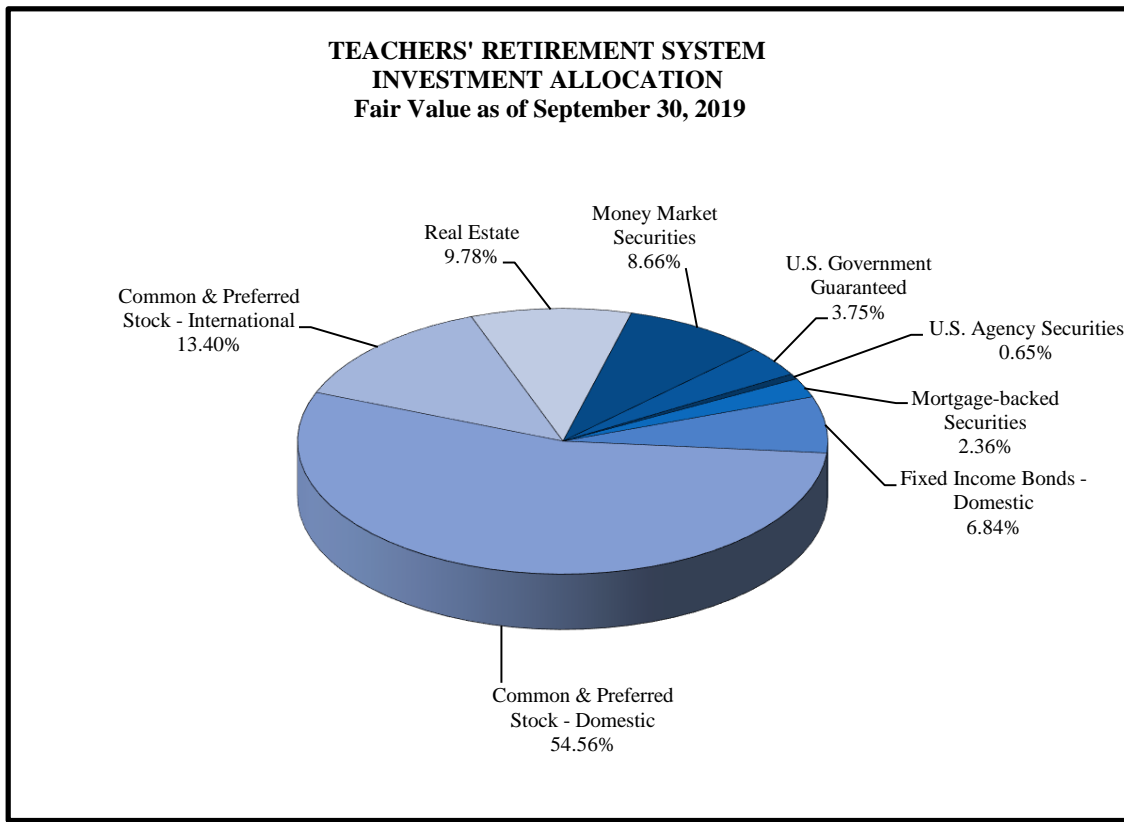


RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Teachers' Retirement System

Investment Allocation and Summary



**TEACHERS' RETIREMENT SYSTEM
INVESTMENT SUMMARY AT FAIR VALUE
As of September 30, 2019**

(\$ In Thousands)

	Fair Value	% of Fair Value
Money Market Securities and Mutual Funds	\$ 2,187,771	8.66
U.S. Government Guaranteed	948,066	3.75
U.S. Agency Securities	162,940	0.65
Mortgage-backed Securities	596,523	2.36
Fixed Income Bonds Domestic	1,727,220	6.84
Common and Preferred Stocks Domestic	13,785,646	54.56
International	3,385,579	13.40
Real Estate	2,470,955	9.78
Total Investments	\$ 25,264,700	100.00

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Teachers' Retirement System

Largest Stock and Bond Holdings

TEACHERS' RETIREMENT SYSTEM LARGEST STOCK HOLDINGS

September 30, 2019

(Amounts In Thousands)

	<u>Shares</u>	<u>Stock</u>	<u>Fair Value</u>
1)	13	New Water Street Corporation	\$ 1,304,946
2)	932	Morgan Stanley Small Cap Equity Linked Note	1,167,815
3)	13,042	ISHARES MSCI Emerging Markets	533,006
4)	379	Gray Media Preferred	404,929
5)	2,652	Microsoft Corporation	368,713
6)	1,544	Apple, Inc.	345,893
7)	155	Amazon.Com, Inc.	268,835
8)	3,527	ISHARES CORE MSCI Emerging Markets	172,916
9)	1,387	J. P. Morgan Chase & Co.	163,231
10)	131	Alphabet, Inc.	159,434

TEACHERS' RETIREMENT SYSTEM LARGEST BOND HOLDINGS

September 30, 2019

(Amounts In Thousands)

	<u>Par</u>	<u>Bonds</u>	<u>Fair Value</u>
1)	77,232	U.S. Treasury, 2.25%, Due 2/29/2020	\$ 77,335
2)	74,115	U.S. Treasury, 2.25%, Due 11/15/2024	76,553
3)	75,311	U.S. Treasury, 2%, Due 12/31/2021	75,929
4)	66,330	Charter Communications, Inc, 5.55%, Due 7/15/2035	73,865
5)	68,666	U.S. Treasury, 2.75%, Due 2/15/2024	72,078
6)	67,441	U.S. Treasury, 3.5%, Due 5/15/2020	68,118
7)	66,833	Whatabrands, LLC, Variable, Due 7/31/2026	66,833
8)	61,232	U.S. Treasury, 2.125%, Due 8/15/2021	61,727
9)	59,993	U.S. Treasury, 2.25%, Due 8/15/2046	61,521
10)	51,331	U.S. Treasury, 3%, Due 5/15/2042	60,025

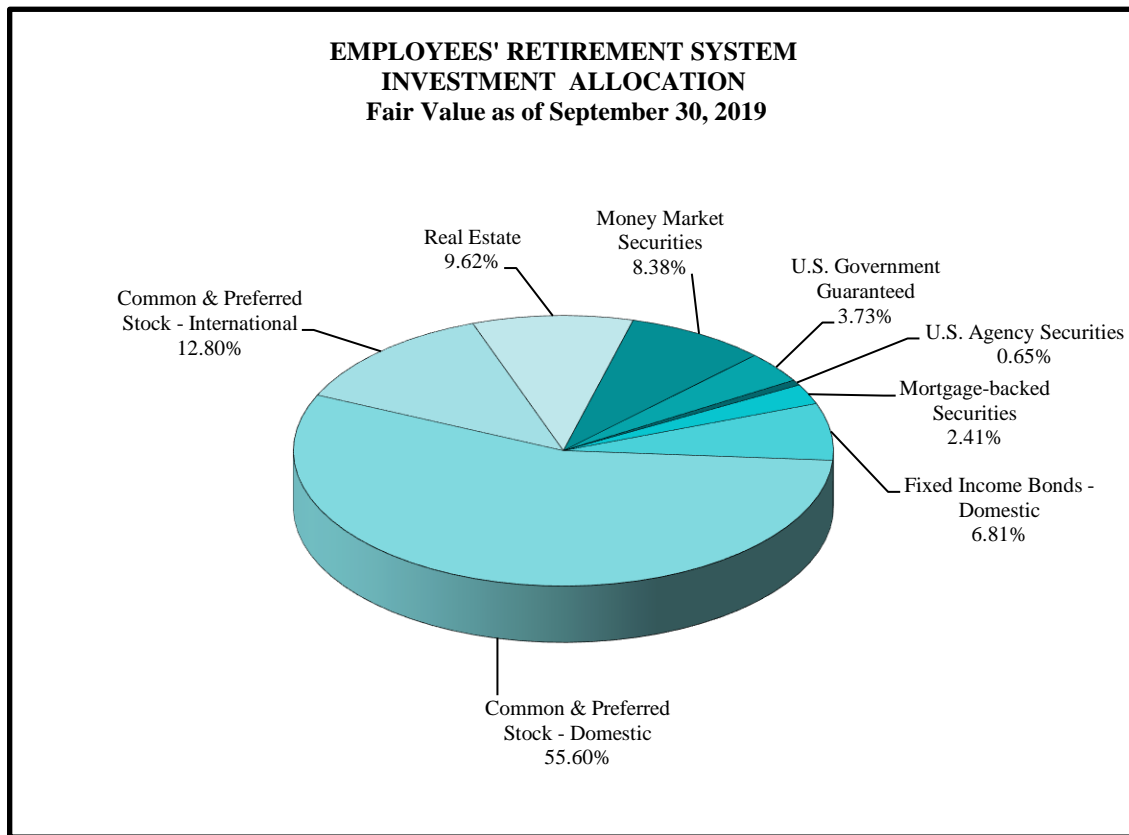
A complete list of portfolio holdings is available upon request.

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Employees' Retirement System

Investment Allocation and Summary



**EMPLOYEES' RETIREMENT SYSTEM
INVESTMENT SUMMARY AT FAIR VALUE
As of September 30, 2019**

(\$ In Thousands)

	Fair Value	% of Fair Value
Money Market Securities and Mutual Funds	\$ 1,043,998	8.38
U.S. Government Guaranteed	465,074	3.73
U.S. Agency Securities	80,544	0.65
Mortgage-backed Securities	300,051	2.41
Fixed Income Bonds		
Domestic	847,664	6.81
Common and Preferred Stocks		
Domestic	6,925,941	55.60
International	1,594,696	12.80
Real Estate	1,198,136	9.62
Total Investments	\$ 12,456,104	100.00

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Employees' Retirement System

Largest Stock and Bond Holdings

EMPLOYEES' RETIREMENT SYSTEM LARGEST STOCK HOLDINGS

September 30, 2019

(Amounts in Thousands)

	<u>Shares</u>	<u>Stock</u>	<u>Fair Value</u>
1)	6	New Water Street Corporation	\$ 599,585
2)	383	Morgan Stanley Small Cap Equity Linked Note	480,272
3)	271	Gray Media Preferred	288,996
4)	6,524	ISHARES MSCI Emerging Markets	266,631
5)	1,338	Microsoft Corporation	186,020
6)	783	Apple, Inc.	175,301
7)	3,052	ISHARES CORE MSCI Emerging Markets	149,589
8)	79	Amazon.Com, Inc.	136,425
9)	710	J. P. Morgan Chase & Co.	83,567
10)	67	Alphabet, Inc.	82,098

EMPLOYEES' RETIREMENT SYSTEM LARGEST BOND HOLDINGS

September 30, 2019

(Amounts In Thousands)

	<u>Par</u>	<u>Bonds</u>	<u>Fair Value</u>
1)	41,044	U.S. Treasury, 2%, Due 12/31/2021	\$ 41,381
2)	37,961	U.S. Treasury, 2.25%, Due 2/29/2020	38,011
3)	36,453	U.S. Treasury, 2.25%, Due 11/15/2024	37,652
4)	32,670	Charter Communications, Inc, 5.55%, Due 7/15/2035	36,381
5)	33,001	U.S. Treasury, 2.125%, Due 8/15/2021	33,268
6)	32,918	Whatabrands, LLC, Variable, Due 7/31/2026	32,918
7)	31,236	U.S. Treasury, 2.75%, Due 2/15/2024	32,788
8)	31,392	U.S. Treasury, 3.5%, Due 5/15/2020	31,707
9)	29,131	U.S. Treasury, 2.5%, Due 5/15/2024	30,335
10)	28,805	U.S. Treasury, 2.25%, Due 8/15/2046	29,539

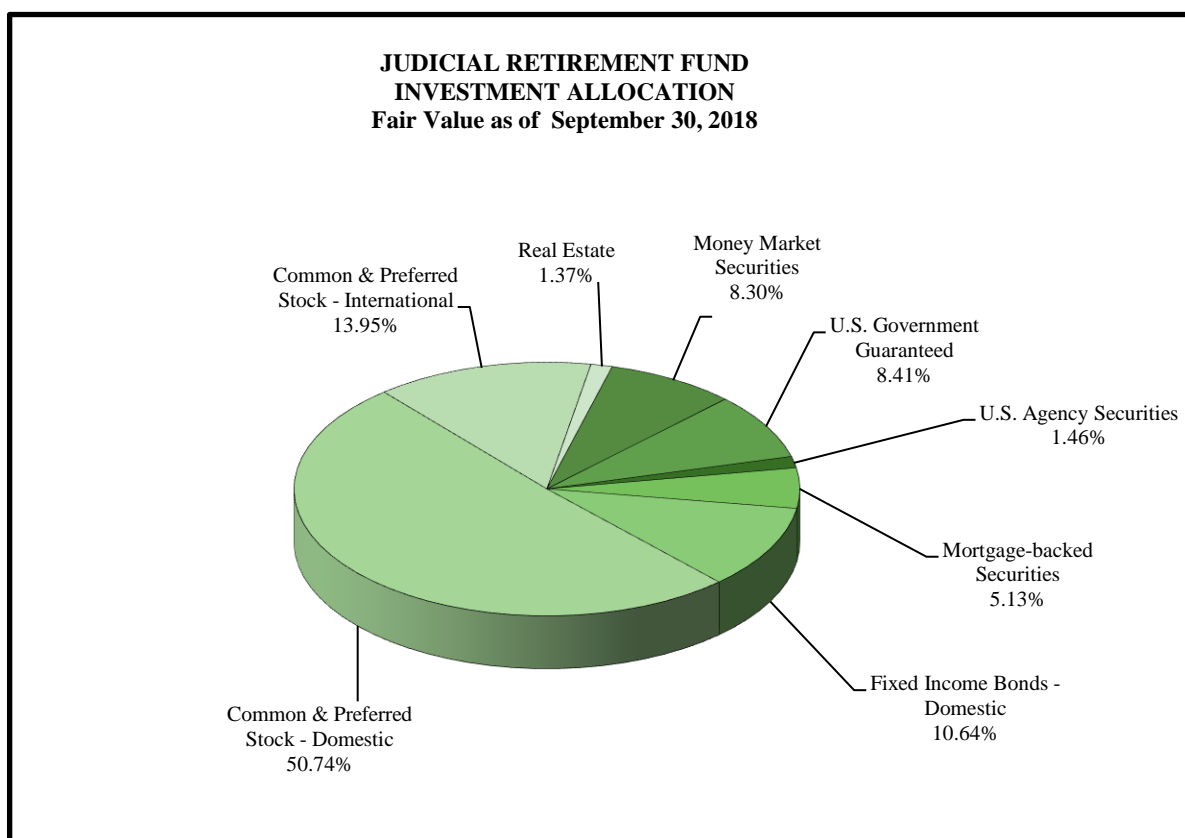
A complete list of portfolio holdings is available upon request.

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Judicial Retirement Fund

Investment Allocation and Summary



**JUDICIAL RETIREMENT FUND
INVESTMENT SUMMARY AT FAIR VALUE
As of September 30, 2019
(\$ In Thousands)**

	Fair Value	% of Fair Value
Money Market Securities and Mutual Funds	\$ 25,584	8.30
U.S. Government Guaranteed	25,914	8.41
U.S. Agency Securities	4,490	1.46
Mortgage-backed Securities	15,814	5.13
Fixed Income Bonds		
Domestic	32,779	10.64
Common and Preferred Stocks		
Domestic	156,306	50.74
International	42,977	13.95
Real Estate	4,227	1.37
Total Investments	\$ 308,091	100.00

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Judicial Retirement Fund

Largest Stock and Bond Holdings

JUDICIAL RETIREMENT FUND LARGEST STOCK HOLDINGS

September 30, 2019

(Amounts in Thousands)

	<u>Shares</u>	<u>Stock</u>	<u>Fair Value</u>
1)	8	Morgan Stanley Small Cap Equity Linked Note	\$ 10,520
2)	172	ISHARES MSCI Emerging Markets	7,026
3)	38	Microsoft Corporation	5,297
4)	21	Apple, Inc.	4,748
5)	*	New Water Street Corporation	4,227
6)	2	Amazon.Com, Inc.	3,599
7)	12	Facebook, Inc.	2,138
8)	10	Berkshire Hathaway, Inc.	2,035
9)	16	J. P. Morgan Chase & Co.	1,878
10)	2	Alphabet, Inc.	1,838

* Less than 1,000 shares

JUDICIAL RETIREMENT FUND LARGEST BOND HOLDINGS

September 30, 2019

(Amounts In Thousands)

	<u>Par</u>	<u>Bonds</u>	<u>Fair Value</u>
1)	4,544	U.S. Treasury, 2.125%, Due 8/15/2021	\$ 4,581
2)	3,986	U.S. Treasury, 2.5%, Due 5/15/2024	4,151
3)	2,042	U.S. Treasury, 2.25%, Due 11/15/2024	2,109
4)	1,871	U.S. Treasury, 2.75%, Due 2/15/2024	1,964
5)	1,758	U.S. Treasury, 2.25%, Due 2/29/2020	1,760
6)	1,619	U.S. Treasury, 2.5%, Due 2/15/2045	1,742
7)	1,590	U.S. Treasury, 1.375%, Due 1/31/2020	1,587
8)	1,340	U.S. Treasury, 3%, Due 5/15/2042	1,567
9)	1,319	GE Capital Intl Funding Co, 2.342%, Due 11/15/2020	1,316
10)	1,259	U.S. Treasury, 3.5%, Due 5/15/2020	1,272

A complete list of portfolio holdings is available upon request.

RETIREMENT SYSTEMS OF ALABAMA

Investment Section

Broker Commissions Paid

For the Fiscal Year Ended September 30, 2019

	Stock			Fixed Securities	Total
	Commissions Per Share	# of Shares (000's)	Commissions (000's)	Commissions (000's)	Commissions (000's)
Bank of America Merrill Lynch	0.029	8,511	247	98	345
Barclays	0.050	2,661	133	61	194
Bernstein	0.023	14,947	338	-	338
Citigroup	0.049	5,153	253	127	380
Convergex	0.034	6,061	207	-	207
Cornerstone	0.050	1,276	64	-	64
Cowen	0.040	2,119	85	-	85
Credit Suisse	0.050	1,496	75	55	130
Deutsche Bank	-	-	-	28	28
Goldman Sachs	0.030	2,172	65	196	261
Harbor Financial	0.051	550	28	-	28
International Strategy and Investment - ISI	0.049	7,906	384	-	384
Issuer Designated	-	-	-	401	401
Jefferies	0.045	1,665	75	-	75
JP Morgan Chase	0.050	3,273	164	155	319
Keybanc Capital Markets	0.050	801	40	88	128
Leerink Swann	0.050	921	46	-	46
Morgan Stanley	0.043	24,945	1,074	199	1,273
National Bank of Commerce - NBC Securities	0.050	1,428	71	-	71
Raymond James & Associates	0.050	1,100	55	1	56
Renaissance Macro Securities - Renmac	0.050	3,608	180	-	180
Royal Bank of Canada - RBC	0.049	6,512	321	59	380
Securities Capital	0.051	450	23	-	23
Southwest Securities	0.051	550	28	-	28
Stifel Nicolaus	0.050	7,679	384	21	405
Strategas	0.024	10,136	241	-	241
Suntrust	-	-	-	22	22
Union Bank of Switzerland - UBS	0.050	1,200	60	-	60
Wells Fargo	0.030	11,473	344	124	468
Totals		128,593	\$ 4,985	\$ 1,635	\$ 6,620

Average Commission Per Share of Stock = \$ 0.0388

Note: Certain Broker agreements include provisions for commission sharing.



Actuarial Section

Component Units of the State of Alabama
Comprehensive Annual Financial Report





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

April 25, 2019

Board of Control
Teachers' Retirement System
of Alabama

Dear Board Members:

The basic funding objectives of the Teachers' Retirement System of Alabama (TRS) is to accumulate sufficient assets during a member's employment to fully finance the benefits the member is expected to receive throughout retirement.

TRS maintains a funding policy that was effective September 30, 2012. In order to meet the objectives listed above, 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.

