



Teachers  
Retirement  
System of  
Georgia

A COMPONENT UNIT OF  
THE STATE OF GEORGIA



# COMPREHENSIVE ANNUAL FINANCIAL REPORT

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FISCAL YEAR ENDED JUNE 30, 2018



# COMPREHENSIVE ANNUAL FINANCIAL REPORT

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FISCAL YEAR ENDED JUNE 30, 2018

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

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

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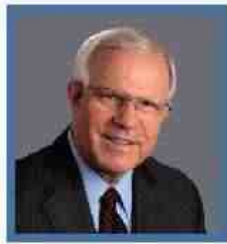
**Teachers Retirement System  
of Georgia**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2017**

*Christopher P. Morill*

Executive Director/CEO



Mr. J. Alvin Wilbanks\*  
CHAIR  
School Administrator  
Appointed by the Governor  
Term Expires 6/30/19



Mr. Thomas W. Norwood\*  
VICE-CHAIR  
Investment Professional  
Elected by the Board of  
Trustees  
Term Expires 6/30/20



Ms. Anne S. Cardella  
Classroom Teacher  
Appointed by the Governor  
Term Expires 6/30/20



Ms. Marion R. Fedrick  
TRS Member  
Appointed by the  
Board of Regents  
Term Expires 6/30/21



Mr. Greg S. Griffin\*  
State Auditor  
Ex-Officio



Mr. Steven N. McCoy\*  
State Treasurer  
Ex-Officio



Ms. Deborah K. Simonds\*  
Retired Teacher  
Elected by the Board of  
Trustees  
Term Expires 6/30/21



Dr. William G. Sloan, Jr.\*  
Member-at-Large  
Appointed by the Governor  
Term Expires 6/30/20



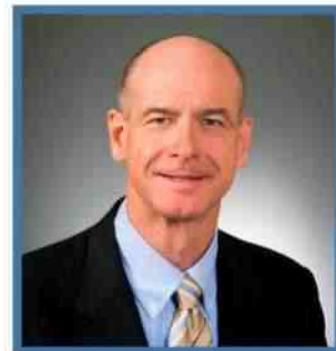
Mr. Christopher M. Swanson  
Classroom Teacher  
Appointed by the Governor  
Term Expires 3/31/21



Dr. Jason L. Branch  
Not Employed by  
Board of Regents  
Appointed by the Governor  
Term Expires 6/30/21

\* Investment Committee Member





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

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December 10, 2018  
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, 2018. 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, 2017. This was the 30<sup>th</sup> 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 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 459,778 active and retired members, and 313 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.

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. Broadly speaking, international economies were slowing down at the end of the fiscal year. All in all though, it was a good year for equities with the U.S. stock market up in the mid-teens and foreign markets up over 7%. A comparative analysis of rates of return is presented on page 50. 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 49. 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 74.2% for the fiscal year ended June 30, 2017. 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 Nathan Deal 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 continuously look for ways to improve our customer service and maintain a secure and stable System for our members. Throughout the year, we solicit feedback from our members and take those suggestions and comments into consideration when making our processes, technology, and services offered more effective and efficient. Our executive and management teams, in collaboration with the entire staff, developed a comprehensive strategic plan for fiscal years 2019-2022 that will enhance the services we offer all TRS members.

In an ongoing effort to increase communication with our members, TRS continued to engage its followers on Facebook and Twitter. Over 5,600 people followed us on Facebook and 220 followed us on Twitter. Social media has proven to be an effective means of communicating and engaging with our members.

We launched a more personalized and timely approach to training new TRS employers' HR and Payroll staff. Previously we conducted six, one-size fits all, half-day seminars throughout the State for all new staff. This year, we developed a new format in which we deliver on-site, one-on-one personalized training. This allows us to meet each employer's individual needs, when and where they need it. They no longer have to wait to attend a group session. So far, the demand is high, with over 30 employers seeking an appointment in the first few weeks of launching the program.

We individually counseled 7,660 members at the TRS office and around the State. Through our 368 outreach events, including meetings, benefit fairs, and workshops, we reached 22,795 members and retirees in over 110 counties. We conducted 8 in-house pre-retirement seminars and 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. And finally, we automated, and therefore simplified, the employer process of requesting outreach events. Now an employer can simply complete an online request and receive immediate feedback about scheduling a member event at his or her facility.

To provide our members with more enhanced and automated business processes, our technology division was hard at work making sure our systems were secure, available, and convenient. TRS upgraded the pension system to send first retirement payments via direct deposit, instead of mailing retirees' first checks. We upgraded our telephone system to allow for faster and more robust call tracking, recording, and reporting capabilities. Our IT staff diligently worked to stop attacks on our systems. This year alone, we blocked over 11 million hacker probes and 3,400 hacker attacks on our network infrastructure. We enhanced detection of advanced threats by implementing a robust monitoring system on all workstations and servers, in an effort to protect our members' information.

## 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



# LETTER OF TRANSMITTAL

*continued*

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 Nathan Deal, 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. (Buster) Evans, Ed.D.  
Executive Director





## Financial & Statistical Highlights

### Financial Highlights (dollars in thousands)

Member Contributions
Employer and Nonemployer Contributions
Interest and Dividend Income
Benefits Paid to Retired Members
Member Withdrawals
Interest Credited to Member Contributions

June 30,		
2018	2017	% Change
\$ 745,574	\$ 716,233	+4.1
\$ 2,018,724	\$ 1,654,844	+22.0
\$ 1,568,318	\$ 1,490,357	+5.2
\$ 4,699,920	\$ 4,461,124	+5.4
\$ 76,061	\$ 76,296	-0.3
\$ 349,780	\$ 335,146	+4.4

### Statistical Highlights

Active Membership	226,061	222,918	+1.4
Members Leaving the System	7,147	7,296	-2.0
Retired Members	127,223	122,629	+3.7
Average Monthly Benefit	\$ 3,079	\$ 3,032	+1.6



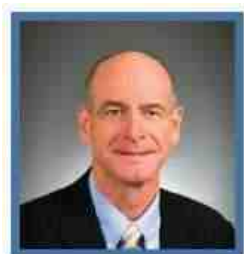
## Total System Assets at June 30 (dollars in thousands)

	2013	2014	2015	2016	2017	2018
Equities	\$41,395,706	\$47,126,335	46,422,828	\$43,651,536	\$49,236,293	\$51,181,613
Fixed Income	14,882,328	17,490,895	18,807,238	19,979,237	20,139,422	22,564,510
Other <sup>(1)</sup>	2,360,040	1,907,659	1,620,195	2,087,314	2,048,417	1,856,129
<b>Total System Assets</b>	<b>\$58,638,074</b>	<b>\$66,524,889</b>	<b>\$66,850,261</b>	<b>\$65,718,087</b>	<b>\$71,424,132</b>	<b>\$75,602,252</b>



<sup>(1)</sup> Includes receivables, cash and equivalents, net OPEB asset, and capital assets, net.

# ADMINISTRATIVE STAFF & ORGANIZATION



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



Randy Dennis  
Chief Financial Officer



Brooke Lucas  
Chief Operating 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

\* See page 51 in the Investment Section for a summary of fees paid to Investment Advisors.



# SUMMARY OF PLAN PROVISIONS

## 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.



## 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, 16.81% of annual salary; and investment income.



KPMG LLP  
Suite 2000, 303 Peachtree Street, NE  
Atlanta, GA 30308  
www.kpmg.com

## 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, 2018, 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, 2018, and the changes in fiduciary net position for the

year then ended, in accordance with U.S. generally accepted accounting principles.

### Emphasis of Matter

As discussed in note 2 to the basic financial statements, the System adopted, in 2018, Governmental Accounting Standards Board Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. Our opinion is not modified with respect to this matter.

## 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 41-46 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 schedules 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 an assurance on them.

### Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated September 28, 2018 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 28, 2018, except for the introductory, investment, actuarial, and statistical sections and the schedule of investment expenses which are as of December 10, 2018



# MANAGEMENT'S DISCUSSION & ANALYSIS

(Unaudited)

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, 2018. 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, 2018, the System's assets exceeded its liabilities by \$75.5 billion (reported as net position) as compared to the net position of \$71.3 billion at June 30, 2017, representing an increase of \$4.2 billion, or 5.9%.
- Contributions from members increased by \$29.3 million or 4.1% from \$716.2 million in 2017 to \$745.6 million in 2018. Employer and nonemployer contributing entity (Nonemployer) contributions increased by \$363.9 million or 22.0% from \$1.7 billion in 2017 to \$2.0 billion in 2018. 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, 2018, and 2017 were \$4.7 billion and \$4.5 billion, respectively, representing an increase of 5.4%. 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 to the State OPEB plan or net OPEB asset to the SEAD-OPEB plan; and (4) a schedule of the System's contributions to the State OPEB and SEAD-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 41 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, 2018 and 2017 is as follows:

### Summary of TRS Net Position (dollars in thousands)

	Net position June 30		Amount change	Percentage Change
	2018	2017		
Assets:				
Cash and cash equivalents and receivables	\$ 1,846,305	\$ 2,039,157	\$ (192,852)	(9.5)%
Investments	73,746,123	69,375,715	4,370,408	6.3 %
Net OPEB asset	2,177	1,622	555	34.2 %
Capital assets, net	7,647	7,638	9	0.1 %
Total assets	<u>75,602,252</u>	<u>71,424,132</u>	<u>4,178,120</u>	5.8 %
Deferred outflows of resources	8,452	11,962	(3,510)	(29.3)%
Liabilities:				
Net OPEB liability	28,452	32,755	(4,303)	(13.1)%
Net pension liability	28,065	33,057	(4,992)	(15.1)%
Due to brokers and accounts payable	18,533	56,888	(38,355)	(67.4)%
Total liabilities	<u>75,050</u>	<u>122,700</u>	<u>(47,650)</u>	(38.8)%
Deferred Inflows of resources	2,729	76	2,653	3,490.8 %
Net Position, as restated (note 2)	<u>\$ 75,532,925</u>	<u>\$ 71,313,318</u>	<u>\$ 4,219,607</u>	5.9 %

The \$4.2 billion, or 5.9%, increase in net position from 2017 to 2018 is primarily due to strong equity market returns.



