Teachers Retirement System of Georgia

A COMPONENT UNIT OF THE STATE OF GEORGIA

COMPREHENSIVE ANNUAL FINANCIAL REPORT

FISCAL YEAR ENDED JUNE 30, 2019

Teachers Retirement System of Georgia

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PREPARED BY THE FINANCIAL SERVICES DIVISION OF THE TEACHERS RETIREMENT SYSTEM OF GEORGIA

L.C. (BUSTER) EVANS, ED.D.
EXECUTIVE DIRECTOR

OUR MISSION IS TO...

support Georgia educators by providing pension education, safeguarding plan investments, and efficiently administering retirement benefits.

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Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Teachers Retirement System of Georgia

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2018

Christopher P. Morrill

Executive Director/CEO

BOARD OF TRUSTEES

as of June 30, 2019

Teachers Retirement System of Georgia

L.C. (Buster) Evans, Ed.D.
Executive Director

September 30, 2019
Board of Trustees
Teachers Retirement System of Georgia
Atlanta, Georgia

I am pleased to present the Comprehensive Annual Financial Report of the Teachers Retirement System of Georgia (the System) for the fiscal year ended June 30, 2019. Responsibility for both the accuracy of the data, and completeness and fairness of the presentation, including all disclosures, rests with the management of the System. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the System. I trust that you will find this report helpful in understanding your retirement system.

Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Teachers Retirement System of Georgia for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2018. This was the 31st consecutive year that the System has achieved this prestigious award.

In order to be awarded a Certificate of Achievement, a government unit 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 meet the Certificate of Achievement Program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

History and Overview

The System was created in 1943, by an act of the Georgia General Assembly to provide retirement security to those individuals who choose to dedicate their lives to educating the children of the State of Georgia, and began operations in 1945. A summary of the System's plan provisions is provided on pages 11-12 of this report.

The System is governed by a ten-member Board of Trustees which appoints the Executive Director who is responsible for the administration and operations of the System, which serves 471,993 active and retired members, and 316 employers.

Financial Information

The management of the System is charged with the responsibility of maintaining a sound system of internal accounting controls. The objectives of such a system are to provide management with reasonable assurance that assets are safeguarded against loss from unauthorized use or disposition, that transactions are executed in accordance with management's authorizations, and that they are recorded properly to permit the preparation of financial statements in accordance with generally accepted accounting principles. The concept of reasonable assurance recognizes the cost of a control should not exceed the benefits likely to be derived. Therefore, the objective is to provide reasonable, rather than absolute assurance, that the financial statements are free of any material misstatements. Even though there are inherent limitations in any system of internal control, the management of the System makes every effort to ensure that through systematic reporting and internal reviews, errors or fraud would be quickly detected and corrected.

continued

Please refer to Management's Discussion and Analysis beginning on page 15 of this report for an overview of the financial status of the System, including a summary of the System's Fiduciary Net Position, Changes in Fiduciary Net Position, and Investment Allocation.

INVESTMENTS - The System has continued to invest in a mix of liquid, high quality bonds and stocks as it historically has done. These types of investments have allowed the System to participate in rising markets, while moderating the risks on the downside. A high quality balanced fund has proven to be a successful strategy in a variety of markets over a long period of time. Overall, U.S. equity returns this past year were up over 9%, while foreign markets lagged with a modest 1% return. Longer-term periods for total equities were generally quite positive. A comparative analysis of rates of return is presented on page 51. For additional information and analysis pertaining to investment policies and strategies, asset allocations, and yield, see Management's Discussion and Analysis beginning on page 15 and the Investment Section beginning on page 50. The System addresses the safeguarding of investments by requiring that they be held by agent custodial banks in the name of the System and that deposits are insured by the Federal Deposit Insurance Corporation.

As in previous years, maintaining quality was a primary goal and was successfully met. "Conservation of Capital" and "Conservatism" continue to be the guiding principles for investment decisions. The System continued to use a diversified portfolio to accomplish these objectives.

FUNDING - The System's funding policy provides for employee and employer contributions at rates, expressed as a percentage of annual covered payroll, that are sufficient to provide resources to pay benefits when due.

A useful indicator of the funded status of a retirement system is the relationship between the actuarial value of assets and the actuarial accrued liabilities. The System continues to remain strong as evidenced by the ratio of the actuarial value of assets to the actuarial accrued liabilities. This ratio was 77.4% for the fiscal year ended June 30, 2018. The ultimate test of the financial soundness of a retirement system is its ability to pay all promised benefits when due. I am proud to say that through the continued wisdom and the support of Governor Brian Kemp and the Georgia General Assembly, the System has been and will continue to be funded on an actuarially sound basis, thus providing the membership the comfort and security they expect from their retirement system.

Initiatives

At TRS, we know that an organization is only as good as its people, and for that reason we focused this year on empowering our employees by providing them with professional growth opportunities. In an effort to increase leadership skills in existing employees, we identified those candidates with potential and created the Leadership Development Institute Program (LDIP). These 22 employees worked together over the course of a year, learning, reading, and putting into practice leadership techniques that will prepare them for promotion opportunities as they arise. We also launched a Senior Team Education Program, which focused on enhancing the leadership skills of our leadership team. The Executive Director Advisory Committee was created in an effort to address various agency topics and issues gleaned from an agency-wide employee workplace satisfaction survey. This committee is charged with identifying areas of strength and weakness and submitting suggestions to the Senior Leadership Team and the members of the LDIP to evaluate and implement approved solutions. We are excited with the current results and look forward to continuing to build upon all of these programs.

Our IT division continues to diligently enhance all of our systems in an effort to mitigate vulnerabilities and cyber-attacks. This year we blocked over 13,000 attacks, investigated over 150 potential security incidents, and provided security awareness training to all staff. We are happy to report that we had no security breaches and continue our efforts to thwart all cyber-attacks. We also streamlined our financial statement, audit and Comprehensive Annual Financial Report processes through the implementation of WDesk financial reporting software and implemented processing of vendor payments via ACH versus checks through the Microsoft Dynamics accounts payable system. We added to the Active Member portal the ability to request a service purchase cost calculation which allows TRS to receive and process the request in a timely manner. All of these new processes have increased our efficiency.

To engage and keep our members informed, we individually counseled 8,147 members at the TRS office and around the State. Through our 388 outreach events, including meetings, benefit fairs, and workshops, we reached 26,487 members and retirees in over 120 counties. We conducted 7 in-house pre-retirement seminars, 6 half-day seminars with speakers from TRS, Social Security Administration, the Department of Community Health, and financial/estate planning experts. We continued to provide our popular group counseling and mid-career counseling programs. The Outreach Team implemented new mid-career seminars bringing in new speakers on budgeting, saving, risk, insurance and investments in an effort to encourage members to start saving and preparing earlier in their careers. We designed and launched a new website and now have over 6,090 followers on Facebook. We continue to use both platforms to communicate and engage with our members.

Other Information

INDEPENDENT AUDIT - The Board of Trustees requires an annual audit of the financial statements of the System by independent, certified public accountants. The accounting firm of KPMG LLP was selected by the Board. The independent auditors' report on the statement of fiduciary net position and the related statement of changes in fiduciary net position is included in the Financial Section of this report.

ACKNOWLEDGMENTS - The compilation of this report reflects the combined effort of the staff under the leadership of the Board of Trustees. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means for determining responsible stewardship of the assets contributed by the System's members, their employers, and the State of Georgia.

Copies of this report can be obtained by contacting the System, or may be downloaded from the System's website.

I would like to take this opportunity to express my gratitude to Governor Brian Kemp, members of the Georgia General Assembly, the staff, the advisors, and to the many people who have worked so diligently to ensure the successful operation of the System.

Sincerely,

L.C. Evans

L.C. (Buster) Evans, Ed.D.
Executive Director

Financial & Statistical Highlights

	June 30, 2019	June 30, 2018	% Change
Financial Highlights (dollars in thousands)			
Member Contributions	$ 759,474	$ 745,574	+1.9
Employer and Nonemployer Contributions	$ 2,566,403	$ 2,018,724	+27.1
Interest and Dividend Income	$ 1,705,874	$ 1,568,318	+8.8
Benefits Paid to Retired Members	$ 4,950,465	$ 4,699,920	+5.3
Member Withdrawals	$ 76,543	$ 76,061	+0.6
Interest Credited to Member Contributions	$ 365,968	$ 349,780	+4.6
Statistical Highlights			
Active Membership	226,387	226,061	+0.1
Members Leaving the System	7,584	7,147	+6.1
Retired Members	131,802	127,223	+3.6
Average Monthly Benefit	$ 3,130	$ 3,079	+1.7

SYSTEM ASSETS

Total System Assets at June 30 (dollars in thousands)

	2014	2015	2016	2017	2018	2019
Equities	$47,126,335	$46,422,828	$43,651,536	$49,236,293	$51,181,613	$53,433,296
Fixed Income	17,490,895	18,807,238	19,979,237	20,139,422	22,564,510	22,684,318
Other[(1)]	1,907,659	1,620,195	2,087,314	2,048,417	1,856,129	2,772,805
Total System Assets	$66,524,889	$66,850,261	$65,718,087	$71,424,132	$75,602,252	$78,890,419

[(1)] Includes cash and equivalents, receivables, net OPEB asset, and capital assets, net.

ADMINISTRATIVE STAFF & ORGANIZATION

Dr. L.C. (Buster) Evans
Executive Director

Randy Dennis
Chief Financial Officer

Charles W. Cary, Jr.
Chief Investment Officer
Investment Services

R. Cory Buice
Director
Retirement Services

K. Paige Donaldson
Director
Employer Services and
Contact Management

Lisa M. Hajj
Director
Communications

Dina N. Jones
Director
Member Services

Sonya Kinley
Director
Human Resources

Laura L. Lanier
Controller
Financial Services

J. Gregory McQueen
Director
Information Technology

Consulting Services

Actuary

Cavanaugh Macdonald
Consulting, LLC

Auditor

KPMG LLP

Medical Advisors

Gordon J. Azar, M.D.
Atlanta, Georgia

William Biggers, M.D.
Atlanta, Georgia

Marvin Bittinger, M.D.
Gainesville, Georgia

Pedro Garcia, M.D.
Atlanta, Georgia

Harold Sours, M.D.
Atlanta, Georgia

Joseph W. Stubbs, M.D.
Albany, Georgia

Investment Advisors*

Albritton Capital Management
Baillie Gifford Overseas Limited
Barrow, Hanley, Mewhinney & Strauss
Cooke & Bieler
Fisher Investments
Mondrian Investment Partners Limited
Sands Capital Management
WCM Investment Management

* See page 52 in the Investment Section for a summary of fees paid to Investment Advisors.

Purpose

The Teachers Retirement System of Georgia (the System) was established in 1943, by an act of the Georgia General Assembly for the purpose of providing retirement allowances and other benefits for teachers of the State, and began operations in 1945. The System has the power and privileges of a corporation and the right to bring and defend actions.

The major objectives of the System are (1) to pay monthly benefits due to retirees accurately and in a timely manner, (2) to soundly invest retirement funds to ensure adequate financing for future benefits due and for other obligations of the System, (3) to accurately account for the status and contributions of all active and inactive members, (4) to provide statewide educational and counseling services for System members, and (5) to process refunds due to terminated members.

Administration

State statutes provide that the administration of the System be vested in a ten-member Board of Trustees (the Board) comprised as follows:

Ex-officio members:
- the State Auditor
- the State Treasurer

Governor's appointees:
- two active members of the System who are classroom teachers and not employees of the Board of Regents
- one active member of the System who is a public school administrator
- one active member of the System who is not an employee of the Board of Regents
- one member-at-large

Board of Regents appointee:
- one active member of the System who is an employee of the Board of Regents

Trustee appointees:
- one member who has retired under the System
- one individual who is a citizen of the State, not a member of the System, and experienced in the investment of money

A complete listing of the current Board of Trustees is included on page 4 of this report.

Management of the System is the responsibility of the Executive Director who is appointed by the Board and serves at its pleasure. On behalf of the Board, the Executive Director is responsible for the proper operation of the System, engaging such actuarial and other services as shall be necessary to transact business, and paying expenses necessary for operations. A listing of the administrative staff is included on page 10 of this report.

Membership

All personnel employed in a permanent status position, and not less than one-half time, with local boards of education, charter schools, universities and colleges, technical colleges, Board of Regents, county and regional libraries, RESAs, and certain State of Georgia agencies are required to be members as a condition of employment. Exceptions to TRS membership include employees required to participate in another Georgia retirement plan or employees who may elect the Board of Regents Optional Retirement Plan in lieu of TRS membership.

Eligibility

Service Retirement

Active members may retire and elect to receive monthly retirement benefits after one of the following conditions: 1) completion of 10 years of creditable service and attainment of age 60, or 2) completion of 25 years of creditable service.

Disability Retirement

Members are eligible to apply for monthly retirement benefits under the disability provision of the law if they are an active member, have at least 10 years of creditable service, and are permanently disabled.

The Formula

Normal Retirement

Any member who has at least 30 years of creditable service or who has at least 10 years of creditable service and has attained age 60 will receive a benefit calculated by using the percentage of salary formula. Simply stated, two percent (2%) is multiplied by the member's years of creditable service established with the System, including partial years (not to exceed 40 years). The product is then multiplied by the average monthly salary for the two highest consecutive membership years of service. The resulting product is the monthly retirement benefit under the maximum plan of retirement.

Early Retirement

Any member who has not reached the age of 60 and has between 25 and 30 years of creditable service will receive a reduced benefit. The benefit will be calculated using the percentage of salary formula explained above. It will then be reduced by the lesser of 1/12 of 7% for each month the member is below age 60 or 7% for each year or fraction thereof the member has less than 30 years of creditable service. The resulting product is the monthly retirement benefit under the maximum plan of retirement.

Disability Retirement

Disability retirement benefits are also calculated using the percentage of salary formula explained above. The resulting product is the monthly disability retirement benefit under the maximum plan. You must have at least 10 years of creditable service to qualify; however, there is no age requirement for disability retirement.

SUMMARY OF PLAN PROVISIONS

continued

Plan A - Maximum Plan of Retirement

This plan produces the largest possible monthly benefit payable to the member only during his or her lifetime. There are no survivorship benefits under this plan.

Plan B - Optional Plans of Retirement

Upon retirement, a member of the System may elect one of six optional plans that provide survivorship benefits. The election of an optional form of payment is made upon application for retirement and it becomes irrevocable upon distribution of the first benefit check. The six options are as follows:

Option 1

The retiring member accepts a relatively small reduction from the maximum monthly benefit in order to guarantee to the estate, beneficiary, or beneficiaries named on the retirement application, a lump-sum refund of any remaining portion of member contributions and interest.

Option 2

This plan offers the retiring member a reduced monthly benefit, based on the ages of the member and the beneficiary, payable for life. It further provides a guarantee to the surviving named beneficiary that, at the death of the retired member, the beneficiary will receive the same basic monthly retirement allowance the member received at the date of retirement plus any cost-of-living increases the member received up to the time of death.

Option 2 Pop-Up

Any member may elect a reduced retirement allowance to be designated Option 2 Pop-Up with the provision that if the beneficiary dies prior to the retiree that the basic benefit payable to the retiree shall increase to an amount the retiree would have received under Plan A - Maximum Plan.

Option 3

This plan of retirement offers a reduced monthly benefit that is based on the ages of the member and the beneficiary. The resulting benefit is paid to the retired member for life, with the guarantee to the surviving named beneficiary that at the time of the retired member's death, the beneficiary will receive a payment for life of one-half of the initial monthly benefit received by the member at the time of retirement plus one-half of any cost-of-living increases the member received up to the time of death.

Option 3 Pop-Up

Any member may elect a reduced retirement allowance to be designated Option 3 Pop-Up with the provision that if the beneficiary dies prior to the retiree, the basic benefit payable to the retiree shall increase to the amount the retiree would have received under Plan A - Maximum Plan.

Option 4

This option offers a reduced monthly lifetime benefit in exchange for the flexibility to designate a specific dollar amount or percentage of your monthly benefit to be paid to your beneficiary after your death. The beneficiary benefits you specify under this plan cannot cause your monthly benefit to be reduced below 50% of the maximum benefit available to you. If multiple beneficiaries predecease you, the dollar amounts for the percentages are not adjusted. Beneficiaries also receive a prorated share of any cost-of-living increases you received up to the date of death.

Partial Lump-Sum Option Plan

TRS offers a Partial Lump-Sum Option Plan (PLOP) at retirement. In exchange for a permanently reduced lifetime benefit, a member may elect to receive a lump-sum distribution in addition to a monthly retirement benefit. The age of the member and plan of retirement are used to determine the reduction in the benefit.

A member is eligible to participate in the PLOP if he or she meets the following criteria. A member must:

- have 30 years of creditable service or 10 years of creditable service and attain age 60 (not early retirement).
- not retire with disability benefits.

At retirement, a member may elect a lump-sum distribution in an amount between 1 and 36 months of his or her normal monthly retirement benefit. This amount will be calculated under Plan A - Maximum Plan of Retirement and will be rounded up or down to be a multiple of $1,000. If a PLOP distribution is elected, the monthly benefit is actuarially reduced to reflect the value of the PLOP distribution. The combination of both the PLOP distribution and the reduced benefit are the same actuarial value as the unreduced normal benefit alone.

Financing the System

The funds to finance the System come from member contributions, 6.00% of annual salary; employer contributions, 20.90% of annual salary; and investment income.

KPMG LLP
Suite 2000, 303 Peachtree Street, NE
Atlanta, GA 30308
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Report on the Financial Statements

We have audited the accompanying financial statements of the Teachers Retirement System of Georgia (the System), a component unit of the State of Georgia, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the System's basic financial statements for the year then ended 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 U.S. generally accepted accounting principles; 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 financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. 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 auditor considers 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 financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System, as of June 30, 2019, and the changes in fiduciary net position for the year then ended in accordance with U.S. generally accepted accounting principles.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis, schedule of changes in employers' and nonemployers' net pension liability, schedule of employers' and nonemployers' net pension liability and related ratios, schedule of employer and nonemployer contributions, schedule of investment returns, schedule of the System's proportionate share of the net pension liability to ERS, schedule of the System's contributions to ERS, schedule of the System's proportionate share of the net OPEB liability (asset), and the schedule of the System's contributions to OPEB plans on pages 15-18 and 42-47 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 financial statements that collectively comprise the System's basic financial statements. The schedules of administrative expenses and investment expenses, and introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The schedules of administrative expenses and investment expenses 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 and investment expenses 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.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated September 30, 2019 on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

KPMG LLP

Atlanta, Georgia
September 30, 2019

This section provides a discussion and analysis of the financial performance of the Teachers Retirement System of Georgia (the System) for the year ended June 30, 2019. The discussion and analysis of the System's financial performance is within the context of the accompanying financial statements and disclosures following this section.