To track progress in achieving the funding objectives, the following benchmarks are measured annually as of the valuation date:

- **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.
- **Unfunded Actuarial Accrued Liability (UAAL)**
 - **Transitional UAAL** – The UAAL established as of the initial valuation date for which this funding policy is adopted.
 - **New Incremental UAAL** – Each subsequent valuation will produce a New Incremental UAAL consisting of all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation.
- **UAAL Amortization Period and Contribution Rates**
 - In each valuation 1/15th of the Transitional UAAL will be amortized over a closed period. The closed period shall be the amortization period for the valuation preceding the adoption of the funding policy not to exceed 30 years. The remaining Transitional UAAL each year will be amortized over an open period. The open period shall be the amortization period for the valuation preceding the adoption of the funding policy not to exceed 30 years. After 15 years the entire Transitional UAAL will be closed.
 - Each New Incremental UAAL shall be amortized over a closed 30 year period.
 - Employer Normal Contribution Rate – the contribution rate determined as of the valuation date each year based on the provisions of Alabama Code Section 16-25-21.



In each valuation subsequent to the adoption of this funding policy the required employer contribution rate will be determined by the summation of the employer Normal Contribution Rate, a contribution rate for administrative expenses, a contribution rate for the pre-retirement death benefit fund, a contribution rate for the term life insurance fund, individual amortization rate for each of the New Incremental UAAL bases, the individual amortization rate for each of the 15 closed periods for the Transitional UAAL and the amortization of any remaining open portion of the Transitional UAAL.

In order to measure progress toward this fundamental objective and funding policy, TRS has an annual actuarial valuation performed. The valuation (i) measures present financial position, and (ii) establishes contribution rates that provide for the normal cost and level percent of payroll amortization of unfunded actuarial accrued liability in accordance with the funding policy. The latest completed actuarial valuation was based upon data and assumptions as of September 30, 2018. This valuation indicates that the current employer contribution rates of 12.36% of payroll for Tier I members and 11.22% of payroll for Tier II members, for benefits then in effect, meet the basic financial objective and the goals of the funding policy as listed above. There are 137,161 active members as of September 30, 2018.

The actuarial valuation is based upon financial and participant data which is prepared by the retirement system staff, assumptions regarding future rates of investment return and inflation, and rates of retirement, turnover, death and disability among TRS members and their beneficiaries. The data are reviewed by us for internal and year to year consistency as well as general reasonableness prior to its use in the actuarial valuation. It is also summarized and tabulated for the purpose of analyzing trends. The assumptions were adopted by the Board of Control and were based upon actual experience of TRS during the years October 1, 2010 to September 30, 2015. Since the previous valuation, the assumed rate of investment return has been changed from 7.75% to 7.70%. Assets are valued according to a market related method that recognizes 20% of the difference between market value and expected value each year. The assumptions and methods utilized in this valuation, in our opinion, meet the parameters established by the Actuarial Standards of Practice.

The current benefit structure is outlined in the Actuarial Section. There have been no changes since the previous valuation.

We provided the following information and supporting schedules in the Actuarial and Statistical Sections:

- Summary of Actuarial Assumptions and Methods
- Actuarial Cost Method
- Summary of Plan Provisions as Interpreted for Valuation Purposes
- Schedule of Funding Progress
- Solvency Test
- Analysis of Actuarial Gains and Losses
- Schedule of Active Member Valuation Data
- Schedule of Retirants and Beneficiaries Added and Removed from Rolls
- Retired Members by Type of Benefit as of September 30, 2018
- Ten-Year History of Average Monthly Benefit Payments as of September 30



Board of Control
April 25, 2019
Page 3

Based upon the valuation results and the presumption that future contributions will be made at the necessary level to ensure adequate funding and to meet accounting standards, it is our opinion that the Teachers' Retirement System of Alabama continues in sound condition in accordance with the actuarial principles of level percent of payroll financing.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'Edward Macdonald'.

Edward A. Macdonald, ASA, FCA, MAAA
President

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

Cathy Turcot
Principal and Managing Director

A handwritten signature in blue ink, appearing to read 'Larry Langer'.

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

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RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Teachers' Retirement System

Summary of Actuarial Assumptions and Methods

Summary of Actuarial Assumptions and Methods

The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2015, submitted to and adopted by the Board on September 13, 2016. The discount rate of 7.70% was subsequently adopted by the Board on December 4, 2018.

Ultimate 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:

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

Separations before Service Retirement: Representative values of the assumed annual rates of death, disability, and withdrawal are as follows:

Age	Male						
	Annual % Rate of						
	Death*	Disability**		Withdrawal***			
		Years of Service		Years of Service			
		0-24	25+	0-4	5-9	10-20	20+
20	0.02	0.00		25.00			
25	0.03	0.03		14.80	11.00		
30	0.04	0.04		13.80	5.40	3.50	
35	0.07	0.13		13.50	5.40	2.50	0.50
40	0.09	0.17		13.00	5.40	2.25	0.50
45	0.13	0.27	0.20	13.00	5.40	2.25	0.75
50	0.18	0.60	0.20	12.00	5.00	2.50	0.80
55	0.25	0.90	0.20	11.50	5.00	2.50	0.90
60	0.38	0.50	0.50	12.00	4.50	2.50	0.90
65	0.54	0.50	0.50	12.00	6.00		
69	0.63	0.50	0.50	12.00	6.25		

*Rates of pre-retirement mortality are according to the sex distinct RP-2000 Employee Mortality Table 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.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Teachers' Retirement System

Summary of Actuarial Assumptions and Methods (Continued)

Age	Female						
	Annual % Rate of						
	Death*	Disability**		Withdrawal***			
		Years of Service		Years of Service			
		0-24	25+	0-4	5-9	10-20	20+
20	0.01	0.10		25.00			
25	0.01	0.03		12.75	9.00		
30	0.01	0.04		13.50	5.80	4.30	
35	0.02	0.10		13.50	5.00	2.60	1.50
40	0.04	0.20		11.50	4.75	2.00	1.50
45	0.06	0.35	0.20	10.75	4.10	2.00	0.50
50	0.09	0.65	0.20	10.75	3.90	2.20	0.75
55	0.14	1.05	0.20	11.00	4.20	2.40	0.80
60	0.19	0.50	0.50	12.00	4.50	2.70	1.00
65	0.27	0.50	0.50	15.00	6.75		
69	0.34	0.50	0.50	15.00	7.25		

*Rates of pre-retirement mortality are according to the sex distinct RP-2000

Employee Mortality Table 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.

Service Retirement:

The assumed annual rates of service retirement for Tier 1 members upon attaining 25 years of service:

Age Group	Annual % Rate	
	Male*	Female **
47 & Under	25.00	28.00
48	25.00	20.00
49	20.00	17.00
50	16.50	13.00
51 - 53	16.00	15.00
54	16.00	17.00
55	16.00	18.00
56 - 57	16.00	19.00
58	16.00	21.00
59	20.00	22.00
60	20.00	30.00
61	20.00	27.50
62	35.00	45.00
63	30.00	35.00
64	23.00	32.00
65	28.00	38.00
66	27.00	40.00
67	22.00	35.00
68	22.00	37.00
69 - 70	22.00	30.00
71 - 74	20.00	30.00
75	100.00	100.00

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

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

The assumed annual rates of service retirement for Tier 1 members who are first eligible for unreduced benefits before attaining 25 years of service:

Age	Annual % Rate	
	Male	Female
60	12.50	17.00
61	11.00	13.50
62	25.00	23.50
63	18.50	18.00
64	15.00	17.00
65	28.00	28.00
66	27.00	28.00
67	22.00	23.00
68	22.00	27.00
69	22.00	22.00
70	22.00	26.00
71 to 74	20.00	24.00
75 & Above	100.00	100.00

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Teachers' Retirement System

Summary of Actuarial Assumptions and Methods (Continued)

The assumed annual rates of service retirement for Tier 2 members are as follows:

Age	Annual % Rate			
	Male*		Female**	
	Less than 25 years of service	25 or more years of service	Less than 25 years of service	25 or more years of service
62	50.00	60.00	50.00	70.00
63	18.50	30.00	18.00	35.00
64	15.00	23.00	17.00	32.00
65	28.00	28.00	28.00	38.00
66	27.00	27.00	28.00	40.00
67	22.00	22.00	23.00	35.00
68	22.00	22.00	27.00	37.00
69	22.00	22.00	22.00	30.00
70	22.00	22.00	26.00	30.00
71 to 74	20.00	20.00	24.00	30.00
75 & Above	100.00	100.00	100.00	100.00

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

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

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

Age	Annual % Rate of Death After			
	Service Retirement		Disability Retirement	
	Male	Female	Male	Female
55	0.36	0.23	3.50	1.79
60	0.56	0.38	3.84	2.14
65	0.99	0.68	4.14	2.64
70	1.64	1.19	4.86	6.55
75	2.86	2.02	6.37	4.92
80	5.05	3.79	8.45	6.82
85	8.89	6.52	10.99	9.45
90	16.43	11.32	15.44	13.47

Spousal Benefits: For those eligible for spousal benefits, it is assumed that 75% will elect the lump sum death benefit payable from the death benefit fund and 25% will elect the spousal benefit payable from the pension accumulation fund and included in the liabilities of the System.

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 Tier 1 active members. No load for Tier 2 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 method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability.

Assets 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 value. In order to reduce short-term volatility in valuation results and because the market value and actuarial value of assets were close in value, the actuarial value of assets was set equal to the market value on September 30, 2013. 5-year smoothing commenced again beginning September 30, 2013.

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.

Actuarial Cost Method

1. The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 7.70%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to 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 to the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "individual entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contributions which, if applied to the compensation of each new member during the entire period of the member's anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on the member's behalf.
4. The unfunded accrued liability contributions are determined by subtracting the current assets held by the System and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the System.

Summary of Plan Provisions as Interpreted for Valuation Purposes

The Teachers' Retirement System of Alabama (TRS) was established on September 15, 1939, and became effective September 30, 1941. The valuation took into account amendments to the System effective through the valuation date. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

Definitions

Average Final Compensation – The average compensation of a Tier 1 member is calculated using compensation for the 3 highest years in the last 10 years of creditable service. The average compensation of a Tier 2 member is calculated using compensation for the 5 highest years in the last 10 years of creditable service.

Membership Service – all service rendered while a member of the 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 the accumulated contributions of a member.

Pension – payments for life derived from the accumulated contributions of an employer.

Retirement Allowance – the sum of the annuity and pension payments.

Benefits

Service Retirement Allowance

Condition for Allowance	<p>Tier 1 - The service retirement allowance is payable upon the request of a member who has completed 25 years of creditable service or who has attained age 60 and completed at least 10 years of creditable service.</p> <p>Tier 2 - The service retirement allowance is payable upon the request of a member who has completed at least 10 years of creditable service and who has attained age 62 (age 56 with 10 years of creditable service for certified law enforcement, correctional officers, and firefighters).</p>
Amount of Allowance	<p>Tier 1 - 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 certified law enforcement, correctional officer, or firefighter.</p> <p>Tier 2 - Upon service retirement, a member receives a retirement allowance equal to 1.65% of their 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.</p> <p>Tier 1 & 2 - Members 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").</p>

Disability Retirement Allowance

Condition for Allowance	<p>A disability retirement allowance may be granted to a member who has completed at least 10 years of creditable service and becomes permanently incapacitated for duty before reaching eligibility for a service retirement.</p>
Amount of Allowance	<p>Tier 1 - Upon disability 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 certified law enforcement, correctional officer, or firefighter.</p> <p>Tier 2 - 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.</p> <p>Tier 1 & 2 - Members 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").</p>

Benefits Payable upon Separation of Service

A 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 membership in the System and file for service retirement after reaching age 60 for Tier 1 members and age 62 for Tier 2 members.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Teachers' Retirement System

Summary of Plan Provisions (Continued)

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 as defined 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 retirement contributions were made 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 which is not job-related and who has less than one year of service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a matching death benefit, which is limited to a maximum of \$5,000.

*However, if the death occurred more than 180 calendar days after the member's last day in pay status, or if the deceased member had applied for a refund of member 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, a 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 the annuity payments equal the present value of the annuity at the date of retirement, the balance is paid to a designated beneficiary or to the member's 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 the member's retirement allowance and is approved by the Board of Control.

Deferred Retirement Option Plan
(DROP)

Prior to March 25, 2011, a member could 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 deferred receipt of a retirement allowance and continued employment for a period of three to five years. At the end of the period, the member withdrew from active service and received the retirement benefit calculated at the time of enrollment in the DROP, and also received a payment for the deferred retirement benefits and employee contributions while participating in the DROP and interest earned on DROP deposits. The effect of Act 2011-27 was that no new participants were allowed to enter the DROP with an effective participation date after June 1, 2011.

Term Life Insurance

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

Member Contributions

Tier 1 - Prior to October 1, 2011, covered members contributed 5% of earnable compensation. From October 1, 2011, to September 30, 2012, covered members contributed 7.25% of earnable compensation. Beginning October 1, 2012, covered members contribute 7.50% of earnable compensation. Prior to October 1, 2011, certified law enforcement, correctional officers, and firefighters contributed 6% of earnable compensation. From October 1, 2011, to September 30, 2012, certified law enforcement, correctional officers, and firefighters contributed 8.25% of earnable compensation. Beginning October 1, 2012, certified law enforcement, correctional officers, and firefighters contribute 8.50% of earnable compensation. DROP participants continue to contribute during the DROP period but receive a refund of these contributions and regular interest upon retirement.

Tier 2 – Covered members contribute 6% of earnable compensation. Certified law enforcement, correctional officers, and firefighters contribute 7% of earnable compensation.

Tier 1 & 2 - If positive investment performance results in a decrease in the total contribution rate paid by employers and employees participating in the System, the Retirement Systems 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 the *Code of Alabama 1975, Section 16-25-20(b)*).

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Teachers' Retirement System

Supporting Schedules

Supporting Schedules

The following table reflects a ten-year history of active member valuation data:

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

(Dollar Amounts Not in Thousands)

Valuation Date		Number	Annual Payroll	Annual Average Pay	% Increase/ (Decrease) in Average Pay
9/30/2018	A	137,161	\$ 6,756,474,151	\$ 49,259	0.70
9/30/2017	A	136,941	6,698,834,819	48,918	4.00
9/30/2016	A	136,731	6,430,999,445	47,034	1.56
9/30/2015	B	135,986	6,297,938,621	46,313	0.77
9/30/2014	C	135,230	6,214,949,700	45,958	1.48
9/30/2013	D	133,919	6,065,042,345	45,289	2.06
9/30/2012	E	133,791	5,936,831,043	44,374	3.74
9/30/2011	F	135,768	5,807,655,862	42,776	(0.12)
9/30/2010	G	136,290	5,836,902,762	42,827	(0.01)
9/30/2009	H	137,935	5,908,098,156	42,832	1.55

A - There are no employees currently participating in the DROP program.

B - In addition, there are 699 employees with annual compensation of \$52,847,343 who are currently in the DROP program. Employers of the Retirement System contribute on this payroll.

C - In addition, there are 1,748 employees with annual compensation of \$120,210,805 who are currently in the DROP program. Employers of the Retirement System contribute on this payroll.

D - In addition, there are 3,029 employees with annual compensation of \$198,322,151 who are currently in the DROP program. Employers of the Retirement System contribute on this payroll.

E - In addition, there are 4,436 employees with annual compensation of \$285,484,977 who are currently in the DROP program. Employers of the Retirement System contribute on this payroll.

F - In addition, there are 5,625 employees with annual compensation of \$351,906,404 who are currently in the DROP program. Employers of the Retirement System contribute on this payroll.

G - In addition, there are 5,737 employees with annual compensation of \$346,301,313 who are currently in the DROP program. Employers of the Retirement System contribute on this payroll.

H - In addition, there are 5,340 employees with annual compensation of \$328,823,442 who are currently in the DROP program. Employers of the Retirement System contribute on this payroll.

The following table presents a ten-year history of funding progress:

SCHEDULE OF FUNDING PROGRESS

(Dollar Amounts in Thousands)

Valuation Date		Actuarial Value of Assets (A)	Actuarial Liability (AAL) (B)	Unfunded AAL (UAAL) (B-A)	% Funded (A/B)	Covered Payroll (C)	UAAL as a % of Covered Payroll ((B-A)/C)
9/30/2018	***	\$ 25,006,419	\$ 35,628,398	\$ 10,621,979	70.2	\$ 6,756,474	157.2
9/30/2017	***	23,887,077	34,688,078	10,801,001	68.9	6,698,835	161.2
9/30/2016	*	22,645,512	33,143,834	10,498,322	68.3	6,430,999	163.2
9/30/2015		21,740,280	31,844,843	10,104,563	68.3	6,350,786	159.1
9/30/2014		20,809,871	30,837,829	10,027,958	67.5	6,335,161	158.3
9/30/2013		19,629,816	29,665,843	10,036,027	66.2	6,263,364	160.2
9/30/2012	**	18,786,008	28,251,367	9,465,359	66.5	6,222,316	152.1
9/30/2011	***	19,430,135	28,776,316	9,346,181	67.5	6,159,562	151.7
9/30/2010		20,132,779	28,299,523	8,166,744	71.1	6,183,204	132.1
9/30/2009		20,582,348	27,537,400	6,955,052	74.7	6,236,922	111.5

*Reflects changes in actuarial assumptions and methods.

**Reflects changes in methods.

***Reflects changes in actuarial assumptions.

The following table presents a ten-year history of a solvency test:

SOLVENCY TEST

(Dollar Amounts in Thousands)

Valuation Date		Aggregate Accrued Liabilities For			Reported Assets	% of Accrued Liabilities Covered by Reported Assets		
		(1)	(2)	(3)		(1)	(2)	(3)
		Active Member Contributions	Retirants and Beneficiaries	Active Members (Employer Financed Portion)				
9/30/2018	*	\$ 5,788,187	\$ 20,511,811	\$ 9,328,400	\$ 25,006,419	100.00	94.00	0.00
9/30/2017	*	5,504,125	19,886,016	9,297,937	23,887,077	100.00	92.00	0.00
9/30/2016	**	5,197,469	19,257,160	8,689,205	22,645,512	100.00	91.00	0.00
9/30/2015		4,894,145	18,621,250	8,329,448	21,740,280	100.00	90.00	0.00
9/30/2014		4,589,021	18,104,369	8,144,439	20,809,871	100.00	90.00	0.00
9/30/2013		4,261,269	17,666,932	7,737,642	19,629,816	100.00	87.00	0.00
9/30/2012	***	3,921,179	17,085,972	7,244,216	18,786,008	100.00	87.00	0.00
9/30/2011	*	3,620,301	17,245,088	7,910,927	19,430,135	100.00	92.00	0.00
9/30/2010		3,498,959	16,083,293	8,717,271	20,132,779	100.00	100.00	6.30
9/30/2009		3,233,664	15,328,508	8,975,228	20,582,348	100.00	100.00	22.50

*Reflects changes in actuarial assumptions.

** Reflects changes in actuarial assumptions and methods.

***Reflects changes in methods.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Teachers' Retirement System

Supporting Schedules (Continued)

The following table presents a ten-year history of retirants and beneficiaries:

SCHEDULE OF RETIRANTS AND BENEFICIARIES ADDED AND REMOVED FROM ROLLS

Fiscal Year Ended	Retirees Added §*		Retirees Removed		Retirees - Year-end*		% Increase/ (Decrease) in Annual Allowances	Average Annual Allowance
	Number	Annual Allowances (000s)	Number	Annual Allowances (000s)	Number	Annual Allowances (000s)		
2018	4,457	\$ 109,294	1,868	\$ 42,615	95,556	\$ 1,887,726	3.66	\$ 19,755
2017	4,352	101,946	1,741	38,835	92,967	1,821,047	3.59	19,588
2016	4,583	102,365	1,590	35,115	90,356	1,757,936	3.98	19,456
2015	4,951	117,295	1,565	34,127	87,363	1,690,686	5.17	19,352
2014	4,820	113,117	1,396	30,044	83,977	1,607,518	5.45	19,142
2013	4,627	104,280	1,369	29,107	80,553	1,524,445	5.19	18,925
2012	5,043	111,252	1,132	18,234	77,295	1,449,272	6.86	18,750
2011	4,088	87,692	1,212	25,189	73,384	1,356,254	4.83	18,482
2010	3,447	71,293	1,104	22,736	70,508	1,293,751	3.90	18,349
2009	3,188	63,583	1,180	24,121	68,165	1,245,194	3.27	18,267

§ Includes retirees completing DROP participation and entering regular retirement.

*Does not include active DROP participants.