# MANAGEMENT'S DISCUSSION & ANALYSIS

(Unaudited) *continued*

The following table presents the investment allocation at June 30, 2018 and 2017:

## Investment Allocation

	2018	2017
Asset allocation at June 30 (in percentages):		
Equities:		
Domestic	51.8%	53.2%
International	17.6	17.7
Domestic obligations:		
U.S. Treasuries	21.2	16.2
Corporate and other bonds	8.3	11.2
International obligations:		
Governments	—	0.5
Corporates	1.1	1.2
Asset allocation at June 30 (dollars in thousands):		
Equities:		
Domestic	\$ 38,234,479	\$ 36,932,301
International	12,947,134	12,303,992
Domestic Obligations:		
U.S. Treasuries	15,661,380	11,243,449
Corporate and Other Bonds	6,096,883	7,757,487
International obligations:		
Governments	—	322,725
Corporates	806,247	815,761
	<u>\$ 73,746,123</u>	<u>\$ 69,375,715</u>

The total investment portfolio at June 30, 2018 increased \$4.4 billion, or 6.3%, from June 30, 2017, which is primarily due to strong 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 2018 was 8.9%, with a 13.2% return for equities and a (0.5)% return for fixed income. The five-year annualized rate of return at June 30, 2018 was 8.6% with an 11.6% return on equities and a 1.8% 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, 2018 was 5.0%, compared to 7.6% for the fiscal year ended June 30, 2017.

A summary of the changes in the System's net position for the years ended June 30, 2018 and 2017 is as follows:

## Changes in TRS Net Position (dollars in thousands)

	Changes in net Position		Amount Change	Percentage Change
	2018	2017		
<b>Additions:</b>				
Employer Contributions	\$ 2,014,308	\$ 1,648,669	\$ 365,639	22.2%
Nonemployer contributions	4,416	6,175	(1,759)	(28.5)
Member contributions	745,574	716,233	29,341	4.1
Net investment income	6,247,155	7,971,677	(1,724,522)	(21.6)
Total additions	9,011,453	10,342,754	(1,331,301)	(12.9)
<b>Deductions:</b>				
Benefits payments	4,699,920	4,461,124	238,796	5.4
Refunds	76,061	76,296	(235)	(0.3)
Administrative expenses, net	15,865	16,773	(908)	(5.4)
Total deductions	4,791,846	4,554,193	237,653	5.2
Net increase in net position	\$ 4,219,607	\$ 5,788,561	\$ (1,568,954)	(27.1)

### Additions

The System accumulates resources needed to fund benefits through contributions and returns on invested funds. Member contributions were higher with an increase of \$29.3 million, or 4.1%, primarily due to an increase in membership salary coupled with an increase in the number of active members in 2018. Employer contributions were higher with an increase of \$365.6 million, or 22.2%, compared to 2017 primarily due to an increase in the employer contribution rate to 16.81% from 14.27% coupled with an increase in membership salary and an increase in the number of active members in 2018. The change in net investment income was primarily due to equity returns moderating somewhat in 2018.

the number of retirees and beneficiaries receiving benefit payments from 122,629 in 2017 to 127,223 in 2018, 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.

### Deductions

Deductions increased \$237.7 million, or 5.2%, in 2018, primarily because of the \$238.8 million, or 5.4%, increase in benefit payments. Regular pension benefit payments increased due to an increase in

# STATEMENT OF FIDUCIARY NET POSITION

June 30, 2018 (in thousands)



## Assets

Cash and cash equivalents	\$ 1,433,656
Receivables:	
Interest and dividends	213,647
Due from brokers for securities sold	104
Members and employer contributions	197,692
Other	1,206
Total receivables	412,649
Investments - at fair value:	
Equities:	
Domestic	38,234,479
International	12,947,134
Domestic obligations:	
U.S. Treasuries	15,661,380
Corporate and other bonds	6,096,883
International Obligations:	
Corporates	806,247
Total investments	73,746,123
Net OPEB asset	2,177
Capital assets, net	7,647
Total Assets	75,602,252
<b>Deferred Outflows of Resources</b>	8,452
<b>Liabilities</b>	
Net OPEB liability	28,452
Net pension liability	28,065
Due to brokers for securities purchased	8,968
Accounts payable and other	9,565
Total liabilities	75,050
<b>Deferred Inflows of Resources</b>	2,729
<b>Net Position Restricted for Pensions</b>	\$ 75,532,925

See accompanying notes to financial statements.

# STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

For the Year Ended June 30, 2018 (in thousands)



## Additions:

### Contributions:

Employer	\$ 2,014,308
Nonemployer	4,416
Member	745,574

### Investment income:

Net increase in fair value of investments	4,725,281
Interest, dividends, and other	1,568,318
Total investment income	6,293,599
Less investment expense	46,444
Net investment income	6,247,155
Total additions	9,011,453

## Deductions:

Benefit payments	4,699,920
Refunds of member contributions	76,061
Administrative expenses, net	15,865
Total deductions	4,791,846
Net increase in net position	4,219,607

## Net Position Restricted for Pensions:

Beginning of year - as restated (note 2)	71,313,318
End of year	\$ 75,532,925

See accompanying notes to financial statements

# NOTES TO FINANCIAL STATEMENTS

June 30, 2018

## 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 313 employers and 1 nonemployer contributing entity participating in the plan at June 30, 2018.

### Retirement Benefits

As of June 30, 2018, participation in the System is as follows:

Inactive members and beneficiaries	
currently receiving benefits	127,223
Inactive members not yet	
receiving benefits, vested	12,729
Inactive members, nonvested	93,765
Active plan members	226,061
Total	459,778

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 2018 were based on the June 30, 2015 actuarial valuation as follows:

Member	6.00%
Employer:	
Normal	6.84%
Unfunded accrued liability	9.97%
Total	16.81%

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, 2018:

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

Approximately 21.2% 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, 2018, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 5.05%. 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 2018 financial statements:*

In June 2015, the GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than*

# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*

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

*Pensions* effective for fiscal years beginning after June 15, 2017. This Statement addresses accounting and financial reporting for OPEB that is provided to the employees of state and local governmental employers. See Change in Accounting Principle section for impact to the System.

In March 2016, the GASB issued Statement No. 81, *Irrevocable Split-Interest Agreements* effective for fiscal years beginning after December 15, 2016. The objective of this Statement is to improve accounting and financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement. There are no applicable reporting requirements for the System related to this Statement.

In March 2017, the GASB issued Statement No. 85, *Omnibus 2017* effective for fiscal years beginning after June 15, 2017. This Statement addresses practice issues that have been identified during implementation and application of certain GASB Statements. A variety of topics are addressed including issues related to blending component units, goodwill, fair value measurement and application, and OPEB. The implementation of GASB Statement No. 85 did not impact the amounts recorded or disclosures presented in the System's financial statements.

In May 2017, the GASB issued Statement No. 86, *Certain Debt Extinguishment Issues* effective for fiscal years beginning after June 15, 2017. The primary objective of this Statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt. There are no applicable reporting requirements for the System related to this Statement.

### *Pronouncements issued, but not yet effective:*

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 tangible capital asset. The System does not anticipate this statement will impact its financial statements and related reporting.

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 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. The System does not anticipate this statement will impact its financial statements and related reporting.

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.

### Change in Accounting Principle

In June 2015, the GASB issued Statement No. 75, *Financial Reporting for Postemployment Benefits Other Than Pensions*. This Statement establishes new financial reporting standards for state and local governmental employers that participate in other postemployment benefit plans that are administered through a trust or similar arrangement. This Statement establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources, and expenses. As a result, the System has restated beginning net position by \$27.7 million.

A summary of the changes to beginning net position is as follows (dollars in thousands):

Net Position - beginning of period as previously reported	\$71,340,972
Recording of SEAD-OPEB net OPEB asset	1,622
Recording of State OPEB net OPEB liability	(32,755)
Recording of contributions made subsequently	3,479
Net Position - beginning of period, as restated	<u>\$71,313,318</u>

## 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

## 3. Investment Program, *continued*

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 \$1.4 billion at June 30, 2018, with actual bank balances of approximately \$1.4 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.

