

# 2016

Employees' Retirement  
System of Georgia

## Comprehensive Annual Financial Report



*Fiscal Year Ended June 30, 2016*  
*A component unit of the State of Georgia*

## Our Mission

**Our mission** is to be the guardian of the State of Georgia's retirement plans and promote a dignified retirement for the members, retirees, and their beneficiaries.

**Our vision** is to demonstrate an unwavering commitment to delivering accurate and timely retirement benefits utilizing a knowledgeable staff and state-of-the-art technology to best serve the retirement needs of current and future members.

## Our Values

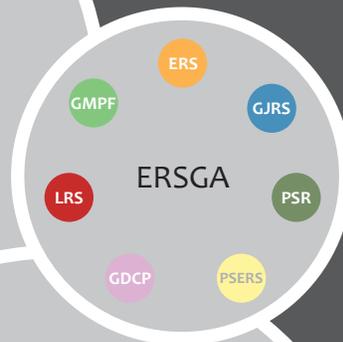
**Our Core Values** are:

Integrity  
Customer Service  
Operational Excellence  
Continuous Improvement and Innovation



Employees' Retirement  
System of Georgia

# Comprehensive Annual Financial Report



*Fiscal Year Ended June 30, 2016  
Prepared by the Financial Services Division*

James A. Potvin  
Executive Director

*A component unit of the State of Georgia*

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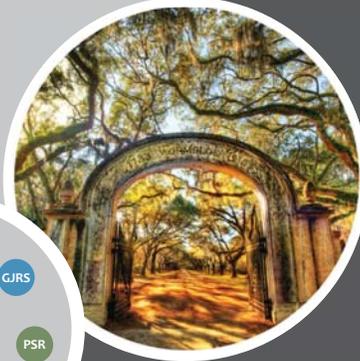
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# Introductory Section



Boards of  
Trustees

Employees' Retirement System, Legislative Retirement System,  
Georgia Defined Contribution Plan, and Georgia Military Pension Fund



Lonice Barrett  
Chair



Sid Johnson  
Vice-Chair



Harold Reheis



Frank F. Thach, Jr.



Steven N. McCoy



Greg S. Griffin



Eli P. Niepoky

Public School Employees Retirement System\*



Michael Lowe



Richard Taylor



Mark Butler



H. Phillip Bell

State Employees' Assurance Department\*\*

Georgia Judicial Retirement System\*



Ellen S. Golden



Ron Mullins



E. Trenton Brown III

\*The PSERS and GJRS boards are comprised of the members of the ERS board and additional members shown under each plan.

\*\*SEAD — ERS Board Members Greg S. Griffin, Steven N. McCoy, Lonice Barrett, and Sid Johnson serve in addition to the two members shown above.

Letter of  
Transmittal

Two Northside 75  
Atlanta, GA 30318

December 21, 2016

I am pleased to present the Comprehensive Annual Financial Report for the fiscal year ended June 30, 2016 of the retirement systems and programs administered by the Employees' Retirement System of Georgia (the System). The management of the System is responsible for the accuracy, completeness and fairness of the presentation, including all disclosures. It is to the best of our knowledge and belief that 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.

### Profile of the System

The System was established in 1949 by an Act of the Georgia General Assembly to provide benefits for all State employees. Plans administered by the System include the Employees' Retirement System (ERS), the Legislative Retirement System (LRS) established in 1979, the Public School Employees Retirement System (PSERS) established in 1969, the Georgia Defined Contribution Plan (GDCP) established in 1992, the Georgia Judicial Retirement System (GJRS) established in 1998, and the Georgia Military Pension Fund (GMPF) established in 2002. In addition, the System is responsible for administering a Group Term Life Insurance Plan (SEAD), the 457 Plan established in 1974 and the 401(k) Plan established in 1994. A summary of each plan can be found on pages 26 through 35 of this report. The investments of all plans are pooled together into one fund except for the three defined contribution (DC) plans, which are maintained individually.

The ERS, LRS, GDCP, GMPF, 401(k) and 457 plans are governed by a 7-member Board of Trustees (Board) made up of 3 ex-officio members, 1 governor-appointed member, and 3 Board-appointed members. PSERS has the same Board as ERS with 2 additional governor-appointed members. GJRS has the same Board as ERS with 3 additional governor-appointed members.

As of June 30, 2016, the System's defined benefit (DB) plans served a total of 109,272 active members and 67,563 retirees/beneficiaries from 702 employers around the state. There

were 55,542 participants in the 401(k) plan with a total investment balance of \$680 million. The 457 plan had 13,029 participants with a total investment balance of \$558 million. There are 486 participating employers from around the state in the 457 and 401(k) plans.

### Legislation

In the 2016 session, the following Acts were passed by the General Assembly and signed by the Governor, which impact the System:

Act 400 was a companion bill to HB 310, which created a new Department of Community Supervision. Certain employees of the new Department will remain eligible for enhanced disability benefits once transferred. Certain employees of the new Department currently not eligible for enhanced disability benefits became eligible upon passage.

Act 426 changes the vesting requirement for judges moving from part-time to full-time service and allows for an actuarial calculation of benefits upon transfer to full-time service and subsequent retirement.

Act 432 allows certain law enforcement members to purchase up to five years of certain local government authority service by paying full actuarial cost.

Act 380 adds state chartered banks or trust companies to the allowable list of commingled investments for all retirement systems under Title 47.

### Summary of 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

## Letter of Transmittal

accordance with generally accepted accounting principles. The concept of reasonable assurance recognizes that first, the cost of a control should not exceed the benefits likely to be derived, and second, the evaluation of the cost and benefits requires estimates and judgments by management.

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 the Management's Discussion and Analysis starting 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 Asset Allocations.

For fiscal year 2016, the pooled investment fund generated a return of 1.4%. The fund continues to invest in a mix of high-quality bonds and stocks which allows the System to participate in rising markets while controlling the downside risks. This has proven to be a successful strategy for other markets and for the System. For further information on investments of the pooled fund, please refer to the Investment Section on pages 72 through 77 of this report.

The objective of the System's pension trust funds is to meet long-term benefit promises through contributions that remain approximately level as a percent of member payroll over time while maintaining an actuarially sound system. Historical information relating to the progress in meeting this objective is presented on pages 64, 108, and 109. The latest actuarial valuations as of June 30, 2015 showed the funded ratio of all five defined benefit plans increasing. The following table shows the change in funding percentage for each of the pension systems:

	FY2014	FY2015
ERS	72.8%	74.1%
PSERS	82.8%	83.2%
LRS	122.6%	123.1%
GJRS	108.8%	113.2%
GMPF	44.8%	46.7%

Further information regarding the funding condition of the pension plans can be found in the Actuarial Section of this report, beginning on page 79.

## Excellence in Financial Reporting

For the sixth consecutive year, the Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Employees' Retirement System of Georgia for its comprehensive annual financial report for the fiscal year ended June 30, 2015. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

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

## Initiatives

### Benefit Statements

The Georgia State Employees' Pension and Savings (GSEPS) tier of ERS utilizes two benefit plans to deliver a member's retirement benefits. The ERS pension plan is administered in-house by ERS staff, while the Peach State Reserves (PSR) 401(k) and 457 plans are outsourced. Communications pertaining to the two systems have in the past been conducted separately by the two administration platforms, which has been a complicating factor for our membership.

In February 2016, ERS took two major steps towards integration of the two plans' communication strategies. First, we delivered a combined benefit statement to our active membership, which included information on both the pension plan and the PSR plans, as well as a basic Social Security estimate. For the first time, members saw a projection of what their total retirement picture might look like at retirement, and they received basic advice on how to improve their projections going forward. Second, we began sending pension plan data to our PSR outsourced administration provider so that they could load it to their web site and allow members to see combined data when using website tools.

Continuing an initiative begun several years ago, we also created and delivered bi-annual benefit statements to the active members of two of our smaller systems – LRS and GJRS.

## Letter of Transmittal

### Pre-Retirement Workshops

For many years ERS has hosted a twice-monthly workshop for members who are within six months of their anticipated retirement dates. The topics have varied somewhat, but have primarily focused on information pertaining to the ERS pension plan and the PSR plans, as well as the application process.

Recognizing that our members' retirement concerns go beyond the plans that the System administers, we significantly enhanced the standing agenda for the workshops. As a result of partnerships with (among others) the Georgia Department of Community Health, the Georgia Department of Administrative Services, and the Georgia Technology Authority, the new agenda provides members with information about the State Health Benefit Plan, the State's Flexible Benefits offerings, Social Security, and the MORE retiree discount program, in addition to the System's plans.

### Information Technology

The most intensive project completed by the IT Division in fiscal year 2016 was the installation of upgraded core network hardware. Completed with no interruption in service to the rest of the staff or our membership, the upgraded network infrastructure incorporates additional security, redundancy, speed / network capacity, and reliability. Other cyber-security related initiatives included system penetration testing and social engineering, as well as staff security awareness training.

### Administration Projects

One of the most common inquiries received by our Member Services Division is to provide "benefit verification" letters, which retirees sometimes require in order to verify their retirement income. Rather than having to wait several days for our response, retirees can now go to the self-service section of our website and produce these letters themselves, on-demand and within a matter of minutes. This has saved the System's staff considerable time in processing these requests and greatly sped up the response time experienced by our retirees.

Every five years, the plans are required to undergo an "experience study". These studies compare the actuarial assumptions, including mortality, retirement rates, etc., to the actual experience of the plan over the preceding five-year period. The Board then reviews the advice of our actuaries and makes changes to the assumptions for future years. Among the most significant impacts are changes to the factors we use in our pension calculation system to determine retiree estimated and final benefit amounts. Our most recent experience studies were completed in December 2015,

and the new factors were applied for retirements effective July 1, 2016 and later.

### Acknowledgements

This report reflects the combined effort of our staff under the Board's leadership. Copies of this report, along with other valuable plan information, can be downloaded from the System's website.

I would like to express my sincere thanks to the Boards of Trustees for their leadership and support. Many thanks are also extended to the offices of the Governor, Lieutenant Governor, members of the House and Senate Retirement Committees and their staff, members of the House and Senate, and the department officials whose support and assistance have helped ERS accomplish its mission over the years.

Respectfully submitted,



James A. Potvin, Executive Director  
Employees' Retirement System of Georgia



Government Finance Officers Association

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

Presented to

**Employees' Retirement System  
of Georgia**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2015**

Executive Director/CEO



Public Pension Coordinating Council

***Recognition Award for Funding  
2016***

Presented to

***Employees' Retirement System of Georgia***

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

*Presented by the Public Pension Coordinating Council, a confederation of*

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

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle  
Program Administrator

## Administrative Staff and Organization



**James A. Potvin**  
Executive Director



**Angie Surface**  
Deputy Director



**Charles W. Cary, Jr.**  
CIO - Investment Services



**Laura L. Lanier**  
Controller



**Chris Hackett**  
Director  
Information Technology



**Nicole Paisant**  
Director  
Human Resources



**Susan Anderson**  
Chief Operating  
Officer



**Carolyn Kaplan**  
Director  
Financial Management  
Quality Assurance

### Consulting Services

Cavanaugh Macdonald Consulting, LLC - Actuary  
KPMG LLP - Auditor  
JPMorgan Chase Bank, N. A. - Defined Contribution  
Custodian  
Aon Hewitt - Defined Contribution Consultant and  
Administrator

### Investment Advisors\*

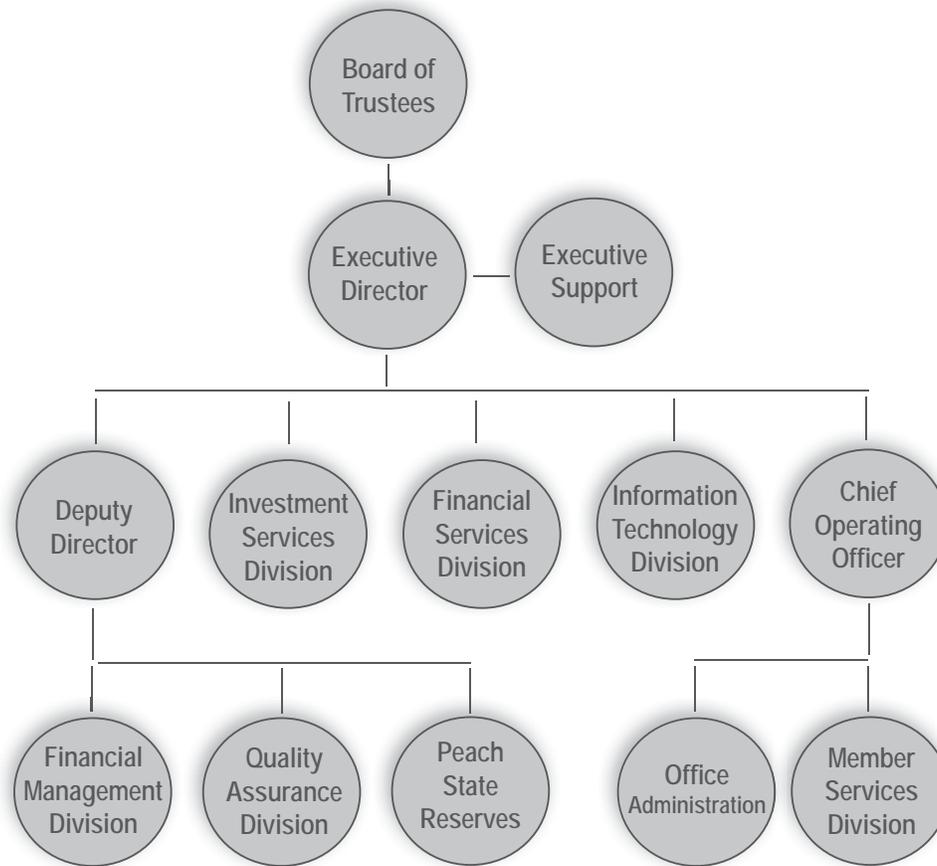
Albritton Capital Management  
Baillie Gifford Overseas Limited  
Barrow, Hanley, Mewhinney & Strauss  
Cooke & Bieler  
Fisher Investments  
Mondrian Investment Partners Limited  
Sands Capital Management

### Medical Advisors

Harold E. Sours, M.D., Atlanta, GA  
G. Lee Cross, M.D., Atlanta, GA  
Douglas Smith, M.D., Smyrna, GA  
William H. Biggers, M.D., Atlanta, GA  
Pedro F. Garcia, M.D., Atlanta, GA  
H. Rudolph Warren, M.D., Dunwoody, GA  
Quinton Pirkle, M.D., Atlanta, GA  
Marvin Bittinger, M.D., Gainesville, GA  
Joseph S. Wilkes, M.D., Sandy Springs, GA

\*See page 75 in the Investment Section for a summary of fees paid to Investment Advisors.

# Organizational Chart



## Our Mission

**Our mission** is to be the guardian of the State of Georgia's retirement plans and promote a dignified retirement for the members, retirees, and their beneficiaries.

**Our vision** is to demonstrate an unwavering commitment to delivering accurate and timely retirement benefits utilizing a knowledgeable staff and state-of-the-art technology to best serve the retirement needs of current and future members.

## Our Values

**Our Core Values** are:

Integrity  
Customer Service  
Operational Excellence  
Continuous Improvement and Innovation



# Financial Section





KPMG LLP  
Suite 2000  
303 Peachtree Street, NE  
Atlanta, GA 30308-3210

## Independent Auditors' Report

The Board of Trustees  
Employees' Retirement System of Georgia:

### Report on the Financial Statements

We have audited the accompanying financial statements of the Employees' Retirement System of Georgia (the System), a component unit of the State of Georgia, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the System's basic financial statements, as listed in the table of contents.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with 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, 2016, 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 3 to the basic financial statements, the System adopted, in 2016, Governmental Accounting Standards Board Statement No. 72, *Fair Value Measurement and Application*. Our opinion is not modified with respect to this matter.

### Report on Summarized Comparative Information

We have previously audited the System's 2015 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated September 30, 2015. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2015 is consistent, in all material respects, with the audited financial statements from which it has been derived.