The following table provides an analysis of actuarial gains and losses:

ANALYSIS OF ACTUARIAL GAINS AND LOSSES

(Dollar Amounts in Thousands)

	Amount
Unfunded Actuarial Liability as of September 30, 2017	\$ 10,801,001
Normal Cost for 2018 Plan Year	108,163
Contributions Received During the Year	(803,146)
Interest to Year End	814,338
Expected Unfunded Actuarial Liability as of September 30, 2018	10,920,356
Actuarial (Gains)/Losses During the Year	
From Investments	(275,913)
From Actuarial Liabilities	(22,464)
Total Actuarial (Gains)/Losses During the Year	(298,377)
Actual Unfunded Actuarial Liability as of September 30, 2018	\$ 10,621,979





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June 7, 2019

Board of Control
Employees' Retirement System
of Alabama

Dear Board Members:

The basic funding objectives of the Employees' Retirement System of Alabama (ERS) is to accumulate sufficient assets during a member's employment to fully finance the benefits the member is expected to receive throughout retirement.

ERS maintains a funding policy that was effective September 30, 2012. In order to meet the objectives listed above, 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.

To track progress in achieving the funding objectives, the following benchmarks are measured annually as of the valuation date:

- **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.
- **Unfunded Actuarial Accrued Liability (UAAL)**
 - **Transitional UAAL** – The UAAL established as of the initial valuation date for which this funding policy is adopted.
 - **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**
 - For those employers with a funded percentage less than 100% in the valuation prior to the adoption of the funding policy: 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.



- For those employers with a funded percentage 100% or greater in the valuation prior to the adoption of the funding policy: In each valuation 1/15th of the Transitional UAAL will be amortized over a 30 year closed period. The remaining Transitional UAAL each year will be amortized over a 30 year open period. After 15 years the entire Transitional UAAL will be closed.
- Each New Incremental UAAL shall be amortized over a closed 30 year period.
- Employer Normal Contribution Rate – the contribution rate determined as of the valuation date each year based on the provisions of Alabama Code Section 36-27-24.
- 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, the individual amortization rate for each of the New Incremental UAAL bases, the individual amortization rate for each of the 15 closed periods for the Transitional UAAL and the amortization of any remaining open portion of the Transitional UAAL. If the resulting contribution rate will not support the cash flow and projected benefit payment needs of a particular unit or employer then the RSA staff may approve a more aggressive funding policy for these units or employers.

In order to measure progress toward this fundamental objective and funding policy, ERS has an annual actuarial valuation performed. The valuation (i) measures present financial position, and (ii) establishes contribution rates that provide for the normal cost and level percent of payroll amortization of unfunded actuarial accrued liability in accordance with the funding policy. The latest completed actuarial valuation was based upon data and assumptions as of September 30, 2018.

This valuation indicates that the current employer contribution rates for State employees (other than State policemen) of 14.64% of payroll for Tier I members and 14.24% of payroll for Tier II members and employer contribution rates for State policemen of 51.75% of payroll for Tier I members and 42.89% of payroll for Tier II members, for benefits then in effect, meet the basic financial objective and the goals of the funding policy as listed above. In addition, there are varying employer contribution rates for each participating Local employer actuarially determined in accordance with the funding policy. There are 86,565 total active members as of September 30, 2018.

The actuarial valuation is based upon financial and participant data which is prepared by the retirement system staff, assumptions regarding future rates of investment return and inflation, and rates of retirement, turnover, death and disability among ERS members and their beneficiaries. The data are reviewed by us for internal and year to year consistency as well as general reasonableness prior to its use in the actuarial valuation. It is also summarized and tabulated for the purpose of analyzing trends. The assumptions were adopted by the Board of Control and were based upon actual experience of ERS during the years October 1, 2010 to September 30, 2015. Since the previous valuation, the assumed rate of investment return has been changed from 7.75% to 7.70%. Assets are valued according to a market related method that recognizes 20% of the difference between market value and expected value each year. The assumptions and methods utilized in this valuation, in our opinion, meet the parameters established by the Actuarial Standards of Practice.

The current benefit structure is outlined in the Actuarial Section. The valuation reflects the provisions of Act 2017-360, which revised the definition of “state policemen” to include any employee hired by the Alabama State Law Enforcement Agency after January 1, 2015, who is certified by the Alabama Peace Officers’ Standards and Training Commission and performs law enforcement duties. These members pay the same employee contribution rate and receive the same benefits as certified law enforcement officers (FLC) of other state agencies and local employers.

We provided most of the information used in the supporting schedules in the Actuarial and Statistical Sections, as well as the Schedules of Funding Progress and the employer contributions shown in the Schedules of Employer Contributions in the Financial Section.



We provided the following information and supporting schedules in the Actuarial and Statistical Sections:

- Summary of Actuarial Assumptions and Methods
- Actuarial Cost Method
- Summary of Plan Provisions as Interpreted for Valuation Purposes
- Schedule of Funding Progress
- Solvency Test
- Analysis of Actuarial Gains and Losses
- Schedule of Active Member Valuation Data
- Schedule of Retirants and Beneficiaries Added and Removed from Rolls
- Retired Members by Type of Benefit as of September 30, 2018
- Ten-Year History of Average Monthly Benefit Payments as of September 30

Based upon the valuation results and the presumption that future contributions will be made at the necessary level to ensure adequate funding and to meet accounting standards, it is our opinion that the Employees' Retirement System of Alabama continues in sound condition in accordance with the actuarial principles of level percent of payroll financing.

Respectfully submitted,

Edward A. Macdonald, ASA, FCA, MAAA
President

Cathy Turcot
Principal and Managing Director

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

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Summary of Actuarial Assumptions and Methods

Summary of Actuarial Assumptions and Methods

The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2015, submitted to and adopted by the Board on September 29, 2016. The discount rate was subsequently adopted by the Board on December 19, 2018.

Ultimate 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 for State and Local Employees are as follows:

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

*Includes wage inflation at 3.00% per annum.

The assumed annual rate of future salary increases for State Police is 4.50% per year for all years of service.

Separations before Service Retirement: Representative values of the assumed annual rates of death, disability, and withdrawal are shown in the following tables.

State and Local Employees - Male							
Annual % Rate of							
Age	Death*	Disability		Withdrawal			
		Years of Service		Years of Service			
		0-24	25+	0-4	5-9	10-20	20+
20	0.02	0.06		24.00	9.00	5.00	1.50
25	0.03	0.09		19.50	8.50	5.00	1.50
30	0.03	0.12		17.50	7.00	4.00	1.50
35	0.05	0.15		16.00	6.50	3.25	1.50
40	0.07	0.41		15.50	5.50	3.00	1.50
45	0.10	0.63	0.25	13.50	5.00	2.75	1.50
50	0.14	1.15	0.25	13.00	5.00	2.50	1.50
55	0.20	1.53	0.25	11.50	5.00	2.50	1.50
60	0.30	0.50	0.25	11.50	5.50	2.50	1.50
65	0.42	0.50	0.25	15.50	7.50	2.75	1.50
69	0.49			15.50	7.50	2.75	1.50

*Rates of pre-retirement mortality are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale BB to 2020 set forward three years for males and set forward one year for females with an adjustment factor of 0.70 for males and 0.50 for females.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Summary of Actuarial Assumptions and Methods (Continued)

State and Local Employees - Female							
Annual % Rate of							
Age	Death*	Disability		Withdrawal			
		Years of Service		Years of Service			
		0-24	25+	0-4	5-9	10-20	20+
20	0.01	0.05		33.00	12.00	6.50	1.50
25	0.01	0.07		23.00	11.00	6.50	1.50
30	0.01	0.10		20.00	8.25	5.25	1.50
35	0.02	0.19		18.00	7.50	5.25	1.50
40	0.03	0.37		17.00	7.25	3.50	1.50
45	0.05	0.56	0.25	15.50	6.50	3.50	1.50
50	0.08	0.90	0.25	14.50	6.25	3.50	1.50
55	0.11	1.40	0.25	14.00	5.50	3.50	1.50
60	0.16	1.00	0.25	15.00	6.00	3.50	1.50
65	0.23	1.00	0.25	16.00	8.50	3.50	1.50
69	0.29			16.00	8.50	3.50	1.50

*Rates of pre-retirement mortality are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale BB to 2020 set forward three years for males and set forward one year for females with an adjustment factor of 0.70 for males and 0.50 for females.

State Police					
Annual % Rate of					
Age	Death*		Disability	Withdrawal	
	Male	Female		Years of Service	
				0 - 4	5+
20	0.02	0.01	0.08	2.00	2.00
25	0.03	0.01	0.10	2.00	2.00
30	0.03	0.01	0.14	2.00	2.00
35	0.05	0.02	0.22	2.00	1.00
40	0.07	0.03	0.34	2.00	1.00
45	0.10	0.05	0.46	5.00	1.00
50	0.14	0.08	0.60		
55	0.20	0.11			
60	0.30	0.16			
62	0.35	0.18			
65	0.42	0.23			

*Rates of pre-retirement mortality are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale BB to 2020 set forward three years for males and set forward one year for females with an adjustment factor of 0.70 for males and 0.50 for females.

Service Retirement: The assumed annual rates of service retirement for Tier 1 and Tier 2 members are as follows:

Tier 1 State and Local Employees		
Annual % Rate of Service Retirement*		
Age	1st Eligible	Subsequent
50 & Under	18.00	11.50
51 to 55	20.00	11.50
56	25.00	11.50
57 to 59	25.00	15.00
60	13.00	17.00
61	13.00	13.00
62	25.00	25.00
63	25.00	20.00
64	25.00	20.00
65	35.00	25.00
66	35.00	30.00
67 to 74	35.00	21.00
75 & Above	100.00	100.00

*40% are assumed to retire at age 60 with 25 years of service and 20% are assumed to retire at age 60 with 26 or more years of service.

Tier 2 State and Local Employees		
Annual % Rate of Service Retirement		
Age	1st Eligible	Subsequent
62	50.00	
63	25.00	20.00
64	25.00	20.00
65	35.00	25.00
66	35.00	30.00
67	35.00	25.00
68	35.00	21.00
69 to 74	35.00	20.00
75 & Above	100.00	100.00

State Police			
Annual % Rate of Service Retirement			
	Years of Service		
Age	10 - 19	20 - 24	25+
40			40.00
45			40.00
50			40.00
55	5.00	35.00	35.00
60	25.00	25.00	25.00
62	25.00	25.00	25.00
65	100.00	100.00	100.00

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Summary of Actuarial Assumption and Methods (Continued)

Death after Retirement: The rates of mortality for the period after service retirement are according to the sex distinct RP-2000 Blue Collar Mortality Table Projected with Scale BB to 2020 with an adjustment of 125% at all ages for males and 120% for females at ages on and after age 78. The rates of mortality for the period after disability retirement are according to the sex distinct RP-2000 Disabled Mortality Table Projected with Scale BB to 2020 with an adjustment of 130% at all ages for females.

Death in Active Service Benefit: For those members eligible for service retirement who die in active service, it is assumed that 75% of beneficiaries will elect the lump sum death benefit and 25% will elect the Option 3 allowance.

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: 2.25% load on service retirement liabilities for Tier 1 active members. No load for Tier 2 active members.

Percent Married: 100% of active members are assumed to be married with the husband 3 years older than the wife.

Actuarial Method: Individual entry age normal method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability.

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. Each year, 20% of the difference between market value and expected actuarial value is recognized. In order to reduce short-term volatility in valuation results and because the market value and actuarial value of assets were close in value, the actuarial value of assets was set equal to the market value on September 30, 2012. 5-year smoothing commenced again beginning September 30, 2013.

Liability for Current Inactive Members: Member Contribution Balance is multiplied by a factor of 3.0 for vested local employees with incomplete data and by a factor of 1.0 for all non-vested 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.

Actuarial Cost Method

1. The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 7.70%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to 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 to the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "individual entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contributions which, if applied to the compensation of each new member during the entire period of the member's anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on the member's behalf.
4. The unfunded accrued liability contributions are determined by subtracting the current assets held by the System and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the System. The accrued liability contribution amortizes the balance of the unfunded accrued liability over a period of years from the valuation date.

Summary of Plan Provisions as Interpreted for Valuation Purposes

The Employees' Retirement System of Alabama (ERS) was established on October 1, 1945. The valuation took into account amendments to the System effective through the valuation date. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

Definitions

Average Final Compensation – The average compensation of a Tier 1 member is calculated using compensation for the 3 highest years in the last 10 years of creditable service. The average compensation of a Tier 2 member is calculated using compensation for the 5 highest years in the last 10 years of creditable service.

Membership Service – all service rendered while a member of the System and for which contributions were made.

Creditable Service – the sum of membership service, prior service, and any other previous service established as creditable in accordance with the provisions of the retirement law.

Annuity – payments for life derived from the accumulated contributions of a member.

Pension – payments for life derived from the accumulated contributions of an employer.

Retirement Allowance – the sum of the annuity and pension payments.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Summary of Plan Provisions (Continued)

Benefits – Members Classified as Other Than State Police

Service Retirement Allowance

Condition for Allowance	<p>Tier 1 - The service retirement allowance is payable upon the request of a member who has completed 25 years of creditable service or who has attained age 60 and completed at least 10 years of creditable service.</p> <p>Tier 2 - The service retirement allowance is payable upon the request of a member who has completed at least 10 years of creditable service and who has attained age 62 or age 56 for certified law enforcement, correctional officers, and firefighters.</p>
Amount of Allowance	<p>Tier 1 - 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 certified law enforcement, correctional officer, or firefighter.</p> <p>Tier 2 - Upon service retirement, a member receives a retirement allowance equal to 1.65% of their 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.</p> <p>Tier 1 & 2 - Members 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 – All Members").</p>

Disability Retirement Allowance

Condition for Allowance	<p>A disability retirement allowance may be granted to a member who has completed at least 10 years of creditable service and becomes permanently incapacitated for duty before reaching eligibility for service retirement.</p>
Amount of Allowance	<p>Tier 1 - Upon disability 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 certified law enforcement, correctional officer, or firefighter.</p> <p>Tier 2 - 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.</p> <p>Tier 1 & 2 - Members 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 – All Members").</p>

Benefits Payable upon
Separation of Service

A member who withdraws from service is entitled to receive his or her contributions with allowable interest. A member who has completed at least 10 years of creditable service may, after separation from service, continue membership in the System and file for service retirement after reaching age 60 for Tier 1 members or age 62 for Tier 2 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 as defined under “Special Privileges at Retirement – All Members” 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 retirement contributions were made for the previous fiscal year (October 1 – September 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 fiscal year (October 1 – September 30).*

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

*However, if the death occurred more than 180 calendar days after the member’s last day in pay status or if the deceased member had applied for a refund of member 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.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Summary of Plan Provisions (Continued)

Deferred Retirement Option Plan (DROP)

Prior to March 25, 2011, a member could 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 deferred receipt of a retirement allowance and continued employment for a period of three to five years. At the end of the period, the member withdrew from active service and received the retirement benefit calculated at the time of enrollment in the DROP, and also received a payment for the deferred retirement benefits and employee contributions while participating in the DROP and interest earned on DROP deposits. The effect of Act 2011-27 was that no new participants were allowed to enter the DROP with an effective participation date after June 1, 2011.

Member Contributions

Tier 1 - Prior to October 1, 2011, covered members contributed 5% of earnable compensation. From October 1, 2011, to September 30, 2012, covered members contributed 7.25% of earnable compensation. Beginning October 1, 2012, covered members contribute 7.50% of earnable compensation. Certified law enforcement, correctional officers, and firefighters contributed 6% of earnable compensation until September 30, 2011. From October 1, 2011, to September 30, 2012, certified law enforcement, correctional officers, and firefighters contributed 8.25% of earnable compensation. Beginning October 1, 2012, certified law enforcement, correctional officers, and firefighters contribute 8.50% of earnable compensation. DROP participants continue to contribute during the DROP period but receive a refund of these contributions and regular interest upon retirement.

Tier 2 – Covered members contribute 6% of earnable compensation. Certified law enforcement, correctional officers, and firefighters contribute 7% of earnable compensation.

Tier 1 & 2 - If positive investment performance results in a decrease in the total contribution rate paid by employers and employees participating in the System, the Retirement Systems 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 the *Code of Alabama 1975, Section 36-27-25(g)*).

Benefits – Members Classified as State Police

Service Retirement Allowance

Condition of Allowance	<p>Tier 1 - A retirement allowance is payable upon the request of a member who has completed 25 years of creditable service or who has attained age 52 and completed at least 10 years of creditable service.</p> <p>Tier 2 - A retirement allowance is payable upon the request of any member who has attained age 56 and completed at least 10 years of creditable service.</p>
Amount of Allowance	<p>Tier 1 - Upon service retirement, a member receives a retirement allowance equal to 2.875% of the member's average final compensation multiplied by the number of years of creditable service.</p> <p>A member who has attained 20 or more years of creditable service and retires prior to age 60 is eligible to receive a “bonus service credit” up to 4 years as follows:</p> <ul style="list-style-type: none">• Age 56 or older – bonus service of 4 years reduced by 1 month for each month over the age of 56.• Age 52 to 56 – bonus service of 4 years.• Age 52 or less (disability retirement only) – bonus service of 4 years.• Age 52 or less with 25 or more years of service – bonus service of 4 years. <p>Tier 2 - Upon service retirement, a member receives a retirement allowance equal to 2.375% 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.</p>

Disability Retirement Allowance

Condition for Allowance	<p>A disability retirement allowance may be granted to a member who has completed at least 10 years of creditable service and who becomes permanently incapacitated for the further performance of duty before reaching the minimum age for service retirement or who becomes disabled as a result of employment in the line of duty without regard to years of creditable service.</p>
Amount of Allowance	<p>Tier 1 - Upon disability retirement, a member receives a retirement allowance equal to 2.875% of the member's average final compensation multiplied by the number of years of creditable service.</p> <p>Tier 2 - Upon disability retirement, a member receives a retirement allowance equal to 2.375% of the member’s average final compensation multiplied by the number of years of creditable service.</p>

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Summary of Plan Provisions (Continued)

Benefits Payable upon Separation from Service

A member who withdraws from service is entitled to receive a return of member contributions with allowable interest. A member who has completed at least 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 52 for Tier 1 members or age 56 for Tier 2 members.

Benefits Payable upon Death in Active Service

In the event of the death of a member who is eligible for service retirement, the designated beneficiary may elect: (1) to exercise Option 3 as defined below under "Special Privileges at Retirement – All Members" 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 fiscal year (October 1 – September 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 the member made retirement contributions for the previous fiscal year (October 1 – September 30).*

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

*However, if the death occurred more than 180 calendar days after the member's last day in pay status, or if the deceased member had applied for a refund of member 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.

Deferred Retirement Option Plan
(DROP)

Prior to March 25, 2011, a member could 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 52 years of age. Under the DROP, the member deferred receipt of a retirement allowance and continued employment for a period of three to five years. At the end of the period, the member withdrew from active service and received the retirement benefit calculated at the time of enrollment in the DROP, and also received a payment for the deferred retirement benefits and employee contributions while participating in the DROP and interest earned on DROP deposits. The effect of Act 2011-27 was that no new participants were allowed to enter the DROP with an effective participation date after June 1, 2011.

Member Contributions

Each member contributes 10% of earnable compensation. DROP participants continue to contribute during the DROP period but receive a refund of these contributions and regular interest upon retirement.