### 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, 2018, the System held U.S. Treasury bonds of approximately \$15.7 billion.
- U.S. and foreign corporate obligations. At June 30, 2018, the System held U.S. corporate bonds of approximately \$6.1 billion and international corporate bonds of approximately \$806.2 million.
- Obligations unconditionally guaranteed by agencies of the U.S. government. At June 30, 2018, the System did not hold agency bonds.

- Private placements are authorized under the same general restrictions applicable to corporate bonds. At June 30, 2018, 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, 2018, the System held domestic equities of approximately \$38.2 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, 2018, the System held ADRs of approximately \$7.8 billion and international equities of approximately \$5.1 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.

# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*

## 3. Investment Program, *continued*

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. This table shows the fair value leveling of the System's investments:

### Investments Measured at Fair Value as of June 30, 2018 (dollars in thousands)

Investments by fair value level	Fair value measures using			Total
	Quoted prices in active markets for identical assets	Significant other observable inputs	Significant unobservable inputs	
	Level 1	Level 2	Level 3	
Equities:				
Domestic	\$ 38,234,479	\$ —	\$ —	\$ 38,234,479
International	12,856,499	90,635	—	12,947,134
Obligations:				
Domestic				
U.S. treasuries	15,661,380	—	—	15,661,380
Corporate bonds	—	6,096,883	—	6,096,883
International:				
Corporate bonds	—	806,247	—	806,247
Total investments by fair value level	<u>\$ 66,752,358</u>	<u>\$ 6,993,765</u>	<u>\$ —</u>	<u>\$ 73,746,123</u>

**Credit Risk:** Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the System. State law 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. 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 Investor Services, which are nationally recognized statistical rating organizations, at June 30, 2018, are shown in the chart on the following page.

## 3. Investment Program, *continued*

### Quality Ratings of Fixed Income Investments held at June 30, 2018 (dollars in thousands)

Investment Type	Standard and Poor's/ Moody's Quality Rating	June 30, 2018 Fair Value
Domestic Obligations:		
U.S. treasuries		\$ 15,661,380
Corporates	AAA/Aaa	623,880
	AA/Aaa	799,525
	AA/Aa	641,528
	A/Aa	401,026
	AA/A	617,301
	A/A	3,013,623
Total domestic corporates		6,096,883
International obligations:		
Corporates	A/Aa	403,794
	A/A	402,453
Total international corporates		806,247
Total fixed income investments		\$ 22,564,510

**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, 2018, 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 plan net position.

**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, 2018	Percentage of all fixed income assets	Effective duration (years)
Domestic obligations:			
U.S. Treasuries	\$ 15,661,380	69.4%	5.5
Corporates	6,096,883	27.0	3.8
International obligations:			
Corporates	806,247	3.6	0.8
Total	\$ 22,564,510	100.0%	4.9



# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*

## 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, through the use of foreign exchange instruments. The System's foreign exchange risk management policy does not quantify limitations on foreign currency-denominated investments. As of June 30, 2018, 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, 2018 (dollars in thousands)

Currency	Cash & Cash Equivalents	Equities	Fixed Income	Total
Australian Dollar	\$ —	\$ 214,082	\$ —	\$ 214,082
Brazilian Real	—	47,696	—	47,696
British Pound	—	506,976	—	506,976
Canadian Dollar	—	179,969	—	179,969
Czech Krone	—	4,845	—	4,845
Danish Krone	—	79,623	—	79,623
Euro	172	1,381,629	—	1,381,801
Hong Kong Dollar	—	247,909	—	247,909
Indian Rupee	—	239,858	—	239,858
Indonesian Rupiah	—	26,001	—	26,001
Israeli Shekel	—	8,611	—	8,611
Japanese Yen	68	895,232	—	895,300
Malaysian Ringgit	—	67,481	—	67,481
Mexican Peso	—	27,626	—	27,626
New Taiwan Dollar	—	140,451	—	140,451
Norwegian Krone	—	11,168	—	11,168
Philippine Peso	—	21,455	—	21,455
Polish Zloty	—	13,224	—	13,224
Singapore Dollar	—	109,005	—	109,005
South African Rand	—	175,889	—	175,889
South Korean Won	—	318,340	—	318,340
Swedish Krona	—	142,929	—	142,929
Swiss Franc	—	147,793	—	147,793
Thailand Baht	—	90,635	—	90,635
Total holdings subject to foreign currency risk	240	5,098,427	—	5,098,667
Investment securities payable in U.S. dollars	—	7,848,707	806,247	8,654,954
Total international investments - at fair value	\$ 240	\$ 12,947,134	\$ 806,247	\$ 13,753,621

## 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. 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.

## 4. Securities Lending Program, *continued*

Securities loaned totaled approximately \$19.0 billion at June 30, 2018. The collateral value was equal to 104.9% of the loaned securities' value at June 30, 2018. 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, 2017	Additions	Disposals	Balance at June 30, 2018
<b>Capital assets:</b>				
Land	\$ 4,342	\$ 8	\$ —	\$ 4,350
Building	2,800	—	—	2,800
Furniture and fixtures	397	363	—	760
Computer equipment	2,894	223	(391)	2,726
Computer software	14,980	—	—	14,980
	<u>25,413</u>	<u>594</u>	<u>(391)</u>	<u>25,616</u>
<b>Accumulated depreciation for:</b>				
Building	(910)	(70)	—	(980)
Furniture and fixtures	(326)	(67)	—	(393)
Computer equipment	(1,559)	(426)	369	(1,616)
Computer software	(14,980)	—	—	(14,980)
	<u>(17,775)</u>	<u>(563)</u>	<u>369</u>	<u>(17,969)</u>
<b>Capital assets, net</b>	<u>\$ 7,638</u>	<u>\$ 31</u>	<u>\$ (22)</u>	<u>\$ 7,647</u>

# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*



## 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, 2018:

### Components of Net Pension Liability (dollars in thousands)

Total pension liability	\$	94,095,067
Plan fiduciary net position		75,532,925
Employers' and nonemployers' net pension liability	\$	18,562,142
Plan fiduciary net position as a percentage of the total pension liability		80.27%

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

Inflation	2.75%
Salary increases	3.25 - 9.00%, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation

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, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2009 - June 30, 2014.

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.

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

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%	(0.50)%
Domestic large cap equities	39.80	9.00
Domestic mid cap equities	3.70	12.00
Domestic small cap equities	1.50	13.50
International developed market equities	19.40	8.00
International emerging market equities	5.60	12.00
Total	100.00%	

\* Net of inflation

**Discount rate:** The discount rate used to measure the total pension liability was 7.50%. 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 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

### Employers' and Nonemployers' Net Pension Liability

(dollars in thousands)

1% Decrease (6.50%)	Current discount rate (7.50%)	1% Increase (8.50%)
\$30,985,530	\$ 18,562,142	\$ 8,324,638

**Actuarial valuation date:** The total pension liability is based upon the June 30, 2017 actuarial valuation. An expected total pension liability is determined as of June 30, 2018 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 43 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/formspubs/formspubs.html](http://www.ers.ga.gov/formspubs/formspubs.html).

**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.

**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, 2018 was 24.81% 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 24.69% of annual covered



## 7. System Employees' Retirement Benefits, *continued*

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 \$4.4 million for the year ended June 30, 2018. 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, 2018, the System reported a liability of approximately \$28.1 million for its proportionate share of the net pension liability for the ERS plan. The net pension liability was measured as of

June 30, 2017. The total pension liability used to calculate the net pension liability was based on an actuarial valuation as of June 30, 2016. An expected total pension liability as of June 30, 2017 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, 2017. At June 30, 2017, the System's proportionate share was 0.691037% which is based on contributions, and a decrease of (0.007788)% from its proportionate share measured as of June 30, 2016.

For the year ended June 30, 2018, the System recognized pension expense of approximately \$3.2 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, 2018, 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	\$ 308	\$ —
Change of assumptions	64	—
Net difference between projected and actual earnings on pension plan investments	—	70
Changes in proportion and differences between the System's contributions and proportionate share of contributions	86	202
System's contributions subsequent to the measurement date	4,423	—
Total	<u>\$ 4,881</u>	<u>\$ 272</u>

System contributions subsequent to the measurement date of approximately \$4.4 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, 2019. 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:

2019	\$ (370)
2020	1,036
2021	315
2022	(795)

**Actuarial assumptions:** The total pension liability as of June 30, 2017 was determined by an actuarial valuation as of June 30, 2016 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	7.50%, 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

# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*



## 7. System Employees' Retirement Benefits, *continued*

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. 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, 2016 valuation were based on the results of an actuarial experience study for the period July 1, 2009 - June 30, 2014.

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 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 7.50%. 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 7.50%, 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 (6.50%) or 1-percentage-point higher (8.50%) than the current rate (dollars in thousands):

System's Proportionate Share of the Net Pension Liability		
1% Decrease (6.50%)	Current discount rate (7.50%)	1% Increase (8.50%)
\$39,613	\$28,065	\$18,215

**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/formspubs/formspubs.html](http://www.ers.ga.gov/formspubs/formspubs.html).

# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*

## 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 \$3.4 million for the year ended June 30, 2018. 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, 2018.