### Other Matters

#### *Required Supplementary Information*

U.S. generally accepted accounting principles require that the management's discussion and analysis, schedules of employers' and nonemployers' contributions, schedules of employers' and nonemployers' net pension liability and related ratios, schedules of changes in employers' and nonemployers' net pension liability,



schedule of investment returns, schedules of funding progress, and schedules of employer contributions on pages 15-21 and 55-65 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 schedule of administrative expenses – contributions and expenses and schedule of investment expenses are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The schedule of administrative expenses – contributions and expenses and schedule of investment expenses are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling

such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of administrative expenses – contributions and expenses and schedule of 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 subject to the auditing procedures applied in the audit of the basic financial statements, and, accordingly, we do not express an opinion or provide any assurance on them.

#### **Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated September 30, 2016 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 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 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.

December 21, 2016

**KPMG LLP**



## Management's Discussion and Analysis (Unaudited)

*June 30, 2016*

This section provides a discussion and analysis of the financial performance of the Employees' Retirement System of Georgia (the System) for the year ended June 30, 2016. The discussion and analysis of the System's financial performance is within the context of the accompanying basic financial statements, notes to the financial statements, required supplementary schedules, and additional information following this section.

The System is responsible for administering a cost-sharing, multiple-employer defined benefit pension plan for various employer agencies of Georgia, along with six other defined benefit pension plans, three defined benefit OPEB plans and funds, and three defined contribution plans.

The defined benefit pension plans include:

- Employees' Retirement System (ERS)
- Public School Employees Retirement System (PSERS)
- Legislative Retirement System (LRS)
- Georgia Judicial Retirement System (GJRS)
- Georgia Military Pension Fund (GMPF)
- Superior Court Judges Retirement Fund (SCJRF)
- District Attorneys Retirement Fund (DARF)

The defined benefit OPEB plans and funds include:

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

The defined contribution retirement plans include:

- Georgia Defined Contribution Plan (GDCCP)
- State of Georgia Employees' Deferred Compensation Plan (401(k) Plan)
- State of Georgia Employees' Deferred Compensation Plan (457 Plan)

### ***Financial Highlights***

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

- The net position of the System decreased by \$576.6 million, or 3.4%, from \$17.0 billion at June 30, 2015 to \$16.4 billion at June 30, 2016. The decrease in net position from 2015 to 2016 was primarily due to net disbursements exceeding investment returns.
- For the year ended June 30, 2016, the total additions to net position were \$1.0 billion compared to \$1.3 billion for the year ended June 30, 2015. For the year ended June 30, 2016, the additions consisted of employer, nonemployer contributing entities (nonemployer), and member contributions totaling \$816.3 million, insurance premiums of \$4.5 million, net investment income of \$192.8 million, and participant fees of \$1.4 million.
- Net investment income of \$192.8 million in 2016 (comprised of interest and dividend income, the change in fair value of investments, and other, reduced by investment expenses) represents a \$416.9 million decrease, compared to the net investment income of \$609.6 million for the year ended June 30, 2015. The net investment income was lower in 2016 compared to 2015 due to lower returns in equity markets.

## Management's Discussion and Analysis (Unaudited)

- The total deductions were \$1.59 billion and \$1.64 billion for the years ended June 30, 2016 and 2015, respectively. For the year ended June 30, 2016, the deductions consisted of benefit payments of \$1.52 billion, refunds of \$19.8 million, death benefits of \$37.3 million, and administrative expenses of \$16.2 million.
- Benefit payments paid to retirees and beneficiaries had a slight decrease of \$41.2 million, or 2.6%, from \$1.56 billion in 2015 to \$1.52 billion in 2016, resulting primarily from a decrease in participating employers in the 401(k) plan in 2016, coupled with a slight increase in the number of retirees and beneficiaries receiving benefits in 2016.

### *Overview of the Financial Statements*

The basic financial statements include (1) the combining statement of fiduciary net position and changes in fiduciary net position, (2) the defined benefit plans combining statements of fiduciary net position and 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.

In addition, the System presents six types of required supplementary schedules, which provide historical trend information about the plan. The six types of schedules include (1) Schedule of Employers' and Nonemployers' Contributions (2) Schedule of Employers' and Nonemployers' Net Pension Liability and Related Ratios (3) Schedule of Changes in Employers' and Nonemployers' Net Pension Liability (4) Schedule of Investment Returns (5) Schedule of Funding Progress and (6) Schedule of Employer Contributions.

The System prepares its financial statements on the accrual basis of accounting in accordance with U.S. generally accepted accounting principles as promulgated by the GASB. These statements provide information about the System's overall financial status.

### *Description of the Financial Statements*

The *Combining Statement of Fiduciary Net Position* is the statement of financial position presenting information that includes all of the System's assets and liabilities, with the balance representing the *Net Position Restricted for Pensions and OPEB*. The investments of the System in this statement are presented at fair value. This statement is presented on page 22.

The *Combining Statement of Changes in Fiduciary Net Position* reports how the System's net position changed during the fiscal year. The additions include contributions to the retirement plans from employers, nonemployers, and members, group life insurance premiums, participant fees, and net investment income, which includes interest and dividends and the net increase in the fair value of investments, net of investment expenses. The deductions include benefit payments, life insurance death benefit payments, refunds of member contributions and interest, and administrative expenses. This statement is presented on page 24.

The Defined Benefit Plans' *Combining Statement of Fiduciary Net Position* and the *Combining Statement of Changes in Fiduciary Net Position* present the financial position and changes in financial position for each of the funds administered by the System. These statements are on pages 23 and 25, respectively.

*Notes to the Financial Statements* are presented to provide the information necessary for a full understanding of the financial statements. The notes to the financial statements begin on page 26.

## Management's Discussion and Analysis (Unaudited)

*Required Supplementary Information* begins on page 55. The required schedules are discussed as follows:

- The *Schedule of Employers' and Nonemployers' Contributions* presents the required contributions and the percent of required contributions actually contributed.
- The *Schedule of Employers' and Nonemployers' Net Pension Liability and Related Ratios* presents the components of the net pension liability as of the fiscal year end and the fiduciary net position as a percentage of the total pension liability as of that date. This trend information will be accumulated to display a ten-year presentation.
- The *Schedule of Changes in Employers' and Nonemployers' Net Pension Liability* presents total net pension liability and is measured as total pension liability less the amount of the fiduciary net position. This trend information will be accumulated to display a ten-year presentation.
- The *Schedule of Investment Returns* 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 ten-year presentation.

Three of the required schedules above, the *Schedule of Employers' and Nonemployers' Contributions*, the *Schedule of Employers' and Nonemployers' Net Pension Liability and Related Ratios*, and *Schedule of Changes in Employers' and Nonemployers' Net Pension Liability* are applicable to five of the defined benefit pension plans: ERS, PSERS, LRS, GJRS, and GMPF.

Two additional required schedules, the *Schedule of Funding Progress* and the *Schedule of Employer Contributions* relate to defined benefit OPEB plans, which are postemployment benefit plans. The *Schedule of Funding Progress* presents historical trend information about the actuarially determined funded status of the plans from a long-term, ongoing plan perspective, and the progress made in accumulating sufficient assets to fund benefit payments as they become due. The *Schedule of Employer Contributions* presents historical trend information about the annual required contributions of employers and percentage of such contributions in relation to actuarially determined requirements for the years presented.

*Notes to Required Supplementary Information* are presented to provide the information necessary for a full understanding of the supplementary schedules. The notes to required supplementary information begin on page 66.

Additional information is presented, beginning on page 69, which includes the *Schedule of Administrative Expenses – Contributions and Expenses*. The *Schedule of Administrative Expenses – Contributions and Expenses* presents the expenses incurred in the administration of these plans and funds, and the contributions from each plan and fund to provide for these expenses.

## Management's Discussion and Analysis (Unaudited)

### *Financial Analysis of the System*

A summary of the System's net position at June 30, 2016 and 2015 is as follows (dollars in thousands):

	Net Position		Amount Change	Percentage Change
	2016	2015		
<b><u>Assets:</u></b>				
Cash, cash equivalents, and receivables	\$ 360,297	283,624	76,673	27.0 %
Investments	16,057,818	16,704,700	(646,882)	(3.9)
Capital assets, net	6,943	6,850	93	1.4
Total assets	16,425,058	16,995,174	(570,116)	(3.4)
<b><u>Liabilities:</u></b>				
Due to brokers and accounts payable	43,706	37,251	6,455	17.3
Net position	\$ 16,381,352	16,957,923	(576,571)	(3.4)%



## Management's Discussion and Analysis (Unaudited)

The following table presents the investment allocation at June 30, 2016 and 2015:

	2016	2015
<b><u>Asset allocation at June 30 (in percentages):</u></b>		
Equities:		
Domestic	47.8%	48.8%
International	14.5	16.5
Private equity	0.6	0.3
Domestic obligations:		
U.S. Treasuries	13.8	11.4
U.S. Agencies	—	0.1
Corporate and other bonds	14.1	14.2
International obligations:		
Governments	0.5	0.5
Corporates	1.1	1.0
Mutual funds	—	—
Commingled funds	7.6	7.2
<b><u>Asset allocation at June 30 (in thousands):</u></b>		
Equities:		
Domestic	\$ 7,673,204	\$ 8,150,818
International	2,332,236	2,754,520
Private equity	93,885	51,767
Domestic obligations:		
U.S. Treasuries	2,223,199	1,900,292
U.S. Agencies	—	10,005
Corporate and other bonds	2,257,447	2,382,411
International obligations:		
Governments	77,266	77,112
Corporates	174,512	173,609
Mutual funds	5,084	5,271
Commingled funds	1,220,985	1,198,895
	<u>\$ 16,057,818</u>	<u>\$ 16,704,700</u>

The total investment portfolio decreased by \$647 million from 2015, which is primarily due to net disbursements exceeding investment returns.

## Management's Discussion and Analysis (Unaudited)

GASB Statement No. 67 requires the System to report an annual money-weighted rate of return on plan investments, net of plan investment expense. 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 and out of the fund. The nondiscretionary cash flows of 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, 2016 was (7.23)%.

The investment rate of return in fiscal year ended June 30, 2016 was 1.4% with a (0.3)% return on equities, a 5.8% return on private equity (inception date of October 3, 2013) and a 5.5% return on fixed income investments. The five-year annualized rate of return on investments at June 30, 2016 was 7.4%, with an 8.9% return on equities and a 3.5% return on fixed income investments.

A summary of the changes in the System's net position for the years ended June 30, 2016 and 2015 is as follows (dollars in thousands):

	Changes in Net Position		Amount Change	Percentage Change
	2016	2015		
<b>Additions:</b>				
Employer contributions	\$ 621,058	537,253	83,805	15.6 %
Nonemployer contributions	43,933	42,520	1,413	3.3
Member contributions	151,264	138,871	12,393	8.9
Participant fees	1,429	1,298	131	10.1
Insurance premiums	4,542	4,768	(226)	(4.7)
Net investment income	192,765	609,626	(416,861)	(68.4)
Other	15	14	1	7.1
<b>Total additions</b>	<b>1,015,006</b>	<b>1,334,350</b>	<b>(319,344)</b>	<b>(23.9)</b>
<b>Deductions:</b>				
Benefit payments	1,518,314	1,559,551	(41,237)	(2.6)
Refunds	19,762	31,044	(11,282)	(36.3)
Death benefits	37,256	36,908	348	0.9
Administrative expenses	16,245	15,616	629	4.0
<b>Total deductions</b>	<b>1,591,577</b>	<b>1,643,119</b>	<b>(51,542)</b>	<b>(3.1)</b>
<b>Net decrease in net position</b>	<b>\$ (576,571)</b>	<b>(308,769)</b>	<b>(267,802)</b>	<b>86.7 %</b>

## Management's Discussion and Analysis (Unaudited)

*Additions* – The System accumulates resources needed to fund benefit payments through contributions and returns on invested funds. In fiscal year 2016, total contributions increased \$97.6 million, or 13.6%, primarily because of an increase in the employer contribution rates coupled with modest overall salary increases. Net investment income decreased by \$416.9 million, or 68.4%, due to negative returns in foreign equity holdings.

*Deductions* – For fiscal year 2016, total deductions decreased 3.1%, primarily because of a 2.6% decrease in benefit payments resulting primarily from a decrease in participating employers in the 401(k) plan in 2015, coupled with a slight increase in the number of retirees and beneficiaries receiving benefits in 2016. Refunds decreased by 36.3%, which was primarily due to a decrease in the number of refunds processed during 2016. Death benefits increased by 0.9%, which was primarily due to an increase in the number of death claims processed during 2016. Administrative expenses increased by 4.0% over the prior year, primarily due to an increase in required employer retirement contributions, contractual services, and temporary services.

### *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 Employees' Retirement System of Georgia, Two Northside 75, Suite 300, Atlanta, GA 30318.



## Combining Statement of Fiduciary Net Position

June 30, 2016 (with comparative totals as of June 30, 2015)  
(In thousands)

	Defined Contribution Plans					Total
	Defined Benefit Plans	Pooled Investment Fund	Georgia Defined Contribution Plan	401(k) Plan	457 Plan	
<b>Assets</b>						
Cash and cash equivalents	\$ 29,450	157,913	20,541	12,873	1,564	200,320
Receivables:						
Contributions	36,545	—	878	2,116	343	39,882
Interest and dividends	—	42,131	355	—	—	46,142
Due from brokers for securities sold	—	53,612	—	—	—	795
Other	1,408	14	—	472	82	2,651
Unremitted insurance premiums	672	—	—	—	—	(672)
<b>Total receivables</b>	<b>38,625</b>	<b>95,757</b>	<b>1,233</b>	<b>2,588</b>	<b>425</b>	<b>83,304</b>
Investments - at fair value:						
Domestic obligations:						
U.S. Treasuries	—	2,181,601	41,598	—	—	1,900,292
U.S. Agencies	—	—	—	—	—	10,005
Corporate and other bonds	—	2,210,608	46,839	—	—	2,382,411
International obligations:						
Governments	—	77,266	—	—	—	77,266
Corporates	—	174,512	—	—	—	174,512
Equities:						
Domestic	—	7,662,885	—	4,970	5,349	8,150,818
International	—	2,331,018	—	586	632	2,754,520
Private equity	—	93,885	—	—	—	93,885
Mutual funds	—	—	—	2,457	2,627	5,084
Commingled funds	—	—	—	671,872	549,113	1,220,985
Equity in pooled investment fund	14,969,966	—	—	—	—	(14,969,966)
<b>Total investments</b>	<b>14,969,966</b>	<b>14,731,775</b>	<b>88,437</b>	<b>679,885</b>	<b>557,721</b>	<b>16,704,700</b>
Capital assets, net	6,943	—	—	—	—	6,850
<b>Total assets</b>	<b>15,044,984</b>	<b>14,985,445</b>	<b>110,211</b>	<b>685,346</b>	<b>559,710</b>	<b>16,995,174</b>
<b>Liabilities</b>						
Accounts payable and other	24,767	1,478	473	2,111	876	29,728
Due to brokers for securities purchased	—	14,001	—	—	—	7,523
Insurance premiums payable	672	—	—	—	—	(672)
Due to participating systems	—	14,969,966	—	—	—	(14,969,966)
<b>Total liabilities</b>	<b>25,439</b>	<b>14,985,445</b>	<b>473</b>	<b>2,111</b>	<b>876</b>	<b>37,251</b>
<b>Net position restricted for pensions and OPEB</b>	<b>\$ 15,019,545</b>	<b>—</b>	<b>109,738</b>	<b>683,235</b>	<b>558,834</b>	<b>16,957,923</b>

See accompanying notes to financial statements.