Financial Highlights

The following highlights are discussed in more detail later in this analysis:

- At June 30, 2019, the System's assets and deferred outflows of resources exceeded its liabilities and deferred inflows of resources by $78.8 billion (reported as net position) as compared to the net position of $75.5 billion at June 30, 2018, representing an increase of $3.3 billion, or 4.3%.
- Contributions from members increased by $13.9 million or 1.9% from $745.6 million in 2018 to $759.5 million in 2019. Employer and nonemployer contributing entity (Nonemployer) contributions increased by $547.7 million or 27.1% from $2.0 billion in 2018 to $2.6 billion in 2019. The increase in member contributions is primarily due to an increase in the number of active members and higher average payroll during the year. The increase in employer contributions is primarily due to an increase in the employer contribution rate coupled with an increase in the number of active members and higher average payroll during the year.
- Pension benefits paid to retirees and beneficiaries for the years ended June 30, 2019, and 2018 were $5.0 billion and $4.7 billion, respectively, representing an increase of 5.3%. This is due to an increase in the number of retirees and beneficiaries receiving benefit payments and postretirement benefit adjustments.

Overview of the Financial Statements

The basic financial statements include (1) the statement of fiduciary net position, (2) the statement of changes in fiduciary net position, and (3) notes to the financial statements. The System also includes in this report additional information to supplement the financial statements.

The System prepares its financial statements on an accrual basis in accordance with U.S. generally accepted accounting principles promulgated by the Governmental Accounting Standards Board (GASB). These statements provide information about the System's overall financial status.

In addition, the System presents eight required supplementary schedules, which provide historical trend information about the plan. Four of these schedules are presented from the perspective of the System reporting as the plan and include (1) a schedule of changes in employers' and nonemployers' net pension liability; (2) a schedule of employers' and nonemployers' net pension liability and related ratios; (3) a schedule of employer and nonemployer contributions; and (4) a schedule of investment returns. Four schedules are presented from the perspective of the System reporting as the employer for its employees who participate in either the Employees' Retirement System of Georgia (ERS), the State Employees' Assurance Department Retired and Vested Inactive Members Trust Fund (SEAD-OPEB), or the Georgia State Employees Postemployment Benefit Fund (State OPEB) and include (1) a schedule of the System's proportionate share of the net pension liability to ERS; (2) a schedule of the System's contributions to ERS; (3) a schedule of the System's proportionate share of the net OPEB liability (asset); and (4) a schedule of the System's contributions to OPEB plans.

The Statement of Fiduciary Net Position

The *Statement of Fiduciary Net Position* presents information that includes all of the System's assets and liabilities, with the balance reported as and representing the Net Position Restricted for Pensions. The investments of the System in this statement are presented at fair value. This statement is presented on page 19.

The Statement of Changes in Fiduciary Net Position

The *Statement of Changes in Fiduciary Net Position* reports how the System's net position changed during the fiscal year. The additions and the deductions to net position are summarized in this statement. The additions include contributions and investment income, which includes the net increase (decrease) in the fair value of investments. The deductions include benefit payments, refunds of member contributions, and administrative expenses. This statement is presented on page 20.

Notes to the Financial Statements

The accompanying notes to the financial statements provide information essential to a full understanding of the System's financial statements. The notes to the financial statements begin on page 21 of this report.

Required Supplementary Information

A brief explanation of the eight required schedules found beginning on page 42 of this report follows:

Schedule of Changes in Employers' and Nonemployers' Net Pension Liability: This schedule presents historical trend information about the changes in the net pension liability and includes the beginning and ending balances of the total pension liability and the plan's fiduciary net position, the net pension liability, and the effects of certain changes on those items. This trend information will be accumulated to display a 10-year presentation.

Schedule of Employers' and Nonemployers' Net Pension Liability and Related Ratios: This schedule presents historical trend information about the net pension liability and includes total pension liability, the plan's fiduciary net position, net pension liability, covered payroll, and the ratios of fiduciary net position to total pension liability and net pension liability to covered payroll. This trend information will be accumulated to display a 10-year presentation.

Schedule of Employer and Nonemployer Contributions: This schedule presents historical trend information for the last ten consecutive fiscal years about the actuarially determined contributions of employers and nonemployers and the contributions made in relation to the requirement.

Schedule of Investment Returns: This schedule presents historical trend information about the annual money-weighted rate of return on plan investments, net of plan investment expense. This trend information will be accumulated to display a 10-year presentation.

Schedule of the System's Proportionate Share of the Net Pension Liability to ERS: This schedule presents historical trend information about the System's proportionate share of the net pension liability for its employees who participate in the ERS plan. This trend information will be accumulated to display a 10-year presentation.

Schedule of the System's Contributions to ERS: This schedule presents historical trend information about the System's contributions for its employees who participate in the ERS plan. This trend information will be accumulated to display a 10-year presentation.

Schedule of the System's Proportionate Share of the Net OPEB Liability (Asset): This schedule presents historical trend information about the System's proportionate share of the net OPEB liability (asset) for its employees who participate in the State OPEB plan or the SEAD-OPEB plan. This trend information will be accumulated to display a 10-year presentation.

Schedule of the System's Contributions to OPEB Plans: This schedule presents historical trend information about the System's contributions for its employees who participate in the State OPEB and/or SEAD-OPEB plans. This trend information will be accumulated to display a 10-year presentation.

Financial Analysis of the System

A summary of the System's net position at June 30, 2019 and 2018 is as follows:

Summary of TRS Net Position (dollars in thousands)

	Net position June 30		Amount change	Percentage change
	2019	**2018**		
Assets:				
Cash and cash equivalents and receivables	$ 2,763,142	1,846,305	916,837	49.7 %
Investments	76,117,614	73,746,123	2,371,491	3.2
Net OPEB asset	2,342	2,177	165	7.6
Capital assets, net	7,321	7,647	(326)	(4.3)
Total assets	78,890,419	75,602,252	3,288,167	4.3
Deferred outflows of resources	11,011	8,452	2,559	30.3
Liabilities:				
Net OPEB liability	18,091	28,452	(10,361)	(36.4)%
Net pension liability	27,823	28,065	(242)	(0.9)
Due to brokers and accounts payable	56,837	18,533	38,304	206.7
Total liabilities	102,751	75,050	27,701	36.9
Deferred inflows of resources	9,742	2,729	7,013	257.0
Net position	$ 78,788,937	75,532,925	3,256,012	4.3

The $3.3 billion, or 4.3%, increase in net position from 2018 to 2019 is primarily due to positive fixed income and equity market returns.

The following table presents the investment allocation at June 30, 2019 and 2018:

Investment Allocation

	2019	2018
Asset allocation at June 30 (in percentages):		
Equities:		
Domestic	52.9%	51.8%
International	17.3	17.6
Domestic obligations:		
U.S. treasuries	23.2	21.2
Corporate and other bonds	6.1	8.3
International obligations:		
Corporates	0.5	1.1
Asset allocation at June 30 (dollars in thousands):		
Equities:		
Domestic	$ 40,261,927	38,234,479
International	13,171,369	12,947,134
Domestic obligations:		
U.S. treasuries	17,632,382	15,661,380
Corporate and other bonds	4,646,365	6,096,883
International obligations:		
Corporates	405,571	806,247
	$ 76,117,614	73,746,123

The total investment portfolio at June 30, 2019 increased $2.4 billion, or 3.2%, from June 30, 2018, which is primarily due to positive fixed income and equity market returns.

Investment performance is calculated using a time-weighted rate of return using the Daily Valuation Method. The time-weighted rate of return in fiscal year 2019 was 6.8%, with a 6.5% return for equities and a 7.0% return for fixed income. The five-year annualized rate of return at June 30, 2019 was 6.6% with an 8.4% return on equities and a 2.6% return on fixed income.

A money-weighted return is weighted by the amount of dollars in the fund at the beginning and end of the performance period. A money-weighted return is highly influenced by the timing of cash flows into and out of the fund and is a better measure of an entity or person who controls the cash flows into or out of the fund. The nondiscretionary cash flows for the plan, primarily contributions and benefit payments, have a considerable impact on the money-weighted returns of the portfolio. The money-weighted rate of return for the fiscal year ended June 30, 2019 was 4.1%, compared to 5.0% for the fiscal year ended June 30, 2018.

A summary of the changes in the System's net position for the years ended June 30, 2019 and 2018 is as follows:

Changes in TRS Net Position (dollars in thousands)

	Changes in net position 2019	Changes in net position 2018	Amount change	Percentage change
Additions:				
Employer contributions	$ 2,560,989	2,014,308	546,681	27.1%
Nonemployer contributions	5,414	4,416	998	22.6
Member contributions	759,474	745,574	13,900	1.9
Net investment income	4,972,419	6,247,155	(1,274,736)	(20.4)
Total additions	8,298,296	9,011,453	(713,157)	(7.9)
Deductions:				
Benefits payments	4,950,465	4,699,920	250,545	5.3
Refunds	76,543	76,061	482	0.6
Administrative expenses, net	15,276	15,865	(589)	(3.7)
Total deductions	5,042,284	4,791,846	250,438	5.2
Net increase in net position	$ 3,256,012	4,219,607	(963,595)	(22.8)

Additions

The System accumulates resources needed to fund benefits through contributions and returns on invested funds. Member contributions were higher with an increase of $13.9 million, or 1.9%, primarily due to an increase in membership salary coupled with an increase in the number of active members in 2019. Employer contributions were higher with an increase of $546.7 million, or 27.1%, compared to 2018 primarily due to an increase in the employer contribution rate to 20.90% from 16.81% coupled with an an increase in membership salary and an increase in the number of active members in 2019. The change in net investment income was primarily due to more moderate equity gains in 2019.

Deductions

Deductions increased $250.4 million, or 5.2%, in 2019, primarily because of the $250.5 million, or 5.3%, increase in benefit payments. Regular pension benefit payments increased due to an increase in the number of retirees and beneficiaries receiving benefit payments from 127,223 in 2018 to 131,802 in 2019, and an increase in postretirement benefits.

Requests for Information

This financial report is designed to provide a general overview of the System's finances for all those with interest in the System's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to Teachers Retirement System of Georgia, Two Northside 75, Suite 100, Atlanta, GA 30318.

STATEMENT OF FIDUCIARY NET POSITION

June 30, 2019 (in thousands)

Assets		
Cash and cash equivalents	$	2,299,495
Receivables:		
Interest and dividends		219,278
Due from brokers for securities sold		6,672
Members and employer contributions		236,928
Other		769
Total receivables		463,647
Investments - at fair value:		
Equities:		
Domestic		40,261,927
International		13,171,369
Domestic obligations:		
U.S. treasuries		17,632,382
Corporate and other bonds		4,646,365
International obligations:		
Corporates		405,571
Total investments		76,117,614
Net OPEB asset		2,342
Capital assets, net		7,321
Total assets		78,890,419
Deferred Outflows of Resources		11,011
Liabilities		
Net OPEB liability		18,091
Net pension liability		27,823
Due to brokers for securities purchased		46,692
Accounts payable and other		10,145
Total liabilities		102,751
Deferred Inflows of Resources		9,742
Net Position Restricted for Pensions	$	78,788,937

See accompanying notes to financial statements.

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

For the Year Ended June 30, 2019 (in thousands)

Additions:		
Contributions:		
Employer	$	2,560,989
Nonemployer		5,414
Member		759,474
Investment income:		
Net increase in fair value of investments		3,312,578
Interest, dividends, and other		1,705,874
Total investment income		5,018,452
Less investment expense		46,033
Net investment income		4,972,419
Total additions		8,298,296
Deductions:		
Benefit payments		4,950,465
Refunds of member contributions		76,543
Administrative expenses, net		15,276
Total deductions		5,042,284
Net increase in net position		3,256,012
Net Position Restricted for Pensions:		
Beginning of year		75,532,925
End of year	$	78,788,937

See accompanying notes to financial statements

1. Plan Description

Teachers Retirement System of Georgia (the System) was created in 1943 by an act of the Georgia Legislature (the Act) to provide retirement benefits for teachers who qualify under the Act. The System administers a cost-sharing, multiple-employer defined benefit pension plan as defined in Governmental Accounting Standards Board (GASB)Statement No.67, *Financial Reporting for Pension Plans*. A Board of Trustees comprising two appointees by the Board, two ex-officio state employees, five appointees by the Governor, and one appointee of the Board of Regents is ultimately responsible for the administration of the System.

Eligibility and Membership

All teachers in the state public schools, the University System of Georgia (except those professors and principal administrators electing to participate in an optional retirement plan), and certain other designated employees in educational-related work are eligible for membership. There were 316 employers and 1 nonemployer contributing entity participating in the plan at June 30, 2019.

Retirement Benefits

As of June 30, 2019, participation in the System is as follows:

Inactive members and beneficiaries currently receiving benefits	131,802
Inactive members not yet receiving benefits, vested	14,060
Inactive members, nonvested	99,744
Active plan members	226,387
Total	471,993

The System provides service retirement, disability retirement, and survivor's benefits. Title 47 of the Official Code of Georgia Annotated (O.C.G.A.) assigns the authority to establish and amend the provisions of the System to the State Legislature. A member is eligible for normal service retirement after 30 years of creditable service, regardless of age, or after 10 years of service and attainment of age 60. A member is eligible for early retirement after 25 years of creditable service.

Normal retirement (pension) benefits paid to members are equal to 2% of the average of the member's two highest paid consecutive years of service, multiplied by the number of years of creditable service up to 40 years. Early retirement benefits are reduced by the lesser of one-twelfth of 7% for each month the member is below age 60, or by 7% for each year or fraction thereof by which the member has less than 30 years of service. It is also assumed that certain cost-of-living adjustments, based on the Consumer Price Index, may be made in future years. Retirement benefits are payable monthly for life. A member may elect to receive a partial lump-sum distribution in addition to a reduced monthly retirement benefit. Options are available for distribution of the member's monthly pension, at a reduced rate, to a designated beneficiary on the member's death.

Death and Disability Benefits

Retirement benefits also include death and disability benefits, whereby the disabled member or surviving spouse is entitled to receive annually an amount equal to the member's service retirement benefit or disability retirement, whichever is greater. The benefit is based on the member's creditable service (minimum of 10 years of service) and compensation up to the time of disability.

The death benefit is the amount that would be payable to the member's beneficiary had the member retired on the date of death on either a service retirement allowance or a disability retirement allowance, whichever is larger. The benefit is based on the member's creditable service (minimum of 10 years of service) and compensation up to the date of death.

Contributions

The System is funded by member, employer, and nonemployer contributions. The contribution rates are adopted and amended by the Board of Trustees. Pursuant to O.C.G.A. §47-3-63, the employer contributions for certain full-time public school support personnel are funded on behalf of the employers by the State of Georgia.

Contributions, as a percentage of covered payroll, required for fiscal year 2019 were based on the June 30, 2016 actuarial valuation as follows:

Member	6.00%
Employer:	
Normal	7.77%
Unfunded accrued liability	13.13%
Total	20.90%

Members become fully vested after 10 years of service. If a member terminates with less than 10 years of service, no vesting of employer contributions occurs, but the member's contributions may be refunded with interest. Member contributions with accumulated interest are reported as net position restricted for pensions.

2. Summary of Significant Accounting Policies and Plan Asset Matters

Basis of Accounting

The System's financial statements are prepared on the accrual basis of accounting. Contributions from the employers, nonemployers, and the members are recognized when due, based on statutory requirements. Retirement and refund payments are recognized as deductions when due and payable.

Reporting Entity

The System is a component unit of the State of Georgia; however, it is accountable for its own fiscal matters and presentation of its separate financial statements. The System has considered potential component units under GASB Statements No. 80, *Blending Requirements for Certain Component Units*, GASB Statement No. 61, *The Financial Reporting Entity's Omnibus – An Amendment of GASB Statements No. 14 and No. 34*, and GASB Statement No. 39, *Determining Whether Certain Organizations are Component Units*, and determined there were no component units of the System.

Cash and Cash Equivalents

Cash and cash equivalents, reported at cost, include cash in banks and cash on deposit with the investment custodian.

Investments

Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price. There are no investments in, loans to, or leases with parties related to the System.

The System utilizes various investment instruments. Investment securities, in general, are exposed to various risks, such as interest rate, credit, foreign currency, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the financial statements.

The System's policy in regard to the allocation of invested assets is established on a cost basis in compliance with Georgia Statute. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension plan. The following was the System's adopted asset allocation policy as of June 30, 2019:

Asset Class	Target Allocation
Fixed income	25% - 45%
Equities	55% - 75%
Total	100%

Approximately 23.2% of the investments held for pension benefits are invested in debt securities of the U.S. government. The System has no investments in any one organization, other than those issued by the U.S. government, that represent 5% or more of the System's net position restricted for pensions.

For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 4.08%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Capital Assets

Capital assets are stated at cost less accumulated depreciation. Capital assets costing $5,000 or more are capitalized. Depreciation on capital assets is computed using the straight-line method over estimated useful lives of three to forty years. Depreciation expense is included in administrative expenses, net. Maintenance and repairs are charged to administrative expenses when incurred. When assets are retired or otherwise disposed of, the costs and related accumulated depreciation are removed from the accounts, and any resulting gain or loss is reflected in the statement of changes in fiduciary net position in the period of disposal.

System Employee Pensions and Other Postemployment Benefits (OPEB)

For the plans listed below, for purposes of measuring the net pension liability, net OPEB asset, net OPEB liability, deferred outflows of resources and deferred inflows of resources related to pension and OPEB, and pension and OPEB expense, information about the fiduciary net position of the plans and additions to and deductions from the fiduciary net position have been determined on the same basis as they are reported by the plans. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Pensions:

- Employees' Retirement System of Georgia (ERS)

OPEB:

- Georgia State Employees Postemployment Benefit Fund (State OPEB)
- State Employees' Assurance Department Retired and Vested Inactive Members Trust Fund (SEAD-OPEB)

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of fiduciary net position and changes therein. Actual results could differ from those estimates.

New Accounting Pronouncements

Pronouncements effective for the 2019 financial statements:

In November 2016, the GASB issued Statement No. 83, *Certain Asset Retirement Obligations* effective for fiscal years beginning after June 15, 2018. This Statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a

2. Summary of Significant Accounting Policies and Plan Asset Matters, *continued*

tangible capital asset. There are no applicable reporting requirements for the System related to this Statement.