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

At June 30, 2018, the System reported a liability of \$28.5 million for its proportionate share of the State OPEB net liability and an asset of \$2.2 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, 2018:

#### **Aggregate OPEB Amounts - All Plans** (dollars in thousands)

OPEB liabilities	\$ 28,452
OPEB assets	2,177
Deferred outflows of resources	3,571
Deferred inflows of resources	2,457
OPEB expense	956

The net OPEB liability and net OPEB asset were measured as of June 30, 2017. 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, 2016. An expected total OPEB liability and OPEB asset as of June 30, 2017 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, 2017. At June 30, 2017, the System's proportionate share was 0.698345%, which was an increase of (0.001382)% from its proportionate share measured as of June 30, 2016. 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, 2017. At June 30, 2017, the System's proportionate share was 0.837498%, which was an increase of 0.010350% from its proportionate share measured as of June 30, 2016.



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

For the year ended June 30, 2018 the System recognized OPEB expense of \$1.2 million for the State OPEB plan and a reduction of OPEB expense of \$207.9 thousand for the SEAD-OPEB plan. Pursuant to GASB Statement No. 67, approximately \$670.3 thousand of the State OPEB expense and \$112.6 thousand of the SEAD-OPEB reduction of

OPEB expense is included in investment expense as a reduction of investment income. At June 30, 2018, 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	\$ —	\$ —	\$ —	\$ —
Change of assumptions	—	2,061	—	—
Net difference between projected and actual earnings on pension plan investments	122	—	—	332
Changes in proportion and differences between the System's contributions and proportionate share of contributions	—	50	—	14
System's contributions subsequent to the measurement date	3,449	—	—	—
<b>Total</b>	<b>\$ 3,571</b>	<b>\$ 2,111</b>	<b>\$ —</b>	<b>\$ 346</b>

System contributions subsequent to the measurement date of \$3.4 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, 2019. 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
2019	\$ (605)	\$ (90)
2020	(605)	(90)
2021	(605)	(83)
2022	(174)	(83)
2023	—	—





# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*

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

**Actuarial assumptions:** The total OPEB liability and OPEB asset as of June 30, 2017 were determined by an actuarial valuation as of

June 30, 2016 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, 2017:

### 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	3.88%, compounded annually, net of OPEB plan investment expense, including inflation	7.50%, net of OPEB plan investment expense, including inflation
Single equivalent interest rate	3.60%	n/a
Healthcare cost trend rate:		
Pre-Medicare Eligible	7.75%	n/a
Medicare Eligible	5.75%	n/a
Ultimate trend rate:		
Pre-Medicare Eligible	5.00%	n/a
Medicare Eligible	5.00%	n/a
Year of Ultimate trend rate	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, 2016 valuation for the State OPEB and SEAD-OPEB plans were based on the results of an actuarial experience study for the pension systems, which covered the five-year period ending June 30, 2014.

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.

Additionally, there was a change in the State OPEB plan that affected measurement of the total OPEB liability since the prior measurement date. The methodology used to determine employee and retiree participation in the State OPEB Fund is based on their current or last employer payroll location. Current and former employees of State organizations (including technical colleges, community service boards and public health departments) are allocated to the State OPEB Fund irrespective of retirement system affiliation.

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

Asset Class	State OPEB		SEAD-OPEB	
	Target allocation	Long-term expected real rate of return	Target allocation	Long-term expected real rate of return*
Fixed Income	100.00%	3.88%	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%		100.00%	

\*Net of inflation

#### Discount rate

The State OPEB discount rate has changed since the prior measurement date from 3.09% to 3.60%. In order to measure the total OPEB liability for the State OPEB Fund, a single equivalent interest rate of 3.60% 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 (3.56% 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 2115. 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 2028. Therefore, the calculated discount rate of 3.60% 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 7.50%. 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

# NOTES TO FINANCIAL STATEMENTS

June 30, 2018, *continued*



## 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):

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 OPEB Liability (Asset)			
	1% Decrease	Current discount rate	1% Increase
State OPEB	(2.60)% \$34,026	(3.60%) \$28,452	(4.60%) \$24,004
SEAD-OPEB	(6.50)% (1,191)	(7.50%) (2,177)	(8.50%) (2,984)

System's Proportionate Share of the Net OPEB Liability		
1% Decrease	Current Healthcare Cost Trend Rate	1% Increase
\$23,516	\$28,452	\$34,700

### ***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

***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/financials](http://www.ers.ga.gov/financials).



## 9. Deferred Outflows and Inflows of Resources

Deferred Outflows and Inflows of Resources reported on the Statement of Net Position as of June 30, 2018 consist of the following (dollars in thousands):

### Deferred Outflows of Resources

	ERS Pension Plan	State OPEB Plan	SEAD- OPEB Plan	Total
<b>Deferred Outflows of Resources</b>				
Differences between expected and actual experience	\$ 308	—	—	308
Change of assumptions	64	—	—	64
Net difference between projected and actual earnings on plan investments	—	122	—	122
Changes in proportion and differences between the System's contributions and proportionate share of contributions	86	—	—	86
System's contributions subsequent to the measurement date	4,423	3,449	—	7,872
<b>Total Deferred Outflows of Resources</b>	<b>\$ 4,881</b>	<b>3,571</b>	<b>—</b>	<b>8,452</b>

### Deferred Inflows of Resources

	ERS Pension Plan	State OPEB Plan	SEAD- OPEB Plan	Total
<b>Deferred Inflows of Resources</b>				
Differences between expected and actual experience	\$ —	—	—	—
Change of assumptions	—	2,061	—	2,061
Net difference between projected and actual earnings on plan investments	70	—	332	402
Changes in proportion and differences between the System's contributions and proportionate share of contributions	202	50	14	266
<b>Total Deferred Inflows of Resources</b>	<b>\$ 272</b>	<b>2,111</b>	<b>346</b>	<b>2,729</b>

# REQUIRED SUPPLEMENTARY INFORMATION

For the Year Ended June 30 (Unaudited)

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

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

<sup>1</sup> 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 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.



# REQUIRED SUPPLEMENTARY INFORMATION

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

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

	2018	2017	2016	2015	2014
Total pension liability	\$94,095,067	\$89,926,280	\$86,183,526	\$82,023,118	\$79,099,772
Plan fiduciary net position	75,532,925	71,340,972	65,552,411	66,799,111	66,466,091
Employers' and nonemployers' net pension liability	<u>\$18,562,142</u>	<u>\$18,585,308</u>	<u>\$20,631,115</u>	<u>\$15,224,007</u>	<u>\$12,633,681</u>
Plan fiduciary net position as a percentage of the total pension liability	80.27%	79.33%	76.06%	81.44%	84.03%
Covered payroll	\$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	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)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially Determined Employer and Nonemployer Contribution	\$ 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	\$ 1,026,287
Contributions in Relation to Actuarially Determined Contribution	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	1,026,287
Contribution Deficiency (Excess)	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Covered Payroll	\$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	\$11,059,127
Contributions as a Percentage of Covered Payroll	16.81%	14.27%	14.27%	13.15%	12.28%	11.41%	10.28%	10.28%	9.74%	9.28%

## Schedule of Investment Returns

	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	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)

	2018	2017	2016	2015
System's proportion of the net pension liability	0.691037%	0.698825%	0.683763%	0.668620%
System's proportionate share of the net pension liability	\$ 28,065	\$ 33,057	\$ 27,702	\$ 25,077
System's covered payroll	17,756	16,880	16,291	17,622
System's proportionate share of the net pension liability as a percentage of its covered payroll	158.06%	195.84%	170.04%	142.31%
ERS fiduciary net position as a percentage of the total pension liability	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)

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

	2018
<b>State OPEB Plan</b>	
System's proportion of the net pension liability (asset)	0.698345%
System's proportionate share of the net pension liability (asset)	\$ 28,452
System's covered payroll	19,895
System's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	143.01%
Plan fiduciary net position as a percentage of the total pension liability	17.34%
<b>SEAD-OPEB Plan</b>	
System's proportion of the net pension liability (asset)	0.837498%
System's proportionate share of the net pension liability (asset)	\$ (2,177)
System's covered payroll	12,196
System's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	17.85%
Plan fiduciary net position as a percentage of the total pension liability (asset)	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.

# REQUIRED SUPPLEMENTARY INFORMATION

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



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

	2018
<b>State OPEB Plan</b>	
Contractually required contribution	\$ 3,449
Contributions in relation to the contractually required contribution	3,449
Contribution deficiency (excess)	\$ —
System's covered payroll	\$ 20,599
Contributions as a percentage of covered payroll	16.74%
<b>SEAD-OPEB Plan</b>	
Contractually required contribution <sup>1</sup>	\$ —
Contributions in relation to the contractually required contribution	—
Contribution deficiency (excess)	\$ —
System's covered payroll	\$ 12,056
	—%

<sup>1</sup> 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.

*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, 2018 employer contributions are based on June 30, 2015 valuation).