## Defined Benefit Plans – Combining Statement of Fiduciary Net Position

June 30, 2016  
(In thousands)

	Defined Benefit - Pension Plans						Defined Benefit - OPEB Plans			Defined Benefit Plans Total	
	Employees' Retirement System	Public School Employees Retirement System	Legislative Retirement System	Georgia Judicial Retirement System	Georgia Military Pension Fund	Superior Court Judges Retirement Fund	District Attorneys Retirement Fund	State Employees' Assurance Department Active	State Employees' Assurance Department OPEB		Survivors Benefit Fund
<b>Assets</b>											
Cash and cash equivalents	\$ 28,592	136	43	464	78	23	3	14	4	93	29,450
Receivables:											
Contributions	36,033	—	28	1,484	—	—	—	—	—	—	36,545
Interest and dividends	—	—	—	—	—	—	—	—	—	—	—
Due from brokers for securities sold	—	—	—	—	—	—	—	—	—	—	—
Other	1,341	61	1	5	—	—	—	—	—	—	1,408
Unremitted insurance premiums	—	—	—	—	—	—	—	80	592	—	672
<b>Total receivables</b>	<b>36,374</b>	<b>61</b>	<b>29</b>	<b>1,489</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>80</b>	<b>592</b>	<b>—</b>	<b>38,625</b>
Investments - at fair value:											
Domestic obligations:											
U.S. Treasuries	—	—	—	—	—	—	—	—	—	—	—
U.S. Agencies	—	—	—	—	—	—	—	—	—	—	—
Corporate and other bonds	—	—	—	—	—	—	—	—	—	—	—
International obligations:											
Governments	—	—	—	—	—	—	—	—	—	—	—
Corporates	—	—	—	—	—	—	—	—	—	—	—
Equities:											
Domestic	—	—	—	—	—	—	—	—	—	—	—
International	—	—	—	—	—	—	—	—	—	—	—
Private equity	—	—	—	—	—	—	—	—	—	—	—
Equity in pooled investment fund	12,324,526	804,666	31,088	401,705	17,714	—	—	240,948	1,028,448	120,871	14,969,966
<b>Total investments</b>	<b>12,324,526</b>	<b>804,666</b>	<b>31,088</b>	<b>401,705</b>	<b>17,714</b>	<b>—</b>	<b>—</b>	<b>240,948</b>	<b>1,028,448</b>	<b>120,871</b>	<b>14,969,966</b>
Capital assets, net	6,943	—	—	—	—	—	—	—	—	—	6,943
<b>Total assets</b>	<b>12,396,435</b>	<b>804,863</b>	<b>31,160</b>	<b>403,658</b>	<b>17,792</b>	<b>23</b>	<b>3</b>	<b>241,042</b>	<b>1,029,044</b>	<b>120,964</b>	<b>15,044,984</b>
<b>Liabilities</b>											
Accounts payable and other	22,216	1,088	184	628	75	15	1	57	503	—	24,767
Due to brokers for securities purchased	—	—	—	—	—	—	—	—	—	—	—
Insurance premiums payable	662	—	1	19	—	—	—	—	—	—	672
Due to participating systems	—	—	—	—	—	—	—	—	—	—	—
<b>Total liabilities</b>	<b>22,868</b>	<b>1,088</b>	<b>185</b>	<b>647</b>	<b>75</b>	<b>15</b>	<b>1</b>	<b>57</b>	<b>503</b>	<b>—</b>	<b>25,439</b>
<b>Net position restricted for pensions and OPEB</b>	<b>\$ 12,373,567</b>	<b>803,775</b>	<b>30,975</b>	<b>403,011</b>	<b>17,717</b>	<b>8</b>	<b>2</b>	<b>240,985</b>	<b>1,028,541</b>	<b>120,964</b>	<b>15,019,545</b>

See accompanying notes to financial statements.

## Combining Statement of Changes in Fiduciary Net Position

Year ended June 30, 2016 (with comparative totals for the year ended June 30, 2015)

(In thousands)

	Defined Contribution Plans					Total		
	Defined Benefit Plans	Pooled Investment Fund	Georgia Defined Contribution Plan	401(k) Plan	457 Plan		Total	
							2016	2015
<b>Additions:</b>								
Contributions:								
Employer	\$ 591,076	—	—	29,982	—	621,058	537,253	
Nonemployer	43,933	—	—	—	—	43,933	42,520	
Member	39,271	—	14,708	79,422	17,413	151,264	138,871	
Participant fees	—	—	—	1,429	—	1,429	1,298	
Insurance premiums	4,542	—	—	—	—	4,542	4,768	
Administrative expense allotment	15	—	—	—	—	15	14	
Investment income:								
Net increase (decrease) in fair value of investments	—	(147,869)	3,913	7,188	7,993	(128,775)	278,140	
Interest and dividends	—	338,575	1,732	1	—	340,308	350,813	
Other	—	—	—	485	622	1,107	1,313	
Less investment expenses	(10,598)	(6,070)	(54)	(2,393)	(760)	(19,875)	(20,640)	
Allocation of investment income	184,636	(184,636)	—	—	—	—	—	
Net investment income	174,038	—	5,591	5,281	7,855	192,765	609,626	
<b>Total additions</b>	<b>853,325</b>	<b>—</b>	<b>20,299</b>	<b>116,114</b>	<b>25,268</b>	<b>1,015,006</b>	<b>1,334,350</b>	
<b>Deductions:</b>								
Benefit payments	1,428,483	—	35	46,508	43,288	1,518,314	1,559,551	
Refunds of member contributions and interest	7,851	—	11,911	—	—	19,762	31,044	
Death benefits	37,256	—	—	—	—	37,256	36,908	
Administrative expenses	11,827	—	766	2,832	820	16,245	15,616	
<b>Total deductions</b>	<b>1,485,417</b>	<b>—</b>	<b>12,712</b>	<b>49,340</b>	<b>44,108</b>	<b>1,591,577</b>	<b>1,643,119</b>	
<b>Net increase (decrease) in net position</b>	<b>(632,092)</b>	<b>—</b>	<b>7,587</b>	<b>66,774</b>	<b>(18,840)</b>	<b>(576,571)</b>	<b>(308,769)</b>	
<b>Net position restricted for pensions and OPEB:</b>								
Beginning of year	15,651,637	—	102,151	626,461	577,674	16,957,923	17,266,692	
End of year	\$ 15,019,545	—	109,738	693,235	558,834	16,381,352	16,957,923	

See accompanying notes to financial statements.

## Defined Benefit Plans – Combining Statement of Changes in Fiduciary Net Position

Year ended June 30, 2016  
(In thousands)

	Defined Benefit Pension Plans							Defined Benefit OPEB Plans			Defined Benefit Plans Total	
	Employees' Retirement System	Public School Employees Retirement System	Legislative Retirement System	Georgia Judicial Retirement System	Georgia Military Pension Fund	Superior Court Judges Retirement Fund	District Attorneys Retirement Fund	State Employees' Assurance Department Active	State Employees' Assurance Department OPEB	Survivors Benefit Fund		
<b>Additions:</b>												
Contributions:												
Employer	\$ 583,082	—	—	4,754	1,990	1,199	51	—	—	—	—	591,076
Nonemployer Member	12,484	28,560	—	2,869	—	—	—	—	—	—	—	43,933
Participant fees	31,961	1,925	328	5,507	—	—	—	—	—	—	—	39,721
Insurance premiums	—	—	—	—	—	—	—	611	3,931	—	—	4,542
Administrative expense allotment	10	—	—	—	—	4	1	—	—	—	—	15
Investment income:												
Net increase (decrease) in fair value of investments	—	—	—	—	—	—	—	—	—	—	—	—
Interest and dividends	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—
Less investment expenses	(9,459)	(356)	(14)	(172)	(5)	—	—	(60)	(532)	—	—	(10,598)
Allocation of investment income	150,751	10,165	377	5,227	245	—	—	3,169	13,091	1,611	—	184,636
Net investment income	141,292	9,809	363	5,055	240	—	—	3,109	12,559	1,611	—	174,038
<b>Total additions</b>	<b>768,829</b>	<b>40,314</b>	<b>691</b>	<b>18,185</b>	<b>2,230</b>	<b>1,203</b>	<b>52</b>	<b>3,720</b>	<b>16,490</b>	<b>1,611</b>	<b>—</b>	<b>853,325</b>
<b>Deductions:</b>												
Benefit payments	1,347,633	57,903	1,724	19,011	963	1,198	51	—	—	—	—	1,428,483
Refunds of member contributions and interest	7,087	465	38	261	—	—	—	—	—	—	—	7,851
Death benefits	—	—	—	—	—	—	—	3,345	33,911	—	—	37,256
Administrative expenses	8,506	1,321	313	754	262	4	1	67	599	—	—	11,827
<b>Total deductions</b>	<b>1,363,226</b>	<b>59,689</b>	<b>2,075</b>	<b>20,026</b>	<b>1,225</b>	<b>1,202</b>	<b>52</b>	<b>3,412</b>	<b>34,510</b>	<b>—</b>	<b>—</b>	<b>1,485,417</b>
<b>Transfers to (from) other plans</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>2</b>	<b>(2)</b>	<b>—</b>	<b>—</b>
<b>Net increase (decrease) in net position</b>	<b>(594,397)</b>	<b>(19,375)</b>	<b>(1,384)</b>	<b>(1,841)</b>	<b>1,005</b>	<b>1</b>	<b>—</b>	<b>308</b>	<b>(18,018)</b>	<b>1,609</b>	<b>(632,092)</b>	<b>—</b>
<b>Net position restricted for pensions and OPEB:</b>												
Beginning of year	12,967,964	823,150	32,359	404,852	16,712	7	2	240,677	1,046,559	119,355	—	15,651,637
End of year	\$ 12,373,567	803,775	30,975	403,011	17,717	8	2	240,985	1,028,541	120,964	—	15,019,545

See accompanying notes to financial statements.

## Notes to Financial Statements

June 30, 2016

### (1) *General*

The accompanying basic financial statements of the Employees' Retirement System of Georgia, including all plans and funds administered by the Employees' Retirement System of Georgia (collectively, the System), is comprised of the Employees' Retirement System of Georgia (ERS), Public School Employees Retirement System (PSERS), Legislative Retirement System (LRS), Georgia Judicial Retirement System (GJRS), Georgia Military Pension Fund (GMPF), State Employees' Assurance Department Active Members Trust Fund (SEAD-Active), State Employees' Assurance Department Retired and Vested Inactive Members Trust Fund (SEAD-OPEB), Survivors Benefit Fund (SBF), Superior Court Judges Retirement Fund (SCJRF), District Attorneys Retirement Fund (DARF), Georgia Defined Contribution Plan (GDCCP), State of Georgia Employee's Deferred Compensation Plan (401(k) Plan), and the State of Georgia Employees' Deferred Compensation Plan (457 Plan). All significant transactions among the various systems, departments, and funds have been eliminated. The Board of Trustees, comprised of active and retired members, ex-officio state employees, and appointees by the Governor, are ultimately responsible for the administration of the System.

### (2) *Authorizing Legislation and Plan Descriptions*

Each plan and fund, including benefit and contribution provisions, was established and can be amended by state law. The following summarizes authorizing legislation and the plan description of each retirement fund:

- (a) 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 and has the powers and privileges of a corporation. There were 425 employers and 1 nonemployer contributing entity participating in the plan during 2016.

#### **Membership**

As of June 30, 2016, participation in ERS is as follows:

Inactive members and beneficiaries currently receiving benefits	48,449
Inactive members entitled to benefits but not yet receiving benefits	57,995
Active plan members	59,766
Total	166,210

#### **Benefits**

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 after 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, post-retirement cost-of-living adjustments may also be made to members' benefits, provided the members

## Notes to Financial Statements

June 30, 2016

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 and Vesting

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 state is required to contribute at a specified percentage of active member payrolls, determined annually by actuarial valuation. The state contributions are not at any time refundable to the member or his/her beneficiary.

Pursuant to The Official Code of Georgia Annotated (O.C.G.A.) 47-2-292, the employer contributions for local tax commissioners are funded by the State of Georgia on behalf of the local county employer and pursuant to O.C.G.A. 47-2-290, the employer contribution for certain State Court employees is funded by the state on behalf of the local county employer.

Employer and nonemployer contributions as a percentage of covered payroll required for fiscal year 2016 were based on the June 30, 2013 actuarial valuation for the Old Plan, New Plan, and GSEPS as follows:

	Old Plan	New Plan	GSEPS
Employer and nonemployer:			
Normal	1.35%	6.10%	3.07%
Employer paid for member	4.75	—	—
Accrued liability	18.62	18.62	18.62
Total	<u>24.72%</u>	<u>24.72%</u>	<u>21.69%</u>

Members become vested after ten years of membership service. Upon termination of employment, member contributions with accumulated interest are refundable upon request by the member. However, if an otherwise vested member terminates and withdraws his/her member contributions, the member forfeits all rights to retirement benefits.

- (b) PSERS is a cost-sharing multiple-employer defined benefit pension plan established by the Georgia General Assembly in 1969 for the purpose of providing retirement allowances for public school employees who are not eligible for membership in the Teachers Retirement System of Georgia. The ERS Board of Trustees, plus two additional trustees, administers PSERS. There were 182 employers and 1 nonemployer contributing entity participating in the plan during 2016.

### Membership

As of June 30, 2016, participation in PSERS is as follows:

Inactive members and beneficiaries currently receiving benefits	17,626
Inactive members entitled to benefits but not yet receiving benefits	50,672
Active plan members	34,874
Total	<u>103,172</u>

## Notes to Financial Statements

### Benefits

A member may retire and elect to receive normal monthly retirement benefits after completion of ten years of creditable service and attainment of age 65. A member may choose to receive reduced benefits after age 60 and upon completion of ten years of service.

Upon retirement, the member will receive a monthly benefit of \$14.75, multiplied by the number of years of creditable service. Death and disability benefits are also available through PSERS. Additionally, PSERS may make periodic cost-of-living adjustments to the monthly benefits.

### Contributions and Vesting

Individuals who became members prior to July 1, 2012 contribute \$4 per month for nine months each fiscal year. Individuals who became members on or after July 1, 2012 contribute \$10 per month for nine months each fiscal year. The State of Georgia, although not the employer of PSERS members, is required by statute to make employer contributions actuarially determined and approved and certified by the PSERS Board of Trustees.

Employer contributions required for the year ended June 30, 2016 were \$764.97 per active member and were based on the June 30, 2013 actuarial valuation.

Members become vested after ten years of creditable service. Upon termination of employment, member contributions with accumulated interest are refundable upon request by the member. However, if an otherwise vested member terminates and withdraws his/her member contributions, the member forfeits all rights to retirement benefits.

- (c) LRS is a single-employer defined benefit pension plan established by the Georgia General Assembly from 1967-1971, and later reestablished in 1979, for the purpose of providing retirement allowances for all members of the Georgia General Assembly. LRS is administered by the ERS Board of Trustees. There was one employer in the plan for 2016.

### Membership

As of June 30, 2016, participation in LRS is as follows:

Inactive members and beneficiaries currently receiving benefits	257
Inactive members entitled to benefits but not yet receiving benefits	154
Active plan members	224
Total	635

### Benefits

A member's normal retirement is after eight years of creditable service and attainment of age 65, or eight years of membership service (four legislative terms) and attainment of age 62. A member may retire early and elect to receive a monthly retirement benefit after completion of eight years of membership service and attainment of age 60; however, the retirement benefit is reduced by 5% for each year the member is under age 62.

Upon retirement, the member will receive a monthly service retirement allowance of \$36, multiplied by the number of years of creditable service, reduced by age reduction factors, if applicable. Death benefits are also available through the plan.

### Contributions and Vesting

Member contributions are 8.5% of annual salary. The state pays member contributions in excess of 4.75% of annual compensation. Employer contributions are actuarially determined and approved and certified by the ERS Board of Trustees.

There were no employer contributions required for the year ended June 30, 2016 based on the June 30, 2013 actuarial valuation.

## Notes to Financial Statements

Members become vested after eight years of creditable service. Upon termination of employment, member contributions with accumulated interest are refundable upon request by the member. However, if an otherwise vested member terminates and withdraws his/her member contributions, the member forfeits all rights to retirement benefits.

- (d) GJRS is a cost-sharing multiple-employer defined benefit pension plan established by the Georgia General Assembly in 1998 for the purpose of providing retirement allowances for judges and solicitors general of the state courts and juvenile court judges in Georgia, and their survivors and other beneficiaries, superior court judges of the State of Georgia, and district attorneys of the State of Georgia.

The GJRS was also created to serve the members and beneficiaries of the Trial Judges and Solicitors Retirement Fund, the Superior Court Judges Retirement System, and the District Attorneys Retirement System (collectively, the Predecessor Retirement Systems). As of June 30, 1998, any person who was an active, inactive, or retired member or beneficiary of the Predecessor Retirement Systems was transferred to GJRS in the same status effective July 1, 1998. All assets of the Predecessor Retirement Systems were transferred to GJRS as of July 1, 1998. The ERS Board of Trustees and three additional trustees administer GJRS. There were 93 employers and 1 nonemployer contributing entity participating in the plan during 2016.

### Membership

As of June 30, 2016, participation in GJRS is as follows:

Inactive members and beneficiaries currently receiving benefits	295
Inactive members entitled to benefits but not yet receiving benefits	61
Active plan members	526
Total	882

### Benefits

The normal retirement for GJRS is age 60, with 16 years of creditable service; however, a member may retire at age 60 with a minimum of 10 years of creditable service.