Special Privileges at Retirement – All Members

In lieu of the full retirement allowance, a member may, at retirement, elect to receive a reduced retirement allowance equal in value to the full retirement allowance, with the provision that:

- Option 1: If the member dies before the annuity payments equal or exceed the present value of the member's annuity at the date of retirement, the balance is paid to the designated beneficiary or to the member's estate, or
- Option 2: After the member's death, the member's retirement allowance is continued throughout the life of the designated beneficiary, or
- Option 3: After the member's death, one-half of the member's retirement allowance is continued throughout the life of the designated beneficiary, or
- Option 4: Some other benefit is paid either to the member or the designated beneficiary, provided such benefit, together with the reduced retirement allowance, is of equivalent actuarial value to the member's retirement allowance and is approved by the Board of Control.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Supporting Schedules

Supporting Schedules

The following schedule provides a ten-year history on active member valuation data:

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

(Dollar Amounts Not in Thousands)

Valuation Date		Number	Annual Payroll	Annual Average Pay	% Increase/ (Decrease) in Average Pay
9/30/2018	A	86,565	\$ 3,679,181,111	\$ 42,505	1.56
9/30/2017	A	85,657	3,584,700,002	41,849	(0.66)
9/30/2016	A	84,814	3,572,891,196	42,129	2.93
9/30/2015	B	84,563	3,461,155,131	40,930	2.34
9/30/2014	C	84,694	3,387,186,858	39,993	1.61
9/30/2013	D	84,035	3,307,511,468	39,359	6.02
9/30/2012	E	84,169	3,124,791,422	37,125	(5.88)
9/30/2011	F	85,633	3,377,717,419	39,444	(1.00)
9/30/2010	G	86,967	3,464,913,031	39,842	0.38
9/30/2009	H	87,647	3,478,635,402	39,689	3.65

A - There are no employees currently participating in the DROP program.

B - In addition, there are 396 members with compensation of \$26,861,749 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

C - In addition, there are 891 members with compensation of \$57,153,873 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

D - In addition, there are 1,514 members with compensation of \$93,084,090 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

E - In addition, there are 2,121 members with compensation of \$127,211,439 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

F - In addition, there are 2,708 members with compensation of \$162,963,178 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

G - In addition, there are 2,593 members with compensation of \$154,756,911 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

H - In addition, there are 2,371 members with compensation of \$141,607,707 who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.

The following table presents a ten-year history of funding progress:

SCHEDULE OF FUNDING PROGRESS

(Dollar Amounts in Thousands)

Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (B)	Unfunded AAL (UAAL) (B-A)	Percentage Funded (A/B)	Covered Payroll (C)	UAAL as a % of Covered Payroll ((B-A)/C)
9/30/2018	\$ 12,240,597	\$ 17,829,735	\$ 5,589,138	68.7	\$ 3,679,181	151.9
9/30/2017	11,690,952	17,250,835	5,559,883	67.8	3,584,700	155.1
9/30/2016	11,082,280	16,728,009	5,645,729	66.2	3,572,891	158.0
9/30/2015	10,589,258	15,723,720	5,134,462	67.3	3,488,017	147.2
9/30/2014	10,134,581	15,138,294	5,003,713	66.9	3,444,341	145.3
9/30/2013	9,546,459	14,536,600	4,990,141	65.7	3,400,596	146.7
9/30/2012	9,116,551	13,884,995	4,768,444	65.7	3,252,003	146.6
9/30/2011	9,456,158	14,366,796	4,910,638	65.8	3,540,681	138.7
9/30/2010	9,739,331	14,284,119	4,544,788	68.2	3,619,670	125.6
9/30/2009	9,928,104	13,756,176	3,828,072	72.2	3,620,243	105.7

The following table provides a ten-year history of solvency tests:

SOLVENCY TEST

(Dollar Amounts in Thousands)

Aggregate Accrued Liabilities For					% of Accrued Liabilities Covered by Reported Assets		
(1)		(2)	(3)		(1)	(2)	(3)
Valuation Date	Active Member Contributions	Retirants and Beneficiaries	Active Members (Employer Financed Portion)	Reported Assets			
9/30/2018 A	\$ 2,922,432	\$ 9,944,503	\$ 4,962,800	\$12,240,597	100	94	0.0
9/30/2017 A	2,817,368	9,567,278	4,866,189	11,690,952	100	93	0.0
9/30/2016 A	2,707,129	9,209,857	4,811,023	11,082,280	100	91	0.0
9/30/2015	2,591,066	8,666,490	4,466,164	10,589,258	100	92	0.0
9/30/2014	2,484,050	8,366,277	4,287,967	10,134,581	100	91	0.0
9/30/2013	2,363,600	8,085,291	4,087,709	9,546,459	100	89	0.0
9/30/2012 B	2,218,478	7,781,431	3,885,086	9,116,551	100	89	0.0
9/30/2011 C	2,112,356	7,722,942	4,531,498	9,456,158	100	95	0.0
9/30/2010	2,050,051	7,130,938	4,535,113	9,739,331	100	100	12.3
9/30/2009	1,973,511	6,707,240	5,075,425	9,928,104	100	100	24.6

A - Reflects changes in actuarial assumptions and methods.

B - Reflects changes in actuarial methods.

C - Reflects changes in actuarial assumptions.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Employees' Retirement System

Supporting Schedules (Continued)

The following table presents a ten-year history of data concerning retirants and beneficiaries:

SCHEDULE OF RETIRANTS AND BENEFICIARIES ADDED AND REMOVED FROM ROLLS

Fiscal Year Ended	Retirees Added §*		Retirees Removed		Retirees - Year-end*		% Increase/ (Decrease) in Annual Allowances	Average Annual Allowance
	Number	Annual Allowances (000s)	Number	Annual Allowances (000s)	Number	Annual Allowances (000s)		
9/30/2018	2,571	\$ 64,020	1,147	\$ 24,894	49,713	\$ 925,945	4.41	\$ 18,626
9/30/2017	2,449	58,678	1,114	22,433	48,289	886,819	4.26	18,365
9/30/2016	2,655	61,579	1,083	22,434	46,954	850,574	4.82	18,115
9/30/2015	2,698	63,043	1,028	21,337	45,382	811,429	5.42	17,880
9/30/2014	2,617	59,959	1,012	20,185	43,712	769,723	5.45	17,609
9/30/2013	2,628	59,930	972	19,036	42,107	729,949	5.93	17,336
9/30/2012	2,846	64,800	977	18,759	40,451	689,055	7.16	17,034
9/30/2011	2,444	53,577	921	17,228	38,582	643,014	5.99	16,666
9/30/2010	2,030	42,920	958	17,571	37,059	606,665	4.36	16,370
9/30/2009	1,942	40,480	619	11,148	35,987	581,316	5.31	16,153

§ Includes retirees completing DROP participation and entering regular retirement.

*Does not include active DROP participants.

The following table provides an analysis of actuarial gains and losses:

ANALYSIS OF ACTUARIAL GAINS AND LOSSES

(Dollar Amounts in Thousands)

	Amount
Unfunded Actuarial Liability as of September 30, 2017	\$ 5,559,883
Normal Cost for 2018 Plan Year	48,140
Contributions Received During the Year	(412,834)
Interest to Year End	418,624
Expected Unfunded Actuarial Liability as of September 30, 2018	5,613,813
Actuarial (Gains)/Losses During the Year	
From Investments	(153,448)
From Actuarial Liabilities	128,773
Total Actuarial (Gains)/Losses During the Year	(24,675)
Actual Unfunded Actuarial Liability as of September 30, 2018	\$ 5,589,138





Cavanaugh Macdonald

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June 7, 2019

Board of Control
Employees' Retirement System of
Alabama for the Administration of
the Judicial Retirement Fund

Dear Board Members:

The basic funding objectives of the Judicial Retirement Fund of Alabama (JRF) is to accumulate sufficient assets during a member's employment to fully finance the benefits the member is expected to receive throughout retirement.

JRF maintains a funding policy that was effective September 30, 2012. In order to meet the objectives listed above, the Fund will strive to meet the following funding objectives:

- To maintain an increasing funded ratio (ratio of fund 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 Fund.
- 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 Fund costs.

To track progress in achieving the funding objectives, the following benchmarks are measured annually as of the valuation date:

- **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.
- **Unfunded Actuarial Accrued Liability (UAAL)**
 - **Transitional UAAL** – The UAAL established as of the initial valuation date for which this funding policy is adopted.
 - **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**
 - 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.
 - Each New Incremental UAAL shall be amortized over a closed 30 year period.
 - Employer Normal Contribution Rate – the contribution rate determined as of the valuation date each year based on the provisions of Alabama Code Sections 36-27-24 and 12-18-2.



Board of Control
June 7, 2019
Page 2

- 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, the individual amortization rate for each of the New Incremental UAAL bases and the amortization rate for the Transitional UAAL.

In order to measure progress toward this fundamental objective and funding policy, JRF has an annual actuarial valuation performed. The valuation (i) measures present financial position, and (ii) establishes contribution rates that provide for the normal cost and level percent of payroll amortization of unfunded actuarial accrued liability in accordance with the funding policy. The latest completed actuarial valuation was based upon data and assumptions as of September 30, 2018. This valuation indicates for benefits then in effect that the current employer contribution rates for the Judicial Retirement Fund (other than District Attorneys' Plan) of 40.80% of payroll for Tier I members and 35.61% of payroll for Tier II members, and employer contribution rates for District Attorneys' of 19.77% of payroll, meet the basic financial objective and the goals of the funding policy as listed above. There are 345 active members as of September 30, 2018.

The actuarial valuation is based upon financial and participant data which is prepared by the retirement Fund staff, assumptions regarding future rates of investment return and inflation, and rates of retirement, turnover, death and disability among JRF members and their beneficiaries. The data is reviewed by us for internal and year to year consistency as well as general reasonableness prior to its use in the actuarial valuation. It is also summarized and tabulated for the purpose of analyzing trends. The assumptions were adopted by the Board of Control and were based upon actual experience of JRF during the years October 1, 2010 to September 30, 2015. Since the previous valuation, the assumed rate of investment return has been changed from 7.75% as of September 30, 2017 to 7.65% as of September 30, 2018. Assets are valued according to a market related method that recognizes 20% of the difference between market value and expected value each year. The assumptions and methods utilized in this valuation, in our opinion, meet the parameters established by the Actuarial Standards of Practice.

The current benefit structure is outlined in the Actuarial Section. The Judges' and Clerks' plan covers justices, judges and circuit clerks who are not members of the Judicial Retirement Fund or The Clerks' and Registers' Supernumerary Fund. The District Attorneys' Plan covers any District Attorney first elected or appointed on or after November 8, 2016.

We provided the following information and supporting schedules in the Actuarial and Statistical Sections:

- Summary of Actuarial Assumptions and Methods
- Actuarial Cost Method
- Summary of Plan Provisions as Interpreted for Valuation Purposes
- Schedule of Funding Progress
- Solvency Test
- Analysis of Actuarial Gains and Losses
- Schedule of Active Member Valuation Data
- Schedule of Retirants and Beneficiaries Added and Removed from Rolls
- Retired Members by Type of Benefit as of September 30, 2018
- Ten-Year History of Average Monthly Benefit Payments as of September 30



Board of Control
June 7, 2019
Page 3

Based upon the valuation results and the presumption that future contributions will be made at the necessary level to ensure adequate funding and to meet accounting standards, it is our opinion that the Judicial Retirement Fund of Alabama continues in sound condition in accordance with the actuarial principles of level percent of payroll financing.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Edward Macdonald".

Edward A. Macdonald, ASA, FCA, MAAA
President

A handwritten signature in blue ink, appearing to read "Cathy Turcot".

Cathy Turcot
Principal and Managing Director

A handwritten signature in blue ink, appearing to read "LL" for Larry Langer.

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

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RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Judicial Retirement Fund

Summary of Actuarial Assumptions and Methods

Summary of Actuarial Assumptions and Methods

The assumptions and methods used in the valuation are based on the actuarial experience study prepared as of September 30, 2015, submitted to and adopted by the Board on September 29, 2016. The discount rate of 7.65% was subsequently adopted by the Board on December 19, 2018.

Ultimate Investment Rate of Return: 7.65% per annum, compounded annually, including inflation at 2.75%.

Salary Increases: 3.50% per annum for all ages with service less than 14 years, and 3.25% per annum for all ages with service of 14 years or more, compounded annually, including wage inflation at 3.00%.

Separations before Retirement: Representative values of the assumed annual rates of withdrawal, death, and disability are as follows:

Age	Annual % Rate of			
	Withdrawal	Death*		Disability**
		Male	Female	
30	2.50	0.04	0.01	0.02
35	2.50	0.07	0.03	0.04
40	2.50	0.09	0.04	0.07
45	2.50	0.13	0.06	0.11
50	2.50	0.18	0.09	0.16
55	2.50	0.26	0.14	0.25
60	2.50	0.38	0.19	0.40
64	2.50	0.51	0.26	0.57

*Rates of pre-retirement mortality are according to the sex distinct RP-2000 Employee Mortality Table Projected with Scale BB to 2020 with an adjustment factor of 90% for males and 60% for females.

**Disability rates turn off at retirement eligibility.

Rates of Retirement:

Tier I (Groups 1 and 2): Between the ages of 55 and 59, 25% of members are assumed to retire in the first year of eligibility and 10% in each year thereafter. Between the ages of 60 and 69, 30% of members are assumed to retire in the year when first eligible and 15% in each year thereafter. 30% of the remaining members are assumed to retire each year between age 70 and 74, and all remaining members are assumed to retire at age 75.

Tier II (Group 3) and District Attorney's Plan:

Age	Judges with Up to 18 Years of Service	Judges with at least 18 years of service	Clerks & District Attorneys
62 - 69	10%	15% *	10% **
70 - 74	30%	30%	30%
75	100%	100%	100%

*An additional 15% are assumed to retire at 18 years of service.

**An additional 20% are assumed to retire when first eligible for retirement and at 27 years of service.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Judicial Retirement Fund

Summary of Actuarial Assumptions and Methods (Continued)

Deaths after Retirement: Rates of mortality for the period after service retirement are according to the RP-2000 White Collar Mortality Table with projection scale BB to 2020 and adjusted 115% for males and 112% for females older than age 78. The sex distinct RP-2000 Disabled Mortality Table adjusted 105% for males and 120% for females. Representative values of assumed mortality rates are as follows:

Age	Annual % Rate of Death After			
	Service Retirement		Disability Retirement	
	Male	Female	Male	Female
55	0.36	0.23	3.50	1.79
60	0.56	0.38	3.84	2.14
65	0.99	0.68	4.14	2.64
70	1.64	1.19	4.86	3.55
75	2.86	2.02	6.37	4.92
80	5.05	3.79	8.49	6.82
85	8.89	6.53	10.99	9.45
90	16.43	11.32	15.44	13.47

Percent Married: 85% of active members are assumed to be married with the husband 4 years older than the wife.

Actuarial Method: Individual entry age normal method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability.

Assets: Actuarial value. 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. Each year, 20% of the difference between market value and expected actuarial value is recognized. In order to reduce short-term volatility in valuation results and because market value and actuarial value of assets were close in value, the actuarial value of assets was set equal to the market value on September 30, 2012. 5-year smoothing commenced again beginning September 30, 2013.

Liability for Current Inactive Non-Vested members: Members Contribution Balance is multiplied by a factor of 1.0.

Post Retirement Increases: Allowances of retired members and spouses who receive benefits based on the salaries prescribed by law for the position are assumed to increase by 3.00% per year. The members' actual salaries at retirement are assumed to be equal to the salary prescribed by law for their position.

Benefits Payable upon Separation from Service: Active members who terminated from service prior to becoming eligible for a benefit are assumed to receive a refund of contributions with interest assumed to be 4% per year.

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, of each member's expected benefit payable at retirement or death is determined, based on 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 the active members is added to the present value of expected future payments to retired members and beneficiaries to obtain the present value of all expected benefits payable from the Fund on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the Fund are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "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 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 Fund.

Summary of Plan Provisions as Interpreted for Valuation Purposes

The Judicial Retirement Fund (JRF) was established as of September 18, 1973. The valuation took into account amendments to the JRF effective through the valuation date. The following summary describes the main benefit and contribution provisions of the JRF as interpreted for the valuation.

Membership

Any justice of the Supreme Court of Alabama, judge of the Alabama Court of Civil Appeals, judge of the Alabama Court of Criminal Appeals, judge of a Circuit Court, or officeholder of any newly created judicial office receiving compensation from the State Treasury became a member of the JRF if the member was holding office on the date that it was established and elected to come under its provisions. Any such justice or judge elected or appointed to office after September 18, 1973, or any district or probate judge elected or appointed to office after October 10, 1975, or October 1, 1976, respectively, automatically becomes a member by virtue of their position. Certain other district and probate judges as well as certain former county court judges, district attorneys, or assistant district attorneys serving as circuit judges and certain supernumerary judges and justices may also elect to become a member. Any circuit clerk or district attorney elected or appointed on or after November 8, 2016 automatically becomes a member. Certain other district and probate judges as well as certain former county court judges, district attorneys or assistant district attorneys service as circuit judges and certain supernumerary judges and justices could also elect to become members.

Average Final Compensation

The average compensation of of a member for the highest years in the last 10 years of creditable service.

Creditable Service

Creditable service is service as a member plus certain periods of previous service creditable in accordance with the provisions of the Act.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Judicial Retirement Fund

Summary of Plan Provisions (Continued)

Benefits

Service Retirement Benefit

Condition of Benefit

Tier 1 (Groups 1 and 2):

A service retirement benefit is payable upon request of a member who has:

- Completed 12 years of creditable service and attained age 65, or
- Completed 15 years of creditable service and whose age plus service equals or exceeds 77, or
- Completed at least 18 years of creditable service or three full terms as a judge or justice, or
- Completed 10 years of creditable service and attained age 70.

However, a judge who became a member on or after July 30, 1979, or who is a district or probate judge must meet the following age and service requirement combinations in order to be eligible to retire:

- Completed 12 years of creditable service and attained age 65, or
- Completed at least 15 years of creditable service and attained age 60, and whose age plus service equals or exceeds 77, or
- Completed 10 years of creditable service and attained age 70, or
- Completed 25 years of creditable service or 24 years of creditable service provided the member purchases one year of service prior to retirement, regardless of age.

Tier 2 (Group 3) and District Attorneys:

A service retirement benefit is payable upon request of a member who has completed 10 years of service and attained age 62.

Amount of Benefit

Tier 1 (Groups 1 and 2):

The service retirement benefit for a member is equal to:

- (a) For circuit or appellate judges who were members prior to July 30, 1979, 75% of the salary prescribed by law for the position from which the member retires.
- (b) For circuit and appellate judges who assumed office on or after July 30, 1979, 75% of the member's salary at the time of separation from service.
- (c) For district judges, 75% of the position's salary immediately prior to retirement.
- (d) For probate judges, 75% of the member's salary at the time of separation from service.

Tier 2 (Group 3) and District Attorneys:

The service retirement benefit for a member is equal to:

- (a) For a member who is judge with years of service less than 18 years, 4% of average final compensation multiplied by years of creditable service; for a member who is a judge with 18 or more years of service, 75% of average final compensation, not to exceed 75% of average final compensation.
- (b) For a member who is clerk or district attorney, 3% of average final compensation multiplied by years of creditable service, not to exceed 80% of average final compensation.

Disability Retirement Benefit

Condition of Benefit A disability retirement benefit is payable to a member who becomes permanently, physically or mentally, unable to carry out his duties on a full-time basis, provided the member has completed five or more years of creditable service.

Amount of Benefit

Tier 1 (Groups 1 and 2):

The disability retirement benefit for a member other than a district or probate judge who was a member prior to July 30, 1979, is equal to 25% of the salary prescribed by law for the position from which the member retires on disability plus 10% of such salary for each year of creditable service in excess of five years. The disability retirement benefit is subject to a minimum of 30% and a maximum of 75% of such salary.

The disability retirement benefit for a judge who became a member on or after July 30, 1979, or who is a district or probate judge is equal to 25% of his salary immediately prior to retirement plus 10% of such salary for each year of creditable service in excess of five years. The disability retirement benefit is subject to a minimum of 30% and a maximum of 75% of such salary.

Tier 2 (Group 3) and District Attorneys:

For a member who is judge with years of service less than 18 years, 4% of average final compensation multiplied by years of creditable service; for a member who is a judge with 18 or more years, 75% of average final compensation, not to exceed 75% of average final compensation.

For a member who is a clerk or district attorney, 3% of average final compensation multiplied by years of creditable service, not to exceed 80% of average final compensation.

Spousal Benefit

Tier 1 (Groups 1 and 2):

Condition of Benefit Upon the death of an active, inactive or retired member with at least 5 years of creditable service, a death benefit is payable to the member's spouse.

Amount of Benefit The death benefit payable to the spouse of a judge other than a district or probate judge consists of a yearly benefit equivalent to 3% of the salary prescribed by law for the position of the former member for each year of creditable service, not to exceed 30% of such salary.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Judicial Retirement Fund

Summary of Plan Provisions (Continued)

The death benefit payable to the spouse of a district judge consists of a yearly benefit equal to 3% of the position's salary prescribed by law at the time of death for each year of creditable service, not to exceed 30% of such salary.