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

Valuation date:	June 30, 2015
Actuarial cost method:	Entry age
Amortization method:	Level percent of pay, closed
Remaining amortization period:	28.4 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

## 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, 2018

## Schedule of Administrative Expenses (dollars in thousands)

### Personal Services:

Salaries and fringes	\$ 8,967
Retirement contributions	1,562
Health insurance	1,722
FICA	644
Miscellaneous	112
Total personal services	<u>13,007</u>

### Communications:

Postage	191
Publications and printing	222
Telecommunications	146
Travel	126
Total communications	<u>685</u>

### Professional Services:

Computer services	1,081
Contracts	4
Actuarial services	101
Audit fees	189
Legal services	36
Medical services	57
Total professional services	<u>1,468</u>

### Management Expenses:

Building maintenance	579
Total management expenses	<u>579</u>

### Other Services and Charges:

Repairs and maintenance	8
Supplies and materials	191
Depreciation expense	563
Miscellaneous	170
Total other services and charges	<u>932</u>

Total administrative expenses	16,671
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Less reimbursement by other state retirement systems for services rendered on their behalf	806
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Net administrative expense.	<u>\$ 15,865</u>
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See accompanying independent auditor's report.



## Schedule of Investment Expenses (dollars in thousands)

Investment Advisory and Custodial Fees	\$ 34,954
Miscellaneous	<u>11,490</u>
Total Investment Expenses	<u>\$ 46,444</u>

See accompanying independent auditors' report.

Annual economic growth as measured by Real GDP rose by 2.9% and the rate of growth strengthened on the back of tax cuts. Broadly speaking, international economies were slowing down at the end of the fiscal year due to a number of issues ranging from Brexit to potential trade wars to a stronger dollar. All in all though, it was a good year for equities with the U.S. stock market up in the mid-teens and foreign markets up over 7%.

We continually emphasize that the pension plan has a long-term investment horizon and that short-term concerns should not drive the investment decisions. The System continues to invest in a mix of liquid, high quality bonds and stocks. These types of investments 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.

There were very few weak spots in the U.S. economy during the fiscal year. Nonfarm Payroll growth averaged over 200,000 new jobs per month. You have to go back almost five decades to find initial unemployment claims this low, despite there being over twice as many people employed today than in the late 1960s. Central banks in aggregate are still providing accommodation, but that is largely due to Japan. The U.S. is tightening and the European Central Bank is indicating that it will end their version of QE in the foreseeable future. As expected, this is causing pain for emerging markets and some weaker developed markets.

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 a 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 time periods, such as the twenty year period, 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 14.4%. The S&P MidCap 400 and the S&P SmallCap 600 indexes had returns of 13.5% and 20.5%, respectively. Generally speaking, the more defensive and interest

sensitive sectors underperformed the market while growth stocks continued their outperformance relative to value stocks.

International markets also had strong returns. The MSCI EAFE Index returned 6.8% and the MSCI Emerging Market Index had a return of 8.2%. The dollar was down marginally for the fiscal year.

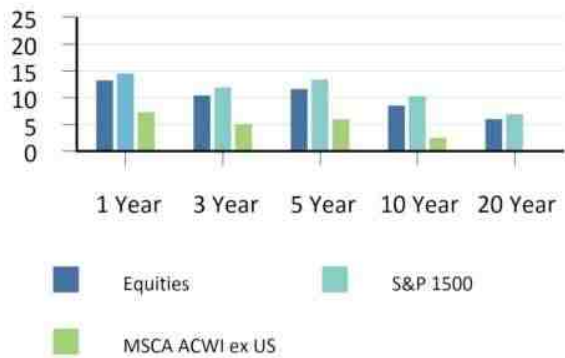
Interest rates increased across the maturity spectrum for the second year in a row. The yield curve also flattened as short-term rates rose faster than long-term yields. The total return on the 10-year Treasury Note was (2.7%) and the 30-year Treasury Bond had a (0.1%) return. The return on short-term Treasury bills was 1.3%.

We look at two fixed income indexes to measure the bond market's performance. The Bloomberg Barclays Government / Credit Index had a return of (0.6%). It is a broad index containing corporate and government sponsored bonds as well as Treasuries. The Citigroup Treasury / Sponsored / AAA/AA had a return of (0.6%) 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 year leading to generally better performance in Treasuries.

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."

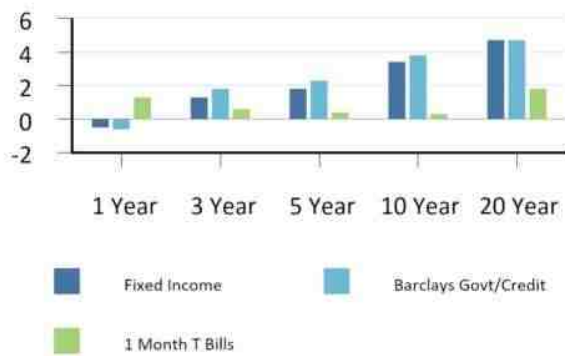
*Prepared by the Division of Investment Services*

## Equities



	Equities	S&P 1500	MSCI ACWI ex US
1 Year	13.2%	14.5%	7.3%
3 Year	10.4	11.9	5.1
5 Year	11.6	13.4	6.0
10 Year	8.5	10.3	2.5
20 Year	6.0	6.9	—

## Fixed Income



	Fixed Income	Barclays Govt/Credit	1 Month T Bills
1 Year	(0.5)%	(0.6)%	1.3%
3 Year	1.3	1.8	0.6
5 Year	1.8	2.3	0.4
10 Year	3.4	3.8	0.3
20 Year	4.7	4.7	1.8

## Total Portfolio



	Total Portfolio	CPI
1 Year	8.9%	2.8%
3 Year	7.5	1.8
5 Year	8.6	1.5
10 Year	7.4	1.4
20 Year	6.1	2.2

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

## Investment Allocation



## Schedule of Fees and Commissions (dollars in thousands) For the Year Ended June 30, 2018

Investment Advisors' Fees:	
U.S. Equity	\$ 13,989
International Equity	18,652
Investment Commissions:	
U.S. Equity	7,756
International Equity	5,866
SEC & Foreign Transaction Fees:	3,132
Miscellaneous*:	13,803
Total Fees and Commissions	<u>\$ 63,198</u>

\*Amount included in total investment expenses shown on page 48.

## Investment Summary

Asset Allocation at June 30	2012	2013	2014	2015	2016	2017	2018
Equities	71.0%	73.5%	72.9%	71.2%	68.6%	70.9%	69.4%
Fixed Income	29.0%	26.5%	27.1%	28.8%	31.4%	29.1%	30.6%
Asset Allocation at June 30 (in millions)							
Equities	\$ 37,191	\$ 41,396	\$ 47,126	\$ 46,423	\$ 43,652	\$ 49,237	\$ 51,182
Fixed Income	15,188	14,882	17,491	18,807	19,979	20,139	22,564
Total Investments	<u>\$ 52,379</u>	<u>\$ 56,278</u>	<u>\$ 64,617</u>	<u>\$ 65,230</u>	<u>\$ 63,631</u>	<u>\$ 69,376</u>	<u>\$ 73,746</u>



## Twenty Largest Equity Holdings (dollars in thousands)\*

Shares	Company	Fair Value
5,361,428	Apple Inc.	\$ 992,454
546,544	Amazon.Com Inc.	929,015
790,162	Alphabet Inc.	887,509
8,627,752	Microsoft Corp.	850,783
3,117,830	Facebook Inc.	605,857
4,289,779	JPMorgan Chase & Co.	446,995
5,321,177	Exxon Mobil Corp.	440,221
3,171,170	Visa Inc.	420,021
2,148,140	Berkshire Hathaway Inc.	400,950
3,054,320	Johnson & Johnson	370,611
1,958,300	Alibaba Group Holding Ltd.	363,323
893,170	Netflix Inc.	349,614
1,367,276	UnitedHealth Group Inc.	335,448
5,870,928	Wells Fargo & Co.	325,484
11,389,618	Bank of America Corp.	321,073
2,344,497	Chevron Corp.	296,415
5,823,788	Verizon Communications Inc.	292,995
8,024,006	Pfizer Inc.	291,111
5,693,074	Intel Corp.	283,003
1,436,359	The Home Depot Inc.	280,234
<b>Total of 20 Largest Equity Holdings</b>		<b>\$ 9,483,116</b>
<b>Total Equity Holdings</b>		<b>\$ 51,181,613</b>

## 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	\$ 1,254,951
U.S. Treasury Note	3/31/23	1.5	1,105,000	1,045,043
U.S. Treasury Note	10/31/22	2	1,000,000	970,980
U.S. Treasury Note	3/31/25	2.625	800,000	790,872
U.S. Treasury Note	1/31/25	2.5	800,000	785,408
U.S. Treasury Note	8/15/27	2.25	808,000	769,022
U.S. Treasury Note	4/30/19	1.625	768,000	763,592
U.S. Treasury Note	8/15/21	2.125	647,000	636,991
U.S. Treasury Note	2/15/28	2.75	600,000	594,870
General Electric Company	10/9/22	2.7	609,000	589,043
<b>Total of 10 Largest Fixed-Income Holdings</b>				<b>\$ 8,200,772</b>
<b>Total Fixed-Income Holdings</b>				<b>\$ 22,564,510</b>

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



May 16, 2018

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, 2017. The report indicates that annual employer contributions at the rate of 21.14% of compensation for the fiscal year ending June 30, 2020 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.

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 2017 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,



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



Cathy Turcot  
Principal and Managing  
Director



John J. Garrett, ASA, 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, 2017, 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. 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, 2017 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) Ultimate Investment Return

The assumed investment rate of return is 7.50% compounded annually, which consists of a 4.75% assumed real rate of return and a 2.75% 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 November 18, 2015.