Annual retirement benefits paid to members are computed as 66⅔% of state paid salary at retirement for district attorneys and superior court judges and 66⅔% of the average over 24 consecutive months for trial judges and solicitors, plus 1% for each year of credited service over 16 years, not to exceed 24 years. Early retirement benefits paid to members are computed as the pro rata portion of the normal retirement benefit, based on service not to exceed 16 years. Death, disability, and spousal benefits are also available.

### Contributions and Vesting

Members are required to contribute 7.5% of their annual salary. Those who became members prior to July 1, 2012 must also contribute an additional 2.5% of their annual salary if spousal benefit is elected. Employer contributions are actuarially determined and approved and certified by the GJRS Board of Trustees.

Pursuant to O.C.G.A. 47-23-81, the employer contributions for state court judges and solicitors are funded by the State of Georgia on behalf of the local county employers and pursuant to O.C.G.A. 47-23-82, the employer contributions for juvenile court judges are funded by the state on behalf of local county employers.

## Notes to Financial Statements

Employer and nonemployer contributions required for fiscal year 2016 were based on the June 30, 2013 actuarial valuation as follows:

Employer and nonemployer:	
Normal	14.36 %
Accrued liability	(2.17)
Total	12.19 %

Members become vested after ten years of creditable service. Upon termination of employment, member contributions with accumulated interest are refundable upon request by the member. However, if an otherwise vested member terminates and withdraws his/her member contributions, the member forfeits all rights to retirement benefits.

- (e) The GMPF is a single-employer defined benefit pension plan established on July 1, 2002 by the Georgia General Assembly for the purpose of providing retirement allowances and other benefits for members of the Georgia National Guard (National Guard). The ERS Board of Trustees administers the GMPF.

### Membership

As of June 30, 2016, GMPF had 915 retirees and beneficiaries currently receiving benefits. Active and inactive plan member information is maintained by one employer, the Georgia Department of Defense.

### Benefits

A member becomes eligible for benefits upon attainment of age 60, with 20 or more years of creditable service (including at least 15 years of service as a member of the National Guard), having served at least 10 consecutive years as a member of the National Guard immediately prior to discharge, and having received an honorable discharge from the National Guard.

The retirement allowance is payable for life in the amount of \$50 per month, plus \$5 per month for each year of creditable service in excess of 20 years. The maximum benefit is \$100 per month.

### Contributions and Vesting

Employer contributions are actuarially determined and approved and certified by the ERS Board of Trustees. There are no member contributions required.

Employer contributions required for the year ended June 30, 2016 were \$146.58 per active member and were based on the June 30, 2013 actuarial valuation.

A member becomes vested after 20 years of creditable service (including at least 15 years of service as a member of the National Guard), having served at least 10 consecutive years as a member of the National Guard immediately prior to discharge, and having received an honorable discharge from the National Guard.

- (f) SEAD-Active is a cost-sharing multiple-employer defined other post-employment benefit plan created in 2007 by the Georgia General Assembly to amend Title 47 of the Official Code of Georgia Annotated, relating to retirement, so as to establish a fund for the provision of term life insurance to active members of ERS, LRS, and GJRS. Effective July 1, 2009, no newly hired members of any Georgia public retirement system are eligible for term life insurance under SEAD. The SEAD-Active trust fund accumulates the premiums received from the aforementioned retirement systems, including interest earned on deposits and investments of such payments from active members. There were 477 employers participating in the plan during 2016.

## Notes to Financial Statements

As of June 30, 2016, participation in SEAD-Active is as follows:

Retirees and beneficiaries	—
Terminated employees	—
Active plan members	31,869
Total	31,869

Employee contribution rates as a percentage of member's salaries were appropriated for the fiscal year ending June 30, 2016 as follows: ERS Old Plan – 0.05% and ERS New Plan, LRS and GJRS – 0.02%. ERS Old Plan members were hired prior to July 1, 1982 and New Plan members were hired on or after July 1, 1982, but prior to January 1, 2009.

Georgia law provides that employee contributions to the 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, 2016.

According to the policy terms covering the lives of members, insurance coverage is provided on a monthly, renewable term basis, and no return premiums or cash value are earned. The net position represents the excess accumulation of investment income and premiums over benefit payments and expenses and are held as a reserve for payment of death benefits under existing policies.

The amount of insurance coverage is equal to 18 times monthly earnable compensation frozen at age 60. For members with no creditable service prior to April 1, 1964, the amount decreases from age 60 by a half of 1% per month until age 65 at which point the member will be covered for 70% of the age 60 coverage. Life insurance proceeds are paid in lump sum to the beneficiary upon death of the member.

Administrative costs for the plan are determined based on the plan's share of overhead costs to accumulate and invest funds, actuarial services, and to process benefit payments to beneficiaries. Administrative fees are financed from the assets of the plan.

- (g) SEAD-OPEB is a cost-sharing multiple-employer defined other post employment benefit plan created in 2007 by the Georgia General Assembly to amend Title 47 of the Official Code of Georgia Annotated, 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 GJRS. Effective July 1, 2009, no newly hired members of any Georgia public retirement system are eligible for term life insurance under SEAD. The SEAD-OPEB trust fund accumulates the premiums received from the aforementioned retirement systems, including interest earned on deposits and investments of such payments from retired and vested inactive members. There were 477 employers participating in the plan during 2016.

As of June 30, 2016, participation in SEAD-OPEB is as follows:

Retirees and beneficiaries	40,793
Terminated employees	918
Active plan members	31,869
Total	73,580

## Notes to Financial Statements

Employee contribution rates as a percentage of member's salaries were appropriated for the fiscal year ending June 30, 2016 as follows: ERS Old Plan – 0.45% and ERS New Plan, LRS and GJRS – 0.23%. ERS Old Plan members were hired prior to July 1, 1982 and New Plan members were hired on or after July 1, 1982, but prior to January 1, 2009.

Georgia law provides that employee contributions to the 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, 2016.

According to the policy terms covering the lives of members, insurance coverage is provided on a monthly, renewable term basis, and no return premiums or cash value are earned. The net position represents the excess accumulation of investment income and premiums over benefit payments and expenses and are held as a reserve for payment of death benefits under existing policies.

The amount of insurance for a retiree with creditable service prior to April 1, 1964 is the full amount of insurance under SEAD-Active in effect on the date of retirement. The amount of insurance for a service retiree with no creditable service prior to April 1, 1964 is 70% of the amount of insurance under SEAD-Active 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.

Administrative costs for the plan are determined based on the plan's share of overhead costs to accumulate and invest funds, actuarial services, and to process benefit payments to beneficiaries. Administrative fees are financed from the assets of the plan.

- (h) Survivors Benefit Fund (SBF) was established under O.C.G.A. 47-2-128(c)(3) within the ERS trust solely for maintaining group term life insurance coverage for members of the plan. All assets of SBF are therefore limited to the payment of benefits and expenses for such coverage and cannot be used to pay pension benefits of ERS. SBF is shown on the financial statements separately with the OPEB plans to closely align with their ultimate purpose. While shown with the OPEB plans for reporting purposes, SBF may only be used to pay benefits or expenses of SEAD-OPEB or SEAD-Active with authorization by the ERS Board of Trustees. There are no liabilities associated with this fund and an actuarial valuation is not prepared, as there are no funding requirements.
- (i) SCJRF is a single-employer defined benefit pension plan established by the Georgia General Assembly in 1945 for the purpose of providing retirement benefits to the superior court judges of the State of Georgia. SCJRF is directed by its own Board of Trustees. The Boards of Trustees for ERS and SCJRF entered into a contract for ERS to administer the plan effective July 1, 1995.

### Membership

As of June 30, 2016, SCJRF had 16 retirees and beneficiaries currently receiving benefits and no active members. No new members are allowed into SCJRF.

### Benefits

The normal retirement for SCJRF is age 68, with 19 years of creditable service, with a benefit of two-thirds the salary paid to superior court judges. A member may also retire at age 65, with a minimum of 10 years of creditable service, with a benefit of one-half the salary paid to superior court judges. Death, disability, and spousal benefits are also available.

### Contributions and Vesting

Employer contributions are not actuarially determined, but are provided on an as-needed basis to fund current benefits.

## Notes to Financial Statements

- (j) DARF is a multiple-employer defined benefit pension plan established by the Georgia General Assembly in 1949 for the purpose of providing retirement benefits to the district attorneys of the State of Georgia. DARF is directed by its own Board of Trustees. The Boards of Trustees for ERS and DARF entered into a contract for ERS to administer the plan effective July 1, 1995.

### Membership

As of June 30, 2016, DARF had 5 retirees and beneficiaries currently receiving benefits and no active members. No new members are allowed into DARF.

### Benefits

Persons appointed as district attorney emeritus shall receive an annual benefit of \$15,000, or one-half of the state salary received by such person as a district attorney for the calendar year immediately prior to the person's retirement, whichever is greater.

### Contributions and Vesting

Employer contributions are not actuarially determined, but are provided on an as-needed basis to fund current benefits.

- (k) GDCP is a defined contribution plan established by the Georgia General Assembly in July 1992 for the purpose of providing retirement allowances for state employees who are not members of a public retirement or pension system and do not participate in Social Security. GDCP is administered by the ERS Board of Trustees. There were 71 employers participating in the plan during 2016. There were 98,843 members as of June 30, 2016.

### Benefits

A member may retire and elect to receive periodic payments after attainment of age 65. The payments will be based upon mortality tables and interest assumptions adopted by the ERS Board of Trustees. If a terminated member has less than \$5,000 credited to his/her account, the ERS Board of Trustees has the option of requiring a lump-sum distribution to the member. Upon the death of a member, a lump-sum distribution equaling the amount credited to his/her account will be paid to the member's designated beneficiary.

### Contributions

Members are required to contribute 7.5% of their annual salary. There are no employer contributions. Earnings will be credited to each member's account as adopted by the ERS Board of Trustees. Upon termination of employment, the amount of the member's account is refundable upon request by the member.

- (l) The 401(k) Plan was established by the State of Georgia Employee Benefit Plan Council (the Council) in accordance with Georgia Law 1985, as amended, Official Code of Georgia, Sections 45-18-50 through 45-18-58, and Section 401(k) of the Internal Revenue Code (IRC). On October 1, 1994, activity commenced when the 401(k) Plan became available to employees of the State of Georgia Community Service Boards (CSBs). On December 1, 1998, the 401(k) Plan became available to employees of the Georgia Lottery Corporation (GLC). On July 1, 2005, the Plan became available to employees of Fayette County Board of Education; on July 1, 2006, the Plan became available to employees of Walton County Board of Education; and on January 1, 2010, the Plan became available to employees of Henry County Board of Education.

Effective July 1, 1998, the State of Georgia Employee's Deferred Compensation Group Trust (Master Trust) was formed for the State of Georgia Deferred Compensation Program to serve as the funding medium for the 401(k) Plan. At that time, the 401(k) Plan began operating on an employee elective deferral basis for all state employees working at least 1,000 hours in a 12-month period. All assets of the 401(k) Plan are held in trust for the exclusive benefit of the participants and their beneficiaries. The assets of the 401(k) Plan and the 457 Plan are commingled in the Master Trust with the respective trusts owning units of the Master Trust. Participant contributions are invested according to the participant's investment

## Notes to Financial Statements

election. If the participant does not make an election, investments are automatically defaulted to a Lifecycle Fund based on the participant's date of birth.

Effective July 1, 2005 (HB275), ERS became the trustee of the 401(k) Plan. Aon Hewitt and JPMorgan Chase hold, administer, and invest the assets of the Master Trust.

### Contributions and Vesting

Participating CSBs, the GLC, and Walton and Henry County Boards of Education offer employer contributions, some matching, some automatic, and some a combination of both, to eligible employees at various rates (limited to a maximum of \$265,000 base salary for both calendar year 2015 and 2016). As of January 1, 2009, individual participants may defer up to 80% of eligible compensation, or up to limits prescribed by the IRC (whichever is less).

Effective January 1, 2009, in accordance with O.C.G.A. 47-2-350 through 47-2-360, newly hired state employees, as well as rehired state employees who did not maintain eligibility for the ERS Old Plan or New Plan, are members of GSEPS. From January 1, 2009 to June 30, 2014, the GSEPS tier included automatic enrollment in the 401(k) Plan at a contribution rate of 1% of salary. Effective July 1, 2014, in accordance with HB764, the employee contribution rate for automatic enrollment increased from 1% to 5%. The state matches 100% of the employee's initial 1% contribution and 50% of contribution percentages 2 through 5. Therefore, the state will match 3% of salary when an employee contributes at least 5% to the 401(k) Plan. Employee contributions greater than 5% of salary do not receive any matching funds. Plan participants who are not employees of the GLC, a CSB, Walton and Henry County Boards of Education, or who are not GSEPS eligible do not receive any employer contributions in their 401(k) Plan.

All employer contributions are subject to a vesting schedule, which determines eligibility to receive all or a portion of the employer contribution balance at the time of any distribution from the account after separation from all state service. Vesting is determined based on the following schedule:

Less than 1 year	—%
1	20
2	40
3	60
4	80
5 or more years	100

For CSB/GLC participants whose services terminated prior to January 1, 2010 but after December 31, 2001, the following vesting schedule applies:

Less than 2 years	—%
2	20
3	40
4	60
5	80
6 or more years	100

For CSB/GLC participants whose services terminated prior to January 1, 2002, the following vesting schedule applies:

Less than 3 years	—%
3	20
4	40
5	60
6	80
7 or more years	100

## Notes to Financial Statements

Employee contributions and earnings thereon are 100% vested at all times. The 401(k) Plan also allows participants to roll over amounts from other qualified plans to their respective account in the 401(k) Plan on approval by the 401(k) Plan Administrator. Such rollovers are 100% vested at the time of transfer.

### Participation

As of June 30, 2016, the 401(k) plan had 55,542 participants with a balance. A total of 484 employers transmitted contributions to the plan during 2016.

### Distributions

The participant may receive the value of his or her vested accounts upon attaining age 59.5, qualifying financial hardship, or 30 days after retirement or other termination of service (employer contribution balances are only eligible for distribution upon separation from service). Upon the death of a participant, his or her beneficiary shall be entitled to the vested value of his or her accounts. Employees who die while actively employed and eligible for 401(k) Plan employer matching contributions become fully vested in employer contributions upon death. Distributions are made in installments or in a lump sum.

- (m) The 457 Plan was established by the State Personnel Board in accordance with Georgia laws 1974, page 198 as amended, Official Code of Georgia, Sections 45-18-30 through 45-18-36, and Section 457 of the Internal Revenue Code (IRC). The 457 Plan is available to employees of the State of Georgia and county health departments and permits such employees to defer a portion of their annual salary until future years. Employee contributions and earnings thereon are 100% vested at all times.

Effective July 1, 1998, the Master Trust was formed for the State of Georgia Deferred Compensation Program to serve as the funding medium for the 457 Plan. All assets of the 457 Plan are held in trust for the exclusive benefit of the participants and their beneficiaries. The assets of the 457 Plan and the 401(k) Plan are commingled in the Master Trust with the respective trusts owning units of the Master Trust. Participant contributions are invested according to the participant's investment election. If the participant does not make an election, investments are automatically defaulted to a Lifecycle Fund based on the participant's date of birth.

Effective July 1, 2005 (HB275), ERS became the trustee of the 457 Plan. Aon Hewitt and JPMorgan Chase hold, administer, and invest the assets of the Master Trust.

### Participation

As of June 30, 2016, the 457 plan had 13,029 participants with a balance. A total of 319 employers transmitted contributions to the plan during 2016.

### Distributions

The balance in the employee's account in the 457 Plan is not available to the employee until age 70.5, termination, retirement, death, or unforeseeable emergency as defined in the 457 Plan. Upon the death of a participant, his or her beneficiary shall be entitled to the vested value of his or her accounts. Distributions are made in installments or in a lump sum.

## Notes to Financial Statements

### (3) *Significant Accounting Policies and System Asset Matters*

#### (a) **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.

#### (b) **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 Statement No. 61, *The Financial Reporting Entity's Omnibus – An Amendment of GASB Statement 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.