In April 2018, the GASB issued Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements* effective for fiscal years beginning after June 15, 2018. The primary objective of this Statement is to improve the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt. There are no applicable reporting requirements for the System related to this Statement.

Pronouncements issued, but not yet effective:

In January 2017, the GASB issued Statement No. 84, *Fiduciary Activities* effective for fiscal years beginning after December 15, 2018. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. The System is in the process of evaluating the impact of this pronouncement on its financial statements.

In June 2017, the GASB issued Statement No. 87, *Leases* effective for fiscal years beginning after December 15, 2019. The objective of this Statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. The System is in the process of evaluating the impact of this pronouncement on its financial statements.

In June 2018, the GASB issued Statement No. 89, *Accounting for Interest Costs Incurred before the End of a Construction Period* effective for fiscal years beginning after December 15, 2019. The objectives of this Statement are to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period. In addition, this Statement's goal is to simplify accounting for interest cost incurred before the end of a construction period. The System does not anticipate this statement will impact its financial statements and related reporting.

In August 2018, the GASB issued Statement No. 90, *Majority Equity Interests-an amendment of GASB Statements No. 14 and No. 61* for fiscal years beginning after December 15, 2018. The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. The System is in the process of evaluating the impact of this pronouncement on its financial statements.

In May 2019, the GASB issued Statement No. 91, *Conduit Debt Obligations* effective for fiscal years beginning after December 15, 2020. The objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with commitments extended by issuers, arrangements associated with conduit debt obligations, and related note disclosures. The System does not anticipate this statement will impact its financial statements and related reporting.

3. Investment Program

The System maintains sufficient cash to meet its immediate liquidity needs. Cash not immediately needed is invested as directed by the Board of Trustees. All investments are held by agent custodial banks in the name of the System. State statutes and the System's investment policy authorize the System to invest in a variety of short-term and long-term securities as follows:

Cash and Cash Equivalents

The carrying amount of the System's deposits totaled approximately $2.3 billion at June 30, 2019, with actual bank balances of approximately $1.9 billion. The System's cash balances are fully insured through the Federal Deposit Insurance Corporation, an independent agency of the U.S. government.

Short-term securities authorized but not currently used are:

- Repurchase and reverse repurchase agreements, whereby the System and a broker exchange cash for direct obligations of the U.S. government or obligations unconditionally guaranteed by agencies of the U.S. government or U.S. corporations. The System or broker promises to repay the cash received plus interest at a specific date in the future in exchange for the same securities.

- U.S. Treasury obligations.

- Commercial paper, with a maturity of 180 days or less. Commercial paper is an unsecured promissory note issued primarily by corporations for a specific amount and maturing on a specific day. The System considers for investment only commercial paper of the highest quality, rated P-1 and/or A-1 by national credit rating agencies.

- Master notes, an overnight security administered by a custodian bank, and an obligation of a corporation whose commercial paper is rated P-1 and/or A-1 by national credit rating agencies.

Investments in commercial paper or master notes are limited to no more than $500 million in any one name.

3. Investment Program, *continued*

Investments

Fixed income investments, managed by the Division of Investment Services (the Division), are authorized in the following instruments:

- U.S. and foreign government obligations. At June 30, 2019, the System held U.S. Treasury bonds of approximately $17.6 billion.

- U.S. and foreign corporate obligations. At June 30, 2019, the System held U.S. corporate bonds of approximately $4.6 billion and international corporate bonds of approximately $405.6 million.

- Obligations unconditionally guaranteed by agencies of the U.S. government. At June 30, 2019, the System did not hold agency bonds.

- Private placements are authorized under the same general restrictions applicable to corporate bonds. At June 30, 2019, the System did not hold private placements.

Mortgage investments are authorized to the extent that they are secured by first mortgages on improved real property located in the state of Georgia.

Equity securities are also authorized (in statutes) for investment as a complement to the System's fixed income portfolio and as a long-term inflation hedge. By statute, no more than 75% of the total invested assets on a historical cost basis may be placed in equities. Equity holdings in any one corporation may not exceed 5% of the outstanding equity of the issuing corporation. The equity portfolio is managed by the Division in conjunction with independent advisors. Buy/sell decisions are based on securities meeting rating criteria established by the Board of Trustees; in-house research considering such matters as yield, growth, and sales statistics; and analysis of independent market research. Equity trades are approved and executed by the Division's staff. Common stocks eligible for investment are approved by the Investment Committee of the Board of Trustees before being placed on an approved list. Equity investments are authorized in the following instruments:

- Domestic equities are those securities considered by the O.C.G.A. to be domiciled in the United States. At June 30, 2019, the System held domestic equities of approximately $40.3 billion.

- International equities, including American Depository Receipts (ADR), are not considered by the O.C.G.A. to be domiciled in the United States. At June 30, 2019, the System held ADRs of approximately $7.5 billion and international equities of approximately $5.6 billion.

Fair Value Measurements: The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the inputs used in valuation and gives the highest priority to unadjusted quoted prices in active markets and requires that observable inputs be used in the valuations when available. The disclosure of fair value estimates in the hierarchy is based on whether the significant inputs into the valuations are observable. In determining the level of the hierarchy in which the estimate is disclosed, the highest level, Level 1, is given to unadjusted quoted prices in active markets and the lowest level, Level 3, to unobservable inputs.

Level 1 - Valuations based on unadjusted quoted prices for identical instruments in active markets that the System has the ability to access.

Level 2 - Valuations based on quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3 - Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The System's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each investment.

Equity securities classified in Level 1 are valued using prices quoted in active markets for those securities. Equity securities classified in Level 2 are valued using prices quoted for similar instruments in active markets. Equity securities classified in Level 3 are valued using third-party valuations not currently observable in the market.

Debt securities classified in Level 1 are valued using prices quoted in active markets. Debt securities classified in Level 2 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features, and ratings. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. These securities have nonproprietary information that was readily available to market participants, from multiple independent sources, which are known to be actively involved in the market.

3. Investment Program, *continued*

This table shows the fair value leveling of the System's investments (in thousands):

Investments Measured at Fair Value as of June 30, 2019
(dollars in thousands)

Investments by fair value level	Fair value measures using: Quoted prices in active markets for identical assets — Level 1	Significant other observable inputs — Level 2	Significant unobservable inputs — Level 3	Total
Equities:				
Domestic	$ 40,261,927	$ —	$ —	$ 40,261,927
International	13,044,612	126,757	—	13,171,369
Obligations:				
Domestic:				
U.S. treasuries	17,632,382	—	—	17,632,382
Corporate bonds	—	4,646,365	—	4,646,365
International:				
Corporate bonds	—	405,571	—	405,571
Total investments by fair value level	$ 70,938,921	$ 5,178,693	$ —	$ 76,117,614

Credit Risk: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the System. O.C.G.A. 47-20-84 limits investments to investment grade securities. It is the System's investment policy to require that the bond portfolio be of high quality and chosen with respect to maturity ranges, coupon levels, refunding characteristics, and marketability. The System's policy is to require that new purchases of bonds be restricted to high grade bonds rated no lower than "A" by any nationally recognized statistical rating organization. If a bond is subsequently downgraded to a rating below "A," it is placed on a watch list. The System holds two bonds that were downgraded to a rating below "A." Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk and do not require disclosure of credit quality. The quality ratings of investments in fixed income securities as described by Standard & Poor's and by Moody's Investors Service, which are nationally recognized statistical rating organizations, at June 30, 2019, are shown in the chart on the following page.

3. Investment Program, *continued*

Quality Ratings of Fixed Income Investments held at June 30, 2019 (dollars in thousands)

Investment type	Standard and Poor's/ Moody's quality rating	June 30, 2019 Fair value
Domestic obligations:		
U.S. treasuries		$ 17,632,382
Corporates	AAA/Aaa	683,602
	AA/Aaa	405,119
	AA/Aa	242,864
	AA/A	407,552
	A/A	1,892,896
	BBB/Baa	1,014,332
Total domestic corporates		4,646,365
International obligations:		
Corporates	A/A	405,571
Total international corporates		405,571
Total fixed income investments		$ 22,684,318

Concentration of Credit Risk: Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issue. At June 30, 2019, the System did not have debt or equity investments in any one organization, other than those issued or guaranteed by the U.S. government or its agencies, which represented greater than 5% of total investments.

Interest Rate Risk: Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. While the System has no formal interest rate risk policy, active management of the bond portfolio incorporates interest rate risk to generate improved returns. This risk is managed within the portfolio using the effective duration method. This method is widely used in the management of fixed income portfolios and quantifies to a much greater degree the sensitivity to interest rate changes when analyzing a bond portfolio with call options, prepayment provisions, and any other cash flows. Effective duration makes assumptions regarding the most likely timing and amounts of variable cash flows and is best utilized to gauge the effect of a change in interest rates on the fair value of a portfolio. It is believed that the reporting of effective duration found in the table below quantifies to the fullest extent possible the interest rate risk of the System's fixed income assets.

Effective Duration of Fixed Income Assets by Security Type (dollars in thousands)

Fixed income security type	Fair value June 30, 2019	Percentage of all fixed income assets	Effective duration (years)
Domestic obligations:			
U.S. treasuries	$ 17,632,382	77.7%	5.7
Corporates	4,646,365	20.5	3.9
International obligations:			
Corporates	405,571	1.8	0.5
Total	$ 22,684,318	100.0%	5.3

3. Investment Program, *continued*

Foreign Currency Risk: Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. The System's currency risk exposures, or exchange rate risks, primarily reside within the System's international equity investment holdings. The System's asset allocation and investment policies allow for active and passive investments in international securities. The System's Board-adopted foreign exchange risk management policy is to minimize risk and protect the investments from negative impact by hedging foreign currency exposures with foreign exchange instruments when market conditions and circumstances are deemed appropriate. Foreign exchange instruments are used to protect the value of noncash investments from currency movements. The System's foreign exchange risk management policy does not quantify limitations on foreign currency-denominated investments. As of June 30, 2019, the System's exposure to foreign currency risk in U.S. Dollars is highlighted in this table:

International Investment Securities at Fair Value as of June 30, 2019
(dollars in thousands)

Currency	Cash & cash equivalents	Equities	Fixed income	Total
Australian Dollar	$ —	$ 205,801	$ —	$ 205,801
Brazilian Real	—	126,557	—	126,557
British Pound	—	487,348	—	487,348
Canadian Dollar	—	168,556	—	168,556
Chilean Peso	—	15,952	—	15,952
Chinese Renminbi	91	39,077	—	39,168
Colombian Peso	—	9,945	—	9,945
Czech Krone	—	9,676	—	9,676
Danish Krone	—	87,616	—	87,616
Euro	—	1,362,125	—	1,362,125
Hong Kong Dollar	—	453,948	—	453,948
Indian Rupee	217	327,307	—	327,524
Indonesian Rupiah	—	29,773	—	29,773
Israeli Shekel	—	11,433	—	11,433
Japanese Yen	—	932,129	—	932,129
Malaysian Ringgit	—	68,347	—	68,347
Mexican Peso	—	45,546	—	45,546
New Taiwan Dollar	—	173,458	—	173,458
Norwegian Krone	—	10,416	—	10,416
Philippine Peso	—	22,951	—	22,951
Polish Zloty	—	14,812	—	14,812
Qatari Riyal	—	18,421	—	18,421
Singapore Dollar	—	104,384	—	104,384
South African Rand	—	154,997	—	154,997
South Korean Won	—	300,711	—	300,711
Swedish Krona	—	147,920	—	147,920
Swiss Franc	—	149,532	—	149,532
Thailand Baht	—	126,757	—	126,757
UAE Dirham	—	19,428	—	19,428
Total holdings subject to foreign currency risk	308	5,624,923	—	5,625,231
Investment securities payable in U.S. dollars	—	7,546,446	405,571	7,952,017
Total international investments - at fair value	$ 308	$ 13,171,369	$ 405,571	$ 13,577,248

4. Securities Lending Program

State statutes and Board of Trustees' policies permit the System to lend its securities to broker/dealers with a simultaneous agreement to return the collateral for the same securities in the future. The System is presently involved in a securities lending program with major brokerage firms. The System lends equity and fixed income securities for varying terms and receives a fee based on the loaned securities' value. The System reports the gross loan fee income earned as investment income on the combining statement of changes in fiduciary net position. During a loan, the System continues to receive dividends and interest as the owner of the loaned securities. The brokerage firms pledge collateral securities consisting of U.S. government and agency securities, mortgage-backed securities issued by a U.S. government agency, corporate bonds, and equities. The collateral value must be equal to at least 102% to 109% of the loaned securities' value, depending on the type of collateral security.

Securities loaned totaled approximately $21.5 billion at June 30, 2019. The collateral value was equal to 104.3% of the loaned securities' value at June 30, 2019. The System's lending collateral was held in the System's name by the tri-party custodian.

Loaned securities are included in the accompanying statement of fiduciary net position since the System maintains ownership. The related collateral securities are not recorded as assets on the System's statement of fiduciary net position, and a corresponding liability is not recorded, since the System is deemed not to have the ability to pledge or trade the collateral securities. In accordance with the criteria set forth in GASB Statement No. 28, *Accounting and Financial Reporting for Securities Lending Transactions*, the System is deemed not to have the ability to pledge or sell collateral securities, since the System's lending contracts do not address whether the lender can pledge or sell the collateral securities without a borrower default, the System has not previously demonstrated that ability, and there are no indications of the System's ability to pledge or sell the collateral securities.

5. Capital Assets

The following is a summary of capital assets and depreciation information as of June 30 and for the years then ended:

Summary of Capital Assets (dollars in thousands)

	Balance at June 30, 2018	Additions	Disposals	Balance at June 30, 2019
Capital assets:				
Land	$ 4,350	$ —	$ —	$ 4,350
Building	2,800	—	—	2,800
Furniture and fixtures	760	12	(212)	560
Computer equipment	2,726	356	(689)	2,393
Computer software	14,980	—	—	14,980
	25,616	368	(901)	25,083
Accumulated depreciation for:				
Building	(980)	(70)	—	(1,050)
Furniture and fixtures	(393)	(71)	211	(253)
Computer equipment	(1,616)	(468)	605	(1,479)
Computer software	(14,980)	—	—	(14,980)
	(17,969)	(609)	816	(17,762)
Capital assets, net	$ 7,647	$ (241)	$ (85)	$ 7,321

6. Net Pension Liability of Employers and Nonemployers

This table summarizes components of the net pension liability of the participating employers and nonemployers at June 30, 2019:

Components of Net Pension Liability (dollars in thousands)

Total pension liability	$	100,291,641
Plan fiduciary net position		78,788,937
Employers' and nonemployers' net pension liability	$	21,502,704
Plan fiduciary net position as a percentage of the total pension liability		78.56%

Actuarial assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018. Based on the funding policy adopted by the Board on May 15, 2019, the investment rate of return assumption was changed to 7.25% in the June 30, 2018 actuarial valuation. Therefore, the investment rate of return used in the roll-forward of the total pension liability is 7.25% using the following actuarial assumptions, applied to all periods including in the measurement:

Inflation	2.50%
Salary increases	3.00 - 8.75%, including inflation
Investment rate of return	7.25%, net of pension plan investment expense, including inflation
Post-retirement benefit increases	1.50% semi-annually

Postretirement mortality rates were based on the RP-2000 White Collar Mortality Table with future mortality improvement projected to 2025 with the Society of Actuaries' projection scale BB (set forward one year for males) for service retirements and dependent beneficiaries. The RP-2000 Disabled Mortality Table with future mortality improvement projected to 2025 with Society of Actuaries' projection scale BB (set forward two years for males and four years for females) was used for death after disability retirement. There is a margin for future mortality improvement in the tables used by the System. Based on the results of the most recent experience study adopted by the Board on November 18, 2015, the numbers of expected future deaths are 8-11% less than the actual number of deaths that occurred during the study period for healthy retirees and 9-11% less than expected under the selected table for disabled retirees. Rates of mortality in active service were based on the RP-2000 Employee Mortality Table projected to 2025 with projection scale BB.

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period July 1, 2009 - June 30, 2014, with the exception of the long-term assumed rate of return on assets (discount rate) which was changed from 7.50% to 7.25%, and the assumed annual rate of inflation which was changed from 2.75% to 2.50%, effective with the June 30, 2018 valuation.

6. Net Pension Liability of Employers and Nonemployers, *continued*

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 nominal returns, net of pension plan investment expense and the assumed rate of 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 arithmetic real rates of return for each major asset class are summarized in the following table:

Target Allocation & Estimated Rates of Return by Asset Class

Asset class	Target allocation	Long-term expected real rate of return*
Fixed income	30.00%	(0.10)%
Domestic large cap equities	51.00	8.90
Domestic small cap equities	1.50	13.20
International developed market equities	12.40	8.90
International emerging market equities	5.10	10.90
Total	100.00%	

* Net of inflation

Discount rate: The discount rate used to measure the total pension liability was 7.25%. 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 and nonemployer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate: The following presents the net pension liability of the employers and nonemployers, calculated using the discount rate of 7.25%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

Employers' and Nonemployers' Net Pension Liability

(dollars in thousands)

1% Decrease (6.25%)	Current discount rate (7.25%)	1% Increase (8.25%)
$34,905,182	$21,502,704	$10,481,105

6. Net Pension Liability of Employers and Nonemployers, *continued*

Actuarial valuation date*:* The total pension liability is based upon the June 30, 2018 actuarial valuation. An expected total pension liability is determined as of June 30, 2019 using standard roll forward techniques. The roll forward calculation adds the annual normal cost (also called service cost), subtracts the actual benefit payments and refunds for the plan year, and then applies the expected investment rate of return for the year.

7. System Employees' Retirement Benefits

The System's employees are members of the ERS plan. This note to the financial statements and required supplementary information in the first two tables on page 44 are presented from the perspective of the System as an employer.

General Information about the Employees' Retirement System of Georgia

Plan description: ERS is a cost sharing multiple employer defined benefit pension plan established by the Georgia General Assembly during the 1949 Legislative Session for the purpose of providing retirement allowances for employees of the State of Georgia and its political subdivisions. ERS is directed by a Board of Trustees. Title 47 of the O.C.G.A. assigns the authority to establish and amend the benefit provisions to the State Legislature. ERS issues a publicly available financial report that can be obtained at www.ers.ga.gov/post/annual-financial-reports.