## c) Salary Increases

Salaries are expected to increase 3.25% to 9.00% annually depending upon the members' years of creditable service. The salary increase includes a 0.50% assumed real rate of wage inflation and a 2.75% assumed annual rate of inflation. Adopted November 18, 2015.

## 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 \$24.8 billion at June 30, 2017.



## h) Valuation Interest Rate Smoothing

The valuation liabilities are calculated using a smoothed interest rate method. The interest rate assumed during the look-forward period (currently 23 years from the valuation date) is the investment rate of return expected to be earned during the look-forward period based on the actual rate of return earned during the look-back period (currently 7 years) such that the average assumed rate of return over the combined 30-year period is equivalent to the assumed ultimate investment rate of return (currently 7.50%). The interest rate after the 23-year look-forward period is the ultimate investment rate of return of 7.50%. Adopted November 20, 2013.

The smoothed interest rate used during the 23-year look-forward period is subject to a corridor around the annual expected rate of return to limit the extent that the calculated smoothed rate can vary from the long-term investment rate of return. Adopted November 20, 2013.

## i) Required Contributions (% of compensation)

Contributions required by the annual actuarial valuation as of June 30, 2017, to be made for the year ended June 30, 2020:

<b>(1) Member</b>	<b><u>6.00%</u></b>
<b>(2) Employer:</b>	
<b>Normal</b>	<b><u>7.77%</u></b>
<b>Unfunded Accrued Liability</b>	<b><u>13.37%</u></b>
<b>Total</b>	<b><u>21.14%</u></b>



*continued*

*Adopted November 18, 2015*

Age	Male		Female	
	< 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

*Adopted November 18, 2015*

Age	Annual Rate of				
	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 <sup>(1)</sup>	Number of Participating Employers	Members	Annual Payroll <sup>(2)</sup> (000's)	Average Pay	% Increase
2008	389	224,993	\$10,197,584	\$45,324	2.9%
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

## Retirees and Beneficiaries

Fiscal Year <sup>(1)</sup>	Added to Roll		Removed from Roll		Roll-End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances (000's)	Number	Annual Allowances (000's)	Number	Annual Allowances (000's)		
2008	5,817	238,137	1,655	39,808	78,583	2,430,431	8.9%	30,928
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

<sup>(1)</sup> 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, 2018 is currently in process and was not available for this analysis.

<sup>(2)</sup> 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

Fiscal Year <sup>1</sup>	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (Employer-Financed Portion)	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Assets		
					(1)	(2)	(3)
2008	\$6,009,710	\$30,915,200	\$22,208,867	\$54,354,284	100.0%	100.0%	78.5%
2009 <sup>2</sup>	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

<sup>1</sup>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, 2018 is currently in process and was not available for this analysis.

<sup>2</sup>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
2010	5.25%	9.74%
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



## 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]
6/30/08	\$ 54,354,284	\$ 59,133,777	\$ 4,779,493	91.9%	\$ 10,197,584	46.9%
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

\*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)

Item	Analysis of the Change in Unfunded Accrued Liability Increase (Decrease) During the Years Ended June 30,									
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Interest Added to Previous										
Unfunded Accrued Liability	\$ 1,649.2	\$ 1,300.9	\$ 1,077.6	\$ 1,084.6	\$ 977.8	\$ 846.2	\$ 733.2	\$ 486.3	\$ 358.5	\$ 217.3
Accrued Liability Contribution	(929.4)	(985.4)	(796.1)	(662.0)	(604.7)	(443.5)	(396.3)	(312.0)	(125.0)	(118.5)
Experience:										
Valuation Asset Growth	(539.2)	150.9	(677.3)	(836.1)	1,241.1	1,855.1	2,018.7	1,674.9	2,433.5	548.9
Pensioners' Mortality	40.5	(13.4)	37.7	35.3	52.7	51.6	24.2	89.8	50.1	58.4
Turnover and Retirements	246.9	209.2	335.9	119.6	378.2	319.1	195.3	269.5	307.1	291.4
New Entrants	172.7	153.1	138.9	115.3	96.2	101.2	89.6	123.7	185.1	258.8
Salary Increases	327.9	72.3	(227.6)	(624.9)	(715.2)	(709.9)	(1,132.2)	(1,040.5)	14.1	162.8
Method Changes <sup>(4)</sup>	—	—	—	—	(926.7)	—	—	—	(2,062.3)	—
Interest Smoothing	121.6	5,286.1	2,861.2	739.8	915.9	(627.0)	412.8	—	—	—
Amendments <sup>(1)</sup>	—	—	—	—	—	—	(685.5)	—	—	386.3
Change in Member										
Contribution Rate <sup>(3)</sup>	—	—	—	—	—	—	—	12.8	—	(15.7)
Assumption Changes <sup>(2)</sup>	—	—	688.3	—	—	—	—	1,472.4	—	—
Miscellaneous	118.1	109.5	127.9	112.8	124.4	142.6	228.5	274.2	70.9	92.4
Total Increase	<u>\$ 1,208.3</u>	<u>\$ 6,283.2</u>	<u>\$ 3,566.5</u>	<u>\$ 84.4</u>	<u>\$ 1,539.7</u>	<u>\$ 1,535.4</u>	<u>\$ 1,488.3</u>	<u>\$ 3,051.1</u>	<u>\$ 1,232.0</u>	<u>\$ 1,882.1</u>

<sup>(1)</sup> Amendments

2008 - Reflects the impacts of the final Plymel lawsuit.

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

<sup>(2)</sup> Assumption Changes

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.

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.

<sup>(3)</sup> Member Contribution Rate

2008 - Reflects an increase in the member contribution rate from 5.25% to 5.53% effective July 1, 2010.

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

<sup>(4)</sup> 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.

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.



# 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 62 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 76 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
2009	\$567,635	\$1,026,287	\$ (6,572,435)	\$ (4,978,513)
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

Contributions were made in accordance with actuarially determined contribution requirements

# STATISTICAL SECTION OVERVIEW & FINANCIAL TRENDS

continued

## Deductions by Type (dollars in thousands)

Benefit Payments										
Fiscal Year	Service	Partial Lump-Sum Option	Disability	Survivor Benefits	Supplemental Payments <sup>(1)</sup>	Lump-Sum Death Settlement	Total Benefit Payments	Net Administrative Expenses	Refunds	Total Deductions From Fiduciary Net Position
2009	\$2,385,561	\$37,191	\$72,028	\$36,922	\$1,414	\$1,371	\$2,534,487	\$22,603	\$49,414	\$2,606,504
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

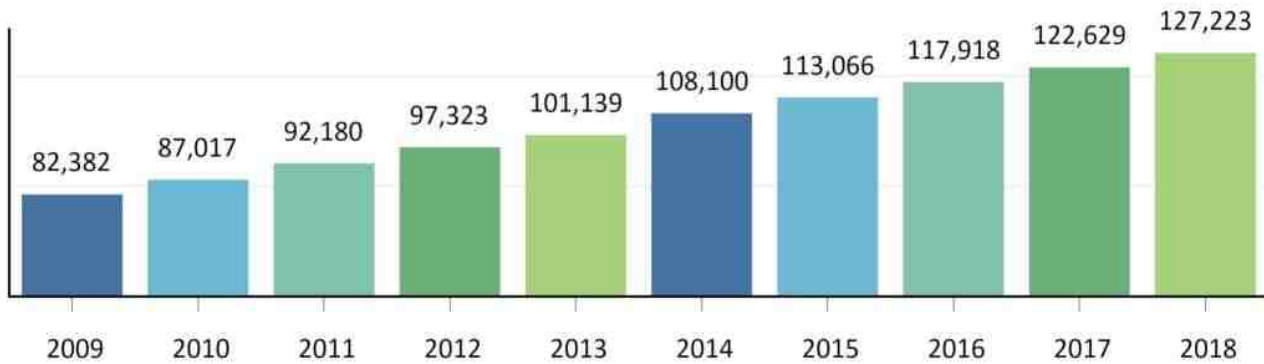
<sup>(1)</sup> Supplemental payments to retirees who belong to a local retirement system.