#### (c) **Cash and Cash Equivalents**

Cash and cash equivalents, reported at cost, include cash on deposit at banks and cash on deposit with the investment custodian earning a credit to offset fees.

#### (d) **Investments**

Investments are reported at fair value and net asset value (NAV) as a practical expedient to fair value. Equity securities traded on a national or international exchange are valued at the last reported sales price. Investments in private investment companies are valued utilizing the NAVs provided by the underlying private investment companies as a practical expedient. The Fund applies the practical expedient to its investments in private investment companies on an investment by investment basis, and consistent with the Fund's entire position in a particular investment, unless it is probable that the Fund will sell a portion of an investment at an amount different from the NAV of the investment. Private equity fair value is measured using the valuation of the underlying companies as reported by the general partner. These investments, in the form of limited partnerships, reflect values and related performance on a quarter lag basis due to the nature of the investments and the time it takes to value them. The estimated fair value of investments without readily ascertainable market values could differ significantly if a ready market for these assets existed. Fixed income securities are valued based primarily on quoted market prices provided by independent pricing sources. Global foreign exchange holdings are translated using a third party vendor. Investment income is recognized as earned by the System. 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, 2016:

Asset Class	Target Allocation
Fixed income	25%-45%
Equities	55%-75%
Alternative investments	0%-5%
Cash and cash equivalents	–
<b>Total</b>	<b>100%</b>

## Notes to Financial Statements

Approximately 13.8% of the investments held in trust 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 and its instrumentalities that represent 5% or more of the System's net position restricted for pensions and OPEB.

For the year ended June 30, 2016, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was (7.23)%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

(e) **Capital Assets**

Capital assets, including software development costs, are stated at cost less accumulated depreciation. The capitalization thresholds are \$100,000 for buildings and building improvements and \$5,000 for equipment and vehicles. Depreciation on capital assets is computed using the straight-line method over estimated useful lives of five to forty years. Depreciation expense is included in administrative expenses. 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 combining statement of changes in fiduciary net position in the period of disposal.

(f) **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 net position and changes therein. Actual results could differ from those estimates.

(g) **New Accounting Pronouncements**

During fiscal year 2016, the System adopted the provisions of GASB Statement No. 72, *Fair Value Measurement and Application*. This Statement addresses accounting and financial reporting issues related to fair value measurements and requires disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. See note 4(b) for disclosures related to GASB Statement No. 72.

During fiscal year 2016, the System adopted the provisions of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets that are Not Within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. The objective is to improve the usefulness of information about pensions included in external financial reports for making decisions and assessing accountability. The implementation of GASB Statement No. 73 did not impact the recorded amounts in the financial statements. However, this statement did provide additional clarification on the reporting requirements of the System's required supplementary information.

During fiscal year 2016, the System adopted the provisions of GASB Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments* which supersedes GASB Statement 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to identify the hierarchy of generally accepted accounting principles (GAAP) used to prepare financial statements for the purpose of improving the usefulness and comparability of those statements among governments. The implementation of GASB Statement No. 76 did not impact the recorded amounts in the financial statements.

During fiscal year 2016, the System adopted the provisions of GASB Statement No. 79, *Certain External Investment Pools and Pool Participants*. The objective of this Statement is to establish criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial statement reporting. There are no applicable reporting requirements for the System in fiscal year 2016.

## Notes to Financial Statements

### (h) Reclassification

Certain reclassifications to the 2015 amounts have been reclassified to conform to the current year presentation.

### (4) *Investment Program*

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

#### (a) Cash and Cash Equivalents

Custodial credit risk is the risk that in the event a depository institution or counterparty fails, the System would not be able to recover the value of its deposits or investments. The System does not have a formal policy relating to custodial credit risk. The carrying amount of the System's deposits totaled \$222,341,286 at June 30, 2016 with actual bank balances of \$221,541,190. The System's bank balances of \$192,749,710 are fully insured through the Federal Deposit Insurance Corporation, an independent agency of the U.S. government. The remaining bank deposits of \$28,791,480 are uninsured and uncollateralized. The System's noncash investments are held in the System's name and are not exposed to custodial credit risk.

Short term securities authorized but not currently used, are as follows:

- 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.

#### (b) 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, 2016, the System held U.S. Treasury bonds of \$2,223,199,350 and international government bonds of \$77,266,420.
- Obligations unconditionally guaranteed by agencies of the U.S. government. At June 30, 2016, the System did not hold agency bonds.
- U.S. and foreign corporate obligations. At June 30, 2016, the System held U.S. corporate bonds of \$2,257,446,930 and international corporate bonds of \$174,512,200.
- Private placements are authorized under the same general restrictions applicable to corporate bonds. At June 30, 2016, the System did not hold private placements.

## Notes to Financial Statements

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 O.C.G.A. to be domiciled in the United States. At June 30, 2016, the System held domestic equities of \$7,662,885,209.
- 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, 2016, the System held international equities of \$560,489,939 and ADRs of \$1,770,528,145.
- Alternative investments are authorized (in statute) to provide portfolio diversification and to enhance the risk-adjusted rate of return for the retirement fund that benefits the members of the System. By statute, the allocation to alternative investments shall not, in the aggregate, exceed 5% of the System's plan assets at any time. Further, in any calendar year, new commitments to alternative investments shall not, in the aggregate exceed 1% of the System's plan assets until the first occurrence that 4½% of the assets have been invested, at which time there shall be no limit on the percentage of commitments that may be made in any calendar year, subject to compliance with other provisions of the statute. At June 30, 2016, the System held private equity investments of \$93,885,264.

The State of Georgia Employee's Deferred Compensation Group Trust (Master Trust) invests in various mutual funds, common collective trust funds, and separate accounts, as selected by participants. Each participant is allowed to select and invest contributions into investment options that own one or more commingled funds, as authorized by the Board of Trustees. Participants may also contribute to a self-directed brokerage account that offers investments in various mutual funds and equities. At June 30, 2016, the deferred compensation plans held commingled funds of \$1,220,983,650, mutual funds of \$5,084,305, domestic equities of \$10,319,627, and international equities of \$1,217,435.

Substantially all of the investments of ERS, PSERS, LRS, GJRS, GMPF, SBF, SEAD-Active, and SEAD-OPEB are pooled into one common investment fund. Units in the pooled common investment fund are allocated to the respective plans, based upon the cost of assets contributed, and additional units are allocated to the participating plans, based on the market value of the pooled common investment fund at the date of contribution. Net income of the pooled common investment fund is allocated monthly to the participating plans, based upon the number of units outstanding during the month.

## Notes to Financial Statements

The units and fair value of each plan's equity in the pooled common investment fund at June 30, 2016 were as follows (dollars in thousands):

	Fair Value	Units
Employees' Retirement System	\$ 12,324,526	3,059,682
Public School Employees Retirement System	804,666	199,766
Legislative Retirement System	31,088	7,718
Georgia Judicial Retirement System	401,705	99,727
State Employees' Assurance Department - Active	240,948	59,818
State Employees' Assurance Department - OPEB	1,028,448	255,322
Survivors Benefit Fund	120,871	30,007
Georgia Military Pension Fund	17,714	4,398
	\$ 14,969,966	3,716,438

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

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

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

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

The System also has investments held through limited partnerships for which fair value is estimated using the NAV reported by the investment manager as a practical expedient to fair value. Such investments have not been categorized within the fair value hierarchy.

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. The table on the following page shows the fair value leveling of the System's investments.

## Notes to Financial Statements

Investments by Fair Value Level	Fair Value Measures Using			Total
	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3	
Equities:				
Domestic	\$ 7,673,126,109	—	78,727	7,673,204,836
International	2,315,971,591	16,263,928	—	2,332,235,519
Obligations:				
Domestic:				
U.S. Treasuries	2,181,601,250	41,598,100	—	2,223,199,350
Corporate bonds	—	2,257,446,930	—	2,257,446,930
International:				
Governments	—	77,266,420	—	77,266,420
Corporate bonds	—	174,512,200	—	174,512,200
Mutual funds	5,084,305	—	—	5,084,305
Commingled funds	68,015,131	1,152,968,519	—	1,220,983,650
Total investments by fair value level	\$ 12,243,798,386	3,720,056,097	78,727	15,963,933,210
<b>Investments measured at (NAV)<sup>(a)</sup></b>				
Private equity funds				93,885,264
Total investments				\$ 16,057,818,474

(a) Certain investments that are measured at fair value using the NAV per share (or its equivalent) as a practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the statement of financial position.

Equity securities classified in Level 1 are valued using prices quoted in active markets for those securities. 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.

Mutual funds and commingled funds classified in Level 1 are valued using prices quoted in active markets for those investment types. Commingled funds classified in Level 2 are valued using observable underlying inputs that are market corroborated.

## Notes to Financial Statements

Private equity funds are valued as described below.

	Investments measured at NAV	Unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period
Private Equity Funds	\$ 93,885,264	195,175,510	Not eligible	N/A

Investments in privately held limited partnerships are valued using the NAV provided by the general partner as of March 31 of each fiscal year, adjusted by the System for cash flows through June 30. The quarterly values of the partnership investments provided from the general partner are reviewed by the System to determine if any adjustments are necessary. The types of partnership strategies held include growth equity, leveraged buyouts and mezzanine debt. Three of the thirteen partnerships held are secondary investments and are in or nearing the wind-up phase of the fund. Excluding a debt partnership with a remaining term of approximately two years, the remaining investments typically have an approximate life of eight – ten years. These investments are considered illiquid since the nature of these private investments prohibits redemption with the fund; instead, distributions are received from the general partner through liquidation of the underlying assets of the fund. The System currently has no plans to sell any of the investments prior to their liquidation resulting in these assets being carried at the NAV estimated by the general partner and adjusted for second quarter cash flows by the System.

*Credit Risk.* Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the Employees' Retirement 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. If a bond is subsequently downgraded to a rating below "A", it is placed on a watch list. The System holds one bond which was downgraded to a rating below "A". Obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk and do not require disclosure of credit quality. The quality ratings of investments in fixed income securities as described by Standard & Poor's and by Moody's Investors Service, which are nationally recognized statistical rating organizations, at June 30, 2016 are shown in the chart on the following page:

## Notes to Financial Statements

Quality Ratings of Fixed Income Investments Held at June 30, 2016		
Investment Type	Standard & Poor's/ Moody's Quality Rating	June 30,2016 Fair Value
Domestic obligations:		
U.S. Treasuries		\$ 2,223,199,350
Corporates	AAA/Aaa	201,737,130
	AA/Aaa	200,927,080
	AA/Aa	259,330,440
	A/Aa	82,543,230
	AA/A	483,142,960
	A/A	952,642,890
	BBB/Baa	77,123,200
Total Corporates		2,257,446,930
International obligations:		
Governments	A/Aa	77,266,420
Corporates	AA/Aa	76,855,240
	A/Aa	97,656,960
Total Corporates		174,512,200
Total Fixed Income Investments		\$ 4,732,424,900

Mutual funds, commingled funds, and various equities of the deferred compensation plans are not considered to have credit risk and do not require disclosure of credit risk rating.

*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, 2016, 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 on the following page quantifies to the fullest extent possible the interest rate risk of the System's fixed income assets.

## Notes to Financial Statements

Effective Duration of Fixed Income Assets			
Fixed Income Type	Fair Value June 30, 2016	Percent of All Fixed Income Assets	Effective Duration (Years)
Domestic obligations:			
U.S. Treasuries	\$ 2,223,199,350	47.0 %	6.1
Corporates	2,257,446,930	47.7	3.5
International obligations:			
Governments	77,266,420	1.6	1.3
Corporates	174,512,200	3.7	1.5
Total	\$ 4,732,424,900	100.0 %	4.6

Mutual funds, commingled funds and various equities of the deferred compensation plans are not considered to have interest rate risk and do not require disclosure of interest rate risk.

*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 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. As of June 30, 2016, the System's exposure to foreign currency risk in U.S. Dollars is highlighted in the table on the following page:



## Notes to Financial Statements

International Investment Securities at Fair Value as of June 30, 2016			
Currency	Equities	Fixed Income	Total
Australian Dollar	\$ 28,346,870	—	28,346,870
Brazilian Real	15,742,601	—	15,742,601
British Pound	64,127,331	—	64,127,331
Canadian Dollar	5,972,000	—	5,972,000
Czech Krone	425,552	—	425,552
Danish Krone	10,194,781	—	10,194,781
Euro	67,861,200	—	67,861,200
Hong Kong Dollar	36,711,100	—	36,711,100
Indonesian Rupiah	5,612,989	—	5,612,989
Japanese Yen	105,426,652	—	105,426,652
Malaysian Ringgit	9,314,555	—	9,314,555
Mexican Peso	8,996,447	—	8,996,447
New Taiwan Dollar	35,071,268	—	35,071,268
Philippine Peso	5,439,930	—	5,439,930
Polish Zloty	2,379,753	—	2,379,753
Singapore Dollar	14,768,950	—	14,768,950
South African Rand	29,445,741	—	29,445,741
South Korean Won	54,259,633	—	54,259,633
Swedish Krona	29,347,199	—	29,347,199
Swiss Franc	14,785,191	—	14,785,191
Thailand Baht	16,260,196	—	16,260,196
Total Holdings Subject to Foreign Currency Risk	560,489,939	—	560,489,939
Investment Securities Payable in U.S. Dollars	1,770,528,145	251,778,620	2,022,306,765
Total International Investment Securities - at Fair Value	\$ 2,331,018,084	251,778,620	2,582,796,704

(5) *Securities Lending Program*

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

Securities loaned totaled \$3,298,466,014 at fair value at June 30, 2016. The collateral value was equal to 105.4% of the loaned securities' value at June 30, 2016. The System's lending collateral was held in the System's name by the tri-party custodian.

## Notes to Financial Statements

Loaned securities are included in the accompanying Combining Statement of Fiduciary Net Position since the System maintains ownership. The related collateral securities are not recorded as assets on the System's Combining 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. The System is deemed not to have the ability to pledge or sell the 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.

### (6) *Capital Assets*

The following is a summary of capital assets and depreciation information as of and for the year ended June 30, 2016:

	Balance at June 30, 2015	Additions	Disposals	Balance at June 30, 2016
Capital assets:				
Land	\$ 4,320,718	21,069	—	4,341,787
Building	2,800,000	—	—	2,800,000
Equipment	2,638,686	399,869	(32,132)	3,006,423
Vehicles	13,382	—	—	13,382
Computer software	14,344,609	—	—	14,344,609
	<u>24,117,395</u>	<u>420,938</u>	<u>(32,132)</u>	<u>24,506,201</u>
Accumulated depreciation for:				
Building	(770,000)	(70,000)	—	(840,000)
Equipment	(2,139,481)	(249,729)	23,982	(2,365,228)
Vehicles	(13,382)	—	—	(13,382)
Computer software	(14,344,609)	—	—	(14,344,609)
	<u>(17,267,472)</u>	<u>(319,729)</u>	<u>23,982</u>	<u>(17,563,219)</u>
Capital assets, net	<u>\$ 6,849,923</u>	<u>101,209</u>	<u>(8,150)</u>	<u>6,942,982</u>

During fiscal year 2016, the System did not experience any capital asset impairment loss with respect to the provisions of GASB Statement No. 42, *Accounting and Financial Reporting for Impairment of Capital Assets and for Insurance Recoveries*.

### (7) *Commitments*

As of June 30, 2016, the System had committed to fund certain private equity partnerships for a total capital commitment of \$300,750,000. Of this amount, \$195,175,510 remained unfunded and is not recorded on the System's Combining Statement of Fiduciary Net Position.

### (8) *Net Pension Liability of Employers and Nonemployers - ERS*

The components of the net pension liability of the participating employers and nonemployers at June 30, 2016 were as follows (dollars in thousands):

Total pension liability	\$ 17,103,987
Plan fiduciary net position	<u>12,373,567</u>
Employers' and nonemployers' net pension liability	\$ 4,730,420
Plan fiduciary net position as a percentage of the total pension liability	<u>72.34%</u>

## Notes to Financial Statements

*Actuarial assumptions:* The total pension liability was determined by an actuarial valuation as of June 30, 2015, 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 7 years for males and set forward 3 years for females was used for death after disability retirement. 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, 2015 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 returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return*
Fixed income	30.00 %	(0.50) %
Domestic large equities	37.20	9.00
Domestic mid equities	3.40	12.00
Domestic small equities	1.40	13.50
International developed market stocks	17.80	8.00
International emerging market stocks	5.20	12.00
Alternatives	5.00	10.50
Total	100.00 %	

\* Rates shown are 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 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.