Benefits provided*:* The ERS Plan supports three benefit tiers: Old Plan, New Plan, and Georgia State Employees' Pension and Savings Plan (GSEPS). Employees under the Old Plan started membership prior to July 1, 1982 and are subject to plan provisions in effect prior to July 1, 1982. Members hired on or after July 1, 1982 but prior to January 1, 2009 are New Plan members subject to modified plan provisions. Effective January 1, 2009, new state employees and rehired state employees who did not retain membership rights under the Old or New Plans are members of GSEPS. ERS members hired prior to January 1, 2009 also have the option to irrevocably change their membership to GSEPS.

Under the Old Plan, the New Plan, and GSEPS, a member may retire and receive normal retirement benefits after completion of 10 years of creditable service and attainment of age 60 or 30 years of creditable service regardless of age. Additionally, there are some provisions allowing for early retirement after 25 years of creditable service for members under age 60.

Retirement benefits paid to members are based upon the monthly average of the member's highest 24 consecutive calendar months, multiplied by the number of years of creditable service, multiplied by the applicable benefit factor. Annually, postretirement cost of living adjustments may also be made to members' benefits, provided the members were hired prior to July 1, 2009. The normal retirement pension is payable monthly for life; however, options are available for distribution of the member's monthly pension, at reduced rates, to a designated beneficiary upon the member's death. Death and disability benefits are also available through ERS.

7. System Employees' Retirement Benefits, *continued*

Contributions: Member contributions under the Old Plan are 4% of annual compensation, up to $4,200, plus 6% of annual compensation in excess of $4,200. Under the Old Plan, the State pays member contributions in excess of 1.25% of annual compensation. Under the Old Plan, these State contributions are included in the members' accounts for refund purposes and are used in the computation of the members' earnable compensation for the purpose of computing retirement benefits. Member contributions under the New Plan and GSEPS are 1.25% of annual compensation. The System's total required contribution rate for the year ended June 30, 2019 was 24.78% of annual covered payroll for old and new plan members and 21.78% for GSEPS members. The rates include the annual actuarially determined employer contribution rate of 24.66% of annual covered payroll for old and new plan members and 21.66% for GSEPS members, plus a 0.12% adjustment for the HB 751 one-time benefit adjustment of 3% to retired state employees. The System's contributions to ERS for funding purposes totaled approximately $4.5 million for the year ended June 30, 2019. Contributions are expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2019, the System reported a liability of approximately $27.8 million for its proportionate share of the net pension liability for the ERS plan. The net pension liability was measured as of June 30, 2018. The total pension liability used to calculate the net pension liability was based on an actuarial valuation as of June 30, 2017. An expected total pension liability as of June 30, 2018 was determined using standard roll forward techniques. The System's proportionate share of the net pension liability was based on contributions to ERS during the fiscal year ended June 30, 2018. At June 30, 2018, the System's proportionate share was 0.676785% which is based on contributions, and a decrease of 0.014252% from its proportionate share measured as of June 30, 2017.

For the year ended June 30, 2019, the System recognized pension expense of approximately $3.3 million. Pursuant to GASB Statement No. 67, approximately $1.6 million of the pension expense is included in investment expense as a reduction of investment income. At June 30, 2019, the System reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

Deferred Outflows and Inflows of Resources (dollars in thousands)

	Deferred outflows of resources	Deferred inflows of resources
Differences between expected and actual experience	$ 865	$ —
Change of assumptions	1,311	—
Net difference between projected and actual earnings on pension plan investments	—	641
Changes in proportion and differences between the System's contributions and proportionate share of contributions	—	428
System's contributions subsequent to the measurement date	4,451	—
Total	$ 6,627	$ 1,069

System contributions subsequent to the measurement date of approximately $4.5 million are reported as deferred outflows of resources and will be recognized as a reduction of the net pension liability in the year ended June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as pension expense as follows (dollars in thousands):

Years ended June 30:	
2020	$ 1,795
2021	664
2022	(1,066)
2023	(286)

7. System Employees' Retirement Benefits, *continued*

Actuarial assumptions: The total pension liability as of June 30, 2018 was determined by an actuarial valuation as of June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	3.25 - 7.00%, including inflation
Investment rate of return	7.30%, net of pension plan investment expense, including inflation

Post retirement mortality rates were based on the RP-2000 Combined Mortality Table with future mortality improvement projected to 2025 with the Society of Actuaries' projection scale BB and set forward 2 years for both males and females for service retirements and dependent beneficiaries. The RP-2000 Disabled Mortality Table with future mortality improvement projected to 2025 with Society of Actuaries' projection scale BB and set back seven years for males and set forward three years for females was used for death after disability retirement. There is a margin for future mortality improvement in the tables used by the System. Based on the results of the most recent experience study adopted by the Board on December 17, 2015, the numbers of expected future deaths are 9-12% less than the actual number of deaths that occurred during the study period for service retirements and beneficiaries and for disability retirements. There is a margin for future mortality improvement in the tables used by the plan. Rates of mortality in active service were based on the RP-2000 Employee Mortality Table projected to 2025 with projection scale BB.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2009 - June 30, 2014, with the exception of the investment rate of return. Subsequent to the June 30, 2017 measurement date, the ERS Board of Trustees adopted a new funding policy. Because of this new funding policy, the assumed investment rate of return was reduced from 7.50% to 7.40% for the June 30, 2017 actuarial valuation. In addition, based on the new funding policy, the assumed investment rate of return was further reduced by 0.10% from 7.40% to 7.30% as of the June 30, 2018 measurement date. Therefore, an assumption change from 7.50% to 7.30% is reflected in the calculation of the total pension liability.

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 nominal returns, net of pension plan investment expense and the assumed rate of 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.

7. System Employees' Retirement Benefits, *continued*

The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in this table:

Target Allocation & Estimated Rates of Return by Asset Class

Asset class	Target allocation	Long-term expected real rate of return*
Fixed income	30.00%	(0.50)%
Domestic large cap equities	37.20	9.00
Domestic mid cap equities	3.40	12.00
Domestic small cap equities	1.40	13.50
International developed market equities	17.80	8.00
International emerging market equities	5.20	12.00
Alternatives	5.00	10.50
Total	100.00%	

*Net of inflation

7. System Employees' Retirement Benefits, *continued*

Discount rate: The discount rate used to measure the total pension liability was 7.30%. 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 and State of Georgia contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the ERS fiduciary net position was projected to be available to make all projected 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.

Sensitivity of the System's proportionate share of the net pension liability to changes in the discount rate: The following presents the System's proportionate share of the net pension liability calculated using the discount rate of 7.30%, as well as what the System's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.30%) or 1-percentage-point higher (8.30%) than the current rate (dollars in thousands):

System's Proportionate Share of the Net Pension Liability

1% Decrease (6.30%)	Current discount rate (7.30%)	1% Increase (8.30%)
$39,574	$27,823	$17,811

Pension plan fiduciary net position: Detailed information about the ERS plan's fiduciary net position is available in the separately issued ERS financial report, which is publically available at www.ers.ga.gov/post/annual-financial-reports.

8. System Employees' Other Postemployment Benefits

Plan descriptions and Funding Policy:

Georgia State Employees Postemployment Benefit Fund (State OPEB Fund)

Plan Description: Employees of State organizations as defined in §45-18-25 of the *Official Code of Georgia Annotated* (O.C.G.A.) are provided OPEB through the State OPEB Fund - a cost-sharing multiple-employer defined benefit postemployment healthcare plan, reported as an employee trust fund and administered by a Board of Community Health (Board). Title 45 of the *O.C.G.A.* assigns the authority to establish and amend the benefit terms of the group health plan to the Board.

Benefits Provided: The State OPEB Fund provides healthcare benefits for retirees and their dependents due under the group health plan for employees of State organizations (including technical colleges) and other entities authorized by law to contract with the Department of Community Health (DCH) for inclusion in the plan. Retiree medical eligibility is attained when an employee retires and is immediately eligible to draw a retirement annuity from ERS, Georgia Judicial Retirement System (JRS), Legislative Retirement System (LRS), the System or Public School Employees Retirement System (PSERS). If elected, dependent coverage starts on the same day as retiree coverage. Medicare-eligible retirees are offered Standard and Premium Medicare Advantage plan options. Non-Medicare eligible retiree plan options include Health Reimbursement Arrangement (HRA), Health Maintenance Organization (HMO) and a High Deductible Health Plan (HDHP). The State OPEB Fund also pays for administrative expenses of the fund. By law, no other use of the assets of the State OPEB Fund is permitted.

Contributions: As established by the Board, the State OPEB Fund is substantially funded on a pay-as-you-go basis; that is, annual cost of providing benefits will be financed in the same year as claims occur. Contributions to the State OPEB Fund from the System was $3.8 million for the year ended June 30, 2019. Active employees are not required to contribute to the State OPEB Fund.

State Employees' Assurance Department Retired and Vested Inactive Members Trust Fund (SEAD-OPEB)

Plan Description: SEAD-OPEB was created in 2007 by the Georgia General Assembly to amend Title 47 of the O.C.G.A., relating to retirement, so as to establish a fund for the provision of term life insurance to retired and vested inactive members of ERS, LRS, and JRS. The plan is a cost-sharing multiple-employer defined benefit OPEB plan as defined in Governmental Accounting Standards Board (GASB) Statement No. 74, *Financial Reporting for Postemployment Benefit Plans other than OPEB Plans*. The SEAD-OPEB trust fund accumulates the premiums received from the aforementioned retirement plans, including interest earned on deposits and investments of such payments.

Benefits Provided: The amount of insurance for a retiree with creditable service prior to April 1, 1964 in the SEAD-OPEB plan is the full amount of insurance in effect on the date of retirement. The amount of insurance for a service retiree with no creditable service prior to April 1, 1964 in the SEAD-OPEB plan is 70% of the amount of insurance in effect at age 60 or at termination, if earlier. Life insurance proceeds are paid in a lump sum to the beneficiary upon death of the retiree.

Contributions: Georgia law provides that employee contributions to the SEAD-OPEB plan shall be in an amount established by the Board of Trustees not to exceed one-half of 1% of the member's earnable compensation. There were no employer contributions required for the fiscal year ended June 30, 2019.

OPEB Liabilities, OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

At June 30, 2019, the System reported a liability of $18.1 million for its proportionate share of the State OPEB net liability and an asset of $2.3 million for its proportionate share of the SEAD-OPEB net asset.

The following schedule details the System's proportionate share of the OPEB amounts for all plans as of June 30, 2019:

Aggregate OPEB Amounts - All Plans
(dollars in thousands)

OPEB liabilities	$	18,091
OPEB assets		2,342
Deferred outflows of resources		4,384
Deferred inflows of resources		8,673
OPEB expense		(1,284)

The net OPEB liability and net OPEB asset were measured as of June 30, 2018. The total OPEB liability and OPEB asset were used to calculate the net OPEB liability/asset and were based on actuarial valuations as of June 30, 2017. An expected total OPEB liability and OPEB asset as of June 30, 2018 were determined using standard roll-forward techniques.

The System's proportionate share of the net OPEB liability for the State OPEB plan was actuarially determined based on employer contributions during the fiscal year ended June 30, 2018. At June 30, 2018, the System's proportionate share was 0.691645%, which was a decrease of 0.006700% from its proportionate share measured as of June 30, 2017. The System's proportionate share of the net OPEB asset for the SEAD-OPEB plan was based on actual member salaries reported to the SEAD-OPEB plan during the fiscal year ended June 30, 2018. At June 30, 2018, the System's proportionate share was 0.865387%, which was an increase of 0.027889% from its proportionate share measured as of June 30, 2017.

8. System Employees' Other Postemployment Benefits, *continued*

For the year ended June 30, 2019 the System recognized a reduction of OPEB expense of $1.1 million for the State OPEB plan and a reduction of OPEB expense of $224.9 thousand for the SEAD-OPEB plan. Pursuant to GASB Statement No. 67, approximately $560.5 thousand of the State OPEB reduction of expense and $118.1 thousand of the SEAD-OPEB reduction of OPEB expense is included in investment expense as a reduction of investment income. At June 30, 2019, the System reported deferred outflows of resources and deferred inflows of resources related to OPEB for each plan from the following sources:

Deferred Outflows and Inflows of Resources (dollars in thousands)

	State OPEB plan		SEAD-OPEB plan	
	Deferred outflows of resources	Deferred inflows of resources	Deferred outflows of resources	Deferred inflows of resources
Differences between expected and actual experience	$ —	$ 1,423	$ 26	$ —
Change of assumptions	—	6,558	120	—
Net difference between projected and actual earnings on pension plan investments	418	—	—	387
Changes in proportion and differences between the System's contributions and proportionate share of contributions	—	259	—	46
System's contributions subsequent to the measurement date	3,820	—	—	—
Total	$ 4,238	$ 8,240	$ 146	$ 433

System contributions subsequent to the measurement date of $3.8 million for the State OPEB plan are reported as deferred outflows of resources and will be recognized as a reduction of the net State OPEB liability in the year ended June 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 (dollars in thousands):

Years ended June 30:	State OPEB	SEAD-OPEB
2020	$ (2,541)	$ (62)
2021	(2,541)	(74)
2022	(2,113)	(118)
2023	(627)	(33)

8. System Employees' Other Postemployment Benefits, *continued*

Actuarial assumptions: The total OPEB liability and OPEB asset as of June 30, 2018 were determined by an actuarial valuation as of June 30, 2017 using the following actuarial assumptions and other inputs, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2018:

Actuarial Assumptions

	State OPEB plan	SEAD-OPEB plan
Inflation	2.75%	2.75%
Salary increases	3.25 - 7.00%, including inflation	3.25 - 7.00%, including inflation
Investment rate of return	7.30%, compounded annually, net of investment expense, including inflation	7.30%, net of OPEB plan investment expense, including inflation
Single equivalent interest rate	5.22%	n/a
Healthcare cost trend rate:		
Pre-Medicare eligible	7.50%	n/a
Medicare eligible	5.50%	n/a
Ultimate trend rate:		
Pre-Medicare eligible	4.75%	n/a
Medicare eligible	4.75%	n/a
Year of Ultimate trend rate		
Pre-Medicare eligible	2028	n/a
Medicare eligible	2022	n/a

Mortality rates for the State OPEB plan were based on the RP-2000 Combined Mortality Table for Males or Females, as appropriate, with adjustments for mortality improvements based on Scale BB. The RP-2000 Combined Mortality Table projected to 2025 with projection scale BB and set forward 2 years for both males and females is used for the period after service retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table projected to 2025 with projection scale BB and set back 7 years for males and set forward 3 years for females is used for the period after disability retirement.

Postretirement mortality rates for the SEAD-OPEB plan were based on the RP-2000 Combined Mortality Table with future mortality improvement projected to 2025 with the Society of Actuaries' projection scale BB and set forward 2 years for both males and females for service retirements and dependent beneficiaries. There is a margin for future mortality improvement in the tables used by the plan.

The actuarial assumptions used in the June 30, 2017 valuation for the State OPEB and SEAD-OPEB plans were based on the results of an actuarial experience study for the period July 1, 2009 - June 30, 2014, with the exception of the investment rate of return for SEAD-OPEB. Subsequent to the June 30,2017 measurement date, the SEAD Board of Trustees adopted a new funding policy. Because of this new funding policy, the assumed investment rate of return was reduced from 7.50% to 7.40% for the June 30, 2017 actuarial valuation. In addition, based on the new funding policy, the assumed investment rate of return was further reduced by 0.10% from 7.40% to 7.30% as of the June 30, 2018 measurement date. Therefore, an assumption change from 7.50% to 7.30% is reflected in the calculation of the total pension liability.

Projection of State OPEB benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and includes the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculation.

The long-term expected rate of return on the State OPEB and SEAD-OPEB plan investments were determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected nominal returns, net of investment expense and the assumed rate of 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.

8. System Employees' Other Postemployment Benefits, *continued*

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

Target Allocation & Estimated Rates of Return by Asset Class

	State OPEB		SEAD-OPEB	
Asset class	**Target allocation**	**Long-term expected real rate of return***	**Target allocation**	**Long-term expected real rate of return***
Fixed income	30.00%	(0.50)%	30.00%	(0.50)%
Domestic large cap equities	37.20	9.00	37.20	9.00
Domestic mid cap equities	3.40	12.00	3.40	12.00
Domestic small cap equities	1.40	13.50	1.40	13.50
International developed market equities	17.80	8.00	17.80	8.00
International emerging market equities	5.20	12.00	5.20	12.00
Alternatives	5.00	10.50	5.00	10.50
Total	100.00%		100.00%	

*Net of inflation

Discount rate

The State OPEB discount rate has changed since the prior measurement date from 3.60% to 5.22%. In order to measure the total OPEB liability for the State OPEB Fund, a single equivalent interest rate of 5.22% was used as the discount rate. This is comprised mainly of the yield or index rate for 20 year tax-exempt general obligation municipal bonds with an average rating of AA or higher (3.87% per the Bond Buyers Index). The projection of cash flows used to determine the discount rate assumed that contributions from members and from the employer will be made at the current level as averaged over the last five years, adjusted for annual projected changes in headcount. Projected future benefit payments for all current plan members were projected through 2118. Based on these assumptions, the OPEB plan's fiduciary net position was projected to be available to make OPEB payments for inactive employees through year 2040. Therefore, the calculated discount rate of 5.22% was applied to all periods of projected benefit payments to determine the total OPEB liability.

The discount rate used to measure the total SEAD-OPEB liability was 7.30%. 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 and State of Georgia contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Sensitivity of the Employer Agency's proportionate share of the net OPEB liability to changes in the discount rate:

The following presents the System's proportionate share of the net State OPEB liability and net SEAD-OPEB asset calculated using the discount rate detailed below, as well as what the proportionate

8. System Employees' Other Postemployment Benefits, *continued*

share of the net State OPEB liability and net SEAD-OPEB asset would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current discount rate (dollars in thousands):

System's Proportionate Share of the Net OPEB Liability (Asset)

	1% Decrease	Current discount rate	1% Increase
	(4.22%)	**(5.22%)**	**(6.22%)**
State OPEB	$21,492	$18,091	$15,280
	(6.30%)	**(7.30%)**	**(8.30%)**
SEAD-OPEB	(1,262)	(2,342)	(3,228)

Sensitivity of the Employer Agency's proportionate share of the net OPEB liability to changes in the healthcare cost trend rates: The following presents the System's proportionate share of the State net OPEB liability, as well as what the proportionate share of the State net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates (dollars in thousands):

System's Proportionate Share of the Net State OPEB Liability

1% Decrease	Current healthcare cost trend rate	1% Increase
$14,923	$18,091	$21,964

OPEB plan fiduciary net position: Detailed information about the OPEB plan's fiduciary net position is available in the Comprehensive Annual Financial Reports (CAFR) for each of the plans which are publicly available. The State OPEB plan is located at https://sao.georgia.gov/comprehensive-annual-financial-reports and the SEAD-OPEB plan is located at www.ers.ga.gov/post/annual-financial-reports.