The death benefit for the spouse of a probate judge is a yearly benefit equal to the greater of \$480 for each year of creditable service to a maximum of 10 years, or 3% of the member's salary at the time of separation from service for each year of creditable service, not to exceed 30% of such salary.

The benefit is payable for the spouse's life or until his or her remarriage.

Death in Active Service Benefit

Tier 2 (Group 3) and District Attorneys:

Amount of Benefit	In the event of the death of a member who is eligible for service retirement, the designated beneficiary may elect: (1) to exercise option 3 as defined below "Special Privileges at Retirement – All Employees" or (2) to receive a return of member contributions and total interest earned plus a death benefit payable from the per-retirement death benefit fund equal to the salary on which the member made retirement contributions for the previous fiscal year (October 1 – September 30).
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	In the event of the death of a member who is not eligible for retirement, the designated beneficiary shall receive the accumulated contributions not to exceed \$5,000 or the accumulated contributions of the member plus an additional death benefit payable from the per-retirement death benefit payable from the pre-retirement death benefit fund equal to the salary on which their retirement contributions were made for the previous fiscal year. (October 1 – September 30).
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Benefit Payable upon Separation from Service

If a member terminates service and elects not to withdraw his or her contributions and accrued interest from the JRF, the member is eligible to receive any of the benefits for which the member has sufficient creditable service upon reaching an eligible retirement age.

A member terminating service prior to reaching eligibility for retirement benefits may elect to receive a return of contributions and accrued interest. "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 the *Code of Alabama 1975, Section 36-27-25(g)*).

Member Contributions

Tier 1 (Groups 1 and 2):

- Prior to October 1, 2011, each member contributed 6.0% of salary.
- Beginning October 1, 2011, each member contributed 8.25% of salary.
- Beginning October 1, 2012, each member contributed 8.5% of salary.

Tier 2 (Group 3) and District Attorneys:

Each Tier 2 member and District Attorney member contributes 8.5% of salary.

If a positive investment performance results in a decrease in the total contribution rate paid by employers and employees participating in the System, the Retirement Systems of Alabama shall first reduce the employee contribution rate.

By State	The State makes contributions, which in addition to the members' contributions, are sufficient to provide the retirement allowances described.
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RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Judicial Retirement Fund

Supporting Schedules

Supporting Schedules

The following schedule presents a ten-year history of active member valuation data:

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

(Dollar Amounts Not in Thousands)

Valuation Date	Number	Annual Payroll*	Annual Average Pay**	% Increase/ (Decrease) in Average Pay
9/30/2018	345	\$ 43,819,340	\$ 127,013	0.65
9/30/2017	351	44,291,914	126,188	(1.45)
9/30/2016	336	43,022,891	128,044	1.08
9/30/2015	338	42,814,343	126,670	0.27
9/30/2014	338	42,698,909	126,328	1.94
9/30/2013	338	41,887,006	123,926	(1.61)
9/30/2012	337	42,446,426	125,954	0.58
9/30/2011	334	41,826,338	125,229	(1.70)
9/30/2010	338	43,060,614	127,398	0.78
9/30/2009	342	43,234,239	126,416	3.18

*0.9% increase for total pay since 2013.

**0.5% increase for average pay since 2013.

The following table presents a ten-year history of funding progress:

SCHEDULE OF FUNDING PROGRESS

(Dollar Amounts in Thousands)

Valuation Date		Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (B)	Unfunded AAL (UAAL) (B-A)	Percentage Funded (A/B)	Covered Payroll (C)	UAAL as a % of Covered Payroll ((B-A)/C)
9/30/2018	*	\$ 305,397	\$ 457,834	\$ 152,437	66.7	\$43,819	347.9
9/30/2017	**	293,090	448,446	155,356	65.4	44,292	350.8
9/30/2016	*	279,807	446,920	167,113	62.6	43,023	388.4
9/30/2015		267,414	427,591	160,177	62.5	42,814	374.1
9/30/2014		257,452	422,863	165,411	60.9	42,699	387.4
9/30/2013		243,316	414,200	170,884	58.7	41,887	408.0
9/30/2012	***	234,300	380,470	146,170	61.6	42,446	344.4
9/30/2011	****	235,870	393,635	157,765	59.9	41,826	377.2
9/30/2010		246,197	358,459	112,262	68.7	43,061	260.7
9/30/2009		252,646	340,978	88,332	74.1	43,234	204.3

*Reflects changes in actuarial assumptions and methods.

**Reflects changes in benefit structure beginning November 8, 2016.

***Reflects changes in actuarial methods.

****Reflects changes in actuarial assumptions.

RETIREMENT SYSTEMS OF ALABAMA

Actuarial Section

Judicial Retirement Fund

Supporting Schedules (Continued)

The following schedule presents a ten- year history of solvency tests:

SOLVENCY TEST						% of Accrued		
(Dollar Amounts in Thousands)						Liabilities Covered		
Aggregate Accrued Liabilities For						by Reported Assets		
		(1)	(2)	(3)				
		Active			Reported			
		Active	Retirants	Members				
Valuation		Member	and	(Employer	Assets	(1)	(2)	(3)
Date		Contributions	Beneficiaries	Financed				
				Portion)				
9/30/2018	*	\$ 48,609	\$ 296,550	\$ 112,675	\$305,397	100	87	0.0
9/30/2017		44,792	296,231	107,422	293,090	100	84	0.0
9/30/2016	*	45,900	280,836	120,185	279,807	100	83	0.0
9/30/2015		42,745	272,624	112,222	267,414	100	82	0.0
9/30/2014		40,981	268,439	113,443	257,452	100	81	0.0
9/30/2013		37,366	270,430	106,404	243,315	100	76	0.0
9/30/2012	**	38,341	237,197	104,932	234,300	100	83	0.0
9/30/2011	***	32,898	250,731	110,006	235,870	100	81	0.0
9/30/2010		33,950	218,969	105,540	246,197	100	97	0.0
9/30/2009		32,533	215,730	92,715	252,646	100	100	4.7

*Reflects a change in actuarial assumptions and methods.

**Reflects changes in actuarial methods.

***Reflects changes in actuarial assumptions.

The following schedule presents ten years of retirant and beneficiary data:

SCHEDULE OF RETIRANTS AND BENEFICIARIES ADDED AND REMOVED FROM ROLLS								
Retirees Added			Retirees Removed		Retirees - Year-end		% Increase/ (Decrease) in Annual Allowances	Average Annual Allowance
Fiscal Year Ended	Number	Annual Allowances (000s)	Number	Annual Allowances (000s)	Number	Annual Allowances (000s)		
2018	11	\$ 733	13	\$ 1,071	403	\$ 30,853	(1.08)	\$ 76,558
2017	27	1,895	6	490	405	31,191	4.72	77,015
2016	11	970	11	889	384	29,786	0.27	77,568
2015	16	1,500	6	479	384	29,705	3.56	77,357
2014	9	918	10	798	374	28,684	0.42	76,695
2013	33	3,144	4	315	375	28,564	10.99	76,171
2012	6	569	3	236	346	25,735	1.31	74,379
2011	28	2,939	10	786	343	25,402	9.26	74,058
2010	15	1,446	11	838	325	23,249	2.69	71,535
2009	19	1,877	10	748	321	22,641	5.25	70,533

The following table provides an analysis of actuarial gains and losses:

ANALYSIS OF ACTUARIAL GAINS AND LOSSES

(Dollar Amounts in Thousands)

	<u>Amount</u>
Unfunded Actuarial Liability as of September 30, 2017	\$ 155,356
Normal Cost for 2018 Plan Year	5,366
Contributions Received During the Year	(16,612)
Interest to Year End	<u>11,812</u>
Expected Unfunded Actuarial Liability as of September 30, 2018	<u>155,922</u>
Actuarial (Gains) Losses During the Year	
From Investments	(3,187)
From Actuarial Liabilities	<u>(299)</u>
Total Actuarial (Gains) Losses During the Year	<u>(3,486)</u>
Actual Unfunded Actuarial Liability as of September 30, 2018	<u><u>\$ 152,436</u></u>





Statistical Section

Component Units of the State of Alabama
Comprehensive Annual Financial Report



The Statistical Section of the comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the Retirement Systems' overall financial health.

Financial Trends

These schedules contain trend information to help the reader understand how the Retirement Systems' financial performance has changed over time.

Additions by Source – Ten-Year History – page 165

Deductions by Type – Ten-Year History – page 166

Benefits by Type – Ten-Year History – page 167

Ten-Year History of Additions, Reductions, and Changes in Net Position – page 168

Retirees and Beneficiaries

These schedules provide information concerning the retirees and beneficiaries receiving benefits.

Retired Members by Type of Benefit – page 174

Ten-Year History of Average Monthly Benefit Payments – page 177

Participating Units

These schedules provide information concerning units participating in the Employees' Retirement System.

Local Participating Employers – page 180

Largest Employers – Ten-Year History – page 189

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Additions by Source

Ten-Year History

(Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM ADDITIONS BY SOURCE

		Employer Contributions					
		Employer Rate (%)					
	Member				Investment	Transfer In	
Fiscal Year	Contributions \$	Amount	Tier 1	Tier 2 ©	Income	From PEEHIP	Total
2019	\$ 522,909	\$ 869,336	12.41	11.35	\$ 614,427	\$ -	\$ 2,006,672
2018	493,466	802,598	12.24	11.01	2,264,234	24,700	3,584,998
2017	489,638	782,695	12.01	10.82	2,636,105	-	3,908,438
2016	475,980	751,902	11.94	10.84	2,199,404	-	3,427,286
2015	477,918	737,671	11.71	11.05	261,468	-	1,477,057
2014	480,849	739,547	11.71	11.08	2,473,152	-	3,693,548
2013	477,586	627,892	10.08	9.44	2,732,706	-	3,838,184
2012	458,534	618,306	10.00	-	2,989,162	-	4,066,002
2011	323,196	779,644	12.51	-	351,965	-	1,454,805
2010	321,403	776,421	12.51	-	1,448,312	-	2,546,136

EMPLOYEES' RETIREMENT SYSTEM ADDITIONS BY SOURCE

		Employer Contributions							
		Employer Rate (%)							
		State							
Fiscal Year	Member Contributions \$	Amount	Tier 1		Tier 2 ©		Local	Investment Income	Total
			Regular	Law	Regular	Law			
2019	\$ 254,440	\$ 467,553	14.51	50.08	14.14	43.43	*	\$ 320,585	\$1,042,578
2018	241,741	426,340	13.94	44.44	13.29	39.29	*	1,098,412	1,766,493
2017	233,901	426,215	13.89	57.25	13.25	53.55	*	1,402,163	2,062,279
2016	238,017	435,098	14.57	42.61	14.09	38.98	*	1,053,031	1,726,146
2015	229,254	410,932	13.45	38.37	13.31	32.45	*	126,490	766,676
2014	226,016	391,181	12.02	35.81	11.96	29.52	*	1,186,529	1,803,726
2013	223,646	338,819	10.12	31.61	10.04	25.32	*	1,296,460	1,858,925
2012	216,870	317,520	9.42	29.92	-	-	*	1,427,858	1,962,248
2011	195,709	394,998	11.94	30.57	-	-	*	196,939	787,646
2010	196,758	377,898	11.94	30.57	-	-	*	696,677	1,271,333

JUDICIAL RETIREMENT FUND ADDITIONS BY SOURCE

		Employer Contributions					
		Employer Rate (%)					
		Group 3 - Judges & Clerks**					
		District Attorneys***				Investment	
Fiscal Year	Member Contributions \$	Amount	Groups 1 & 2	Clerks**	Attorneys***	Income	Total
2019	\$ 4,101	\$ 18,022	41.40	34.32	19.77	\$ 11,016	\$ 33,139
2018	3,867	17,180	40.09	34.32	19.77	27,622	48,669
2017	3,972	17,373	40.65	-	-	32,685	54,030
2016	3,723	17,529	40.98	-	-	28,321	49,573
2015	3,683	15,077	35.24	-	-	(856)	17,904
2014	3,764	15,790	35.24	-	-	31,344	50,898
2013	3,919	13,903	32.06	-	-	32,245	50,067
2012	3,681	10,747	24.35	-	-	39,011	53,439
2011	2,654	10,906	24.20	-	-	2,022	15,582
2010	2,566	10,814	24.20	-	-	21,925	35,305

§ Includes transfers from other systems.

* Local agency rates differ for each participating agency.

© A new tier of benefits was established for members hired on or after January 1, 2013, which included different contribution rates for the members and their employers.

**A new plan was created within the JRF for Judges and Clerks who were first elected or appointed on or after November 8, 2016, and were not a member of the JRF or the Clerks' and Registers' Supernumerary Fund.

***A new plan was created within the JRF for District Attorneys who were serving in the capacity of District Attorney on or after November 8, 2016.

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Deductions by Type

Ten-Year History

(Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM DEDUCTIONS BY TYPE

Fiscal Year	Benefit Payments	Contribution Refunds & Death Benefits	Service Transfers	Administrative Expenses	Depreciation	Total
2019	\$ 2,233,514	\$ 56,861	\$ 4,187	\$ 20,583	\$ 7,512	\$ 2,322,657
2018	2,204,031	58,538	4,908	15,952	6,338	2,289,767
2017	2,111,830	55,634	3,413	16,390	6,012	2,193,279
2016	2,155,784	57,130	6,223	14,873	4,709	2,238,719
2015	2,075,302	58,060	3,432	15,074	4,258	2,156,126
2014	1,997,595	54,699	2,880	13,103	4,336	2,072,613
2013	1,893,321	55,891	1,823	12,591	4,312	1,967,938
2012	1,800,805	49,453	1,937	11,555	4,344	1,868,094
2011	1,673,881	49,304	2,012	10,820	4,243	1,740,260
2010	1,567,790	43,628	1,790	11,979	4,264	1,629,451

EMPLOYEES' RETIREMENT SYSTEM DEDUCTIONS BY TYPE

Fiscal Year	Benefit Payments	Contribution Refunds & Death Benefits	Unit Withdrawals & Service Transfers	Administrative Expenses	Depreciation	Total
2019	\$ 1,123,150	\$ 48,675	\$ 6,803	\$ 12,934	\$ 2,895	\$ 1,194,457
2018	1,096,883	45,070	5,415	11,219	2,544	1,161,131
2017	1,050,340	48,683	3,357	11,982	2,520	1,116,882
2016	1,038,517	45,768	3,668	11,002	2,021	1,100,976
2015	1,018,515	51,024	4,059	11,136	2,046	1,086,780
2014	948,478	47,937	3,632	9,612	2,055	1,011,714
2013	895,475	44,837	3,587	9,767	2,015	955,681
2012	848,464	40,746	2,180	10,616	1,981	903,987
2011	782,957	36,798	2,157	10,002	2,029	833,943
2010	725,660	33,868	1,633	10,334	2,111	773,606

JUDICIAL RETIREMENT FUND DEDUCTIONS BY TYPE

Fiscal Year	Benefit Payments	Contribution Refunds & Death Benefits	Service Transfers	Administrative Expenses	Depreciation	Total
2019	\$ 36,909	\$ 646	\$ -	\$ 357	\$ -	\$ 37,912
2018	33,419	130	-	328	-	33,877
2017	32,807	353	-	334	-	33,494
2016	30,893	115	-	397	-	31,405
2015	30,348	100	55	356	-	30,859
2014	29,826	54	1	281	-	30,162
2013	29,112	196	-	280	-	29,588
2012	27,183	253	-	257	-	27,693
2011	26,379	34	-	276	-	26,689
2010	24,526	235	-	317	-	25,078

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Benefits by Type

Ten-Year History

(Amounts in Thousands)

TEACHERS' RETIREMENT SYSTEM

BENEFITS BY TYPE

Fiscal Year	Age & Service Benefits		Disability Benefits	Death Benefits & Refunds	
	Retirants	Survivors		Death	Resignation
2019	\$ 2,079,529	\$ 85,566	\$ 68,419	\$ 14,333	\$ 42,528
2018	2,053,906	82,406	67,719	12,827	45,711
2017	1,971,017	75,812	65,001	13,142	42,492
2016	2,021,973	70,959	62,852	14,578	42,552
2015	1,947,983	66,636	60,683	14,095	43,965
2014	1,876,615	62,674	58,306	11,225	43,474
2013	1,778,541	58,669	56,111	11,684	44,207
2012	1,692,169	55,109	53,527	11,269	38,184
2011	1,571,682	51,873	50,326	13,174	36,130
2010	1,469,928	49,287	48,576	13,032	30,596

EMPLOYEES' RETIREMENT SYSTEM

BENEFITS BY TYPE

Fiscal Year	Age & Service Benefits		Disability Benefits	Death Benefits & Refunds	
	Retirants	Survivors		Death	Resignation
2019	\$ 1,010,482	\$ 52,028	\$ 60,640	\$ 9,979	\$ 38,696
2018	987,527	49,220	60,136	10,843	34,577
2017	946,203	45,810	58,327	9,197	39,486
2016	937,752	43,376	57,389	8,842	36,926
2015	919,657	42,308	56,550	9,800	41,224
2014	855,857	39,488	53,133	9,687	38,250
2013	806,846	37,730	50,899	7,889	36,948
2012	763,881	36,161	48,422	8,969	31,777
2011	703,128	34,538	45,291	7,806	28,992
2010	649,532	33,009	43,119	8,994	24,874

JUDICIAL RETIREMENT FUND

BENEFITS BY TYPE

Fiscal Year	Age & Service Benefits		Disability Benefits	Death Benefits & Refunds	
	Retirants	Survivors		Death	Resignation
2019	\$ 32,288	\$ 4,055	\$ 566	\$ -	\$ 646
2018	28,983	3,913	523	44	86
2017	28,370	3,956	481	19	334
2016	26,556	3,850	487	10	105
2015	26,082	3,839	427	8	92
2014	25,796	3,703	327	-	54
2013	25,022	3,715	375	-	196
2012	23,307	3,501	375	-	253
2011	22,773	3,231	375	-	34
2010	20,763	3,388	375	-	235

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Teachers' Retirement System

Ten-Year History of Additions, Reductions, and Changes in Net Position

(Amounts in Thousands)

	2019	2018	2017	2016	2015
Additions					
Contributions					
Employee	\$ 516,675	\$ 488,503	\$ 486,542	\$ 472,390	\$ 473,903
Employer	869,336	802,598	782,695	751,902	737,671
Transfers from Employees' Retirement System	6,234	4,963	3,096	3,590	4,015
Transfers from Judicial Retirement Fund	-	-	-	-	-
Transfers from PEEHIP	-	24,700	-	-	-
Total Contributions	1,392,245	1,320,764	1,272,333	1,227,882	1,215,589
Investment Income					
From Investing Activities					
Net Increase/(Decrease) in Fair Value of Investments	33,671	1,615,440	2,021,774	1,589,279	(381,400)
Interest and Dividends	583,329	650,293	613,353	607,795	640,910
Total Investment Income from Investing Activities	617,000	2,265,733	2,635,127	2,197,074	259,510
Less: Investment Expenses, Net	9,205	9,171	8,685	7,731	6,407
Net Investment Income from Investing Activities	607,795	2,256,562	2,626,442	2,189,343	253,103
From Securities Lending Activities					
Securities Lending Income	28,905	23,246	20,125	15,930	11,512
Less Securities Lending Expenses:					
Borrower Rebates	19,431	12,385	7,350	2,825	365
Management Fees	2,842	3,189	3,112	3,044	2,782
Total Securities Lending Expenses	22,273	15,574	10,462	5,869	3,147
Net Income from Securities Lending Activities	6,632	7,672	9,663	10,061	8,365
Total Net Investment Income	614,427	2,264,234	2,636,105	2,199,404	261,468
Total Additions	2,006,672	3,584,998	3,908,438	3,427,286	1,477,057
Deductions					
Retirement Allowance Payments	2,233,514	2,204,031	2,111,830	2,155,784	2,075,302
Return of Contributions and Death Benefits	56,861	58,538	55,634	57,130	58,060
Transfers to Employees' Retirement System	4,187	4,899	3,413	6,223	3,432
Transfers to Judicial Retirement Fund	-	9	-	-	-
Administrative Expenses	20,583	15,952	16,390	14,873	15,074
Depreciation	7,512	6,338	6,012	4,709	4,258
Total Deductions	2,322,657	2,289,767	2,193,279	2,238,719	2,156,126
Net Increase/(Decrease)	(315,985)	1,295,231	1,715,159	1,188,567	(679,069)
Net Position Restricted for Pension Benefits					
Beginning of Year - as previously reported	25,935,433	24,651,457	22,936,298	21,747,731	22,441,307
Adjustment for Application of GASB 68	-	-	-	-	(14,507)
Adjustment for Application of GASB 75	-	(11,255)	-	-	-
Beginning of Year - as adjusted	25,935,433	24,640,202	22,936,298	21,747,731	22,426,800
End of Year	\$ 25,619,448	\$ 25,935,433	\$ 24,651,457	\$ 22,936,298	\$ 21,747,731