## Notes to Financial Statements

*Sensitivity of the net pension liability to changes in the discount rate:* The following presents the net pension liability, 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 (dollars in thousands):

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Employers' and nonemployers' net pension liability	\$ 6,410,596	4,730,420	3,298,576

*Actuarial valuation date:* June 30, 2015 is the actuarial valuation date upon which the total pension liability is based. An expected total pension liability is determined as of June 30, 2016 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.

### (9) *Net Pension Liability of Employers and Nonemployers – PSERS*

The components of the net pension liability of the participating employers and nonemployers at June 30, 2016 were as follows (dollars in thousands):

Total pension liability	\$ 992,292
Plan fiduciary net position	803,775
Employers' and nonemployers' net pension liability	\$ 188,517
Plan fiduciary net position as a percentage of the total pension liability	81.00%

*Actuarial assumptions:* The total pension liability was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	n/a
Investment rate of return	7.50%, net of pension plan investment expense, including inflation

Post-retirement mortality rates were based on the RP-2000 Blue-Collar Mortality Table projected to 2025 with projection scale BB (set forward 3 years for males and 2 years for females) for the period after service retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table projected to 2025 with projection scale BB (set forward 5 years for both males and females) was used for death after disability retirement. 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, 2015 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 returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the table on the following page:

## Notes to Financial Statements

Asset Class	Target Allocation	Long-term Expected Real Rate of Return*
Fixed income	30.00 %	(0.50) %
Domestic large stocks	37.20	9.00
Domestic mid stocks	3.40	12.00
Domestic small stocks	1.40	13.50
International developed market stocks	17.80	8.00
International emerging market stocks	5.20	12.00
Alternatives	5.00	10.50
Total	100.00 %	

\* Rates shown are 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, 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 (dollars in thousands):

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Employers' and nonemployers' net pension liability	\$ 299,133	188,517	95,548

Actuarial valuation date: June 30, 2015 is the actuarial valuation date upon which the total pension liability is based. An expected total pension liability is determined as of June 30, 2016 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.

### (10) *Net Pension Liability of Employer – LRS*

The components of the net pension liability of the participating employer at June 30, 2016 were as follows (dollars in thousands):

Total pension liability	\$ 26,142
Plan fiduciary net position	30,975
Employer's net pension liability (asset)	\$ (4,833)
Plan fiduciary net position as a percentage of the total pension liability	118.49%

## Notes to Financial Statements

*Actuarial assumptions:* The total pension liability was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	None
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 projected to 2025 with projection scale BB (set forward 2 years for both males and females) for the period after service retirement. The RP-2000 Employee Mortality Table projected to 2025 using projection scale BB was used for deaths in active service.

The actuarial assumptions used in the June 30, 2015 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 returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return*
Fixed income	30.00 %	(0.50) %
Domestic large stocks	37.20	9.00
Domestic mid stocks	3.40	12.00
Domestic small stocks	1.40	13.50
International developed market stocks	17.80	8.00
International emerging market stocks	5.20	12.00
Alternatives	5.00	10.50
Total	100.00 %	

\* Rates shown are 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, 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 (dollars in thousands):

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Employers' and nonemployers' net pension liability (asset)	\$ (2,380)	(4,833)	(6,902)

## Notes to Financial Statements

*Actuarial valuation date:* June 30, 2015 is the actuarial valuation date upon which the total pension liability is based. An expected total pension liability is determined as of June 30, 2016 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.

### (11) *Net Pension Liability of Employers and Nonemployers – GJRS*

The components of the net pension liability of the participating employers and nonemployers at June 30, 2016 were as follows (dollars in thousands):

Total pension liability	\$	368,669
Plan fiduciary net position		403,011
Employer's net pension liability (asset)	\$	(34,342)
Plan fiduciary net position as a percentage of the total pension liability		109.32%

*Actuarial assumptions:* The total pension liability was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	4.50%, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation

Mortality rates were based on the RP-2000 Combined Mortality Table projected to 2025 with projection scale BB and set forward 2 years for both males and females for the period after retirement and for dependent beneficiaries. For the period after disability retirement, the RP-2000 Disabled Mortality Table projected to 2025 with projection scale BB and set back 7 years for males and set forward 3 year for females is used. 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, 2015 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 returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return*
Fixed income	30.00 %	(0.50) %
Domestic large stocks	37.20	9.00
Domestic mid stocks	3.40	12.00
Domestic small stocks	1.40	13.50
International developed market stocks	17.80	8.00
International emerging market stocks	5.20	12.00
Alternatives	5.00	10.50
Total	100.00 %	

\* Rates shown are net of inflation.

## Notes to Financial Statements

*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, 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 (dollars in thousands):

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Employers' and nonemployers' net pension liability (asset)	\$ 1,701	(34,342)	(65,684)

*Actuarial valuation date:* June 30, 2015 is the actuarial valuation date upon which the total pension liability is based. An expected total pension liability is determined as of June 30, 2016 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.

### (12) Net Pension Liability of Employer – GMPF

The components of the net pension liability of the participating employer at June 30, 2016 were as follows (dollars in thousands):

Total pension liability	\$ 36,950
Plan fiduciary net position	17,717
Employer's net pension liability (asset)	\$ 19,233
Plan fiduciary net position as a percentage of the total pension liability	47.95%

Actuarial assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases	n/a
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 projected to 2025 with projection scale BB (set forward 2 years for both males and females) for the period after service retirement. The RP-2000 Employee Mortality Table projected to 2025 using projection scale BB was used for deaths in active service.

The actuarial assumptions used in the June 30, 2015 valuation were based on the results of an actuarial experience study for the period July 1, 2009 – June 30, 2014.

## Notes to Financial Statements

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

Asset Class	Target Allocation	Long-term Expected Real Rate of Return*
Fixed income	30.00 %	(0.50) %
Domestic large stocks	37.20	9.00
Domestic mid stocks	3.40	12.00
Domestic small stocks	1.40	13.50
International developed market stocks	17.80	8.00
International emerging market stocks	5.20	12.00
Alternatives	5.00	10.50
Total	100.00 %	

\* Rates shown are 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, 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 (dollars in thousands):

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Employers' net pension liability	\$ 24,686	19,233	14,804

*Actuarial valuation date:* June 30, 2015 is the actuarial valuation date upon which the total pension liability is based. An expected total pension liability is determined as of June 30, 2016 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.

## Notes to Financial Statements

### (13) Funded Status and Funding Progress - Defined Benefit OPEB Plans

The funded status of the SEAD-Active and SEAD-OPEB plans as of June 30, 2015, the most recent actuarial valuation date, are as follows (dollar amounts in thousands):

	Actuarial Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Projected Unit Credit (b)	Unfunded AAL/ (Funded Excess) (b-a)	Funded Ratio (a/b)	Annual Covered Payroll (c)	Unfunded AAL/ (Funded Excess) as Percentage of Covered Payroll [(b-a)/c]
SEAD - Active	\$ 240,677	21,723	(218,954)	1,107.9%	\$ 1,521,741	(14.4)%
SEAD - OPEB	1,046,559	769,747	(276,812)	136.0	1,521,741	(18.2)

The SBF does not have an actuarial valuation as there are no funding requirements and no liabilities related to the fund.

The schedules of funding progress, presented as required supplementary information (RSI) following the notes to the financial statements, present multi-year trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the AALs for benefits.

Additional information as of the latest actuarial valuation follows:

	SEAD-Active	SEAD-OPEB
Valuation date	June 30, 2015	June 30, 2015
Actuarial cost method	Projected Unit Credit	Projected Unit Credit
Amortization method	Level dollar, open	Level dollar, open
Remaining amortization period	N/A	N/A
Asset valuation method	Market value of assets	Market value of assets
Actuarial assumptions:		
Investment rate of return <sup>1</sup>	7.50%	7.50%
Projected salary increases:		
ERS <sup>1</sup>	3.25-7.00%	3.25-7.00%
GJRS <sup>1</sup>	4.50%	4.50%
LRS	—	—
Post retirement cost-of-living adjustment	N/A	N/A

<sup>1</sup> Includes inflation rate of 2.75%.

Required Supplementary Information (UNAUDITED)

Schedules of Employers' and Nonemployers' Contributions - Defined Benefit Pension Plans

For year ended June 30

(In thousands)

Year Ended	Actuarially Determined Contribution (a)	Contributions in relation to the actuarially determined contribution (b)	Contribution deficiency (excess) (a-b)	Covered employee payroll (c)	Contributions as a percentage of covered employee payroll (b/c)
6/30/2007	\$ 270,141	270,141	—	2,680,972	10.1 %
6/30/2008	286,256	286,256	—	2,809,199	10.2
6/30/2009	282,103	281,206	897	2,674,155	10.5
6/30/2010	263,064	263,064	—	2,571,042	10.2
6/30/2011	261,132	261,132	—	2,486,780	10.5
6/30/2012	273,623	274,034	(411)	2,414,884	11.3
6/30/2013	358,376	358,992	(616)	2,335,773	15.4
6/30/2014	428,982	429,752	(770)	2,335,773	18.4
6/30/2015	517,220	518,163	(943)	2,353,225	22.0
6/30/2016	595,124	595,566	(442)	2,390,457	24.9
6/30/2007	6,490	6,490	—	N/A	N/A
6/30/2008	2,869	2,869	—	N/A	N/A
6/30/2009	5,529	5,529	—	N/A	N/A
6/30/2010	5,530	5,530	—	N/A	N/A
6/30/2011	7,509	7,509	—	N/A	N/A
6/30/2012	15,884	15,884	—	N/A	N/A
6/30/2013	24,829	24,829	—	N/A	N/A
6/30/2014	27,160	27,160	—	N/A	N/A
6/30/2015	28,461	28,461	—	N/A	N/A
6/30/2016	28,580	28,580	—	N/A	N/A
6/30/2007	—	62	(62)	N/A	N/A
6/30/2008	—	73	(73)	N/A	N/A
6/30/2009	—	71	(71)	N/A	N/A
6/30/2010	—	75	(75)	N/A	N/A
6/30/2011	—	75	(75)	N/A	N/A
6/30/2012	—	76	(76)	N/A	N/A
6/30/2013	—	128	(128)	N/A	N/A
6/30/2014	—	45	(45)	N/A	N/A
6/30/2015	—	—	—	N/A	N/A
6/30/2016	—	—	—	N/A	N/A

Required Supplementary Information (UNAUDITED)

Schedules of Employers' and Nonemployers' Contributions - Defined Benefit Pension Plans

For year ended June 30

(In thousands)

Year Ended	Actuarially Determined Contribution (a)	Contributions in relation to the actuarially determined contribution (b)	Contribution deficiency (excess) (a-b)	Covered employee payroll (c)	Contributions as a percentage of covered employee payroll (b/c)
6/30/2007	\$ 1,778	1,778	—	48,621	3.7 %
6/30/2008	2,395	2,395	—	51,102	4.7
6/30/2009	1,703	1,703	—	52,803	3.2
6/30/2010	2,600	2,600	—	51,293	5.1
6/30/2011	1,932	1,932	—	52,331	3.7
6/30/2012	2,083	2,083	—	51,898	4.0
6/30/2013	2,279	2,279	—	52,807	4.3
6/30/2014	2,375	2,375	—	54,787	4.3
6/30/2015	4,261	4,261	—	54,272	7.9
6/30/2016	7,623	7,623	—	57,401	13.3
6/30/2007	1,005	1,005	—	N/A	N/A
6/30/2008	1,103	1,103	—	N/A	N/A
6/30/2009	1,323	1,323	—	N/A	N/A
6/30/2010	1,434	1,434	—	N/A	N/A
6/30/2011	1,282	1,282	—	N/A	N/A
6/30/2012	1,521	1,521	—	N/A	N/A
6/30/2013	1,703	1,703	—	N/A	N/A
6/30/2014	1,892	1,892	—	N/A	N/A
6/30/2015	1,893	1,893	—	N/A	N/A
6/30/2016	1,990	1,990	—	N/A	N/A

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

<sup>1</sup> An employer group within ERS did not contribute the full actuarially determined contribution. This employer is making additional contributions to repay this shortfall.

<sup>2</sup> No statistics regarding covered payroll are available. Contributions are not based upon members' salaries, but are simply \$4 per member, per month, for nine months, each fiscal year if hired prior to July 1, 2012 and \$10 per member, per month, for nine months, if hired after July 1, 2012.

<sup>3</sup> The General Assembly of Georgia made contributions from 2007-2014 that were not required.

<sup>4</sup> No statistics regarding covered payroll are available. Active and inactive plan member information is maintained by the Georgia Department of Defense.

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

## Required Supplementary Information (UNAUDITED)

### Schedules of Employers' and Nonemployers' Net Pension Liability and Related Ratios – Defined Benefit Pension Plans

(In thousands)

	June 30, 2016	June 30, 2015	June 30, 2014
<b>Employees' Retirement System:</b>			
Total pension liability	\$ 17,103,937	17,019,362	17,042,149
Plan fiduciary net position	12,373,567	12,967,964	13,291,531
Employers' and nonemployers' net pension liability	<u>\$ 4,730,370</u>	<u>4,051,398</u>	<u>3,750,618</u>
Plan fiduciary net position as a percentage of the total pension liability	72.34 %	76.20 %	77.99 %
Covered-employee payroll	\$ 2,390,457	2,353,225	2,335,773
Employers' and nonemployers' net pension liability as a percentage of covered-employee payroll	197.89 %	172.16 %	160.57 %
<b>Public School Employees Retirement System:</b>			
Total pension liability	\$ 992,292	946,200	930,745
Plan fiduciary net position	803,775	823,150	821,733
Employers' and nonemployers' net pension liability	<u>\$ 188,517</u>	<u>123,050</u>	<u>109,012</u>
Plan fiduciary net position as a percentage of the total pension liability	81.00 %	87.00 %	88.29 %
Covered-employee payroll	n/a	n/a	n/a
Employers' and nonemployers' net pension liability as a percentage of covered-employee payroll	n/a	n/a	n/a
<b>Legislative Retirement System:</b>			
Total pension liability	\$ 26,142	25,271	25,216
Plan fiduciary net position	30,975	32,359	32,794
Employer's net pension liability (asset)	<u>\$ (4,833)</u>	<u>(7,088)</u>	<u>(7,578)</u>
Plan fiduciary net position as a percentage of the total pension liability	118.49 %	128.05 %	130.05 %
Covered-employee payroll	n/a	n/a	n/a
Employer's net pension liability (asset) as a percentage of covered-employee payroll	n/a	n/a	n/a
<b>Georgia Judicial Retirement System:</b>			
Total pension liability	\$ 368,669	357,081	350,443
Plan fiduciary net position	403,011	404,852	400,790
Employers' and nonemployers' net pension liability (asset)	<u>\$ (34,342)</u>	<u>(47,771)</u>	<u>(50,347)</u>
Plan fiduciary net position as a percentage of the total pension liability	109.32 %	113.38 %	114.37 %
Covered-employee payroll	\$ 57,401	54,272	54,787
Employers' and nonemployers' net pension liability (asset) as a % of covered-employee payroll	(59.83) %	(88.02) %	(91.90) %
<b>Georgia Military Pension Fund:</b>			
Total pension liability	\$ 36,950	33,343	31,511
Plan fiduciary net position	17,717	16,712	15,251
Employer's net pension liability	<u>\$ 19,233</u>	<u>16,631</u>	<u>16,260</u>
Plan fiduciary net position as a percentage of the total pension liability	47.95 %	50.12 %	48.40 %
Covered-employee payroll	n/a	n/a	n/a
Employer's net pension liability as a percentage of covered-employee payroll	n/a	n/a	n/a

Schedules above are intended to show information for 10 years. Additional years will be displayed as they become available.  
See accompanying notes to required supplementary schedule and accompanying independent auditors' report.