9. Deferred Outflows and Inflows of Resources

Deferred Outflows and Inflows of Resources reported on the Statement of Net Position as of June 30, 2019 consist of the following (dollars in thousands):

Deferred Outflows of Resources

	ERS pension plan	State OPEB plan	SEAD-OPEB plan	Total
Deferred Outflows of Resources				
Differences between expected and actual experience	$ 865	$ —	$ 26	$ 891
Change of assumptions	1,311	—	120	1,431
Net difference between projected and actual earnings on plan investments	—	418	—	418
Changes in proportion and differences between the System's contributions and proportionate share of contributions	—	—	—	—
System's contributions subsequent to the measurement date	4,451	3,820	—	8,271
Total Deferred Outflows of Resources	$ 6,627	$ 4,238	$ 146	$ 11,011

Deferred Inflows of Resources

	ERS pension plan	State OPEB plan	SEAD-OPEB plan	Total
Deferred Inflows of Resources				
Differences between expected and actual experience	$ —	$ 1,423	$ —	$ 1,423
Change of assumptions	—	6,558	—	6,558
Net difference between projected and actual earnings on plan investments	641	—	387	1,028
Changes in proportion and differences between the System's contributions and proportionate share of contributions	428	259	46	733
Total Deferred Inflows of Resources	$ 1,069	$ 8,240	$ 433	$ 9,742

Schedule of Changes in Employers' & Nonemployers' Net Pension Liability
(dollars in thousands)

	2019	2018	2017	2016	2015	2014
Total pension liability:						
Service cost	$ 1,536,336	$ 1,484,705	$ 1,413,080	$ 1,435,810	$ 1,386,498	$ 1,374,556
Interest	6,868,617	6,565,372	6,293,611	5,990,178	5,779,597	5,557,046
Differences between expected and actual experience	430,272	894,691	573,483	380,526	(165,785)	—
Changes of assumptions	2,388,357	—	—	662,047	—	—
Benefit payments	(4,950,465)	(4,699,920)	(4,461,124)	(4,228,819)	(3,996,879)	(3,764,452)
Refunds of member contributions	(76,543)	(76,061)	(76,296)	(79,334)	(80,085)	(87,095)
Net change in total pension liability	6,196,574	4,168,787	3,742,754	4,160,408	2,923,346	3,080,055
Total pension liability - beginning	94,095,067	89,926,280	86,183,526	82,023,118	79,099,772	76,019,717
Total pension liability - ending (a)	100,291,641	94,095,067	89,926,280	86,183,526	82,023,118	79,099,772
Plan fiduciary net position:						
Contributions - employer	2,560,989	2,014,308	1,648,669	1,572,624	1,399,668	1,264,546
Contributions - nonemployer	5,414	4,416	6,175	7,908	7,038	6,417
Contributions - member	759,474	745,574	716,233	685,626	661,835	640,120
Net investment income	4,972,419	6,247,155	7,971,677	810,574	2,384,145	9,826,743
Benefit payments	(4,950,465)	(4,699,920)	(4,461,124)	(4,228,819)	(3,996,879)	(3,764,452)
Refunds of member contributions	(76,543)	(76,061)	(76,296)	(79,334)	(80,085)	(87,095)
Administrative expense	(15,276)	(15,865)	(16,773)	(15,279)	(14,996)	(15,025)
Other[1]	—	(27,654)	—	—	(27,706)	—
Net change in plan fiduciary net position	3,256,012	4,191,953	5,788,561	(1,246,700)	333,020	7,871,254
Plan fiduciary net position - beginning	75,532,925	71,340,972	65,552,411	66,799,111	66,466,091	58,594,837
Plan fiduciary net position - ending (b)	78,788,937	75,532,925	71,340,972	65,552,411	66,799,111	66,466,091
Net pension liability-ending (a)-(b)	$ 21,502,704	$ 18,562,142	$ 18,585,308	$ 20,631,115	$ 15,224,007	$ 12,633,681

[1] The System is a participating employer in the Employees' Retirement System of Georgia, the Georgia State Employees Postemployment Benefit Fund, and the State Employees' Assurance Department Retired and Vested Inactive Members Trust Fund. Pursuant to the requirements of GASB Statement No. 68, the fiscal year 2015 beginning Fiduciary Net Position was restated by $27,705,937. Pursuant to the requirements of GASB Statement No. 75, the fiscal year 2018 beginning Fiduciary Net Position was restated by $27,653,657. These restatements were made for reporting purposes to reflect the impact of recording the initial deferred outflows of resources and the net pension and OPEB liabilities and OPEB asset. For actuarial purposes, these adjustments are is being recognized in fiscal year 2015 and 2018 respectively, and beginning fiduciary net position was not restated.

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

See accompanying notes to required supplementary information and independent auditors' report.

Schedule of Employers' & Nonemployers' Net Pension Liability & Related Ratios (dollars in thousands)

	2019	2018	2017	2016	2015	2014
Total pension liability	$100,291,641	$ 94,095,067	$ 89,926,280	$86,183,526	$82,023,118	$79,099,772
Plan fiduciary net position	78,788,937	75,532,925	71,340,972	65,552,411	66,799,111	66,466,091
Employers' and nonemployers' net pension liability	$ 21,502,704	$ 18,562,142	$ 18,585,308	$20,631,115	$15,224,007	$12,633,681
Plan fiduciary net position as a percentage of the total pension liability	78.56%	80.27%	79.33%	76.06%	81.44%	84.03%
Covered payroll	$ 12,279,440	$ 12,009,066	$ 11,596,664	$11,075,907	$10,697,384	$10,349,862
Employers' and nonemployers' net pension liability as a percentage of covered payroll	175.11%	154.57%	160.26%	186.27%	142.32%	122.07%

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

Schedule of Employer and Nonemployer Contributions (dollars in thousands)

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined employer and nonemployer contribution	$ 2,566,403	$ 2,018,724	$ 1,654,844	$ 1,580,532	$ 1,406,706	$ 1,270,963	$ 1,180,469	$ 1,082,224	$ 1,089,912	$ 1,057,416
Contributions in relation to actuarially determined contribution	2,566,403	2,018,724	1,654,844	1,580,532	1,406,706	1,270,963	1,180,469	1,082,224	1,089,912	1,057,416
Contribution deficiency (excess)	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Covered payroll	$12,279,440	$12,009,066	$11,596,664	$11,075,907	$10,697,384	$10,349,862	$10,345,916	$10,527,471	$10,602,257	$10,856,427
Contributions as a percentage of covered payroll	20.90%	16.81%	14.27%	14.27%	13.15%	12.28%	11.41%	10.28%	10.28%	9.74%

Schedule of Investment Returns

	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	4.08%	5.05%	7.62%	(2.92)%	(0.45)%	12.17%

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

See accompanying notes to required supplementary information and independent auditors' report.

REQUIRED SUPPLEMENTARY INFORMATION

For the Year Ended June 30 (Unaudited), *continued*

Schedule of the System's Proportionate Share of the Net Pension Liability to ERS (dollars in thousands)

	2019	2018	2017	2016	2015
System's proportion of the net pension liability	0.676785%	0.691037%	0.698825%	0.683763%	0.668620%
System's proportionate share of the net pension liability	$ 27,823	$ 28,065	$ 33,057	$ 27,702	$ 25,077
System's covered payroll	18,202	17,756	16,880	16,291	17,622
System's proportionate share of the net pension liability as a percentage of its covered payroll	152.86%	158.06%	195.84%	170.04%	142.31%
ERS fiduciary net position as a percentage of the total pension liability	76.68%	76.33%	72.34%	76.20%	77.99%

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

Schedule of the System's Contributions to ERS (dollars in thousands)

	2019	2018	2017	2016	2015
Contractually required contribution	$ 4,451	$ 4,423	$ 4,328	$ 4,102	$ 3,433
Contributions in relation to the contractually required contribution	4,451	4,423	4,328	4,102	3,433
Contribution deficiency (excess)	$ —	$ —	$ —	$ —	$ —
System's covered payroll	$ 18,555	$ 18,202	$ 17,756	$ 16,880	$ 16,291
Contributions as a percentage of covered payroll	23.99%	24.30%	24.37%	24.30%	21.07%

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

Schedule of the System's Proportionate Share of the Net OPEB Liability (Asset) (dollars in thousands)

	2019	2018
State OPEB plan		
System's proportion of the net OPEB liability (asset)	0.691645%	0.698345%
System's proportionate share of the net OPEB liability (asset)	$ 18,091	$ 28,452
System's covered payroll	20,599	19,895
System's proportionate share of the net OPEB liability (asset) as a percentage of its covered payroll	87.82%	143.01%
Plan fiduciary net position as a percentage of the total OPEB liability	31.48%	17.34%
SEAD-OPEB plan		
System's proportion of the net OPEB liability (asset)	0.865387%	0.837498%
System's proportionate share of the net OPEB liability (asset)	$ (2,342)	$ (2,177)
System's covered payroll	12,056	12,196
System's proportionate share of the net OPEB liability (asset) as a percentage of its covered payroll	19.43%	17.85%
Plan fiduciary net position as a percentage of the total OPEB liability (asset)	129.46%	130.17%

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

See accompanying notes to required supplementary information and independent auditor's report.

Schedule of the System's Contributions to OPEB Plans (dollars in thousands)

	2019	2018
State OPEB plan		
Contractually required contribution	$ 3,820	$ 3,449
Contributions in relation to the contractually required contribution	3,820	3,449
Contribution deficiency (excess)	$ —	$ —
System's covered payroll	$ 21,061	$ 20,599
Contributions as a percentage of covered payroll	18.14%	16.74%
SEAD-OPEB plan		
Contractually required contribution[1]	$ —	$ —
Contributions in relation to the contractually required contribution	—	—
Contribution deficiency (excess)	$ —	$ —
System's covered payroll	$ 11,996	$ 12,056
	—%	—%

[1] Employer contributions are not currently required for the SEAD-OPEB plan.

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

See accompanying notes to required supplementary information and independent auditor's report.

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

June 30, 2018 (Unaudited)

Required Supplementary Information for the System as the Plan

Schedule of Changes in the Employers' and Nonemployers' Net Pension Liability

The total pension liability contained in this schedule was provided by the System's actuary, Cavanaugh Macdonald Consulting, LLC. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the System.

Schedule of Employer and Nonemployer Contributions

The required employer and nonemployer contributions and percentage of those contributions actually made are presented in the schedule.

Actuarial Methods and Assumptions

Changes of assumptions: On November 18, 2015, the Board adopted recommended changes to the economic and demographic assumptions utilized by the System. Primary among the changes were the updates to rates of mortality, retirement, withdrawal, and salary increases. Based on the funding policy adopted by the Board on May 15, 2019, the investment rate of return assumption was changed to 7.25%. In addition, the assumed rate of inflation was changed to 2.50%.

Method and assumptions used in calculations of actuarially determined contributions: The actuarially determined contribution rates in the schedule of employer and nonemployer contributions are calculated as of June 30, three years prior to the end of the fiscal year in which contributions are reported (June 30, 2019 employer contributions are based on June 30, 2016 valuation).

The following actuarial methods and assumptions were used to determine the most recent contribution rate reported in that schedule:

Valuation date:	June 30, 2016
Actuarial cost method:	Entry age
Amortization method:	Level percent of pay, closed
Remaining amortization period:	28.0 years
Asset valuation method:	Five-year smoothed market
Inflation rate:	2.75%
Salary increases:	3.25 to 9.00%, including inflation
Investment rate of return:	7.50%, net of pension plan investment expense, including inflation
Post-retirement benefit increases:	1.50% semi-annually

Required Supplementary Information for the System as a Participating Employer in ERS

Schedule of the System's Proportionate Share of the Net Pension Liability to ERS

This schedule presents historical trend information about the System's proportionate share of the net pension liability for its employees who participate in the ERS plan. GASB Statement No. 68 was implemented in 2015. Information related to previous years is not available; therefore, trend information will be accumulated going forward to display a 10-year presentation.

Schedule of the System's Contributions to ERS

This schedule presents historical trend information about the System's contributions for its employees who participate in the ERS plan. GASB Statement No. 68 was implemented in 2015. Information related to previous years is not available; therefore, trend information will be accumulated going forward to display a 10-year presentation.

Changes in Benefit Terms and Assumptions

Changes of benefit terms: There were no changes in benefit terms that affect the measurement of the total pension liability since the prior measurement date.

Changes of assumptions: On December 17, 2015, the Board adopted recommended changes to the economic and demographic assumptions utilized by the System. Primary among the changes were the updates to rates of mortality, retirement, disability, withdrawal, and salary increases.

Required Supplementary Information for the System as a Participating Employer in the State OPEB plan

Changes in Benefit Terms and Assumptions

Changes of benefit terms: There were no changes in benefit terms that affect the measurement of the total State OPEB liability since the prior measurement date.

Changes in assumptions: In the revised June 30, 2017 actuarial valuation, there was a change relating to employee allocation. Employees were previously allocated based on their Retirement System membership, and currently employees are allocated based on their current employer payroll location.

Required Supplementary Information for the System as a Participating Employer in the SEAD-OPEB plan

Changes of assumptions

On December 17, 2015, the Board of Trustees adopted recommended changes to the economic and demographic assumptions utilized by the Plan. Primary among the changes were the updates to rates of mortality, retirement, disability, withdrawal and salary increases.

ADDITIONAL INFORMATION

For the Year Ended June 30, 2019

Schedule of Administrative Expenses (dollars in thousands)

Personal services:	
Salaries and fringes	$ 9,143
Retirement contributions	1,635
Health insurance	385
FICA	658
Miscellaneous	145
Total personal services	11,966
Communications:	
Postage	179
Publications and printing	258
Telecommunications	115
Travel	159
Total communications	711
Professional services:	
Computer services	1,199
Contracts	3
Actuarial services	135
Audit fees	181
Legal services	37
Medical services	68
Total professional services	1,623
Management Expenses:	
Building maintenance	596
Total management expenses	596
Other services and charges:	
Repairs and maintenance	9
Supplies and materials	220
Depreciation expense	609
Miscellaneous	302
Total other services and charges	1,140
Total administrative expenses	16,036
Less reimbursement by other state retirement systems for services rendered on their behalf	760
Net administrative expenses	$ 15,276

See accompanying independent auditor's report.

Schedule of Investment Expenses (dollars in thousands)

Investment advisory and custodial fees	$	36,242
Miscellaneous		9,791
Total investment expenses	$	46,033

See accompanying independent auditors' report.

INVESTMENT OVERVIEW

Slowing global growth and heightened geopolitical tensions are key themes as a new fiscal year begins. For the U.S., annual economic growth as measured by Real GDP rose 2.3%. This is a deceleration from last fiscal year, a trend that is generally consistent across the world. Overall, U.S. equity returns this past year were up over 9%, while foreign markets lagged with a modest 1% return. Longer-term periods for total equities were generally quite positive.

We continually emphasize that the pension plan has a long-term investment horizon and that short-term concerns should not drive investment decisions. The System invests primarily in a mix of liquid, high-quality bonds and stocks. These types of investments further diversify the portfolio and allow the System to participate in rising markets while moderating the risks on the downside. A high-quality balanced fund has proven to be a successful strategy in a variety of markets over long periods of time.

As in previous years, the bias to quality was a primary goal and was successfully met. “Conservation of Capital” and “Conservatism” remain the guiding principles for investment decisions. The Board of Trustees continues to use a diversified portfolio to accomplish these objectives.

U.S. economic growth has slowed somewhat to slightly over 2% with a strong consumer sector offsetting a slowing manufacturing sector. A relatively low inflation rate, strong employment, and rising wages are keeping consumer spending strong. The international economic situation is not as resilient, which has prompted central banks worldwide to shift to a policy of accommodation after broadly raising rates the last few years. Globally, most surprising has been the continued aggressive bond-buying program in Europe where the overall deposit rate is negative and a shockingly large number of corporate issues are selling at negative rates. One emerging trend is a decline in the outlook for corporate earnings.

Studies undertaken to evaluate the investment returns of pension funds over very long-time horizons indicate that the asset allocation decision has the largest impact on the fund’s returns. Although the returns for the various asset categories vary from year to year, over the long term, equities typically outperform fixed income and cash by a very wide margin. For that reason, the System has generally maintained significant equity exposure with the remainder of the fund invested in fixed income securities designed to generate income and preserve capital.

Returns for one, three, five, ten, and twenty-year periods are presented in this section. Longer periods, such as the twenty-year, allow for a more valid evaluation of returns, both in absolute terms and relative to an asset class index, by reducing emphasis on the short-term volatility of markets. The Daily Valuation Method, a time-weighted rate of return, was used to calculate returns in a manner consistent with the CFA Institute’s objectives as stated in its publication “Global Investment Performance Standards Handbook,” third edition.

The return for the S&P 500 was 10.4%. The S&P MidCap 400 and the S&P SmallCap 600 indexes had returns of 1.4% and (4.9%), respectively. Growth stocks generally outperformed value stocks for the year, while, by sector, utilities edged out information technology for the best performance. Energy was the worst-performing sector and was one of only two sectors that declined this past fiscal year.

International market returns were positive but weak. The MSCI EAFE Index returned 1.3%, and the Emerging Market Index had a return of 1.2%. For reference, the ICE U.S. Dollar Index was up 1.6% for the year.

Interest rates declined the last year across the maturity spectrum. Parts of the yield curve inverted this year as the ten-year treasury yield dropped. In fact, the ten-year Treasury return was 10.3% as compared to returns of 2.3%, 3.0%, and 7.4% for the three-month, one-year, and five-year Treasuries, respectively. During the fiscal year, the Federal Reserve raised rates twice for a total of 50 basis points.

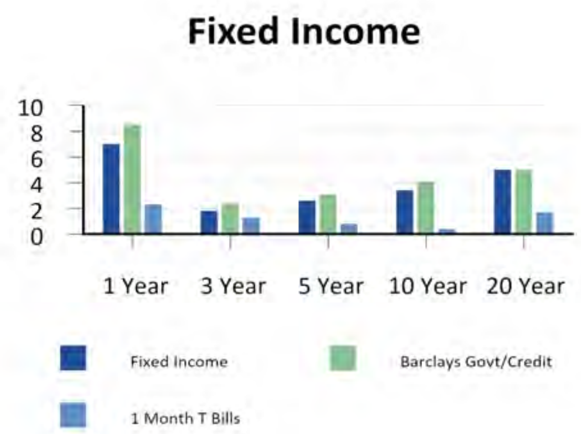
We look at two fixed income indexes to measure the bond market’s performance. The Bloomberg Barclays Government / Credit Index had a return of 8.5%. It is a broad index containing corporate and government-sponsored bonds as well as Treasuries. The FTSE Gov/Corp AAA/AA had a return of 7.4% and is a broad index containing higher-rated corporate bonds as well as Treasuries and government securities. The spread between corporate bonds and Treasury bonds widened during the first half of the fiscal year as the Federal Reserve pushed rates higher. This trend reversed in the second half of the fiscal year, leading to better corporate performance.