	2014	2013	2012	2011	2010
Additions					
Contributions					
Employee	\$ 477,300	\$ 474,241	\$ 456,518	\$ 321,137	\$ 319,770
Employer	739,547	627,892	618,306	779,644	776,421
Transfers from Employees' Retirement System	3,549	3,345	2,016	2,059	-
Transfers from Judicial Retirement Fund	-	-	-	-	1,633
Transfers from PEEHIP	-	-	-	-	-
Total Contributions	1,220,396	1,105,478	1,076,840	1,102,840	1,097,824
Investment Income					
From Investing Activities					
Net Increase/(Decrease) in Fair Value of Investments	1,853,288	2,090,646	2,349,955	(278,407)	886,997
Interest and Dividends	618,861	638,766	634,695	624,546	559,941
Total Investment Income from Investing Activities	2,472,149	2,729,412	2,984,650	346,139	1,446,938
Less: Investment Expenses, Net	5,732	5,712	5,260	5,305	5,415
Net Investment Income from Investing Activities	2,466,417	2,723,700	2,979,390	340,834	1,441,523
From Securities Lending Activities					
Securities Lending Income	9,629	12,753	13,670	15,643	12,519
Less Securities Lending Expenses:					
Borrower Rebates	65	401	433	1,261	2,820
Management Fees	2,829	3,346	3,465	3,251	2,910
Total Securities Lending Expenses	2,894	3,747	3,898	4,512	5,730
Net Income from Securities Lending Activities	6,735	9,006	9,772	11,131	6,789
Total Net Investment Income	2,473,152	2,732,706	2,989,162	351,965	1,448,312
Total Additions	3,693,548	3,838,184	4,066,002	1,454,805	2,546,136
Deductions					
Retirement Allowance Payments	1,997,595	1,893,321	1,800,805	1,673,881	1,567,790
Return of Contributions and Death Benefits	54,699	55,891	49,453	49,304	43,628
Transfers to Employees' Retirement System	2,880	1,823	1,937	2,012	1,790
Transfers to Judicial Retirement Fund	-	-	-	-	-
Administrative Expenses	13,103	12,591	11,555	10,820	11,979
Depreciation	4,336	4,312	4,344	4,243	4,264
Total Deductions	2,072,613	1,967,938	1,868,094	1,740,260	1,629,451
Net Increase/(Decrease)	1,620,935	1,870,246	2,197,908	(285,455)	916,685
Net Position Restricted for Pension Benefits					
Beginning of Year - as previously reported	20,820,372	18,950,126	16,752,218	17,037,673	16,120,988
Adjustment for Application of GASB 68	-	-	-	-	-
Adjustment for Application of GASB 75	-	-	-	-	-
Beginning of Year - as adjusted	20,820,372	18,950,126	16,752,218	17,037,673	16,120,988
End of Year	\$ 22,441,307	\$ 20,820,372	\$ 18,950,126	\$ 16,752,218	\$ 17,037,673

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Ten-Year History of Additions, Reductions, and Changes in Net Position

(Amounts in Thousands)

	2019	2018	2017	2016	2015
Additions					
Contributions					
Employee	\$ 250,253	\$ 236,842	\$ 230,488	\$ 231,794	\$ 225,767
Employer	467,553	426,340	426,215	435,098	410,932
Transfers from Teachers' Retirement System	4,187	4,899	3,413	6,223	3,432
Transfers from Judicial Retirement Fund	-	-	-	-	55
Total Contributions	721,993	668,081	660,116	673,115	640,186
Investment Income					
From Investing Activities					
Net Increase/(Decrease) in Fair Value of Investments	30,092	775,132	1,098,859	753,836	(186,154)
Interest and Dividends	291,011	323,182	302,295	297,369	311,516
Total Investment Income from Investing Activities	321,103	1,098,314	1,401,154	1,051,205	125,362
Less: Investment Expenses, Net	3,661	3,395	3,305	2,883	2,771
Net Investment Income from Investing Activities	317,442	1,094,919	1,397,849	1,048,322	122,591
From Securities Lending Activities					
Securities Lending Income	13,884	10,589	9,127	7,481	5,353
Less Securities Lending Expenses:					
Borrower Rebates	9,394	5,647	3,424	1,356	164
Management Fees	1,347	1,449	1,389	1,416	1,290
Total Securities Lending Expenses	10,741	7,096	4,813	2,772	1,454
Net Income from Securities Lending Activities	3,143	3,493	4,314	4,709	3,899
Total Net Investment Income	320,585	1,098,412	1,402,163	1,053,031	126,490
Total Additions	1,042,578	1,766,493	2,062,279	1,726,146	766,676
Deductions					
Retirement Allowance Payments	1,123,150	1,096,883	1,050,340	1,038,517	1,018,515
Return of Contributions and Death Benefits	48,675	45,070	47,683	45,768	51,024
Unit Withdrawals	380	350	1,000	-	-
Transfers to Teachers' Retirement System	6,234	4,963	3,096	3,590	4,015
Transfers to Judicial Retirement Fund	189	102	261	78	44
Administrative Expenses	12,934	11,219	11,982	11,002	11,136
Depreciation	2,895	2,544	2,520	2,021	2,046
Total Deductions	1,194,457	1,161,131	1,116,882	1,100,976	1,086,780
Net Increase/(Decrease)	(151,879)	605,362	945,397	625,170	(320,104)
Net Position Restricted for Pension Benefits					
Beginning of Year - as previously reported	12,720,352	12,122,471	11,177,074	10,551,904	10,883,952
Adjustment for Application of GASB 68	-	-	-	-	(11,944)
Adjustment for Application of GASB 75	-	(7,481)	-	-	-
Beginning of Year - as adjusted	12,720,352	12,114,990	11,177,074	10,551,904	10,872,008
End of Year	\$ 12,568,473	\$ 12,720,352	\$ 12,122,471	\$ 11,177,074	\$ 10,551,904

	2014	2013	2012	2011	2010
Additions					
Contributions					
Employee	\$ 223,135	\$ 221,823	\$ 214,933	\$ 193,697	\$ 194,968
Employer	391,181	338,819	317,520	394,998	377,898
Transfers from Teachers' Retirement System	2,880	1,823	1,937	2,012	1,790
Transfers from Judicial Retirement Fund	1	-	-	-	-
Total Contributions	617,197	562,465	534,390	590,707	574,656
Investment Income					
<i>From Investing Activities</i>					
Net Increase/(Decrease) in Fair Value of Investments	888,303	984,714	1,114,737	(112,758)	427,365
Interest and Dividends	298,049	310,220	310,748	307,152	268,667
Total Investment Income from Investing Activities	1,186,352	1,294,934	1,425,485	194,394	696,032
Less: Investment Expenses, Net	2,766	2,549	2,256	2,308	2,398
Net Investment Income from Investing Activities	1,183,586	1,292,385	1,423,229	192,086	693,634
<i>From Securities Lending Activities</i>					
Securities Lending Income	4,199	5,780	6,445	6,891	5,619
Less Securities Lending Expenses:					
Borrower Rebates	21	186	174	517	1,271
Management Fees	1,235	1,519	1,642	1,521	1,305
Total Securities Lending Expenses	1,256	1,705	1,816	2,038	2,576
Net Income from Securities Lending Activities	2,943	4,075	4,629	4,853	3,043
Total Net Investment Income	1,186,529	1,296,460	1,427,858	196,939	696,677
Total Additions	1,803,726	1,858,925	1,962,248	787,646	1,271,333
Deductions					
Retirement Allowance Payments	948,478	895,475	848,464	782,957	725,660
Return of Contributions and Death Benefits	47,937	44,837	40,746	36,798	33,868
Unit Withdrawals	-	-	-	-	-
Transfers to Teachers' Retirement System	3,549	3,345	2,016	2,059	1,633
Transfers to Judicial Retirement Fund	83	242	164	98	-
Administrative Expenses	9,612	9,767	10,616	10,002	10,334
Depreciation	2,055	2,015	1,981	2,029	2,111
Total Deductions	1,011,714	955,681	903,987	833,943	773,606
Net Increase/(Decrease)	792,012	903,244	1,058,261	(46,297)	497,727
Net Position Restricted for Pension Benefits					
Beginning of Year - as previously reported	10,091,940	9,188,696	8,130,435	8,176,732	7,679,005
Adjustment for Application of GASB 68	-	-	-	-	-
Adjustment for Application of GASB 75	-	-	-	-	-
Beginning of Year - as adjusted	10,091,940	9,188,696	8,130,435	8,176,732	7,679,005
End of Year	\$ 10,883,952	\$ 10,091,940	\$ 9,188,696	\$ 8,130,435	\$ 8,176,732

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Judicial Retirement Fund

Ten-Year History of Additions, Reductions, and Changes in Net Position

(Amounts in Thousands)

	2019	2018	2017	2016	2015
Additions					
Contributions					
Employee	\$ 3,912	\$ 3,756	\$ 3,711	\$ 3,645	\$ 3,639
Employer	18,022	17,180	17,373	17,529	15,077
Transfers from Teachers' Retirement System	-	9	-	-	-
Transfers from Employees' Retirement System	189	102	261	78	44
Total Contributions	22,123	21,047	21,345	21,252	18,760
Investment Income					
From Investing Activities					
Net Increase/(Decrease) in Fair Value of Investments	3,476	20,071	25,639	21,302	(7,695)
Interest and Dividends	7,463	7,471	6,910	6,865	6,698
Total Investment Income from Investing Activities	10,939	27,542	32,549	28,167	(997)
Less: Investment Expenses, Net	-	-	-	-	-
Net Investment Income from Investing Activities	10,939	27,542	32,549	28,167	(997)
From Securities Lending Activities					
Securities Lending Income	327	248	270	258	195
Less Securities Lending Expenses:					
Borrower Rebates	218	134	90	58	7
Management Fees	32	34	44	46	47
Total Securities Lending Expenses	250	168	134	104	54
Net Income from Securities Lending Activities	77	80	136	154	141
Total Investment Income	11,016	27,622	32,685	28,321	(856)
Total Additions	33,139	48,669	54,030	49,573	17,904
Deductions					
Retirement Allowance Payments	36,909	33,419	32,807	30,893	30,348
Return of Contributions and Death Benefits	646	130	353	115	100
Transfers to Employees' Retirement System	-	-	-	-	55
Transfers to Teachers' Retirement System	-	-	-	-	-
Administrative Expenses	357	328	334	397	356
Total Deductions	37,912	33,877	33,494	31,405	30,859
Net Increase/(Decrease)	(4,773)	14,792	20,536	18,168	(12,955)
Net Position Restricted for Pension Benefits					
Beginning of Year - as previously reported	317,314	302,578	282,042	263,874	277,096
Adjustment for Application of GASB 68	-	-	-	-	(267)
Adjustment for Application of GASB 75	-	(56)	-	-	-
Beginning of Year - as adjusted	317,314	302,522	282,042	263,874	276,829
End of Year	\$ 312,541	\$ 317,314	\$ 302,578	\$ 282,042	\$ 263,874

	2014	2013	2012	2011	2010
Additions					
Contributions					
Employee	\$ 3,681	\$ 3,677	\$ 3,517	\$ 2,556	\$ 2,566
Employer	15,790	13,903	10,747	10,906	10,814
Transfers from Teachers' Retirement System	-	-	-	-	-
Transfers from Employees' Retirement System	83	242	164	98	-
Total Contributions	19,554	17,822	14,428	13,560	13,380
Investment Income					
<i>From Investing Activities</i>					
Net Increase/(Decrease) in Fair Value of Investments	24,197	25,207	32,112	(4,961)	15,287
Interest and Dividends	7,030	6,912	6,748	6,853	6,551
Total Investment Income from Investing Activities	31,227	32,119	38,860	1,892	21,838
Less: Investment Expenses, Net	-	-	-	-	-
Net Investment Income from Investing Activities	31,227	32,119	38,860	1,892	21,838
<i>From Securities Lending Activities</i>					
Securities Lending Income	167	184	215	201	169
Less Securities Lending Expenses:					
Borrower Rebates	1	10	12	22	45
Management Fees	49	48	52	49	37
Total Securities Lending Expenses	50	58	64	71	82
Net Income from Securities Lending Activities	117	126	151	130	87
Total Investment Income	31,344	32,245	39,011	2,022	21,925
Total Additions	50,898	50,067	53,439	15,582	35,305
Deductions					
Retirement Allowance Payments	29,826	29,112	27,183	26,379	24,526
Return of Contributions and Death Benefits	54	196	253	34	235
Transfers to Employees' Retirement System	1	-	-	-	-
Transfers to Teachers' Retirement System	-	-	-	-	-
Administrative Expenses	281	280	257	276	317
Total Deductions	30,162	29,588	27,693	26,689	25,078
Net Increase/(Decrease)	20,736	20,479	25,746	(11,107)	10,227
Net Position Restricted for Pension Benefits					
Beginning of Year - as previously reported	256,360	235,881	210,135	221,242	211,015
Adjustment for Application of GASB 68	-	-	-	-	-
Adjustment for Application of GASB 75	-	-	-	-	-
Beginning of Year - as adjusted	256,360	235,881	210,135	221,242	211,015
End of Year	\$ 277,096	\$ 256,360	\$ 235,881	\$ 210,135	\$ 221,242

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Teachers' Retirement System

Retired Members by Type of Benefit as of September 30, 2018

Amount of Monthly Benefit	Number of Retirants	Type of Retirement ¹			Option Selected ²				
		A	B	C	Maximum	Opt-1	Opt-2	Opt-3	Opt-4
\$ 1 - 250	1,442	878	419	145	268	319	458	397	-
251 - 500	8,906	6,555	880	1,471	2,576	3,435	1,777	1,115	3
501 - 750	9,047	7,198	716	1,133	2,348	3,666	1,880	1,148	5
751 - 1,000	7,795	6,361	624	810	1,887	3,142	1,632	1,128	6
1,001 - 1,250	6,613	5,447	512	654	1,339	2,551	1,679	1,041	3
1,251 - 1,500	6,023	5,032	451	540	1,181	2,233	1,682	926	1
1,501 - 1,750	7,131	6,359	337	435	1,266	2,930	1,959	972	4
1,751 - 2,000	8,991	8,450	254	287	1,562	4,042	2,104	1,280	3
2,001 - 2,250	9,171	8,795	210	166	1,396	4,187	2,346	1,239	3
2,251 - 2,500	7,504	7,254	166	84	1,155	3,543	1,848	955	3
2,501 - 2,750	5,471	5,299	119	53	807	2,530	1,406	728	-
2,751 - 3,000	4,075	3,945	96	34	611	1,757	1,104	601	2
3,001 - 3,250	3,045	2,942	83	20	401	1,299	889	452	4
3,251 - 3,500	2,292	2,198	83	11	313	941	701	336	1
3,501 - 3,750	1,762	1,707	51	4	232	706	567	254	3
3,751 - 4,000	1,364	1,325	34	5	197	554	401	208	4
4,001 - 4,250	1,149	1,117	31	1	161	482	324	180	2
4,251 - 4,500	847	817	28	2	106	329	276	133	3
4,501 - 4,750	636	621	15	-	86	235	204	110	1
4,751 - 5,000	545	532	12	1	71	207	182	83	2
Over 5,000	2,422	2,340	78	4	289	762	918	439	14
Totals	96,231	85,172	5,199	5,860	18,252	39,850	24,337	13,725	67

¹ Type of Retirement

A - Service
B - Survivor Benefit
C - Disability

² Option

Maximum - Life Annuity
Opt-1 - Cash Refund
Opt-2 - 100% Joint Survivorship
Opt-3 - 50% Joint Survivorship
Opt-4 - Other

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Retired Members by Type of Benefit as of September 30, 2018

Amount of Monthly Benefit	Number of Retirants	Type of Retirement ¹			Option Selected ²				
		A	B	C	Maximum	Opt-1	Opt-2	Opt-3	Opt-4
\$ 1 - 250	339	134	195	10	49	29	68	185	9
251 - 500	3,630	2,332	929	369	938	907	893	842	50
501 - 750	5,093	3,523	780	790	1,537	1,574	1,034	867	81
751 - 1,000	4,837	3,413	566	858	1,459	1,620	853	823	82
1,001 - 1,250	5,308	4,132	464	712	1,270	1,953	1,108	879	98
1,251 - 1,500	4,758	3,921	354	483	1,068	1,836	1,043	736	75
1,501 - 1,750	4,491	3,896	260	335	942	1,749	973	762	65
1,751 - 2,000	4,068	3,696	151	221	794	1,677	826	725	45
2,001 - 2,250	3,456	3,215	103	138	663	1,294	825	627	47
2,251 - 2,500	2,927	2,727	87	113	555	1,147	679	508	38
2,501 - 2,750	2,334	2,192	61	81	411	931	556	402	34
2,751 - 3,000	1,840	1,747	51	42	316	723	434	344	23
3,001 - 3,250	1,591	1,525	43	23	267	662	364	279	19
3,251 - 3,500	1,115	1,074	27	14	187	451	254	206	17
3,501 - 3,750	900	874	16	10	154	374	195	162	15
3,751 - 4,000	676	658	10	8	116	292	141	116	11
4,001 - 4,250	564	553	9	2	75	240	128	109	12
4,251 - 4,500	424	408	9	7	71	163	105	80	5
4,501 - 4,750	324	314	10	-	54	130	80	56	4
4,751 - 5,000	277	267	7	3	51	96	69	57	4
Over 5,000	1,108	1,083	20	5	187	422	245	239	15
Totals	50,060	41,684	4,152	4,224	11,164	18,270	10,873	9,004	749

¹ Type of Retirement

A - Service
B - Survivor Benefit
C - Disability

² Option

Maximum - Life Annuity
Opt-1 - Cash Refund
Opt-2 - 100% Joint Survivorship
Opt-3 - 50% Joint Survivorship
Opt-4 - Other

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Judicial Retirement Fund

Retired Members by Type of Benefit as of September 30, 2018

Amount of Monthly Benefit	Number of Retirants	Type of Retirement †			Option	
		A	B	C	Maximum	Joint Survivorship
\$ 1 - 250	-	-	-	-	-	-
251 - 500	2	-	2	-	2	-
501 - 750	1	-	1	-	1	-
751 - 1,000	4	-	4	-	4	-
1,001 - 1,250	4	-	3	1	3	1
1,251 - 1,500	12	-	12	-	12	-
1,501 - 1,750	7	1	6	-	6	1
1,751 - 2,000	4	-	4	-	4	-
2,001 - 2,250	3	-	3	-	3	-
2,251 - 2,500	1	-	1	-	1	-
2,501 - 2,750	1	-	1	-	1	-
2,751 - 3,000	4	-	4	-	4	-
3,001 - 3,250	6	2	1	3	2	4
3,251 - 3,500	15	5	10	-	10	5
3,501 - 3,750	23	1	22	-	22	1
3,751 - 4,000	29	2	27	-	29	-
4,001 - 4,250	2	2	-	-	-	2
4,251 - 4,500	6	5	1	-	3	3
4,501 - 4,750	8	5	2	1	3	5
4,751 - 5,000	10	6	4	-	4	6
Over 5,000	262	253	5	4	52	210
Totals	404	282	113	9	166	238