## Required Supplementary Information (UNAUDITED)

### Schedules of Changes in Employers' and Nonemployers' Net Pension Liability – Defined Benefit Pension Plans (In thousands)

	June 30, 2016	June 30, 2015	June 30, 2014
<b>Employees' Retirement System:</b>			
Total pension liability:			
Service cost	\$ 143,043	145,045	150,075
Interest	1,225,650	1,227,846	1,224,380
Benefit changes	—	—	—
Differences between expected and actual experience	(238)	(53,950)	—
Changes of assumptions	70,890	—	—
Benefit payments	(1,347,633)	(1,334,278)	(1,305,998)
Refunds of contributions	(7,087)	(7,450)	(8,757)
Net change in total pension liability	84,625	(22,787)	59,700
Total pension liability-beginning	17,019,362	17,042,149	16,982,449
Total pension liability-ending (a)	17,103,987	17,019,362	17,042,149
Plan fiduciary net position:			
Contributions-employer	583,082	505,668	418,807
Contributions-nonemployer	12,484	12,495	10,945
Contributions-member	31,961	33,713	32,423
Administrative expense allotment	10	10	—
Net investment income	141,292	474,147	2,021,748
Benefit payments	(1,347,633)	(1,334,278)	(1,305,998)
Administrative expense	(8,506)	(7,872)	(7,440)
Refunds of contributions	(7,087)	(7,450)	(8,757)
Other	—	—	—
Net change in plan fiduciary net position	(594,397)	(323,657)	1,161,728
Plan fiduciary net position-beginning	12,967,964	13,291,531	12,129,803
Plan fiduciary net position-ending (b)	12,373,567	12,967,964	13,291,531
Net pension liability-ending (a)-(b)	\$ 4,730,420	4,051,398	3,750,618

## Required Supplementary Information (UNAUDITED)

### Schedules of Changes in Employers' and Nonemployers' Net Pension Liability – Defined Benefit Pension Plans (In thousands)

	June 30, 2016	June 30, 2015	June 30, 2014
<b>Public School Employees Retirement System:</b>			
Total pension liability:			
Service cost	\$ 11,952	12,088	11,049
Interest	68,776	67,652	66,143
Benefit changes	—	—	—
Differences between expected and actual experience	(9,483)	(6,858)	—
Changes of assumptions	33,215	—	—
Benefit payments	(57,903)	(56,972)	(56,189)
Refunds of contributions	(465)	(455)	(514)
Net change in total pension liability	46,092	15,455	20,489
Total pension liability-beginning	946,200	930,745	910,256
Total pension liability-ending (a)	992,292	946,200	930,745
Plan fiduciary net position:			
Contributions-nonemployer	28,580	28,461	27,160
Contributions-member	1,925	1,800	1,659
Net investment income	9,809	30,129	123,799
Benefit payments	(57,903)	(56,972)	(56,189)
Administrative expense	(1,321)	(1,545)	(1,450)
Refunds of contributions	(465)	(456)	(514)
Other	—	—	—
Net change in plan fiduciary net position	(19,375)	1,417	94,465
Plan fiduciary net position-beginning	823,150	821,733	727,268
Plan fiduciary net position-ending (b)	803,775	823,150	821,733
Net pension liability-ending (a)-(b)	\$ 188,517	123,050	109,012

## Required Supplementary Information (UNAUDITED)

### Schedules of Changes in Employers' and Nonemployers' Net Pension Liability – Defined Benefit Pension Plans (In thousands)

	June 30, 2016	June 30, 2015	June 30, 2014
<b>Legislative Retirement System:</b>			
Total pension liability:			
Service cost	\$ 331	338	344
Interest	1,829	1,824	1,799
Benefit changes	—	—	—
Differences between expected and actual experience	(465)	(325)	—
Changes of assumptions	938	—	—
Benefit payments	(1,724)	(1,756)	(1,801)
Refunds of contributions	(38)	(26)	(30)
Net change in total pension liability	871	55	312
Total pension liability-beginning	25,271	25,216	24,904
Total pension liability-ending (a)	26,142	25,271	25,216
Plan fiduciary net position:			
Contributions-employer	—	—	45
Contributions-member	328	327	282
Net investment income	363	1,189	4,969
Benefit payments	(1,724)	(1,756)	(1,801)
Administrative expense	(313)	(169)	(152)
Refunds of contributions	(38)	(26)	(30)
Other	—	—	—
Net change in plan fiduciary net position	(1,384)	(435)	3,313
Plan fiduciary net position-beginning	32,359	32,794	29,481
Plan fiduciary net position-ending (b)	30,975	32,359	32,794
Net pension liability (asset)-ending (a)-(b)	\$ (4,833)	(7,088)	(7,578)

## Required Supplementary Information (UNAUDITED)

### Schedules of Changes in Employers' and Nonemployers' Net Pension Liability – Defined Benefit Pension Plans (In thousands)

	June 30, 2016	June 30, 2015	June 30, 2014
<b>Georgia Judicial Retirement System:</b>			
Total pension liability:			
Service cost	\$ 12,713	7,751	7,584
Interest	26,058	25,566	24,530
Benefit changes	—	—	—
Differences between expected and actual experience	(3,603)	(7,542)	—
Changes of assumptions	(4,308)	—	—
Benefit payments	(19,011)	(18,365)	(17,441)
Refunds of contributions	(261)	(772)	(22)
Net change in total pension liability	11,588	6,638	14,651
Total pension liability-beginning	357,081	350,443	335,792
Total pension liability-ending (a)	368,669	357,081	350,443
Plan fiduciary net position:			
Contributions-employer	4,754	2,696	1,373
Contributions-nonemployer	2,869	1,564	1,002
Contributions-member	5,507	5,061	4,731
Net investment income	5,055	14,697	60,012
Benefit payments	(19,011)	(18,365)	(17,441)
Administrative expense	(754)	(819)	(754)
Refunds of contributions	(261)	(772)	(22)
Other	—	—	—
Net change in plan fiduciary net position	(1,841)	4,062	48,901
Plan fiduciary net position-beginning	404,852	400,790	351,889
Plan fiduciary net position-ending (b)	403,011	404,852	400,790
Net pension liability (asset)-ending (a)-(b)	\$ (34,342)	(47,771)	(50,347)

## Required Supplementary Information (UNAUDITED)

### Schedules of Changes in Employers' and Nonemployers' Net Pension Liability – Defined Benefit Pension Plans (In thousands)

	June 30, 2016	June 30, 2015	June 30, 2014
<b>Georgia Military Pension Fund</b>			
Total pension liability:			
Service cost	\$ 73	73	73
Interest	2,465	2,330	2,223
Benefit changes	—	—	—
Differences between expected and actual experience	950	326	—
Changes of assumptions	1,082	—	—
Benefit payments	(963)	(897)	(841)
Refunds of contributions	—	—	—
Net change in total pension liability	3,607	1,832	1,455
Total pension liability-beginning	33,343	31,511	30,056
Total pension liability-ending (a)	36,950	33,343	31,511
Plan fiduciary net position:			
Contributions-employer	1,990	1,893	1,892
Contributions-member	—	—	—
Net investment income	240	585	2,179
Benefit payments	(963)	(896)	(841)
Administrative expense	(262)	(121)	(110)
Refunds of contributions	—	—	—
Other	—	—	—
Net change in plan fiduciary net position	1,005	1,461	3,120
Plan fiduciary net position-beginning	16,712	15,251	12,131
Plan fiduciary net position-ending (b)	17,717	16,712	15,251
Net pension liability-ending (a)-(b)	\$ 19,233	16,631	16,260

Schedules above are intended to show information for 10 years. Additional years will be displayed as they become available.  
See accompanying notes to required supplementary schedules and accompanying independent auditors' report.

**Required Supplementary Information (UNAUDITED)****Schedule of Investment Returns**

For the year ended June 30, 2016

	2016	2015	2014
Pooled Investment Fund:			
Annual money-weighted rate of return, net of investment expense	(7.23) %	(5.23) %	(5.95) %

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.  
See accompanying notes to required supplementary schedule and accompanying independent auditors' report.

Required Supplementary Information (UNAUDITED)

Schedules of Funding Progress - Defined Benefit OPEB Plans

June 30, 2016

(In thousands)

	Actuarial valuation date	Actuarial value of plan assets (a)	Actuarial accrued liability (AAL) projected unit credit (b)	Unfunded AAL/ (funded excess) (b-a)	Funded ratio (alb)	Annual covered payroll (c)	Unfunded AAL/ (funded excess) as percentage of covered payroll [(b-a)/c]
<b>State Employees' Assurance Department-Active</b>							
	6/30/2010	\$ 156,132	40,523	(115,609)	385.3%	\$ 2,401,974	(4.8)%
	6/30/2011	184,783	40,145	(144,638)	460.3	2,166,982	(6.7)
	6/30/2012	183,390	39,317	(144,073)	466.4	1,962,800	(7.3)
	6/30/2013	204,779	37,512	(167,267)	545.9	1,767,052	(9.5)
	6/30/2014	235,358	35,877	(199,481)	656.0	1,628,712	(12.2)
	6/30/2015	240,677	21,723	(218,954)	1,107.9	1,521,741	(14.4)
<b>State Employees' Assurance Department-OPEB</b>							
	6/30/2010	680,449	691,001	10,552	98.5	2,401,974	0.4
	6/30/2011	807,893	678,421	(129,472)	119.1	2,166,982	(6.0)
	6/30/2012	818,284	704,617	(113,667)	116.1	1,962,800	(5.8)
	6/30/2013	907,831	754,786	(153,045)	120.3	1,767,052	(8.7)
	6/30/2014	1,037,901	788,020	(249,881)	131.7	1,628,712	(15.3)
	6/30/2015	1,046,559	769,747	(276,812)	136.0	1,521,741	(18.2)

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

The SBF does not obtain an actuarial valuation as there are no funding requirements or liabilities related to the fund.

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

Required Supplementary Information (UNAUDITED)

Schedules of Employer Contributions-Defined Benefit OPEB Plans

June 30, 2016

(In thousands)

	Year ended June 30	State annual required contribution	Percentage contributed
State Employees' Assurance Department-Active	2010	\$ —	N/A
	2011	—	N/A
	2012	—	N/A
	2013	—	N/A
	2014	—	N/A
	2015	—	N/A
State Employees' Assurance Department-OPEB	2010	—	N/A
	2011	—	N/A
	2012 <sup>1</sup>	12,724	100.0%
	2013 <sup>1</sup>	5,009	100.0%
	2014	—	N/A
	2015	—	N/A

This data was provided by the System's actuary.

There are no required contributions to the SBF.

<sup>1</sup> During fiscal year 2012, in lieu of a required employer contribution, \$12,724,000 was transferred from the Survivors Benefit Fund to SEAD-OPEB. During fiscal year 2013, in lieu of a required employer contribution, \$5,009,000 was transferred from the Survivors Benefit Fund.

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

## Notes to Required Supplementary Information (UNAUDITED)

June 30, 2016

(1) **Schedule of Employers' and Nonemployers' Contributions – Defined Benefit Pension Plans**

This schedule presents the required contributions and the percent of required contributions actually contributed.

(2) **Schedule of Employers' and Nonemployers' Net Pension Liability and Related Ratios – Defined Benefit Pension Plans**

The components of the net pension liability as of the fiscal year end and the fiduciary net position as a percentage of the total pension liability as of that date are presented in this schedule. This trend information will be accumulated to display a ten-year presentation.

(3) **Schedule of Changes in Employers' and Nonemployers' Net Pension Liability – Defined Benefit Pension Plans**

Net pension liability, which is measured as total pension liability less the amount of the fiduciary net position, is presented in this schedule. This trend information will be accumulated to display a ten-year presentation.

(4) **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 ten-year presentation.

(5) **Individual Plan Information**

This note provides information about changes of benefit terms, changes of assumptions, and methods and assumptions used in calculations of actuarially determined contributions.

### Employees' Retirement System

*Changes of benefit terms* - a new benefit tier was added for members joining the System on and after January 1, 2009.

*Changes of assumptions* - in 2010 and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Table rather than the 1994 Group Annuity Mortality Table, which was used prior to 2010. In 2010, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In 2010, assumed rates of salary increase were adjusted to more closely reflect actual and anticipated experience.

### Public School Employees Retirement System

*Changes of benefit terms* - the member contribution rate was increased from \$4 to \$10 per month for members joining the System on or after July 1, 2012.

*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 and withdrawal.

### Legislative Retirement System

*Changes of benefit terms* - none.

*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, and withdrawal. The expectation of retired life mortality was changed to the RP-2000 Combined Mortality Table projected to 2025 with projection scale BB and set forward 2 years for both males and females.

**Notes to Required Supplementary Information (UNAUDITED)**

**Georgia Judicial Retirement System**

*Changes of benefit terms* - spouses benefits were changed for members joining the System on and after July 1, 2012.

*Changes of assumptions* - in 2010 and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Table rather than the 1994 Group Annuity Mortality Table, which was used prior to 2010. In 2010, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In 2010, assumed rates of salary increase were adjusted to more closely reflect actual and anticipated experience.

**Georgia Military Pension Fund**

*Changes of benefit terms* - none.

*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, and withdrawal.

*Method and assumptions used in calculations of actuarially determined contributions.* The actuarially determined contribution rates in the schedules of employers' and nonemployers' contributions are calculated as of June 30, 2013, three years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the most recent contribution rates reported in those schedules:

	ERS	PSERS	LRS
Actuarial cost method	Entry age	Entry age	Entry age
Amortization method	Level dollar, closed	Level dollar, closed	Level dollar, closed
Remaining amortization period	25 years	25 years	n/a
Asset valuation method	5-year smoothed market	5-year smoothed market	5-year smoothed market
Inflation	3.00%	3.00%	3.00%
Salary Increases	5.45-9.25%	n/a	n/a
Investment rate of return	7.50% net of pension plan investment expense, including inflation	7.50% net of pension plan investment expense, including inflation	7.50% net of pension plan investment expense, including inflation
	GJRS	GMPF	
Actuarial cost method	Entry age	Entry age	
Amortization method	Level percent of pay, closed	Level dollar, closed	
Remaining amortization period	20 years	20 years	
Asset valuation method	5-year smoothed market	5-year smoothed market	
Inflation	3.00%	3.00%	
Salary Increases	6.00%	n/a	
Investment rate of return	7.50% net of pension plan investment expense, including inflation	7.50% net of pension plan investment expense, including inflation	

**(6) Schedule of Funding Progress – Defined Benefit OPEB Plans**

The actuarial value of assets recognizes a portion of the difference between the fair value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return. The amount recognized each year is 1/7th of the difference between fair value and expected actuarial value.

**(7) Schedule of Employer Contributions – Defined Benefit OPEB Plans**

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

**Notes to Required Supplementary Information (UNAUDITED)**

**(8) Actuarial Assumptions – Defined Benefit OPEB Plans**

The SBF does not have an actuarial valuation as there are no funding requirements and no liabilities related to the fund. The information presented as the required supplementary information was determined as part of the actuarial valuations for the SEAD-Active and SEAD-OPEB plans at the dates indicated. Additional information from the actuarial valuations for the most recent two-year period is as follows:

	SEAD - Active	SEAD - Active
Valuation date	June 30, 2015	June 30, 2014
Actuarial cost method	Projected Unit Credit	Projected Unit Credit
Amortization method	Level dollar, open	Level dollar, open
Remaining amortization period of the funded excess	n/a	n/a
Asset valuation method	Market value of assets	Market value of assets
Actuarial assumptions:		
Investment rate of return <sup>1</sup>	7.50%	7.50%
Projected salary increases:		
ERS <sup>1</sup>	3.25-7.00%	5.45-9.25%
GJRS <sup>1</sup>	4.50%	6.00%
LRS	0.00%	0.00%

	SEAD - OPEB	SEAD - OPEB
Valuation date	June 30, 2015	June 30, 2014
Actuarial cost method	Projected Unit Credit	Projected Unit Credit
Amortization method	Level dollar, open	Level dollar, open
Remaining amortization period of the funded excess	n/a	n/a
Asset valuation method	Market value of assets	Market value of assets
Actuarial assumptions:		
Investment rate of return <sup>1</sup>	7.50%	7.50%
Projected salary increases:		
ERS <sup>1</sup>	3.25-7.00%	5.45-9.25%
GJRS <sup>1</sup>	4.50%	6.00%
LRS	0.00%	0.00%

<sup>1</sup> Includes inflation rate of 3.00% in the 2014 and 2.75% in the 2015 valuations.