In summary, the investment status of the System is excellent. The high quality of the System’s investments is in keeping with the continued policy of “Conservatism” and “Conservation of Capital.”

Prepared by the Division of Investment Services

RATES OF RETURN

	Equities	S&P 1500	MSCA ACWI ex US
1 Year	6.49%	9.32%	1.29%
3 Year	12.84	13.91	9.39
5 Year	8.36	10.45	2.16
10 Year	12.66	14.73	6.54
20 Year	5.43	6.30	—



	Fixed Income	Barclays Govt/ Credit	1 Month T Bills
1 Year	7.04%	8.52%	2.28%
3 Year	1.80	2.41	1.32
5 Year	2.60	3.11	0.81
10 Year	3.41	4.09	0.44
20 Year	5.00	5.02	1.66

	Total Portfolio	CPI
1 Year	6.80%	1.66%
3 Year	9.39	2.06
5 Year	6.59	1.48
10 Year	9.66	1.74
20 Year	5.84	2.18

Note: Time-weighted rates of return are calculated using the Daily Valuation Method based on market rates of return.

INVESTMENTS

Investment Summary

Asset Allocation at June 30	2014	2015	2016	2017	2018	2019
Equities	72.9%	71.2%	68.6%	70.9%	69.4%	70.2%
Fixed Income	27.1%	28.8%	31.4%	29.1%	30.6%	29.8%
Asset Allocation at June 30 (in millions)						
Equities	$ 47,126	$ 46,423	$ 43,652	$ 49,237	$ 51,182	$ 53,433
Fixed Income	17,491	18,807	19,979	20,139	22,564	22,685
Total Investments	$ 64,617	$ 65,230	$ 63,631	$ 69,376	$ 73,746	$ 76,118

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Schedule of Fees and Commissions (dollars in thousands)

For the Year Ended June 30, 2019

Investment Advisors' Fees:		
U.S. Equity	$	15,555
International Equity		18,187
Investment Commissions:		
U.S. Equity		7,608
International Equity		5,213
SEC & Foreign Transaction Fees:		2,970
Miscellaneous*:		12,291
Total Fees and Commissions	$	61,824

*Amount included in total investment expenses shown on page 49.

Twenty Largest Equity Holdings (dollars in thousands)*

Shares	Company	Fair Value
8,525,232	Microsoft Corp.	$ 1,142,040
553,264	Amazon.Com Inc.	1,047,677
4,776,260	Apple Inc.	945,317
786,882	Alphabet Inc.	851,374
3,013,826	Facebook Inc.	581,668
3,089,850	Visa Inc.	536,243
4,076,499	JPMorgan Chase & Co.	455,753
2,134,533	Berkshire Hathaway Inc.	455,018
2,989,780	Johnson & Johnson	416,417
5,373,177	Exxon Mobil Corp.	411,747
2,161,800	Alibaba Group Holding Ltd.	366,317
1,377,536	UnitedHealth Group Inc.	336,133
3,056,080	Procter & Gamble Co.	335,099
877,450	Netflix Inc.	322,305
5,583,888	Verizon Communications Inc.	319,008
7,050,603	Pfizer Inc.	305,432
1,390,099	The Home Depot Inc.	289,099
2,268,367	Chevron Corp.	282,276
9,712,531	Bank of America Corp.	281,663
1,974,968	The Walt Disney Company	275,785
Total of 20 Largest Equity Holdings		$ 9,956,371
Total Equity Holdings		$ 53,433,296

Ten Largest Fixed-Income Holdings*

Description	Maturity Date	Interest Rate %	Par Value (in thousands)	Fair Value (in thousands)
U.S. Treasury Note	11/15/24	2.25	1,297,000	$ 1,327,194
U.S. Treasury Note	3/31/23	1.5	1,105,000	1,095,806
U.S. Treasury Note	10/31/22	2	1,000,000	1,008,750
U.S. Treasury Note	3/31/25	2.625	920,000	960,646
U.S. Treasury Note	1/31/25	2.5	860,000	891,846
U.S. Treasury Note	8/31/25	2.75	810,000	853,092
U.S. Treasury Note	8/15/27	2.25	808,000	827,602
U.S. Treasury Note	8/15/21	2.125	647,000	651,930
U.S. Treasury Note	2/15/28	2.75	600,000	637,968
General Electric Company	10/9/22	2.7	609,000	608,324
Total of 10 Largest Fixed-Income Holdings				$ 8,863,158
Total Fixed-Income Holdings				$ 22,684,318

* A complete listing is available upon written request, subject to restrictions of O. C. G. A. Section 47-1-14.

ACTUARY'S CERTIFICATION LETTER

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

May 15, 2019

Board of Trustees
Teachers Retirement System of Georgia
Suite 100, Two Northside 75
Atlanta, GA 30318

Members of the Board:

Section 47-3-23 of the law governing the operation of the Teachers Retirement System of Georgia provides that the actuary shall make annual valuations of the contingent assets and liabilities of the Retirement System on the basis of regular interest and the tables last adopted by the Board of Trustees. We have submitted the report giving the results of the actuarial valuation of the System prepared as of June 30, 2018. The report indicates that annual employer contributions at the rate of 19.06% of compensation for the fiscal year ending June 30, 2021 are sufficient to support the benefits of the System. Our firm, as actuary, is responsible for all of the actuarial trend data in the financial section of the annual report and the supporting schedules in the actuarial section of the annual report.

The valuation reflects a change from the smoothed valuation interest methodology that has been in effect since June 30, 2009, to a constant interest rate method. In conjunction with the change in methodology, the long-term assumed rate of return in assets (discount rate) has been changed from 7.50% to 7.25%, and the assumed annual rate of inflation has been reduced from 2.75% to 2.50%. We have made proposed changes to the Board's funding policy to reflect these changes to the valuation assumptions and methods.

In our opinion, the valuation is complete and accurate, and the methodology and assumptions are reasonable as a basis for the valuation. The valuation takes into account the effect of all amendments to the System enacted through the 2018 Session of the General Assembly. In preparing the valuation, the actuary relied on data provided by the System. While not verifying data at the source, the actuary performed tests for consistency and reasonableness.

The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are both individually and in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for financial reporting purposes meet the parameters set by Actuarial Standards of Practice (ASOPS). The funding objective of the plan is that contribution rates over time will remain level as a percent of payroll. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a level percent of payroll. Gains and losses are reflected in the unfunded accrued liability, which is amortized as a level percent of payroll in accordance with the funding policy adopted by the Board.

The Plan and the employers are required to comply with the financial reporting requirements of GASB Statements No. 67 and 68. The necessary disclosure information is provided in separate supplemental reports.

We have provided the following information and supporting schedules for the Actuarial Section of the Comprehensive Annual Financial Report:

- Summary of Actuarial Assumptions and Methods
- Schedule of Active Members
- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Funding Progress
- Analysis of Financial Experience

The System is being funded in conformity with the minimum funding standard set forth in Code Section 47-20-10 of the Public Retirement Systems Standards Law. In our opinion, the System is operating on an actuarially sound basis. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

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

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

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

Sincerely yours,

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Cathy Turcot
Principal and Managing Director

Edward Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

SUMMARY OF ACTUARIAL ASSUMPTIONS & METHODS

The laws governing the Teachers Retirement System of Georgia (the System) provide that an actuary perform an annual valuation of the contingent assets and liabilities of the System and perform at least once every five years an actuarial investigation of the mortality, service, and compensation experience of the members and beneficiaries of the System. The latest actuarial valuation of the System, prepared as of June 30, 2018, was made on the basis of the funding policy adopted by the Board on November 20, 2013 and the 5-year experience study adopted by the Board on November 18, 2015, with the exception of the investment rate of return and salary increases assumptions adopted by the Board on May 15, 2019. The Board is responsible for maintaining this funding policy. A summary of plan provisions can be found in the Introductory Section beginning on page 11, and a plan description can be found in the Financial Section beginning on page 21.

The more pertinent facts and significant assumptions underlying the computations included in the June 30, 2018 valuation are as follows:

a) Actuarial Method Used

The actuarial cost method used for funding purposes is the Entry Age Normal method, which is the same cost method used for financial reporting purposes. The Entry Age Normal method is the most commonly used funding method among public retirement plans. This cost method allocates the cost of benefits over each member's expected career as a level percentage of their expected salary and demonstrates the highest degree of stability in the calculation of a plan's normal cost over time. Gains and losses are reflected in the unfunded accrued liability. Adopted November 20, 2013.

b) Investment Rate of Return

The assumed investment rate of return is 7.25% compounded annually, which consists of a 4.75% assumed real rate of return and a 2.50% assumed annual rate of inflation. This long-term expected rate of return is used to determine the total pension liability for financial reporting purposes. Adopted May 15, 2019.

c) Salary Increases

Salaries are expected to increase 3.00% to 8.75% annually depending upon the members' years of creditable service. The salary increase includes a 0.50% assumed real rate of wage inflation and a 2.50% assumed annual rate of inflation. Adopted May 15, 2019.

d) Death, Disability and Withdrawal Rates

Death, disability and withdrawal rates for active employees and service retirement tables are based upon the System's historical experience. The death-after-retirement rates are based on the RP-2000 White Collar Mortality Table projected to 2025 with projection scale BB (set forward one year for males). The death-after-disability retirement rates are based on the RP-2000 Disabled Mortality Table projected to 2025 with projection scale BB (set forward two years for males and four years for females). Adopted November 18, 2015.

e) Asset Valuation Method

In accordance with the funding policy, the actuarial value of the assets was set equal to the fair value of assets on June 30, 2013. Five-year smoothing of investment gains and losses commenced in the subsequent year. The actuarial value of assets recognizes a portion of the difference between the fair value of the assets and the expected fair value of assets, based on the assumed valuation rate of return. The amount recognized is one-fifth of the difference between fair value and actuarial expected value. Adopted November 20, 2013. The actuarial value of assets is limited to a range between 75% and 125% of fair value. Adopted July 27, 2011.

f) Service Retirement Benefit

The service benefit (pension) paid to members is an annuity that is owed to them at retirement that will provide a total annual pension equal to 2% of the member's average compensation over the two consecutive years of membership service producing the highest such average, multiplied by the number of years of creditable service up to 40 years. It is also assumed that certain cost-of-living adjustments will be made in future years.

g) Actuarially Determined Unfunded Accrued Liability

The present value of the unfunded accrued liability, based on unaudited data provided the actuary by the System, was approximately $21.9 billion at June 30, 2018.

h) Required Contributions (% of compensation)

Contributions required by the annual actuarial valuation as of June 30, 2018, to be made for the year ended June 30, 2021:

(1) Member	**6.00%**
(2) Employer:	
Normal	**7.25%**
Unfunded Accrued Liability	**11.81%**
Total	**19.06%**

SUMMARY OF ACTUARIAL ASSUMPTIONS & METHODS

continued

Service Retirement

Adopted November 18, 2015

	Male		Female	
Age	**< 30 years of service**	**≥ 30 years of service**	**< 30 years of service**	**≥ 30 years of service**
50	3.50%	60.00%	3.00%	55.00%
55	5.00	40.00	5.50	37.00
60	20.00	36.00	25.00	43.00
61	18.00	32.00	25.00	43.00
62	26.00	36.00	25.00	43.00
63	22.00	33.00	25.00	43.00
64	22.00	32.00	25.00	43.00
65	30.00	30.00	31.00	31.00
66	32.00	32.00	33.00	33.00
67	30.00	30.00	30.00	30.00
68	30.00	30.00	30.00	30.00
69	28.00	28.00	30.00	30.00
70	30.00	30.00	30.00	30.00

0

Separation Before Service Retirement

Adopted November 18, 2015

	Annual Rate of					
Age	**Death**	**Disability**		Withdrawal Years of Service		
				0-4 Yrs	**5-9 Yrs**	**10+ Yrs.**
			Male			
20	0.0320%	0.0135%		25.00%	—%	—%
25	0.0349	0.0135		17.00	12.00	—
30	0.0412	0.0210		13.50	7.00	8.00
35	0.0717	0.0330		13.50	6.00	3.00
40	0.1001	0.0550		13.00	6.00	2.50
45	0.1399	0.0900		12.00	6.00	2.30
50	0.1983	0.1700		11.00	5.50	2.50
55	0.2810	0.3000		11.00	5.50	3.00
60	0.4092	—		12.00	5.50	—
64	0.5330	—		13.00	6.50	—
			Female			
20	0.0177%	0.0100%		28.00%	—%	—%
25	0.0192	0.0130		13.50	16.00	—
30	0.0245	0.0140		13.50	8.00	6.00
35	0.0441	0.0190		13.00	7.00	3.50
40	0.0655	0.0390		11.00	6.50	3.00
45	0.1043	0.0650		10.50	6.00	2.30
50	0.1555	0.1400		10.00	5.00	2.40
55	0.2228	0.3400		10.00	5.00	2.75
60	0.3058	—		10.50	5.50	—
64	0.4015	—		13.00	6.50	—

Active Members

Fiscal Year[1]	Number of Participating Employers	Members	Annual Payroll[2] (000's)	Average Pay	% Increase
2009	392	226,537	$10,641,543	$46,975	3.6%
2010	386	222,020	10,437,703	47,012	0.1
2011	399	216,137	10,099,278	46,726	(0.6)
2012	404	213,648	10,036,023	46,975	0.5
2013	401	209,854	9,924,682	47,293	0.7
2014	405	209,828	9,993,686	47,628	0.7
2015	414	213,990	10,347,332	48,354	1.5
2016	416	218,193	10,783,277	49,421	2.2
2017	419	222,902	11,333,997	50,847	2.9
2018	422	226,039	11,704,334	51,780	1.8

Retirees and Beneficiaries

	Added to Roll		*Removed from Roll*		*Roll-End of Year*			
Fiscal Year[1]	Number	Annual Allowances (000's)	Number	Annual Allowances (000's)	Number	Annual Allowances (000's)	% Increase in Annual Allowances	Average Annual Allowances
2009	5,543	245,006	1,768	45,116	82,358	2,630,321	8.2%	31,938
2010	6,383	279,009	1,763	46,853	86,978	2,862,477	8.8	32,910
2011	7,136	295,192	1,937	55,062	92,177	3,102,607	8.4	33,659
2012	7,055	298,471	1,915	55,565	97,317	3,345,513	7.8	34,377
2013	7,937	322,853	1,983	59,453	103,271	3,608,913	7.9	34,946
2014	7,078	291,066	2,195	68,324	108,154	3,831,655	6.2	35,428
2015	7,207	306,751	2,237	72,818	113,124	4,065,588	6.1	35,939
2016	7,225	312,063	2,392	80,359	117,957	4,297,292	5.7	36,431
2017	7,189	318,594	2,459	84,596	122,687	4,531,290	5.4	36,934
2018	7,345	341,242	2,732	98,829	127,300	4,773,703	5.3	37,500

[1] Fiscal year refers to the actuarial valuation performed as of June 30 of that year and determines the funding necessary for the fiscal year beginning two years after the valuation date. An actuarial valuation for the fiscal year ended June 30, 2019 is currently in process and was not available for this analysis.

[2] The annual payroll shown in the schedule of active member valuation data is the annual compensation of the active members at the date of the valuation. The covered payroll reported in the financial section represents the payroll during the fiscal year upon which employer contributions were made.

ACTUARIAL VALUATION DATA

continued

Solvency Test (dollars in thousands)

	Aggregate Actuarial Accrued Liabilities For				Portion of Accrued Liabilities Covered by Assets		
Fiscal Year[1]	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (Employer-Financed Portion)	Actuarial Value of Assets	(1)	(2)	(3)
2009[2]	$6,382,932	$29,725,063	$23,342,121	$53,438,604	100.0%	100.0%	74.2%
2010	6,705,274	34,264,548	22,622,215	54,529,416	100.0	100.0	59.9
2011	6,973,343	37,271,020	21,734,277	55,427,716	100.0	100.0	51.5
2012	7,242,569	39,759,145	21,346,964	56,262,332	100.0	100.0	43.4
2013	7,480,767	43,152,402	21,587,696	58,594,837	100.0	100.0	36.9
2014	7,815,630	45,841,742	22,114,745	62,061,722	100.0	100.0	38.0
2015	8,153,958	50,251,964	24,385,088	65,514,119	100.0	100.0	29.1
2016	8,522,267	55,186,998	28,012,510	68,161,710	100.0	100.0	15.9
2017	8,936,010	57,659,259	29,385,762	71,212,660	100.0	100.0	15.7
2018	9,350,031	58,993,494	28,561,728	75,024,364	100.0	100.0	23.4

[1]Fiscal year refers to the actuarial valuation performed as of June 30 of that year and determines the funding necessary for the fiscal year beginning two years after the valuation date. An actuarial valuation for the fiscal year ended June 30, 2019 is currently in process and was not available for this analysis.

[2]Revised since the previous valuation to reflect the refinement of the smoothed valuation interest rate methodology used in the 2010 valuation, which includes corridors around the long-term investment rate of return.

Member & Employer Contribution Rates

Fiscal Year	Member	Employer
2011	5.53%	10.28%
2012	5.53	10.28
2013	6.00	11.41
2014	6.00	12.28
2015	6.00	13.15
2016	6.00	14.27
2017	6.00	14.27
2018	6.00	16.81
2019	6.00	20.90
2020	6.00	21.14

Schedule of Funding Progress (dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) -Entry Age (b)	Unfunded AAL (UAAL) Funding Excess) (b-a)	Funded Ratio (a/b)	Annual Covered Payroll (c)	UAAL (Funding Excess) as a Percentage of Covered Payroll [(b-a)/c]
6/30/09*	$ 53,438,604	$ 59,450,116	$ 6,011,512	89.9%	$ 10,641,543	56.5%
6/30/10	54,529,416	63,592,037	9,062,621	85.7	10,437,703	86.8
6/30/11	55,427,716	65,978,640	10,550,924	84.0	10,099,278	104.5
6/30/12	56,262,332	68,348,678	12,086,346	82.3	10,036,023	120.4
6/30/13	58,594,837	72,220,865	13,626,028	81.1	9,924,682	137.3
6/30/14	62,061,722	75,772,117	13,710,395	81.9	9,993,686	137.2
6/30/15	65,514,119	82,791,010	17,276,891	79.1	10,347,332	167.0
6/30/16	68,161,710	91,721,775	23,560,065	74.3	10,783,277	218.5
6/30/17	71,212,660	95,981,031	24,768,371	74.2	11,333,997	218.5
6/30/18	75,024,364	96,905,253	21,880,889	77.4	11,704,334	186.9

*Revised since the previous valuation to reflect the refinement of the "smoothed valuation interest rate" methodology used in the 2010 valuation, which includes corridors around the long-term investment rates of return.