† Type of Retirement

A - Service

B - Survivor Benefit

C - Disability

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Teachers' Retirement System

Ten-Year History of Average Monthly Benefit Payments as of September 30

	Years Credited Service				
	10-14	15-19	20-24	25-29	30 & over
2018					
Average monthly benefit	\$ 854	\$ 1,291	\$ 1,785	\$ 2,490	\$ 3,635
Average final average salary	\$ 44,361	\$ 46,765	\$ 50,942	\$ 58,748	\$ 68,533
Number of active retirants	917	714	623	1,460	726
2017					
Average monthly benefit	\$ 831	\$ 1,299	\$ 1,866	\$ 2,466	\$ 3,315
Average final average salary	\$ 42,451	\$ 46,698	\$ 51,545	\$ 57,495	\$ 63,269
Number of active retirants	952	631	744	1,396	605
2016					
Average monthly benefit	\$ 790	\$ 1,276	\$ 1,679	\$ 2,448	\$ 3,558
Average final average salary	\$ 41,166	\$ 46,315	\$ 47,377	\$ 57,439	\$ 66,923
Number of active retirants	950	646	626	1,456	502
2015					
Average monthly benefit	\$ 822	\$ 1,189	\$ 1,731	\$ 2,340	\$ 3,350
Average final average salary	\$ 42,410	\$ 42,982	\$ 49,065	\$ 54,854	\$ 63,017
Number of active retirants	934	667	650	1,476	529
2014					
Average monthly benefit	\$ 790	\$ 1,273	\$ 1,675	\$ 2,374	\$ 3,236
Average final average salary	\$ 40,969	\$ 46,200	\$ 47,036	\$ 56,099	\$ 60,273
Number of active retirants	855	656	633	1,397	364
2013					
Average monthly benefit	\$ 810	\$ 1,201	\$ 1,653	\$ 2,325	\$ 3,204
Average final average salary	\$ 41,846	\$ 43,291	\$ 46,143	\$ 55,080	\$ 59,738
Number of active retirants	879	676	600	1,216	278
2012					
Average monthly benefit	\$ 733	\$ 1,151	\$ 1,644	\$ 2,288	\$ 2,896
Average final average salary	\$ 37,417	\$ 41,518	\$ 46,432	\$ 53,707	\$ 54,443
Number of active retirants	951	643	638	1,411	493
2011					
Average monthly benefit	\$ 721	\$ 1,230	\$ 1,660	\$ 2,448	\$ 3,362
Average final average salary	\$ 36,580	\$ 43,817	\$ 47,340	\$ 58,430	\$ 64,558
Number of active retirants	797	595	632	1,674	732
2010					
Average monthly benefit	\$ 691	\$ 1,140	\$ 1,596	\$ 2,309	\$ 3,206
Average final average salary	\$ 36,194	\$ 41,368	\$ 45,033	\$ 55,481	\$ 61,883
Number of active retirants	721	499	520	1,701	847
2009					
Average monthly benefit	\$ 693	\$ 1,099	\$ 1,533	\$ 2,229	\$ 3,089
Average final average salary	\$ 35,464	\$ 39,601	\$ 43,549	\$ 53,066	\$ 59,139
Number of active retirants	632	476	432	1,726	770

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Ten-Year History of Average Monthly Benefit Payments as of September 30

	Years Credited Service				
	10-14	15-19	20-24	25-29	30 & over
2018					
Average monthly benefit	\$ 779	\$ 1,189	\$ 1,848	\$ 2,510	\$ 3,641
Average final average salary	\$ 41,733	\$ 43,797	\$ 51,794	\$ 57,665	\$ 68,460
Number of active retirants	508	403	325	808	486
2017					
Average monthly benefit	\$ 777	\$ 1,219	\$ 1,851	\$ 2,480	\$ 3,529
Average final average salary	\$ 40,630	\$ 43,568	\$ 52,468	\$ 57,172	\$ 65,786
Number of active retirants	559	354	329	701	464
2016					
Average monthly benefit	\$ 756	\$ 1,212	\$ 1,655	\$ 2,349	\$ 3,341
Average final average salary	\$ 39,679	\$ 44,655	\$ 47,798	\$ 54,386	\$ 61,838
Number of active retirants	516	340	357	852	425
2015					
Average monthly benefit	\$ 714	\$ 1,182	\$ 1,726	\$ 2,398	\$ 3,379
Average final average salary	\$ 38,049	\$ 43,986	\$ 48,618	\$ 55,372	\$ 62,969
Number of active retirants	548	384	334	808	364
2014					
Average monthly benefit	\$ 737	\$ 1,144	\$ 1,676	\$ 2,326	\$ 3,258
Average final average salary	\$ 38,296	\$ 42,040	\$ 48,423	\$ 54,092	\$ 60,078
Number of active retirants	532	319	316	725	337
2013					
Average monthly benefit	\$ 718	\$ 1,257	\$ 1,738	\$ 2,392	\$ 3,236
Average final average salary	\$ 37,933	\$ 46,357	\$ 49,200	\$ 54,929	\$ 59,595
Number of active retirants	537	385	321	661	337
2012					
Average monthly benefit	\$ 723	\$ 1,214	\$ 1,856	\$ 2,475	\$ 3,170
Average final average salary	\$ 38,160	\$ 43,479	\$ 49,415	\$ 54,904	\$ 58,675
Number of active retirants	566	370	486	757	283
2011					
Average monthly benefit	\$ 728	\$ 1,230	\$ 1,871	\$ 2,423	\$ 3,207
Average final average salary	\$ 38,584	\$ 43,878	\$ 49,583	\$ 55,598	\$ 59,990
Number of active retirants	529	341	434	975	459
2010					
Average monthly benefit	\$ 667	\$ 1,144	\$ 1,819	\$ 2,386	\$ 3,054
Average final average salary	\$ 35,383	\$ 41,444	\$ 48,399	\$ 55,257	\$ 57,575
Number of active retirants	399	316	366	954	420
2009					
Average monthly benefit	\$ 1,399	\$ 1,449	\$ 1,661	\$ 2,064	\$ 2,764
Average final average salary	\$ 40,605	\$ 39,986	\$ 37,807	\$ 47,298	\$ 46,613
Number of active retirants	700	436	345	772	428

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Judicial Retirement Fund

Ten-Year History of Average Monthly Benefit Payments as of September 30

	Years of Credited Service				
	10-14	15-19	20-24	25-29	30+
2018					
Average monthly benefit	\$ 2,713	\$ 9,115	\$ 9,200	\$ 9,371	\$ -
Average final average salary	\$ 43,414	\$ 145,838	\$ 147,199	\$ 149,936	\$ -
Number of active retirants	4	5	1	1	-
2017					
Average monthly benefit	\$ 8,409	\$ 8,519	\$ 9,345	\$ 8,453	\$ 9,262
Average final average salary	\$ 134,539	\$ 136,297	\$ 149,518	\$ 135,243	\$ 148,185
Number of active retirants	8	8	3	4	4
2016					
Average monthly benefit	\$ 6,928	\$ 8,952	\$ 9,293	\$ 8,204	\$ -
Average final average salary	\$ 110,854	\$ 143,234	\$ 148,686	\$ 131,271	\$ -
Number of active retirants	2	3	1	4	-
2015					
Average monthly benefit	\$ 8,692	\$ 9,043	\$ 9,319	\$ 9,332	\$ 8,202
Average final average salary	\$ 139,065	\$ 144,688	\$ 149,102	\$ 149,311	\$ 131,231
Number of active retirants	4	2	3	2	4
2014					
Average monthly benefit	\$ 8,528	\$ 9,158	\$ 9,051	\$ 9,371	\$ -
Average final average salary	\$ 136,441	\$ 146,529	\$ 144,812	\$ 149,936	\$ -
Number of active retirants	2	3	2	1	-
2013					
Average monthly benefit	\$ 7,458	\$ 8,297	\$ 9,128	\$ 9,216	\$ 7,224
Average final average salary	\$ 119,322	\$ 132,747	\$ 146,050	\$ 147,448	\$ 115,578
Number of active retirants	5	10	3	5	9
2012					
Average monthly benefit	\$ 6,993	\$ 9,184	\$ 9,371	\$ 7,230	\$ -
Average final average salary	\$ 111,884	\$ 146,937	\$ 149,936	\$ 115,676	\$ -
Number of active retirants	1	1	1	3	-
2011					
Average monthly benefit	\$ 7,940	\$ 8,658	\$ 8,381	\$ 9,170	\$ 10,897
Average final average salary	\$ 127,032	\$ 138,522	\$ 134,096	\$ 146,720	\$ 174,352
Number of active retirants	7	9	5	8	2
2010					
Average monthly benefit	\$ 6,796	\$ 8,819	\$ 9,319	\$ 7,147	\$ -
Average final average salary	\$ 108,736	\$ 141,102	\$ 149,104	\$ 114,352	\$ -
Number of active retirants	3	2	3	2	-
2009					
Average monthly benefit	\$ 7,247	\$ 7,899	\$ 8,020	\$ 9,899	\$ 10,750
Average final average salary	\$ 115,950	\$ 126,376	\$ 128,320	\$ 158,384	\$ 172,000
Number of active retirants	6	2	5	5	1

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Local Participating Employers

Abbeville Water Works & Sewer Board
Abbeville, City of
Adamsville, City of
Addison, Town of
Alabama Cooperative Extension System
Alabama Elk River Development Agency
Alabama Historic Ironworks Commission
Alabama League of Municipalities
Alabama Municipal Electric Authority
Alabama Rural Water Association
Alabama Space Science Exhibit Commission
Alabama Sports Hall of Fame
Alabama Tombigbee Regional Commission
Alabaster Water Board
Alabaster, City of
Albertville Housing Authority
Albertville Municipal Utilities Board
Albertville, City of
Alexander City Housing Authority
Alexander City, City of
Aliceville Housing Authority
Aliceville, City of
AltaPointe Health Systems
Altoona, Town of
Andalusia Housing Authority
Andalusia Utilities Board
Andalusia, City of
Anniston & Calhoun County Public Library
Anniston Housing Authority
Anniston Water Works & Sewer Board
Anniston, City of
Arab Housing Authority
Arab Sewer Board
Arab Water Works Board
Arab, Town of
Argo, Town of
Arley, Town of
Ashford Housing Authority
Ashland Housing Authority
Ashland Water Works & Sewer Board
Ashland, City of
Ashville, Town of
Association of County Commissioners of
Alabama
Athens Utilities
Athens, City of
Athens-Limestone County Emergency
Management Communications District
Athens-Limestone Public Library
Atmore Housing Authority
Atmore, City of
Attalla Housing Authority
Attalla Water Works Board
Attalla, City of
Auburn Housing Authority
Auburn Water Works Board
Auburn, City of

Autauga County Commission
Autauga County Emergency Management
Communication District
Autauga County Water Authority
Autauga-Prattville Public Library
B. B. Comer Memorial Library
Bakerhill Water Authority
Bakerhill, Town of
Baldwin County Commission
Baldwin County Emergency Communication
District
Baldwin County Sheriff's Office
Baldwin County Soil & Water Conservation
District
Barbour County Commission
Bay Minette Housing Authority
Bay Minette, City of
Bayou La Batre Utilities Board
Bayou La Batre, City of
Bear Creek Development Authority
Bear Creek Water Works Board
Bear Creek, Town of
Beatrice, Town of
Beauregard Water Authority
Berry, Town of
Bessemer, City of
Beulah Utilities District
Bibb County Commission
Bibb County Emergency Management
Communication District
Big Wills Water Authority
Birmingham Racing Commission
Birmingham Regional Planning Commission
Birmingham Fire District
Black Warrior Solid Waste Disposal Authority
Blount County Commission
Blount County Communications District
Blount County Industrial Development Board
Blount County Water Authority
Blountsville Utility Board
Blountsville, Town of
Boaz Board of Water & Sewer Commissioners
Boaz, City of
Boldo Water & Fire Protection Authority
Boston Housing Authority
Brantley Housing Authority
Brent Housing Authority
Brent, City of
Brewton Housing Authority
Brewton, City of
Bridgeport Housing Authority
Bridgeport Utilities Board
Bridgeport, City of
Brilliant, Town of
Brookwood, Town of
Brundidge, City of
Buhl-Elrod-Holman Water Authority

Bullock County Commission
Butler County Commission
Butler County Emergency Communication
District
Butler, City of
Cahaba Center for Mental Health & Mental
Retardation
Cahaba Valley Fire & Emergency Medical
Rescue District
Calera, City of
Calhoun County 9-1-1 District
Calhoun County Commission
Calhoun County Community Punishment &
Corrections Authority
Calhoun County Economic Development
Council
Calhoun County Water & Fire Protection
Authority
Calhoun-Cleburne Mental Health Board
Camden, City of
Camp Hill, City of
Carbon Hill Utilities Board
Carbon Hill, City of
Carl Elliott Regional Library
Carroll's Creek Water Authority
Carrollton, Town of
Castleberry, Town of
Cedar Bluff Utilities Board & Solid Waste
Authority
Cedar Bluff, Town of
Center Point Fire District
Center Point, City of
Central Alabama Aging Consortium
Central Alabama Regional Planning &
Development Commission
Central Alabama Youth Services
Central Elmore Water & Sewer Authority
Central Talladega County Water District
Centre Water Works & Sewer Board
Centre, City of
Centreville, City of
Chambers County Commission
Chambers County Development Authority
Chambers County Emergency Management
Communications District
Chambers County Library Board
Chatom, City of
Chelsea, City of
Cherokee County Commission
Cherokee County Water & Sewer Authority
Cherokee, Town of
Chickasaw Housing Authority
Chickasaw Utilities Board
Chickasaw, Town of
Childersburg Water Works, Sewer & Gas Board
Childersburg, City of
Chilton County Commission

Chilton County Soil & Water Conservation
District
Chilton Water Authority
Chilton/Clanton Public Library
Chilton-Shelby Mental Health Center
Choctaw County Emergency Communications
District
Citizenship Trust American Village
Clanton Housing Authority
Clanton Water Works & Sewer Board
Clanton, City of
Clarke County Commission
Clarke County Industrial Development Board
Clarke County Soil & Water Conservation
District
Clarke-Mobile Counties Gas District
Clay County Commission
Clay County E911
Clay County Water Authority
Clayton Housing Authority
Clayton Water Works & Sewer Board
Clayton, City of
Cleburne County Commission
Cleveland, Town of
Coaling Water Authority
Coaling, Town of
Coffee County Commission
Coffee County Water Authority
Coffeeville, Town of
Coker Water Authority
Colbert County Commission
Colbert County Emergency Management
Communications District
Colbert County Tourism & Convention Bureau
Collinsville Water Works & Sewer Board
Collinsville, City of
Columbia, Town of
Columbiana Housing Authority
Columbiana Water Works Board
Columbiana, Town of
Concord Fire District
Conecuh County Commission
Conecuh County E911
Conecuh County Soil & Water Conservation
District
Cook Springs Water Authority
Cooperative District for Northeast Alabama Gas
Coosa County Commission
Coosa County Emergency Communication
Management Board
Coosa Valley Youth Services
Coosada, Town of
Cordova Water & Gas Board
Cordova, City of
Cottonwood Housing Authority
Cottonwood, City of
Courtland, Town of

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Local Participating Employers

Covington County Commission
Covington County E911 Board
Covington County Water Authority
Cowarts, Town of
Crenshaw County Commission
Crenshaw County Emergency Communications District
Creola, City of
Crossville, Town of
Cuba, Town of
Cullman County Center for the Developmentally Disabled
Cullman County Commission
Cullman County E-911
Cullman Power Board
Cullman, City of
Cullman-Jefferson Counties Gas District
Cumberland Mountain Water Authority
Curry Water Authority
CWM Water Authority
Dadeville Housing Authority
Dadeville Water Supply & Gas Board
Dadeville, City of
Dadeville, Waterworks and Sewer Board of
Dale County Commission
Dale County Water Authority
Daleville Housing Authority
Daleville, City of
Dallas County Commission
Dallas County Water & Sewer Authority
Daphne Utilities Board
Daphne, City of
Dauphin Island Park & Beach Board
Dauphin Island Water & Sewer Authority
Dauphin Island, Town of
Decatur Utilities
Decatur, City of
DeKalb County Commission
DeKalb County Economic Development Authority
DeKalb County Emergency Communications District
DeKalb County Hospital Association
DeKalb County Mental Retardation Board
DeKalb County Soil & Water Conservation District
DeKalb-Cherokee Counties Gas District
DeKalb-Jackson Water Supply District Board
Demopolis Housing Authority
Demopolis Water Works & Sewer Board
Demopolis, City of
Dora Waterworks & Gas Board
Dora, City of
Dothan, City of
Dothan-Houston County Intellectual Disabilities Board
Dothan-Houston County Communications District

Double Springs Water Works Board
Double Springs, Town of
Douglas Water Authority
Douglas, Town of
Dutton, Town of
East Alabama Mental Health-Mental Retardation Board
East Alabama Regional Planning & Development Commission
East Alabama Water, Sewer & Fire Protection District
East Brewton Water Works & Sewer Board
East Brewton, City of
East Central Alabama Gas District
East Central Baldwin County Water & Fire Protection Authority
East Lauderdale County Water & Fire Protection Authority
Eclectic, Town of
Elba Water & Electric Board
Elba, City of
Elberta, City of
Electric Cities of Alabama
Elmore County Commission
Elmore County Emergency Communications District
Elmore Water & Sewer Authority
Enterprise Housing Authority
Enterprise Water Works Board
Enterprise, City of
Ernest F. Ladd Memorial Stadium
Escambia County Commission
Escambia County Cooperative Library System
Escambia County Emergency Communications District
Etowah County Commission
Etowah County Communications District
Etowah County Community Corrections
Etowah County Tourism Board
Etowah Solid Waste Disposal Authority
Eufaula Housing Authority
Eufaula Water Works & Sewer Board
Eufaula, City of
Eutaw, City of
Evergreen Housing Authority
Evergreen, City of
Excel, Town of
Fairfield, City of
Fairhope Public Library
Fairhope, City of
Falkville, Town of
Fayette County Commission
Fayette County E911 District
Fayette County Water Authority
Fayette Gas Board
Fayette Housing Authority
Fayette Water Works Board
Fayette, City of

Fayetteville Water Authority
 Five Star Water Supply District
 Flomaton, Town of
 Florence Housing Authority
 Florence Lauderdale Port Authority
 Florence/Lauderdale Tourism Board
 Foley Utilities Board
 Foley, City of
 Forestdale Fire District
 Fort Deposit Water Works & Sewer Board
 Fort Deposit, Town of
 Fort Payne Housing Authority
 Fort Payne Improvement Authority
 Fort Payne Water Works Board
 Fort Payne, City of
 Fosters-Ralph Water Authority
 Franklin County Commission
 Franklin County Soil & Water Conservation
 District
 Franklin County Water Service Authority
 Frisco City, Town of
 Fultondale Gas Board
 Fultondale, Town of
 Fyffe, Town of
 Gadsden Water Works & Sewer Board
 Gadsden, City of
 Gantt, Town of
 Garden Town, Town of
 Gardendale, City of
 Geneva County Commission
 Geneva County E911
 Geneva Water Works & Sewer Board
 Geneva, City of
 Georgiana Housing Authority
 Georgiana, City of
 Geraldine, Town of
 Gilbertown Utilities Board
 Gilbertown, Town of
 Glencoe Water & Sewer Board
 Glencoe, City of
 Good Hope, City of
 Goodwater, City of
 Gordo, City of
 Governmental Utility Services Corporation of
 Moody
 Governmental Utility Services Corporation of
 the City of Bessemer
 Grant, Town of
 Graysville Public Library
 Graysville, City of
 Greater Etowah Mental Retardation 310 Board
 Greene County Ambulance Service
 Greene County Commission
 Greene County E911 Communication District
 Greene County Hospital & Nursing Home
 Greene County Housing Authority