## Changes in Fiduciary Net Position (dollars in thousands)

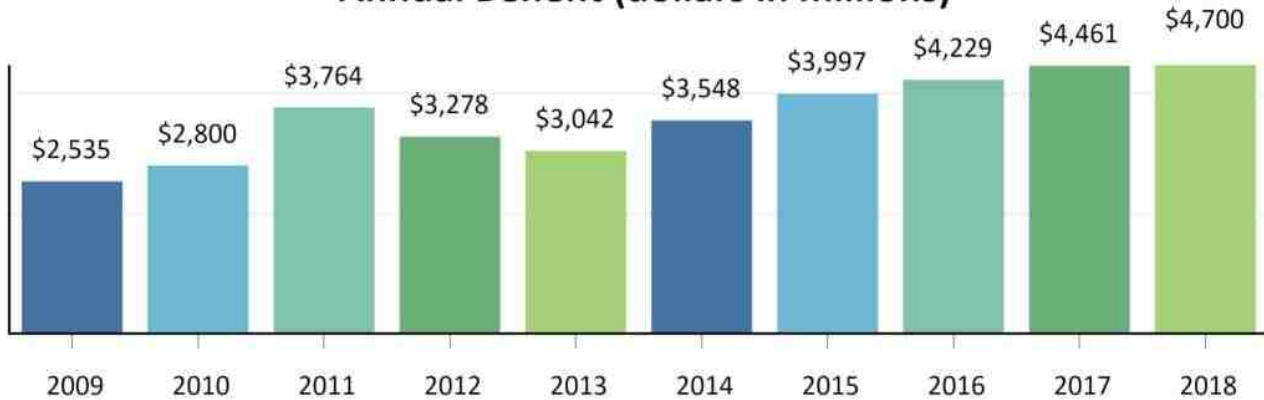
Fiscal Year	Total Additions to (Deductions from) Fiduciary Net Position		Total Deductions from Fiduciary Net Position		Changes in Fiduciary Net Position
2009	\$	(4,978,513)	\$	2,606,504	\$ (7,585,017)
2010		6,321,251		2,874,285	3,446,966
2011		11,289,032		3,130,405	8,158,627
2012		2,774,636		3,371,663	(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

## Benefit Payment Statistics

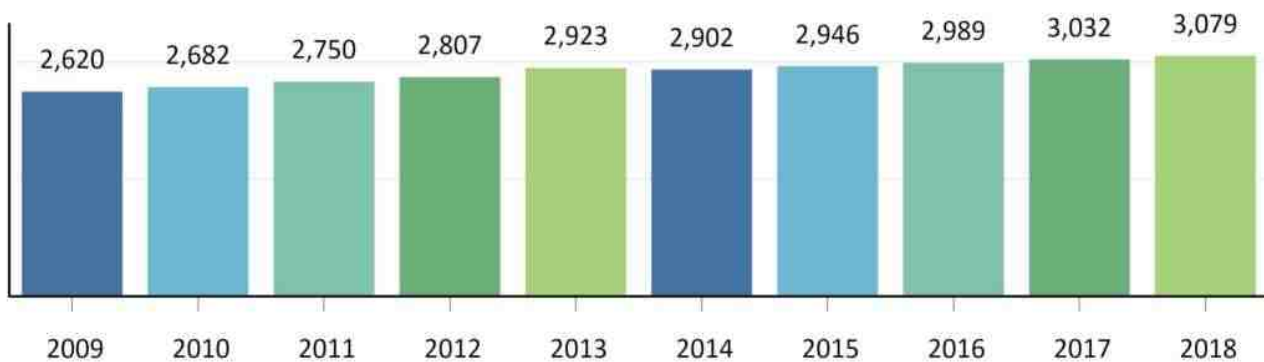
### Number of Retirees



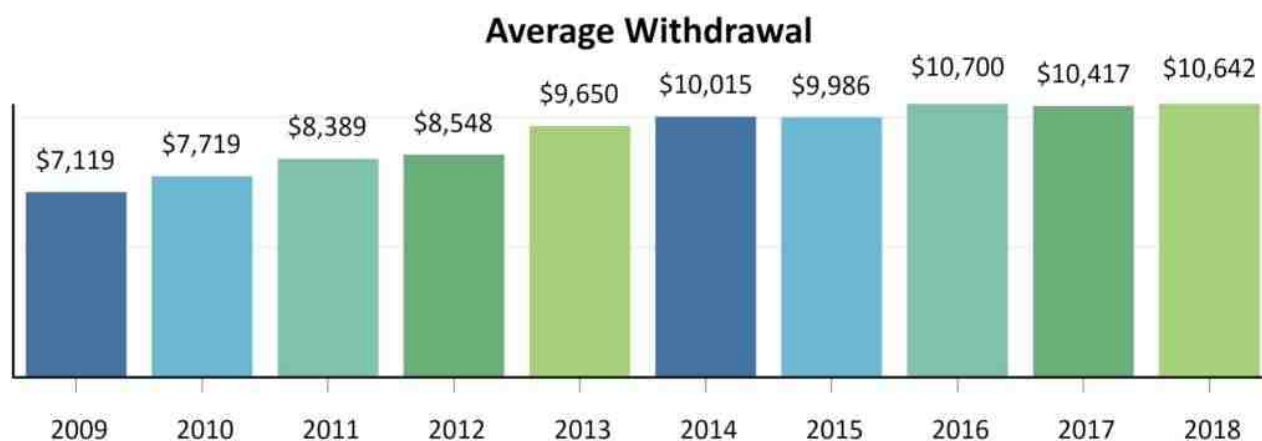
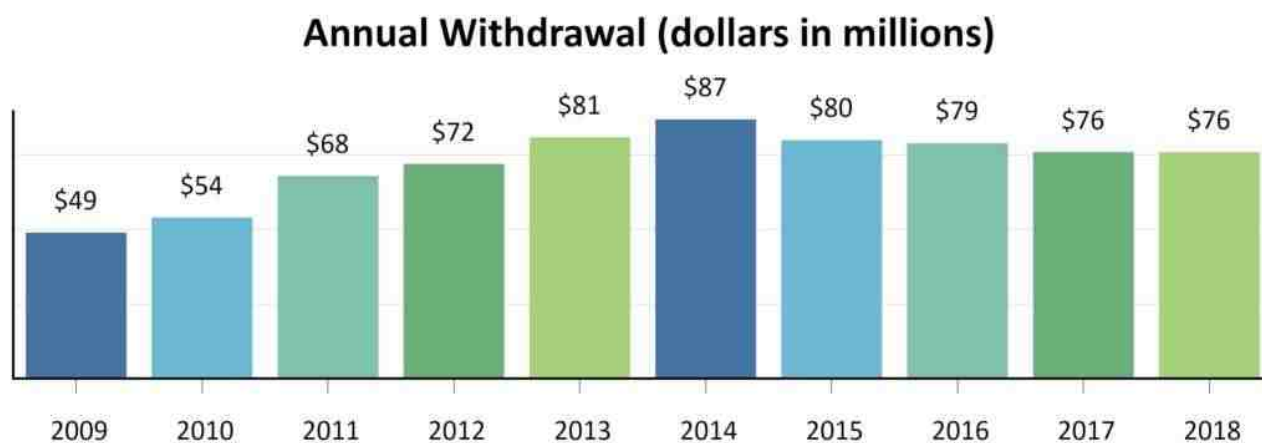
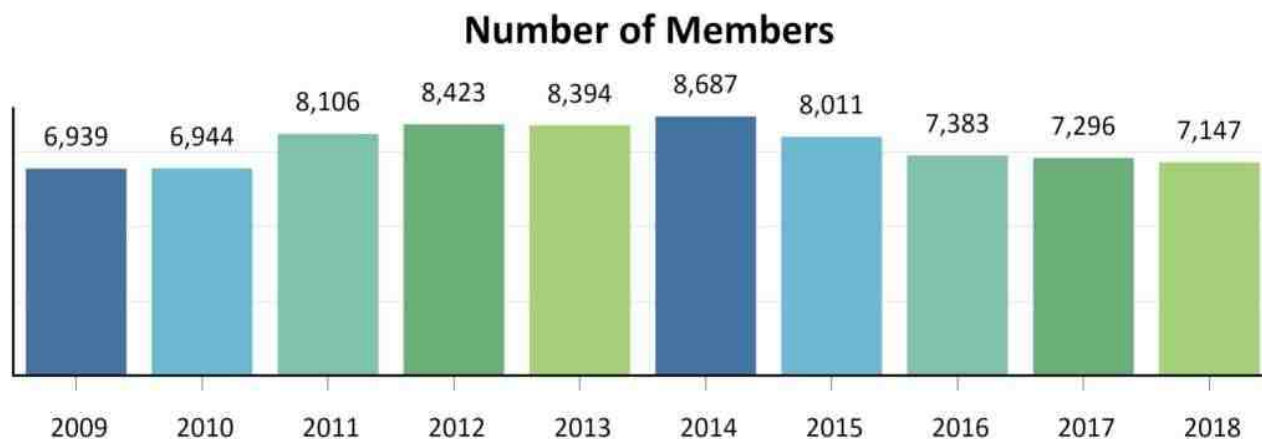
### Annual Benefit (dollars in millions)



### Average Monthly Benefit



## Member Withdrawal Statistics



## Average Monthly Benefit Payments for New Retirees

Effective Retirement Dates for Fiscal Years Ended June 30,	Years Credited Service					Total
	10 - 15	16 - 20	21 - 25	26 - 30	Over 30	
2009						
Average monthly benefit	\$812.18	\$1,293.52	\$1,892.41	\$2,564.06	\$3,603.15	\$2,456.32
Average final average salary	\$3,430.35	\$3,676.14	\$4,302.88	\$4,938.17	\$5,785.56	\$4,794.47
Number of retirees	1,008	701	774	601	2,480	5,564
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