This data, except for annual covered payroll, was provided by the System's actuary.

Analysis of Financial Experience (dollars in millions)

Analysis of the Change in Unfunded Accrued Liability Increase (Decrease) During the Years Ended June 30,

Item	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Interest Added to Previous										
Unfunded Accrued Liability	$ 1,733.8	$ 1,649.2	$ 1,300.9	$ 1,077.6	$ 1,084.6	$ 977.8	$ 846.2	$ 733.2	$ 486.3	$ 358.5
Accrued Liability Contribution	(1,261.0)	(929.4)	(985.4)	(796.1)	(662.0)	(604.7)	(443.5)	(396.3)	(312.0)	(125.0)
Experience:										
Valuation Asset Growth	(925.3)	(539.2)	150.9	(677.3)	(836.1)	1,241.1	1,855.1	2,018.7	1,674.9	2,433.5
Pensioners' Mortality	(32.4)	40.5	(13.4)	37.7	35.3	52.7	51.6	24.2	89.8	50.1
Turnover and Retirements	266.2	246.9	209.2	335.9	119.6	378.2	319.1	195.3	269.5	307.1
New Entrants	161.2	172.7	153.1	138.9	115.3	96.2	101.2	89.6	123.7	185.1
Salary Increases	(103.6)	327.9	72.3	(227.6)	(624.9)	(715.2)	(709.9)	(1,132.2)	(1,040.5)	14.1
Interest Smoothing	(2,744.0)	121.6	5,286.1	2,861.2	739.8	915.9	(627.0)	412.8	—	—
Amendments [1]	—	—	—	—	—	—	—	(685.5)	—	—
Change in Member Contribution Rate [3]	—	—	—	—	—	—	—	—	12.8	—
Assumption and Method Changes[2]	(133.4)	—	—	688.3	—	(926.7)	—	—	1,472.4	(2,062.3)
Miscellaneous	151.0	118.1	109.5	127.9	112.8	124.4	142.6	228.5	274.2	70.9
Total Increase	$ (2,887.5)	$ 1,208.3	$ 6,283.2	$ 3,566.5	$ 84.4	$ 1,539.7	$ 1,535.4	$ 1,488.3	$ 3,051.1	$ 1,232.0

[1] Amendments

2011 - Reflects the impact of discontinuing the one-time 3% increase on the first $37,500 of members' allowances for all members who retire on or after January 1, 2013

[2] Assumption and Method Changes

2009 - Reflects change to a valuation interest rate smoothing methodology and a change to include a corridor around the long-term investment rate of return.

2010 - The assumed rates of withdrawal, disability, retirement, and mortality and the assumed rates of salary increase have been revised to more closely reflect the actual and anticipated experience of the System.

2013 - Reflects change to asset smoothing methodology where the final actuarial value of assets used for the current valuation was set to the fair value of assets as of June 30, 2013. Five-year smoothing of investment gains and losses will commence in subsequent years.

2015 - The assumed rates of withdrawal, disability, retirement, and mortality and the assumed rates of salary increase have been revised to more closely reflect the actual and anticipated experience of the System. In addition, assumptions related to percent married, unused sick leave, and termination benefits were also revised.

2018 - Reflects elimination of the interest smoothing methodology and the reductions in the long-term discount rate and the inflation assumption.

[3] Member Contribution Rate

2010 - Reflects an increase in the member contribution rate from 5.53% to 6.00% effective July 1, 2012.

STATISTICAL SECTION OVERVIEW & FINANCIAL TRENDS

The statistical section presents additional information to provide financial statement users with added historical perspective, context, and detail to assist in using the information in the financial statements, notes to financial statements, and required supplementary information to understand and assess the System's financial condition.

Financial Trends

The schedules presented on pages 63 through 64 contain trend information to help the reader understand how the System's financial position has changed over time.

Operating Information

The schedules presented on pages 65 through 71 contain benefits, service and employer data to help the reader understand how the System's financial report relates to the services of the System and the activities it performs.

Additions by Source (dollars in thousands)

Fiscal Year	Member Contributions	Employer and Nonemployer Contributions	Net Investment Income (Loss)	Total Additions to (Deductions from) Fiduciary Net Position
2010	$592,264	$1,057,416	$4,671,571	$6,321,251
2011	604,126	1,089,912	9,594,994	11,289,032
2012	601,512	1,082,224	1,090,900	2,774,636
2013	640,745	1,180,469	6,938,349	8,759,563
2014	640,120	1,270,963	9,826,743	11,737,826
2015	661,835	1,406,706	2,384,145	4,452,686
2016	685,626	1,580,532	810,574	3,076,732
2017	716,233	1,654,844	7,971,677	10,342,754
2018	745,574	2,018,724	6,247,155	9,011,453
2019	759,474	2,566,403	4,972,419	8,298,296

Contributions were made in accordance with actuarially determined contribution requirements

Deductions by Type (dollars in thousands)

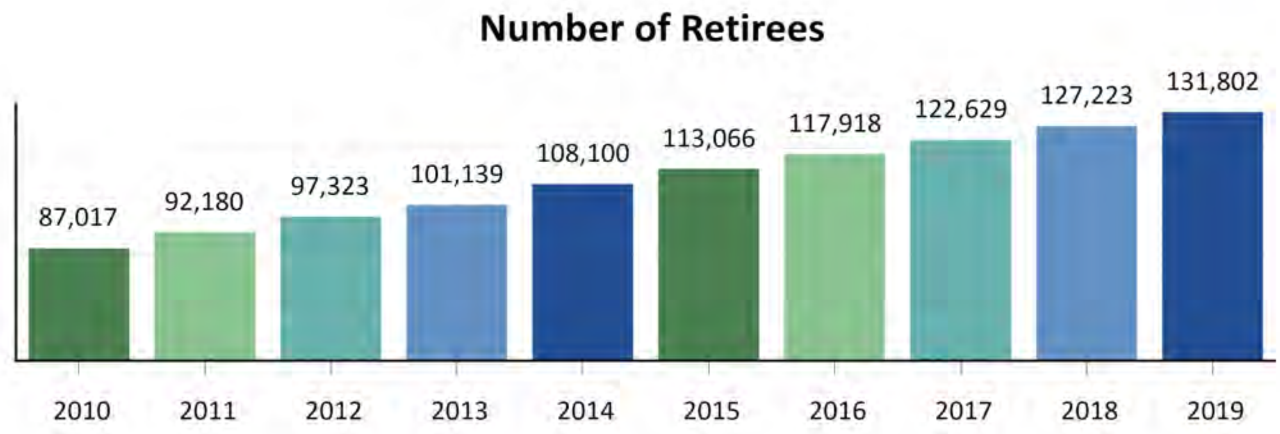
	Benefit Payments									
Fiscal Year	Service	Partial Lump-Sum Option	Disability	Survivor Benefits	Supplemental Payments[1]	Lump-Sum Death Settlement	Total Benefit Payments	Net Administrative Expenses	Refunds	Total Deductions From Fiduciary Net Position
2010	$2,639,144	$34,530	$74,998	$49,290	$1,122	$1,340	$2,800,424	$20,223	$53,638	$2,874,285
2011	2,868,815	37,652	80,393	52,122	922	1,599	3,041,503	20,986	67,916	3,130,405
2012	3,091,370	42,441	85,830	55,328	754	1,829	3,277,552	21,954	72,157	3,371,663
2013	3,353,295	42,259	91,727	58,234	633	2,001	3,548,149	22,584	81,142	3,651,875
2014	3,569,374	33,148	98,145	61,203	508	2,074	3,764,452	15,025	87,095	3,866,572
2015	3,791,526	34,494	103,483	64,911	379	2,086	3,996,879	14,996	80,085	4,091,960
2016	4,015,786	33,929	109,669	67,013	312	2,110	4,228,819	15,279	79,334	4,323,432
2017	4,241,760	31,839	114,813	70,179	297	2,236	4,461,124	16,773	76,296	4,554,193
2018	4,473,928	32,100	118,567	73,385	250	1,690	4,699,920	15,865	76,061	4,791,846
2019	4,714,549	32,714	124,071	76,912	204	2,015	4,950,465	15,276	76,543	5,042,284

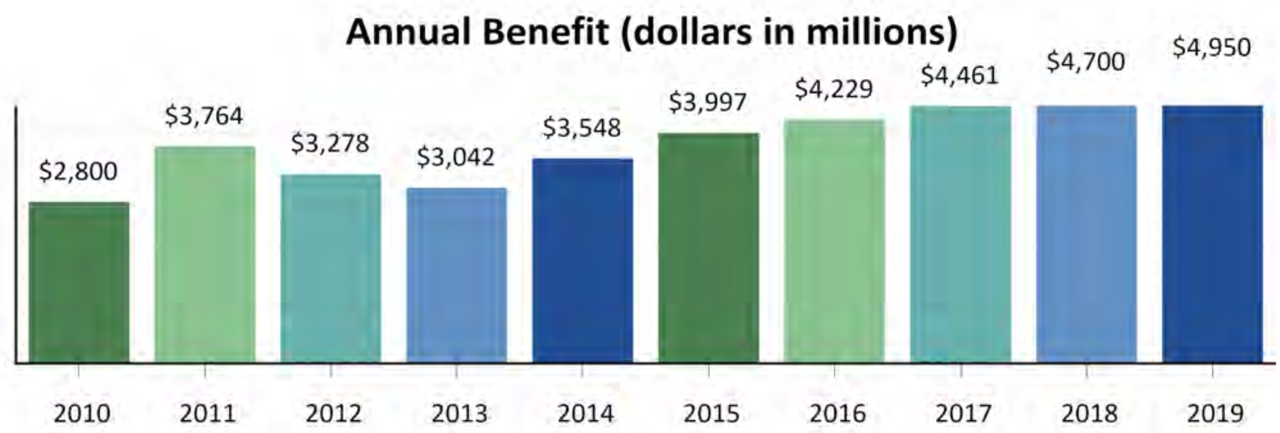
[1] Supplemental payments to retirees who belong to a local retirement system.

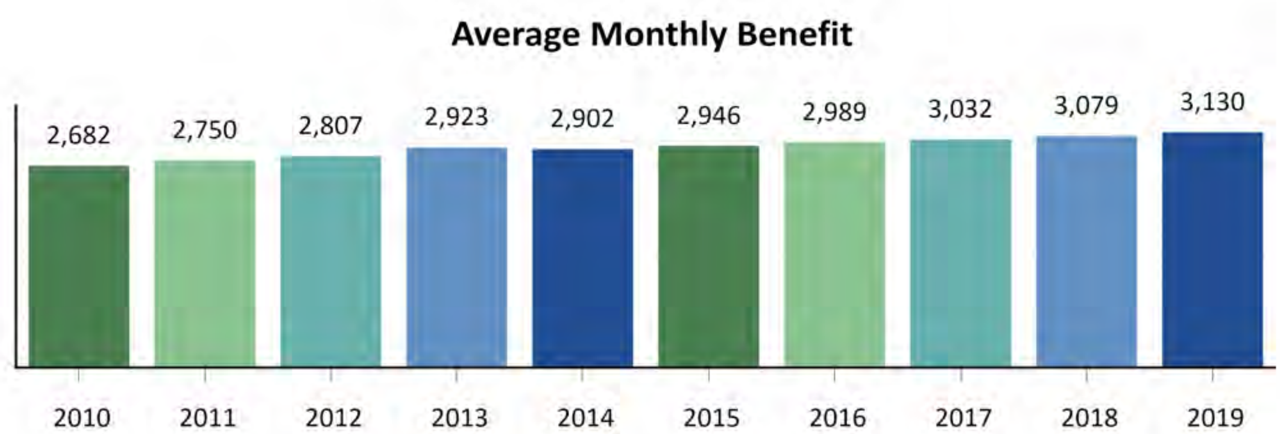
Changes in Fiduciary Net Position (dollars in thousands)

Fiscal Year	Total Additions to (Deductions from) Fiduciary Net Position	Total Deductions from Fiduciary Net Position	Changes in Fiduciary Net Position
2010	$6,321,251	$2,874,285	$3,446,966
2011	11,289,032	3,130,405	8,158,627
2012	2,774,636	3,371,663	(597,027)
2013	8,759,563	3,651,875	5,107,688
2014	11,737,826	3,866,572	7,871,254
2015	4,452,686	4,091,960	360,726
2016	3,076,732	4,323,432	(1,246,700)
2017	10,342,754	4,554,193	5,788,561
2018	9,011,453	4,791,846	4,219,607
2019	8,298,296	5,042,284	3,256,012

Benefit Payment Statistics



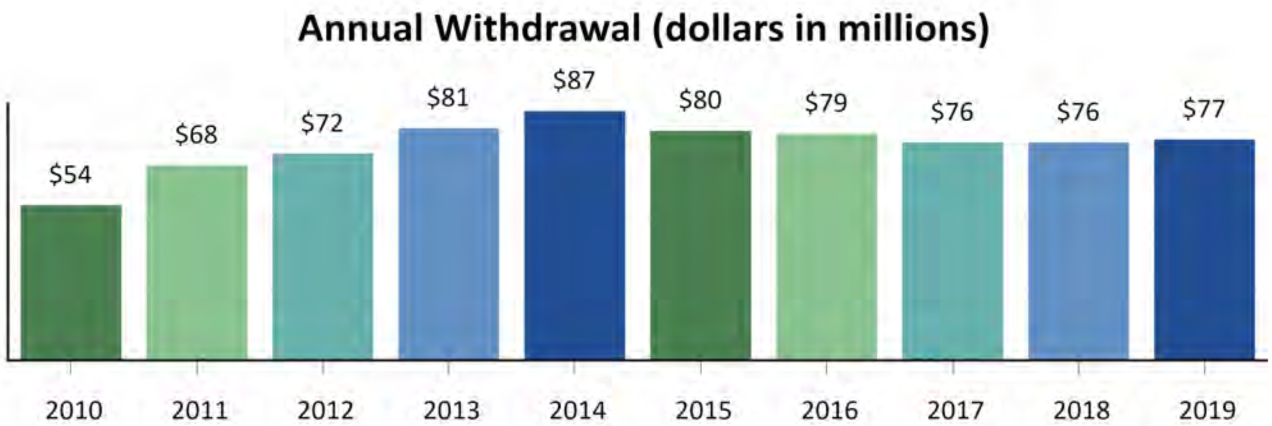




OPERATING INFORMATION

continued

Member Withdrawal Statistics



Average Monthly Benefit Payments for New Retirees

Effective Retirement Dates for Fiscal Years Ended June 30,	Years Credited Service					
	10 - 15	16 - 20	21 - 25	26 - 30	Over 30	Total
2010						
Average monthly benefit	$859.93	$1,433.00	$1,931.22	$2,624.98	$3,655.74	$2,479.89
Average final average salary	$3,651.87	$4,095.26	$4,366.28	$5,142.35	$5,820.83	$4,902.99
Number of retirees	1,195	786	1,018	690	2,736	6,425
2011						
Average monthly benefit	$879.11	$1,483.30	$1,963.77	$2,719.55	$3,735.70	$2,456.69
Average final average salary	$3,753.60	$4,216.80	$4,461.70	$5,175.76	$5,940.78	$4,943.41
Number of retirees	1,455	954	1,150	812	2,797	7,168
2012						
Average monthly benefit	$900.60	$1,417.23	$2,008.09	$2,723.70	$3,764.35	$2,425.05
Average final average salary	$3,813.60	$4,070.28	$4,564.72	$5,250.18	$5,995.69	$4,948.47
Number of retirees	1,532	920	1,125	885	2,589	7,051
2013						
Average monthly benefit	$881.25	$1,465.23	$1,979.00	$2,626.66	$3,642.94	$2,335.21
Average final average salary	$3,720.18	$4,200.63	$4,506.44	$5,060.19	$5,811.25	$4,821.63
Number of retirees	1,721	1,107	1,279	1,060	2,762	7,929
2014						
Average monthly benefit	$877.35	$1,410.94	$1,902.93	$2,515.64	$3,556.03	$2,152.62
Average final average salary	$3,801.40	$4,136.09	$4,454.29	$4,962.86	$5,868.78	$4,736.63
Number of retirees	1,744	1,066	1,169	994	2,099	7,072
2015						
Average monthly benefit	$897.66	$1,416.36	$2,008.34	$2,566.87	$3,573.41	$2,217.71
Average final average salary	$3,818.45	$4,161.17	$4,635.36	$5,007.10	$5,900.24	$4,812.42
Number of retirees	1,659	1,119	1,164	1,035	2,190	7,167
2016						
Average monthly benefit	$883.07	$1,447.47	$1,979.68	$2,582.75	$3,496.30	$2,207.94
Average final average salary	$3,786.36	$4,215.09	$4,558.19	$5,046.61	$5,796.47	$4,786.10
Number of retirees	1,695	1,094	1,130	1,001	2,297	7,217
2017						
Average monthly benefit	$870.72	$1,455.45	$1,997.91	$2,588.80	$3,535.59	$2,220.50
Average final average salary	$3,778.31	$4,230.72	$4,657.44	$5,139.34	$5,877.02	$4,839.84
Number of retirees	1,692	1,120	1,089	973	2,300	7,174
2018						
Average monthly benefit	$880.97	$1,503.44	$2,106.91	$2,703.58	$3,625.69	$2,331.31
Average final average salary	$3,789.48	$4,388.19	$4,882.12	$5,295.62	$6,009.09	$4,997.10
Number of retirees	1,609	1,184	1,090	967	2,471	7,321
2019						
Average monthly benefit	$932.13	$1,504.91	$2,051.21	$2,709.96	$3,638.98	$2,330.77
Average final average salary	$3,964.41	$4,434.82	$4,826.46	$5,401.88	$6,125.55	$5,080.38
Number of retirees	1,537	1,206	1,188	909	2,395	7,235

Retired Members by Type of Benefit

Amount of Monthly Benefit	Number of Retirees	Type of Retirement (1) A	B	C	D	Option Selected (2) Max	Opt-1	Opt-2	Opt-3	Opt-4	Opt-2 Pop-Up	Opt-3 Pop-Up
1 - 500	5,260	4,329	392	515	24	2,980	167	1,104	289	149	441	130
500 - 1000	14,556	12,542	1,166	845	3	8,863	548	2,521	605	143	1,387	489
1000 - 1500	14,679	12,998	992	684	5	8,653	562	2,441	626	97	1,656	644
1500 - 2000	11,528	10,228	792	507	1	6,496	450	1,894	623	94	1,332	639
2000 - 2500	10,049	9,082	609	356	2	5,481	413	1,590	567	95	1,217	686
2500 - 3000	9,856	9,090	550	216	—	5,284	439	1,407	569	103	1,355	699
3000 - 3500	11,165	10,508	478	179	—	6,229	518	1,407	568	172	1,497	774
3500 - 4000	11,970	11,573	280	117	—	7,070	541	1,321	570	158	1,511	799
4000 - 4500	12,002	11,800	133	69	—	7,640	641	1,040	536	179	1,208	758
4500 - 5000	9,388	9,271	61	56	—	6,137	523	795	430	146	818	539
5000 - 5500	6,409	6,338	32	39	—	4,253	341	553	298	106	509	349
5500 - 6000	4,150	4,118	12	20	—	2,689	239	400	217	89	291	225
6000 - 6500	2,957	2,926	13	18	—	1,806	169	339	181	62	230	170
6500 - 7000	2,103	2,088	3	12	—	1,301	122	233	132	56	148	111
7000 - 7500	1,538	1,523	1	14	—	888	99	206	113	39	102	91
7500 - 8000	1,068	1,054	3	11	—	632	53	158	88	34	54	49
8000 - 8500	796	789	1	6	—	462	52	98	61	24	58	41
8500 - 9000	550	543	2	5	—	298	32	83	56	21	26	34
9000 - 9500	412	406	2	4	—	218	20	74	34	16	21	29
9500 - 10000	329	327	—	2	—	150	19	59	39	22	23	17
Over 10000	1,037	1,030	—	7	—	415	31	250	132	58	85	66
TOTALS	**131,802**	**122,563**	**5,522**	**3,682**	**35**	**77,945**	**5,979**	**17,973**	**6,734**	**1,863**	**13,969**	**7,339**

(1) Type of Retirement
A - Service
B - Disability
C - Survivor Benefit
D - Supplemental payments to retirees who belonged to a local retirement system.