Greene County Industrial Development
 Authority
 Greene County Racing Commission
 Greenhill Water & Fire Protection Authority
 Greensboro Housing Authority
 Greensboro, City of
 Greenville Housing Authority
 Greenville Water Works & Sewer Board
 Greenville, City of
 Grove Hill, City of
 Guin Housing Authority
 Guin Water Works & Sewer Board
 Guin, City of
 Gulf Shores Utilities Board
 Gulf Shores, City of
 Guntersville Electric Board
 Guntersville Housing Authority
 Guntersville Water Works & Sewer Board
 Guntersville, City of
 Gurley, Town of
 Hackleburg Housing Authority
 Hackleburg Water Board
 Hackleburg, Town of
 Hackneyville Water & Fire Protection Authority
 Hale County Commission
 Hale County Emergency Medical Service
 Hale County Soil & Water Conservation District
 Haleyville, City of
 Hamilton Housing Authority
 Hamilton, City of
 Hammondville, Town of
 Hanceville Water Works & Sewer Board
 Hanceville, City of
 Harpersville, Town of
 Hartford, City of
 Hartselle Utilities Board
 Hartselle, City of
 Hartselle, Housing Authority of the City of
 Harvest-Monrovia Water, Sewer & Fire
 Protection Authority
 Hayden, Town of
 Hayneville, City of
 Headland Housing Authority
 Headland, City of
 Heflin Water Works & Sewer Board
 Heflin, City of
 Helena Utilities Board
 Helena, City of
 Henry County Commission
 Henry County Water Authority
 Highland Water Authority
 Hillsboro, Town of
 Historic Blakeley Authority
 Hodges, Town of
 Hokes Bluff Water Board
 Hokes Bluff, Town of

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Local Participating Employers

Holly Pond, Town of	Lauderdale County Commission
Hollywood, Town of	Lauderdale County Community Corrections Authority
Homewood, City of	Lauderdale County Regional Library System
Hoover, City of	Lawrence County Commission
Horseshoe Bend Regional Library	Lee County Commission
Houston County Commission	Leeds Housing Authority
Houston County Soil Conservation District	Leeds Water Works Board
Houston County Water Authority	Leeds, City of
Houston-Love Memorial Library	Lee-Russell Council of Governments
Hueytown, City of	Leesburg, Town of
Huguley Water, Sewer & Fire Protection Authority	Leighton Water & Sewer Board
Huntsville Electric Utilities System	Leighton, Town of
Huntsville Gas Utilities System	Level Plains, Town of
Huntsville Solid Waste Disposal Authority	Limestone County Commission
Huntsville Waterworks Utilities System	Limestone County Water & Sewer Authority
Huntsville, City of	Lincoln, City of
Huntsville/Madison County Convention & Visitors Bureau	Linden, City of
Huntsville-Madison County Airport Authority	Lineville Housing Authority
Huntsville-Madison County Marina & Port Authority	Lineville Waterworks & Sewer Board
Huntsville-Madison County Mental Health Center Board	Lineville, City of
Indian Pines Recreational Authority	Littleville, Town of
International Motorsports Hall of Fame	Livingston Housing Authority
Irondale, City of	Livingston, City of
J. Paul Jones Hospital	Loachapoka Water Authority
Jackson County Commission	Locust Fork, Town of
Jackson County Economic Development Authority	Lowndes County Commission
Jackson County Emergency Management Communications District	Loxley, City of
Jackson County Soil & Water Conservation District	Luverne Housing Authority
Jackson County Water Authority	Luverne, City of
Jackson, City of	Lynn, Town of
Jackson's Gap Water Authority	Macon County Commission
Jackson's Gap, Town of	Macon County Racing Commission
Jacksonville Housing Authority	Madison County 310 Board
Jacksonville Water Works, Gas & Sewer Board	Madison County Commission
Jacksonville, City of	Madison County Communications District
Jasper Waterworks & Sewer Board	Madison Water & Wastewater Board
Jasper, City of	Madison, City of
Jefferson County Department of Health	Magnolia Springs, Town of
Jefferson County Housing Authority	Malvern, Town of
Jefferson-Blount-St. Clair Mental Health Authority	Maplesville Waterworks & Gas Board
Jemison, Town of	Maplesville, City of
Joppa, Hulaco & Ryan Water Authority	Marengo County Commission
Kennedy, City of	Marengo County Economic & Industrial Development Authority
Killen, City of	Marengo County Emergency Communications District
Kinsey, Town of	Marengo Nursing Home
LaFayette, City of	Margaret, Town of
Lamar County Commission	Marion County Commission
Lamar County Communications District	Marion County Emergency Communications District
Lamar County Gas District	Marion County Public Water Authority
Lanett, City of	Marion Housing Authority
	Marion, City of
	Marshall County Commission
	Marshall County Community Punishment & Corrections Authority

Marshall County Emergency Telephone Services
 Marshall County Gas District
 Marshall County Soil & Water Conservation District
 Marshall-Jackson Mental Retardation Authority
 McAdory Area Fire District
 McIntosh, Town of
 Mental Health Board of Bibb, Pickens & Tuscaloosa County
 Mental Health Center of North Central Alabama
 Mental Retardation/Developmental Disabilities Board
 Mentone, Town of
 Middle Alabama Area Agency on Aging
 Midfield Library Board
 Midfield, City of
 Midway, Town of
 Mildred B. Harrison Library
 Millbrook, City of
 Millport Housing Authority
 Millport, Town of
 Mobile Airport Authority
 Mobile Area Water & Sewer System
 Mobile County Commission
 Mobile County Communications District
 Mobile County Emergency Management Agency
 Mobile County Health Department
 Mobile County Housing Authority
 Mobile County Law Enforcement & Firefighters' Pension Fund
 Mobile County Personnel Board
 Mobile County Racing Commission
 Mobile County Water, Sewer & Fire Protection Authority
 Mobile Public Library
 Mobile, City of
 Monroe County Commission
 Monroeville Housing Authority
 Monroeville Water Works Board
 Monroeville, City of
 Montevallo Water Works & Sewer Board
 Montevallo, City of
 Montgomery Area Mental Health Authority
 Montgomery County Commission
 Montgomery County Soil & Water Conservation District
 Montgomery Water Works & Sanitary Sewer Board
 Moody, City of
 Morgan County Commission
 Morgan County Emergency Management Communication District
 Morgan County Soil & Water Conservation District
 Moulton Housing Authority

Moulton, City of
 Moundville, City of
 Mountain Brook Library Board
 Mountain Brook Park & Recreation Board
 Mountain Brook, City of
 Mt. Vernon, Town of
 Munford Water Authority
 Munford, Town of
 Muscle Shoals Electric Board
 Muscle Shoals Utilities Board
 Muscle Shoals, City of
 Myrtlewood, Town of
 Nauvoo, Town of
 Nectar, Town of
 New Hope, Town of
 New London Water, Sewer & Fire Protection Authority
 New Site, Town of
 North Alabama Gas District
 North Baldwin Utilities
 North Central Alabama Mental Retardation Authority
 North Central Alabama Regional Council of Governments
 North Dallas County Water Authority
 North Marshall Utilities Board
 North Shelby County Fire & Emergency Medical District
 North Shelby Library
 Northeast Alabama MR/DD Authority
 Northeast Alabama Water, Sewer & Fire Protection District
 Northeast Morgan County Water & Sewer Authority
 Northport Housing Authority
 Northport, City of
 Northwest Alabama Council of Local Governments
 Northwest Alabama Mental Health Center
 Northwest Alabama Regional Airport
 Notasulga, Town of
 Oak Grove, Town of
 Oakman Water Works Board
 Oakman, Town of
 Odenville Utilities Board
 Odenville, Town of
 Ohatchee, Town of
 Oneonta Housing Authority
 Oneonta Utilities Board
 Oneonta, City of
 Opelika Housing Authority
 Opelika Utilities Board
 Opelika, City of
 Opp Utilities Board
 Opp, City of
 Orange Beach Water, Sewer & Fire Protection Authority

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Local Participating Employers

Orange Beach, Town of	Red Bay Housing Authority
Owassa/Brownville Water Authority	Red Bay Water Works & Gas Board
Owens Cross Roads, City of	Red Bay, City of
Oxford Emergency Medical Services	Reform Housing Authority
Oxford, City of	Reform, City of
Ozark Utilities Board	Regional Housing Authority of Lawrence, Cullman & Morgan Counties
Ozark, City of	Rehobeth, City of
Ozark-Dale County E911	Remlap-Pine Mountain Water Authority
Parrish Water Works & Sewer Board	Repton, Town of
Parrish, Town of	Riverbend Center for Mental Health
Pelham, City of	Riverside, Town of
Pell City Housing Authority	Roanoke Utility Board
Pell City, City of	Roanoke, City of
Pennington Utilities Board	Robertsdale, City of
Pennington, City of	Rockford Utilities Board
Perdido Bay Water, Sewer and Fire Protection District	Rocky Ridge Fire District
Perry County Capital Improvement Cooperative District	Rogersville Water Works & Sewer Board
Perry County Commission	Rogersville, Town of
Perry County E911	Russell County Commission
Perry County Water Authority	Russell County Emergency Communications District
Phenix City Utilities	Russell County Soil & Water Conservation District
Phenix City, City of	Russell County Water Authority
Phil Campbell Housing Authority	Russellville Electric Board
Phil Campbell Water Works & Sewer Board	Russellville Gas Board
Phil Campbell, Town of	Russellville Housing Authority
Pickens County Commission	Russellville Water & Sewer Board
Pickens County Cooperative Library	Russellville, City of
Pickens County E911 Board	Rutledge, Town of
Pickens County Water Authority	Samson, City of
Piedmont Housing Authority	Saraland Water Service
Piedmont, City of	Saraland, City of
Pike County Commission	Sardis City Water Board
Pike County Communications District	Sardis, City of
Pike County Soil & Water Conservation District	Satsuma Water Works Board
Pike County Water Authority	Satsuma, City of
Pike Road, Town of	Scottsboro Electric Power Board
Pike Road Volunteer Fire Protection Authority	Scottsboro Housing Authority
Pine Bluff Water Authority	Scottsboro Public Library
Pine Hill, Town of	Scottsboro Public Park & Recreation Board
Pine Level Water Authority	Scottsboro Waterworks, Sewer & Gas Board
Pinson, City of	Scottsboro, City of
Pisgah, Town of	Section Waterworks Board
Pleasant Grove, City of	Section, Town of
Prattville Housing Authority	Selma Housing Authority
Prattville Water Works Board	Selma Water & Sewer Board
Prattville, City of	Selma, City of
Priceville, Town of	Sheffield Utilities Board
Prichard Housing Authority	Sheffield, City of
Quint-Mar Water Authority	Shelby County Commission
Ragland Water Works Board	Shelby County Community Corrections
Ragland, Town of	Shelby County Emergency Management Communications District
Rainbow City Utilities Board	Shelby County Soil Conservation District
Rainbow City, City of	Shoals Committee on Programs & Employment for the Mentally Retarded
Rainsville, City of	
Randolph County Commission	
Randolph County E911	

Shoals Economic Development Authority
 Shoals Solid Waste Disposal Authority
 Shorter, Town of
 Silas, Town of
 Silverhill, Town of
 Skyline, Town of
 Slocomb Waterworks & Sewer Board
 Slocomb, Town of
 Smiths Station, City of
 Smiths Water & Sewer Authority
 Snead, Town of
 Somerville, Town of
 South Alabama Gas District
 South Alabama Regional Planning Commission
 South Central Alabama Development
 Commission
 South Central Alabama Mental Health Board
 South Central Alabama Regional Housing
 Authority
 South Crenshaw County Water Authority
 South Marengo County Water & Fire Protection
 Authority
 Southeast Alabama Regional Planning &
 Development Commission
 Southeast Alabama Solid Waste Disposal
 Authority
 Southeast Alabama Youth Services
 Southern Alabama Regional Council on Aging
 Southside Water Works & Sewer Board
 Southside, City of
 Southwest Alabama Water Authority
 Spanish Fort Fire Rescue Department
 Spanish Fort, City of
 SpectraCare Health Systems
 Springville, Town of
 St. Clair County Commission
 St. Clair County Community Punishment &
 Corrections Authority
 St. Clair County Industrial Development Board
 St. Clair County Soil & Water Conservation
 District
 St. Florian, Town of
 Star-Mindingall Water & Fire Protection
 Authority
 Steele, Town of
 Stevenson Housing Authority
 Stevenson Utilities Board
 Stevenson, City of
 Stewartville Water Authority
 Sulligent Housing Authority
 Sulligent, City of
 Sumiton Housing Authority
 Sumiton Water Works Board
 Sumiton, City of
 Summerdale, Town of
 Sumter County Commission

Sumter County Industrial Development
 Authority
 Sumter County Soil & Water Conservation
 District
 Sumter County Water Authority
 Sylacauga Parks & Recreation Board
 Sylacauga Utilities Board
 Sylacauga, City of
 Sylvan Springs, Town of
 Sylvania, Town of
 Talladega County Commission
 Talladega County Emergency Management
 Communications District
 Talladega County Soil & Water Conservation
 District
 Talladega, City of
 Tallapoosa County Commission
 Tallassee, City of
 Tarrant Alabama Housing Authority
 Tarrant Electric System
 Tarrant, City of
 Taylor, Town of
 Tennessee Valley Exhibit Commission
 Thomaston, Town of
 Thomasville, City of
 Thorsby, Town of
 Top of Alabama Regional Council of
 Governments
 Top Trails Public Park Authority of the Cities of
 Lincoln and Talladega
 Town Creek, Town of
 Triana, City of
 TriCounty Agency for Intellectual Disabilities
 Trinity, Town of
 Troy Housing Authority
 Troy, City of
 Trussville Utilities Board
 Trussville, City of
 Turnerville Water & Fire Protection District
 Tuscaloosa County Commission
 Tuscaloosa County Community Punishment &
 Corrections Authority
 Tuscaloosa County 911
 Tuscaloosa County Industrial Development
 Authority
 Tuscaloosa County Office of Public Defender
 Tuscaloosa County Park & Recreation Authority
 Tuscaloosa County Parking & Transit Authority
 Tuscaloosa County Soil & Water Conservation
 District
 Tuscaloosa County Special Tax Board
 Tuscaloosa Housing Authority
 Tuscaloosa Public Library
 Tuscaloosa, City of
 Tuscumbia, City of
 Tuskegee Utilities Board

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Local Participating Employers

Tuskegee, City of	Winfield, City of
Union Grove Utilities Board	Winston County Commission
Union Springs Utilities Board	Winston County E9-1-1 Communications
Union Springs, City of	District
Uniontown Housing Authority	Woodland, Town of
Uniontown Utilities Board	Woodstock, Town of
Uniontown, Town of	York Housing Authority
USS Alabama Battleship Commission	York, City of
Valley Grande, City of	
Valley Head Water Works Board	
Valley Head, City of	
Valley Housing Authority	
Valley, City of	
Vance, Town of	
Vernon Housing Authority	
Vernon, City of	
Vestavia Hills, City of	
Vincent, City of	
Vincent, The Water Works Board of the City of	
Von Braun Civic Center	
Wadley, Town of	
Walker County Commission	
Walker County E9-1-1 District	
Walker County Housing Authority	
Walker County Soil & Water Conservation	
District	
Wall Street Water Authority	
Walnut Hill Water Authority	
Warrior River Water Authority	
Warrior, City of	
Washington County Commission	
Washington County E911 Communication	
District	
Washington County Soil & Water Conservation	
District	
Wattsville Water Authority	
Weaver, City of	
Webb, Town of	
Wedowee Water, Sewer & Gas Board	
Wedowee, City of	
West Alabama Regional Commission	
West Autauga Water Authority	
West Escambia Utilities	
West Etowah County Water Authority	
West Jefferson, Town of	
West Lauderdale County Water & Fire	
Protection Authority	
West Morgan–East Lawrence Water & Sewer	
Authority	
Wetumpka Water Works & Sewer Board	
Wetumpka, City of	
Wilcox County Commission	
Wilcox County Emergency Communications	
District	
Wilcox County Gas District	
Wilsonville, Town of	
Wilton, Town of	
Winfield Water Works & Sewer Board	

RETIREMENT SYSTEMS OF ALABAMA

Statistical Section

Employees' Retirement System

Ten-Year History of Largest Employers

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
1) Employer	State of Alabama	State of Alabama	State of Alabama	State of Alabama	State of Alabama	State of Alabama	State of Alabama	State of Alabama	State of Alabama	State of Alabama
# of Active Members	29,664	29,548	29,756	30,109	30,297	30,659	31,795	33,885	35,147	35,200
% of Total Active Members	34.27%	34.50%	35.08%	35.43%	35.40%	35.84%	36.85%	38.36%	39.24%	39.10%
2) Employer	Huntsville, City of	Huntsville, City of	Huntsville, City of	Huntsville, City of	Huntsville, City of	Huntsville, City of	Huntsville, City of	Huntsville, City of	Huntsville, City of	Huntsville, City of
# of Active Members	2,362	2,296	2,258	2,207	2,243	2,209	2,192	2,195	2,175	2,227
% of Total Active Members	2.73%	2.68%	2.66%	2.60%	2.62%	2.58%	2.54%	2.48%	2.43%	2.47%
3) Employer	Mobile County	Mobile County	Mobile County	Mobile County	Mobile County	Mobile County	Mobile County	Mobile County	Mobile County	Mobile County
# of Active Members	1,596	1,610	1,604	1,587	1,578	1,625	1,657	1,672	1,678	1,699
% of Total Active Members	1.84%	1.88%	1.89%	1.87%	1.84%	1.90%	1.92%	1.89%	1.87%	1.89%
4) Employer	Mobile, City of	Mobile, City of	Mobile, City of	Mobile, City of	AltaPointe Health*	Mobile, City of	Mobile, City of	Mobile, City of	Mobile, City of	Mobile, City of
# of Active Members	1,104	1,150	1,195	1,250	1,341	1,282	1,254	1,310	1,335	1,421
% of Total Active Members	1.28%	1.34%	1.41%	1.47%	1.57%	1.50%	1.45%	1.48%	1.49%	1.58%
5) Employer	Madison County	Madison County	Madison County	Madison County	Mobile, City of	AltaPointe Health*	Madison County	Madison County	Madison County	Madison County
# of Active Members	1,083	1,107	1,145	1,152	1,254	1,236	1,154	1,162	1,133	1,060
% of Total Active Members	1.25%	1.29%	1.35%	1.36%	1.47%	1.44%	1.34%	1.32%	1.27%	1.18%
6) Employer	Dothan, City of	Dothan, City of	Dothan, City of	Dothan, City of	Madison County	Madison County	Helen Keller Hospital	Dothan, City of	Helen Keller Hospital	Helen Keller Hospital
# of Active Members	1,032	1,018	999	995	1,152	1,174	1,002	957	984	1,034
% of Total Active Members	1.19%	1.19%	1.18%	1.17%	1.35%	1.37%	1.16%	1.08%	1.10%	1.15%
7) Employer	Auburn, City of	Montgomery County	Montgomery County	AltaPointe Health*	Dothan, City of	Dothan, City of	Dothan, City of	Helen Keller Hospital	Dothan, City of	Dothan, City of
# of Active Members	828	801	807	792	996	985	966	956	961	970
% of Total Active Members	0.96%	0.94%	0.95%	0.93%	1.16%	1.15%	1.12%	1.08%	1.07%	1.08%
8) Employer	Tuscaloosa, City of	Auburn, City of	Tuscaloosa, City of	Tuscaloosa, City of	Tuscaloosa, City of	Tuscaloosa, City of	AltaPointe Health*	Montgomery County	Montgomery County	Montgomery County
# of Active Members	759	786	774	777	790	775	911	794	848	806
% of Total Active Members	0.88%	0.92%	0.91%	0.91%	0.92%	0.91%	1.06%	0.90%	0.95%	0.90%
9) Employer	Montgomery County	Tuscaloosa, City of	Auburn, City of	Montgomery County	Montgomery County	Montgomery County	Montgomery County	AltaPointe Health*	Tuscaloosa, City of	Tuscaloosa, City of
# of Active Members	757	783	752	766	769	767	771	762	745	732
% of Total Active Members	0.87%	0.91%	0.89%	0.90%	0.90%	0.90%	0.89%	0.86%	0.83%	0.81%
10) Employer	Hoover, City of	Hoover, City of	Hoover, City of	Auburn, City of	Hoover, City of	Helen Keller Hospital	Tuscaloosa, City of	Tuscaloosa, City of	AltaPointe Health*	AltaPointe Health*
# of Active Members	689	706	704	706	678	729	763	757	668	685
% of Total Active Members	0.80%	0.82%	0.83%	0.83%	0.79%	0.85%	0.88%	0.86%	0.75%	0.76%
Total # of Active Members	86,565	85,657	84,814	84,985	85,585	85,549	86,290	88,341	89,560	90,018

* Formerly Greater Mobile-Washington Co. Mental Health Board

Source: Retirement Systems of Alabama records





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