# OPERATING INFORMATION

continued



## Retired Members by Type of Benefit

Amount of Monthly Benefit	Number of Retirees	Type of Retirement <sup>(1)</sup>				Option Selected <sup>(2)</sup>						
		A	B	C	D	Max	Opt-1	Opt-2	Opt-3	Opt-4	Opt-2 Pop-Up	Opt-3 Pop-Up
\$ 1-250	523	332	48	115	28	157	10	189	74	50	34	9
250-500	4,730	3,966	368	394	2	2,856	166	890	221	106	380	111
500-750	6,815	5,773	627	412	3	4,226	256	1,175	283	78	594	203
750-1000	7,426	6,488	535	401	2	4,490	288	1,276	288	59	752	273
1000-1250	7,512	6,635	513	361	3	4,528	284	1,282	321	44	733	320
1,250-1,500	6,661	5,853	488	319	1	3,953	267	1,061	275	45	767	293
1,500-1,750	5,745	5,101	380	262	2	3,293	231	936	312	49	620	304
1,750-2,000	5,195	4,615	364	215	1	2,881	204	827	294	55	622	312
2,000-2,250	5,019	4,515	316	187	1	2,817	196	780	291	43	566	326
2,250-2,500	4,791	4,353	282	155	1	2,578	216	742	278	51	583	343
2,500-2,750	4,774	4,388	284	102	—	2,624	198	675	288	52	615	322
2,750-3,000	4,962	4,566	289	107	—	2,657	226	726	278	53	678	344
3,000-3,250	5,534	5,205	255	74	—	3,153	254	643	281	82	728	393
3,250-3,500	5,751	5,484	187	80	—	3,332	267	694	302	82	702	372
3,500-3,750	6,116	5,896	142	78	—	3,658	272	680	277	80	775	374
3,750-4,000	6,094	5,948	106	40	—	3,747	315	579	275	96	665	417
4,000-4,250	6,254	6,151	70	33	—	4,045	334	517	276	90	616	376
4,250-4,500	5,345	5,273	43	29	—	3,459	276	437	254	88	485	346
4,500-4,750	4,883	4,828	28	27	—	3,204	280	419	220	71	410	279
4,750-5,000	3,842	3,781	27	34	—	2,553	230	318	175	44	319	203
Over 5,000	19,251	19,071	56	124	—	11,805	1,061	2,248	1,273	506	1,317	1,041
<b>TOTALS</b>	<b>127,223</b>	<b>118,222</b>	<b>5,408</b>	<b>3,549</b>	<b>44</b>	<b>76,016</b>	<b>5,831</b>	<b>17,094</b>	<b>6,536</b>	<b>1,824</b>	<b>12,961</b>	<b>6,961</b>

<sup>(1)</sup> Type of Retirement

A - Service

B - Disability

C - Survivor Benefit

D - Supplemental payments to retirees who belonged to a local retirement system.

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

## Retirement Payments by County of Residence

County	Number of Retirees	FY18 Total Gross Pay	County	Number of Retirees	FY18 Total Gross Pay
Appling	322	\$ 11,940	Dade	126	\$ 4,044
Atkinson	100	3,519	Dawson	333	13,710
Bacon	143	5,221	Decatur	370	13,240
Baker	34	1,102	DeKalb	6,622	281,827
Baldwin	817	28,948	Dodge	276	9,883
Banks	171	5,750	Dooly	140	5,010
Barrow	744	24,559	Dougherty	1,711	65,394
Bartow	1,080	36,870	Douglas	1,025	36,268
Ben Hill	287	10,000	Early	197	7,301
Berrien	261	8,910	Echols	9	288
Bibb	2,109	75,646	Effingham	539	15,276
Bleckley	291	9,888	Elbert	318	10,210
Brantley	156	5,364	Emanuel	442	15,799
Brooks	198	6,766	Evans	153	5,157
Bryan	365	11,368	Fannin	384	14,291
Bulloch	1,409	51,162	Fayette	1,897	75,250
Burke	253	8,374	Floyd	1,494	56,577
Butts	314	11,399	Forsyth	1,165	41,977
Calhoun	131	4,198	Franklin	400	14,699
Camden	427	14,767	Fulton	7,006	306,085
Candler	173	5,392	Gilmer	442	16,260
Carroll	1,947	69,771	Glascokk	41	1,272
Catoosa	522	17,261	Glynn	1,386	53,215
Charlton	99	3,534	Gordon	595	20,927
Chatham	2,993	107,484	Grady	305	11,069
Chattahoochee	34	1,172	Greene	291	12,416
Chattooga	330	10,793	Gwinnett	5,145	186,140
Cherokee	2,410	87,438	Habersham	665	23,620
Clarke	3,392	147,234	Hall	2,128	82,551
Clay	62	2,367	Hancock	147	4,478
Clayton	1,287	46,962	Haralson	344	11,623
Clinch	112	4,219	Harris	596	21,512
Cobb	6,298	236,217	Hart	310	12,214
Coffee	554	19,807	Heard	112	3,250
Colquitt	617	22,115	Henry	2,031	73,222
Columbia	2,486	90,271	Houston	1,538	56,294
Cook	224	7,738	Irwin	115	4,008
Coweta	1,508	55,594	Jackson	1,181	42,072
Crawford	74	2,328	Jasper	251	8,984
Crisp	337	12,187	Jeff Davis	163	5,831

# OPERATING INFORMATION

continued

County	Number of Retirees	FY18 Total Gross Pay	County	Number of Retirees	FY18 Total Gross Pay
Jefferson	230	\$ 7,962	Richmond	2,927	\$ 97,784
Jenkins	125	4,379	Rockdale	886	32,758
Johnson	137	4,840	Schley	63	1,998
Jones	241	8,994	Screven	246	8,945
Lamar	252	8,929	Seminole	153	5,544
Lanier	81	2,567	Spalding	930	32,394
Laurens	761	27,676	Stephens	438	16,343
Lee	336	11,835	Stewart	80	2,800
Liberty	355	11,652	Sumter	546	20,822
Lincoln	173	6,602	Talbot	54	1,761
Long	66	2,006	Taliaferro	20	663
Lowndes	1,730	61,281	Tattnall	213	7,279
Lumpkin	505	18,822	Taylor	127	4,635
Macon	163	5,491	Telfair	195	6,826
Madison	809	23,916	Terrell	132	4,616
Marion	120	3,512	Thomas	782	27,948
McDuffie	336	12,029	Tift	904	32,774
McIntosh	190	6,679	Toombs	394	14,707
Meriwether	263	9,162	Towns	258	10,092
Miller	95	3,259	Treutlen	106	3,536
Mitchell	280	9,450	Troup	836	30,836
Monroe	307	11,340	Turner	184	6,010
Montgomery	152	5,278	Twiggs	87	2,944
Morgan	387	15,083	Union	431	16,501
Murray	361	13,822	Upson	395	13,760
Muscogee	2,555	92,193	Walker	638	21,344
Newton	842	29,997	Walton	1,303	46,226
Oconee	1,337	56,936	Ware	585	21,277
Oglethorpe	337	10,859	Warren	65	2,203
Paulding	755	23,972	Washington	290	10,314
Peach	612	23,510	Wayne	412	13,623
Pickens	681	26,614	Webster	28	958
Pierce	278	9,078	Wheeler	102	3,933
Pike	275	9,500	White	501	18,463
Polk	517	19,391	Whitfield	988	37,278
Pulaski	163	5,864	Wilcox	156	5,909
Putnam	381	14,730	Wilkes	184	6,187
Quitman	29	924	Wilkinson	150	4,889
Rabun	295	12,464	Worth	242	8,513
Randolph	101	3,589	Outside GA	15,115	529,468
			<b>TOTALS</b>	<b>127,223</b>	<b>\$ 4,699,920</b>



## Principal Participating Employers

Employers	2018			2009		
	Covered Employees	Rank	Percentage of Total System	Covered Employees	Rank	Percentage of Total System
State of Georgia	38,831	1	17.18%	—	—	—%
Gwinnett County Schools	17,184	2	7.60%	16,532	1	7.30%
Cobb County Schools	11,475	3	5.07%	12,506	2	5.52%
Dekalb County Schools	11,277	4	4.99%	11,341	3	5.01%
Fulton County Schools	10,128	5	4.48%	10,363	4	4.57%
Clayton County Schools	5,444	7	2.41%	5,886	6	2.60%
Atlanta Public Schools	5,188	6	2.29%	5,595	7	2.47%
Chatham County Schools	4,424	8	1.96%	4,380	8	1.93%
Henry County Schools	4,329	9	1.91%	4,004	9	1.77%
Forsyth County Schools	4,127	10	1.83%	—	—	—
Muscogee County School District	—	—	—	3,978	10	1.76%
University of Georgia	*	—	*	7,993	5	3.53%
<b>Top 10</b>	<b>112,407</b>		<b>49.72%</b>	<b>82,578</b>		<b>36.46%</b>
<b>Total</b>	<b>226,061</b>		<b>100.00%</b>	<b>226,560</b>		<b>100.00%</b>

\* 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.

## Reporting Entities

### *Universities and Colleges*

Abraham Baldwin Agricultural College  
Albany State University  
Armstrong Atlantic 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

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

### *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



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

# OPERATING INFORMATION

*continued*

Sumter County  
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  
Kinchafonee 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  
Ohoopsee 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  
 Coweta Charter Academy  
 DeKalb Academy of Technology and Environment  
 DeKalb Path Academy  
 DeKalb Preparatory Academy  
 Destiny Achievers Academy of Excellence  
 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 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  
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  
Effingham County Tax Commissioner Office  
Floyd County DFACS  
Glynn County Health Dept  
Newton County DFCS  
Northwest Georgia Public Health  
Tift County Board of Health  
Ware County Health Department  
Whitfield County Board of Health



Teachers  
Retirement  
System of  
Georgia

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