(2) Refer to Summary of Plan Provisions, beginning on page 11 for descriptions of Options.

Retirement Payments by County of Residence During Fiscal Year 2019

County	Number of Retirees	FY19 Total Gross Pay	County	Number of Retirees	FY19 Total Gross Pay
Appling	336	$ 12,036	Dade	133	$ 4,346
Atkinson	89	3,462	Dawson	290	11,721
Bacon	175	6,292	Decatur	389	13,839
Baker	52	1,739	DeKalb	6,557	281,638
Baldwin	803	28,186	Dodge	305	10,591
Banks	192	6,350	Dooly	151	5,465
Barrow	755	25,005	Dougherty	1,650	63,550
Bartow	1,109	38,068	Douglas	1,041	37,163
Ben Hill	283	9,235	Early	238	8,613
Berrien	269	8,935	Echols	42	1,293
Bibb	1,952	69,717	Effingham	554	16,153
Bleckley	316	10,634	Elbert	325	10,266
Brantley	190	6,349	Emanuel	426	15,156
Brooks	250	8,241	Evans	161	5,358
Bryan	344	10,613	Fannin	420	15,687
Bulloch	1,536	55,000	Fayette	1,978	79,579
Burke	327	10,212	Floyd	1,625	61,119
Butts	273	9,740	Forsyth	1,632	59,979
Calhoun	108	3,526	Franklin	376	13,440
Camden	462	15,674	Fulton	6,861	296,733
Candler	199	6,277	Gilmer	484	17,735
Carroll	1,880	66,918	Glascock	31	951
Catoosa	629	21,066	Glynn	1,462	56,301
Charlton	104	3,652	Gordon	637	22,147
Chatham	3,160	112,469	Grady	361	12,477
Chattahoochee	30	1,090	Greene	335	14,019
Chattooga	324	10,635	Gwinnett	5,892	214,812
Cherokee	2,543	92,348	Habersham	666	23,744
Clarke	3,300	142,413	Hall	2,437	94,626
Clay	58	2,257	Hancock	191	6,021
Clayton	1,479	52,002	Haralson	386	12,714
Clinch	112	4,295	Harris	622	22,988
Cobb	6,731	252,560	Hart	443	16,871
Coffee	582	20,460	Heard	138	4,008
Colquitt	665	23,479	Henry	2,068	75,670
Columbia	2,430	87,567	Houston	1,714	63,251
Cook	242	8,251	Irwin	170	5,997
Coweta	1,623	59,249	Jackson	1,066	36,801
Crawford	196	6,630	Jasper	218	7,806
Crisp	349	12,667	Jeff Davis	174	6,321

OPERATING INFORMATION

continued

County	Number of Retirees	FY19 Total Gross Pay	County	Number of Retirees	FY19 Total Gross Pay
Jefferson	239	$ 8,199	Richmond	3,262	$ 109,332
Jenkins	141	4,993	Rockdale	967	36,301
Johnson	131	4,671	Schley	62	1,896
Jones	408	14,829	Screven	260	8,750
Lamar	260	9,252	Seminole	157	5,430
Lanier	105	3,435	Spalding	964	34,371
Laurens	801	29,851	Stephens	406	15,168
Lee	434	15,328	Stewart	81	2,875
Liberty	375	12,010	Sumter	571	21,631
Lincoln	186	6,829	Talbot	104	3,123
Long	80	2,290	Taliaferro	21	700
Lowndes	1,739	61,616	Tattnall	217	7,409
Lumpkin	581	20,872	Taylor	135	4,870
Macon	179	5,861	Telfair	183	6,749
Madison	864	25,160	Terrell	142	4,906
Marion	104	3,014	Thomas	752	27,596
McDuffie	352	12,828	Tift	898	33,044
McIntosh	203	6,860	Toombs	385	14,024
Meriwether	287	10,111	Towns	263	10,108
Miller	97	3,352	Treutlen	113	3,721
Mitchell	294	9,752	Troup	882	32,117
Monroe	439	16,097	Turner	178	5,816
Montgomery	167	6,132	Twiggs	94	2,912
Morgan	418	16,234	Union	440	16,961
Murray	392	14,363	Upson	437	14,937
Muscogee	2,645	94,909	Walker	640	20,791
Newton	947	33,240	Walton	1,127	41,068
Oconee	1,530	66,954	Ware	570	21,212
Oglethorpe	503	15,963	Warren	74	2,457
Paulding	1,099	35,427	Washington	311	11,121
Peach	499	19,684	Wayne	443	14,114
Pickens	728	28,479	Webster	36	1,279
Pierce	293	10,102	Wheeler	107	3,992
Pike	311	10,675	White	535	20,241
Polk	506	18,936	Whitfield	1,032	39,142
Pulaski	155	5,628	Wilcox	150	5,726
Putnam	428	16,316	Wilkes	182	6,183
Quitman	31	923	Wilkinson	144	4,688
Rabun	323	13,653	Worth	295	10,115
Randolph	117	3,967	Outside GA	16,366	572,546
			Total Benefit Payments		**$ 4,950,465**

Principal Participating Employers

	2019			2010		
Employers	**Covered Employees**	**Rank**	**Percentage of Total System**	**Covered Employees**	**Rank**	**Percentage of Total System**
State of Georgia	38,665	1	17.08%	—	—	—%
Gwinnett County Schools	17,426	2	7.70%	16,446	1	7.41%
Cobb County Schools	11,472	3	5.07%	12,068	2	5.43%
Dekalb County Schools	11,247	4	4.97%	11,186	3	5.04%
Fulton County Schools	10,048	5	4.44%	10,164	4	4.58%
Atlanta Public Schools	5,150	6	2.27%	5,624	6	2.53%
Clayton County Schools	4,948	7	2.18%	5,576	7	2.51%
Chatham County Schools	4,415	8	1.95%	4,396	8	1.98%
Forsyth County Schools	4,340	9	1.92%	—	—	—%
Henry County Schools	4,168	10	1.84%	4,064	9	1.83%
Muscogee County School District	—	—	—	3,883	10	1.75%
University of Georgia	*	—	*	7,806	5	3.52%
Top 10	**111,879**		**49.42%**	**81,213**		**36.58%**
Total	**226,387**		**100.00%**	**222,046**		**100.00%**

* Amount is included in State of Georgia totals

Note: GASB Statement No. 67 was implemented during the fiscal year ended June 30, 2014 and required legally separate employers within the same financial reporting entity to be treated as a single employer for reporting purposes. Therefore, information presented for fiscal years prior to implementation is not comparable with information presented for fiscal years after implementation.

OPERATING INFORMATION

continued

Reporting Entities

Universities and Colleges

Abraham Baldwin Agricultural College
Albany State University
Atlanta Metropolitan State College
Augusta University
Clayton College & State University
College of Coastal Georgia
Columbus State University
Cooperative Extension Service
Dalton State College
East Georgia State College
Fort Valley State University
Georgia College & State University
Georgia Gwinnett College
Georgia Highlands College
Georgia Institute of Technology
Georgia Southern University
Georgia Southwestern State University
Georgia State University
Gordon College
Kennesaw State University
Middle Georgia State College
Savannah State University
South Georgia State College
The University of Georgia
University of North Georgia
University of West Georgia
Valdosta State University

Boards of Education

Appling County
Atkinson County
Atlanta Public
Bacon County
Baker County
Baldwin County
Banks County
Barrow County
Bartow County
Ben Hill County
Berrien County
Bibb County
Bleckley County
Brantley County
Bremen City
Brooks County
Bryan County
Buford City
Bulloch County
Burke County
Butts County
Calhoun City
Calhoun County
Camden County
Candler County
Carroll County
Carrollton City Schools
Cartersville City
Catoosa County
Charlton County
Chatham County
Chattahoochee County
Chattooga County
Cherokee County
Chickamauga City
Clarke County
Clay County
Clayton County
Clinch County
Cobb County
Coffee County
Colquitt County
Columbia County
Commerce City
Cook County
Coweta County
Crawford County
Crisp County
Dade County
Dalton City
Dawson County
Decatur City
Decatur County
DeKalb County

Dodge County
Dooly County
Dougherty County
Douglas County
Dublin City
Early County
Echols County
Effingham County
Elbert County
Emanuel County
Evans County
Fannin County
Fayette County
Floyd County
Forsyth County
Franklin County
Fulton County
Gainesville City
Gilmer County
Glascock County
Glynn County
Gordon County
Grady County
Greene County
Griffin-Spalding County
Gwinnett County
Habersham County
Hall County
Hancock County
Haralson County
Harris County
Hart County
Heard County
Henry County
Houston County
Irwin County
Jackson County
Jasper County
Jeff Davis County
Jefferson City
Jefferson County
Jenkins County
Johnson County
Jones County
Lamar County
Lanier County
Laurens County
Lee County
Liberty County
Lincoln County
Long County
Lowndes County
Lumpkin County
Macon County
Madison County
Marietta City
Marion County
McDuffie County
McIntosh County
Meriwether County
Miller County
Mitchell County
Monroe County
Montgomery County
Morgan County
Murray County
Muscogee County
Newton County
Oconee County
Oglethorpe County
Paulding County
Peach County
Pelham City
Pickens County
Pierce County
Pike County
Polk School District
Pulaski County
Putnam County
Quitman County
Rabun County
Randolph County
Richmond County
Rockdale County
Rome City
Schley County
Screven County
Seminole County
Social Circle City
Stephens County
Stewart County
Sumter County

OPERATING INFORMATION

continued

Talbot County
Taliaferro County
Tattnall County
Taylor County
Telfair County
Terrell County
Thomas County
Thomaston-Upson County
Thomasville City
Tift County
Toombs County
Towns County
Treutlen County
Trion City
Troup County
Turner County
Twiggs County
Union County
Valdosta City
Vidalia City
Walker County
Walton County
Ware County
Warren County
Washington County
Wayne County
Webster County
Wheeler County
White County
Whitfield County
Wilcox County
Wilkes County
Wilkinson County
Worth County

Public Libraries

Athens Regional Library
Augusta Richmond County Library
Barnesville-Lamar County Library
Bartow County Library
Bartram Trail Regional Library
Brooks County Library
Catoosa County Library
Chattooga County Public Library
Cherokee Regional Library
Chestatee Regional Library
Clayton County Regional Library
Coastal Plains Regional Library
Cobb County Public Library
Conyers-Rockdale Library System
Coweta Public Library
DeKalb County Public Library
DeSoto Trail Regional Library
Dougherty County Public Library
Elbert County Library
Fitzgerald-Ben Hill County Library
Flint River Regional Library
Forsyth County Public Library
Gwinnett County Public Library
Hall County Library
Hart County Library
Henry County Library
Houston County Public Library
Jefferson County Library System
Kinchafoonee Regional Library
Lake Blackshear Regional Library
Lee County Library
Lincoln County Library
Live Oak Public Libraries
Mary Vinson Memorial Library
Middle Georgia Regional Library
Moultrie-Colquitt County Library
Mountain Regional Library
Newton County Library
Northeast Georgia Regional Library
Northwest Georgia Regional Library
Ocmulgee Regional Library
Oconee Regional Library
Ohoopee Regional Library
Okefenokee Regional Library
Peach Public Library
Piedmont Regional Library
Pine Mountain Regional Library
Roddenbery Memorial Library
Sara Hightower Regional Library
Satilla Regional Library
Screven-Jenkins Regional Library
Sequoyah Regional Library
South Georgia Regional Library
Southwest Georgia Regional Library
Statesboro Regional Library

Thomas County Public Library
Three Rivers Regional Library
Troup-Harris-Coweta Regional Library
Uncle Remus Regional Library
Warren County Public Library
West Georgia Regional Library
Worth County Library System

Technical Colleges

Albany Technical Institute
Athens Technical College
Atlanta Technical College
Augusta Technical Institute
Central Georgia Technical College
Chattahoochee Technical College
Coastal Pines Technical College
Columbus Technical Institute
Georgia Piedmont Technical College
Georgia Northwestern Technical College
Gwinnett Technical College
Lanier Technical College
North Georgia Technical Institute
Oconee Fall Line Technical College
Ogeechee Technical College
Savannah Technical College
South Georgia Technical College
Southeastern Technical College
Southern Crescent Technical College
Southern Regional Technical College
West Georgia Technical College
Wiregrass Georgia Technical College

Regional Educational Service Agencies

Central Savannah River Area RESA
Chattahoochee Flint RESA
Coastal Plains RESA
First District RESA
Griffin RESA
Heart of Georgia RESA
Metro RESA
Middle Georgia RESA
North Georgia RESA
Northeast Georgia RESA
Northwest Georgia RESA
Oconee RESA
Okefenokee RESA
Pioneer RESA
Southwest Georgia RESA
West Georgia RESA

Charter Schools

Academy for Classical Education, Inc.
Amana Academy
Atlanta Classical Academy
Atlanta Heights Charter School
Atlanta Neighborhood Charter School, Inc.
Baconton Community Charter School
Brighten Academy
Brookhaven Innovation Academy
Centennial Academy
Charles Drew Charter School
Charter Conservatory for Liberal Arts and Technology
Chattahoochee Hills Charter School, Inc.
Cherokee Charter Academy
Cirrus Academy
Coastal Plains Education Center
Coweta Charter Academy
DeKalb Academy of Technology and Environment
DeKalb Path Academy
DeKalb Preparatory Academy
Dubois Integrity Academy
Foothills Education Charter High School
Fulton Academy of Science and Technology
Fulton Leadership Academy
Furlow Charter School
Genesis Innovation Academy for Boys
Genesis Innovation Academy for Girls
Georgia Connections Academy
Georgia Cyber Academy
Georgia High School for Accelerated Learning
Georgia Magnet Charter School
Georgia Online Academy, Inc.
Georgia School for Innovation and the Classics
International Academy of Smyrna Charter School
International Charter Academy of Georgia
International Charter School of Atlanta
International Community School

Ivy Preparatory Academy for Girls
Ivy Preparatory Academy
Kennesaw Charter Science and Math Academy
Kipp Metro Atlanta Collaborative
Latin College Prep
Latin Grammar School
Leadership Preparatory Academy Charter School
Liberty Technical Charter School
Main Street Academy
Mountain Education Center Inc.
Museum School of Avondale
North Metro Academy of Performing Arts
New Life Academy of Excellence Inc.
Odyssey Charter School
Pataula Charter Academy
Purpose Built Schools of Atlanta
Sail Charter School
Savannah Classical Academy
Scintilla Charter Academy
SLAM Academy of Atlanta
Southwest Georgia STEM Charter
Resurgence Hall
Tapestry Public Charter School
The Globe Academy
The Kindezi School
Utopian Academy for the Arts
Wesley International Academy
Westside Atlanta Charter School

State Agencies

Board of Regents
Department of Administrative Service
Department of Agriculture
Department of Behavioral Health and Development Disability
Department of Community Health
Department of Corrections
Department of Human Services
Department of Natural Resources
Department of Public Health
Department of Public Safety
Georgia Agricultural Exposition Authority
Georgia Building Authority
Georgia Bureau of Investigation
Georgia Department of Audits
Georgia Department of Community Supervision
Georgia Department of Defense
Georgia Department of Driver Services
Georgia Department of Early Care and Learning
Georgia Department of Economic Development
Georgia Department of Education
Georgia Department of Juvenile Justice
Georgia Department of Labor
Georgia Department of Law
Georgia Department of Revenue
Georgia Department of Transportation
Georgia General Assembly
Georgia Military College
Georgia Public Defender Standards Council
Georgia Public Telecommunications Commission
Georgia Student Finance Commission
Georgia Technology Authority
Governor’s Office of Planning and Budget
Prosecuting Attorneys’ Council of Georgia
Secretary of State
State Accounting Office
Technical College System of Georgia

Other

Baldwin County Board of Health
Ben Hill County DFACS
Cherokee County Board of Health
Clayton Center Community Service Board
DeKalb County DFACS
East Central Health District
Effingham County Tax Commissioner Office
Floyd County DFACS
Glynn County Health Dept
Newton County DFACS
Northwest Georgia Public Health
Richmond County DFACS
Tift County Board of Health
Ware County Health Department
Whitfield County Board of Health

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