## Additional Information

### Schedule of Administrative Expenses - Contributions and Expenses

Year ended June 30, 2016 (with comparative amounts for the year ended June 30, 2015)

(In thousands)

	2016	2015
Contributions:		
Employees' Retirement System	\$ 8,506	\$ 7,872
Public School Employees Retirement System	1,321	1,545
Legislative Retirement System	313	169
Georgia Judicial Retirement System	754	819
State Employees' Assurance Department - Active	67	47
State Employees' Assurance Department - OPEB	599	428
Georgia Defined Contribution Plan	766	990
401(k) Plan	2,832	2,755
457 Plan	820	866
Georgia Military Pension Fund	262	121
Superior Court Judges Retirement Fund	4	3
District Attorneys Retirement Fund	1	1
Total contributions	16,245	15,616
Expenses:		
Personal services:		
Salaries and fringes	5,074	5,098
Retirement contributions	1,211	1,084
FICA	360	361
Health insurance	1,546	1,552
Miscellaneous	73	89
	8,264	8,184
Communications:		
Postage	245	267
Publications and printing	14	39
Telecommunications	64	63
Travel	14	14
	337	383
Professional services:		
Accounting services	709	603
Computer services	792	792
Contracts	3,175	3,013
Actuarial services	428	380
Medical services	180	187
Professional fees	260	309
Legal services	39	41
	5,583	5,325
Management fees:		
Building maintenance	617	617
Other services and charges:		
Temporary services	966	621
Supplies and materials	77	57
Repairs and maintenance	20	18
Courier services	3	3
Depreciation	320	352
Miscellaneous	55	53
Office equipment	3	3
	1,444	1,107
Total expenses	16,245	15,616
Net income	\$ —	\$ —

See accompanying independent auditors' report.

## Additional Information

### Schedule of Investment Expenses

Year ended June 30, 2016 (with comparative amounts for the year ended June 30, 2015)

	<b>2016</b>	<b>2015</b>
Investment advisory and custodial fees	\$ 6,070,210	\$ 7,442,722
Miscellaneous	13,805,757	13,196,528
Total investment expenses	<u>\$ 19,875,967</u>	<u>\$ 20,639,250</u>

See accompanying independent auditors' report.

# Investment Section



## Investment Overview

While worldwide economic concerns remain in the forefront of investors' minds, it is politics that seems to have moved to the forefront of market worries. The concerns are too numerous to name, but the biggest problems currently seem to be Brexit and the U.S. election. The economy continued its slow growth with real GDP increasing 1.3% year over year. Generally, global growth remains concentrated in Asia and emerging markets. Despite relatively slow growth, low inflation and political uncertainty, the U.S. economy is performing better than most developed economies. The U.S. stock market had a subpar return of 3.6% for the fiscal year.

It is important to remember 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. In addition, the System continues to build its private markets program in a disciplined manner. 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.

The domestic economy continued to grow for the fiscal year although there was not broad based strength. Industrial production has been erratic and decreased slightly on a year over year basis. Employment and consumer demand remained relatively strong. Likewise, foreign economies presented a mixed bag of strength and weakness. For the most part central banks remained accommodative, though the Federal Reserve Bank did raise short term rates by 0.25% in December of 2015.

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 usually 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 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 was used to calculate rates of return 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 3.6%. U.S. large cap stocks outperformed small cap and mid cap stocks last year. The S&P MidCap 400 and the S&P SmallCap 600 indexes had returns of 1.3% and 0.0%, respectively. The search for yield led to outsized returns for the Utilities and Telecom sectors while Financials and Energy had negative returns.

International markets, on the other hand, had negative returns. The MSCI EAFE Index had a (10.2)% return and the MSCI Emerging Market Index had a return of (12.1)%. In a reversal from the prior year, the dollar was down about 1% against foreign currencies.

Interest rates declined again so the longer the maturity of the bond the better the performance. The total return on the 10-year Treasury Note was 9.5% and the 30-year Treasury Bond had a 20.6% return. The return on short-term Treasury bills was 0.1%.

We look at two fixed income indexes to measure the bond market's performance. The Barclays Government / Credit Index had a return of 6.7%. 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 6.1% and is a broad index containing higher rated corporate bonds as well as Treasuries and Government securities. In another change from the prior year, higher quality bonds underperformed lower quality bonds as evidenced by a 1.5% outperformance of BBB rated bonds versus AA rated bonds.

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."

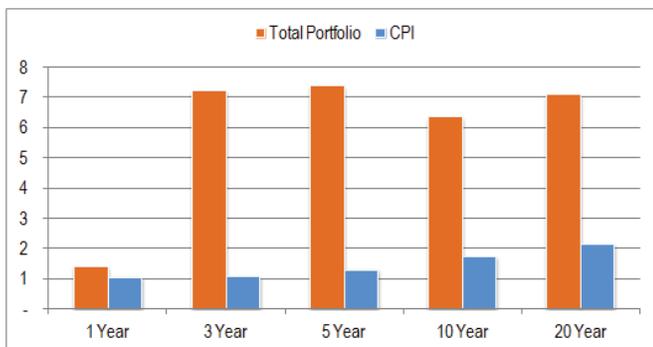
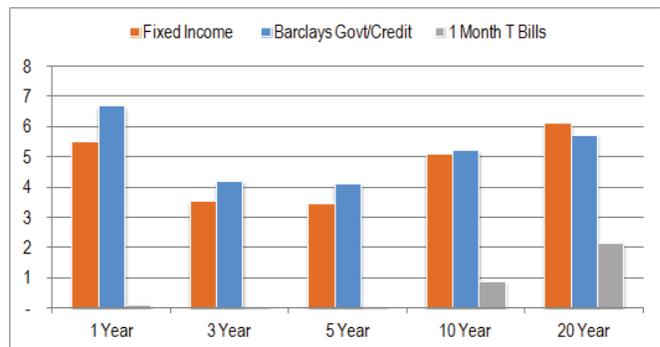
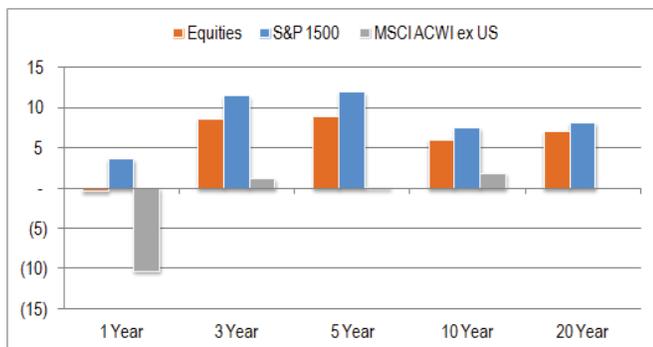
**Prepared by the Division of Investment Services**

## Pooled Investment Fund

As of June 30, 2016 (Dollar amounts in thousands)

Employees' Retirement System (ERS)	\$	12,324,526
Public School Employees Retirement System (PSERS)		804,666
Legislative Retirement System (LRS)		31,088
Georgia Judicial Retirement System (GJRS)		401,705
State Employees' Assurance Department (SEAD) - Active		240,948
State Employees' Assurance Department (SEAD) - OPEB		1,028,448
Survivors Benefit Fund (SBF)		120,871
Georgia Military Pension Fund (GMPF)		17,714
<b>Total</b>	\$	<b>14,969,966</b>

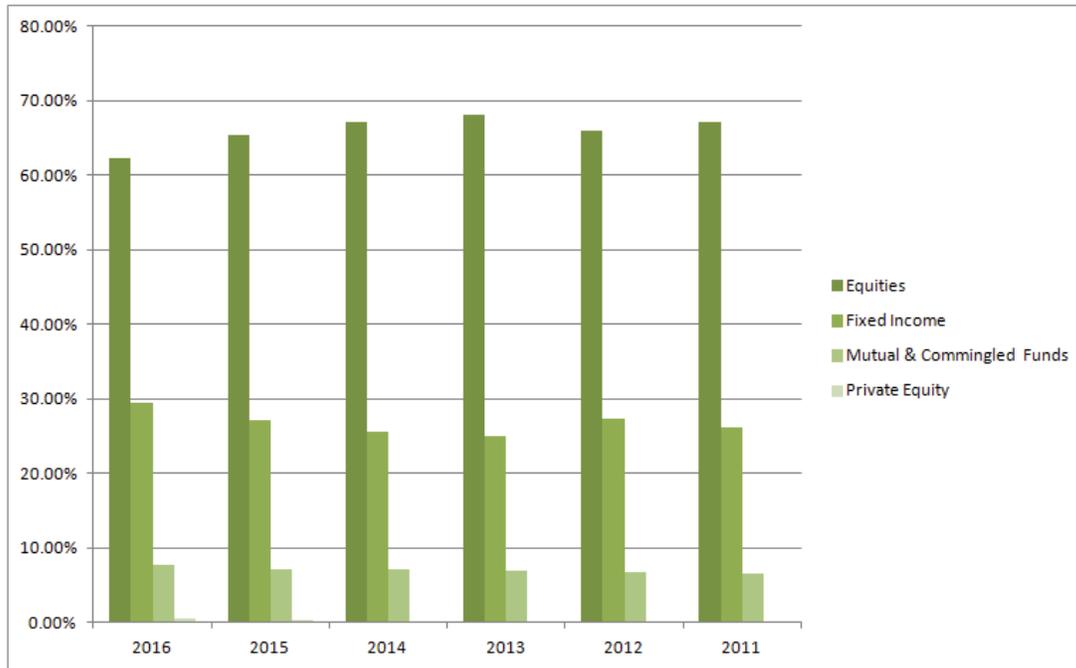
## Rates of Return



	Equities	S&P 1500	MSCI ACWI ex US	Fixed Income	Barclay's Govt/Credit	1 Month T-Bills	Total Portfolio	CPI
1 year	(0.3)%	3.6 %	(10.2)%	5.5 %	6.7 %	0.1 %	1.4 %	1.1 %
3 year	8.7 %	11.5 %	1.2 %	3.5 %	4.2 %	0.1 %	7.3 %	1.1 %
5 year	8.9 %	11.9 %	0.1 %	3.5 %	4.1 %	—	7.4 %	1.3 %
10 year	6.1 %	7.5 %	1.9 %	5.1 %	5.2 %	0.9 %	6.4 %	1.7 %
20 year	7.1 %	8.2 %	—	6.1 %	5.7 %	2.2 %	7.1 %	2.2 %

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

## Asset Allocation at Fair Value



## Investment Summary

## Asset Allocation as of June 30 (in percentages)

	2016	2015	2014	2013	2012	2011
Equities	62.3%	65.3	67.2	68.1	65.9	67.2
Fixed Income	29.5	27.2	25.6	25.0	27.3	26.2
Mutual and Commingled Funds	7.6	7.2	7.1	6.9	6.8	6.6
Private Equity	0.6	0.3	0.1	—	—	—
<b>Total</b>	<b>100%</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## Asset Allocation as of June 30 (in millions)

	2016	2015	2014	2013	2012	2011
Equities	\$ 10,005	10,915	11,372	10,374	9,600	10,060
Fixed Income	4,733	4,543	4,314	3,811	3,972	3,902
Mutual and Commingled Funds	1,226	1,204	1,209	1,057	995	992
Private Equity	94	52	22	—	—	—
<b>Total</b>	<b>\$ 16,058</b>	<b>16,714</b>	<b>16,917</b>	<b>15,242</b>	<b>14,567</b>	<b>14,954</b>

**Schedule of Fees and Commissions**

For the Year Ended June 30, 2016

<b>Investment Advisors' Fees:*</b>	
U.S. Equity	\$ 2,841,919
International Equity	2,808,609
Fixed Income	—
<b>Investment Commissions:</b>	
U.S. Equity	1,477,338
International Equity	3,082,867
<b>Transaction Fees:</b>	452,923
<b>Miscellaneous:*</b>	16,707,650
<b>Total Fees and Commissions</b>	<b>\$ 27,371,306</b>

\*Amount included in total investment expenses shown on page 70.



## Twenty Largest Equity Holdings †

As of June 30, 2016

Shares	Company	Fair Value
1,589,926	Apple Inc.	\$ 151,996,926
207,161	Alphabet Inc.	144,640,743
2,774,194	Microsoft Corp.	141,955,507
1,481,213	Exxon Mobil Corp.	138,848,907
1,069,460	Johnson & Johnson	129,725,498
929,100	Facebook, Inc.	106,177,548
137,051	Amazon.Com Inc.	98,076,437
1,684,892	Verizon Communications Inc.	94,084,369
2,610,994	Pfizer Inc.	91,933,099
853,019	Chevron Corp.	89,421,982
1,018,488	Procter & Gamble Co.	86,235,379
2,694,270	General Electric Co.	84,815,620
565,700	Berkshire Hathaway Inc.	81,907,703
1,274,088	JPMorgan Chase & Co.	79,171,828
1,812,294	AT&T Inc.	78,309,224
1,641,243	Wells Fargo & Co.	77,680,031
969,700	Visa Inc.	71,922,649
1,543,390	Coca Cola Co.	69,961,869
2,037,324	Intel Corp.	66,824,227
600,486	PepsiCo Inc.	63,615,485
	<b>Top 20 Equities</b>	\$ 1,947,305,031
	<b>Remaining Equities</b>	8,046,598,263
	<b>Total Equities</b>	\$ <u>9,993,903,294</u>

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

## Fixed Income Holdings\*

As of June 30, 2016

Issuer	Year of Maturity	Interest Rate	Par Value	Fair Value
US TREAS. NOTE	2024	2.2500	\$ 309,000,000	\$ 329,616,480
US TREAS. NOTE	2017	1.8750	254,000,000	258,157,980
US TREAS. NOTE	2023	1.5000	200,000,000	202,882,000
US TREAS. NOTE	2021	2.1250	155,000,000	163,343,650
GENERAL ELECTRIC CO	2022	2.7000	145,000,000	152,177,500
US TREAS. NOTE	2024	2.3750	136,000,000	146,391,760
US TREAS. BOND	2039	3.5000	115,000,000	145,133,450
US TREAS. BOND	2028	5.2500	102,000,000	143,573,160
GENERAL ELECTRIC CAP CORP	2026	5.5500	92,000,000	114,685,360
EMC CORP	2020	2.6500	112,000,000	106,908,480
US TREAS. NOTE	2019	1.6250	102,000,000	104,721,360
US TREAS. NOTE	2019	1.6250	102,000,000	104,606,100
US TREAS. NOTE	2022	1.8750	100,000,000	103,934,000
EXXON MOBIL CORP	2021	2.2220	100,000,000	103,105,000
MICROSOFT CORP	2025	2.7000	97,000,000	100,279,570
US TREAS. NOTE	2019	1.6250	97,000,000	99,633,550
BP CAPITAL MARKETS	2020	2.5210	96,000,000	99,036,480
PROCTER & GAMBLE CO	2018	1.6000	96,000,000	98,043,840
EXXON MOBIL CORP	2019	1.8190	96,000,000	97,822,080
SHELL INTERNATIONAL FIN	2018	1.9000	96,000,000	97,656,960
PRAXAIR INC	2019	1.9000	96,000,000	97,536,000
US TREAS. NOTE	2016	0.8750	97,000,000	97,110,580
COMCAST-NBC	2018	1.6620	96,000,000	97,108,800
PRAXAIR INC	2018	1.2000	96,000,000	96,245,760
CISCO SYSTEMS INC	2017	1.1000	96,000,000	96,238,080
ANHEUSER-BUSCH	2017	1.1250	96,000,000	96,084,480
JPMORGAN CHASE & CO	2017	1.2500	96,000,000	95,992,320
US TREAS. NOTE	2021	3.1250	79,000,000	86,915,800
UNITED PARCEL SERVICE	2021	3.1250	77,000,000	82,543,230
ONTARIO (PROVINCE OF)	2017	1.1000	77,000,000	77,266,420
WALT DISNEY COMPANY	2017	1.1250	77,000,000	77,189,420
AT&T INC	2017	1.4000	77,000,000	77,123,200
ROYAL BANK OF CANADA	2017	1.1700	77,000,000	76,855,240
US TREAS. NOTE	2022	1.6250	64,000,000	65,630,080
INTEL CORP	2021	3.3000	59,000,000	63,963,670
APPLE INC	2021	2.2500	60,000,000	61,732,800
SCHLUMBERGER INVESTMENT	2021	3.3000	58,000,000	61,463,180
MICROSOFT CORP	2035	3.5000	58,000,000	60,010,860
COCA COLA CO	2018	1.6500	58,000,000	58,872,900
PFIZER INC	2018	1.5000	58,000,000	58,578,840
ILLINOIS TOOL WORKS INC	2019	1.9500	48,000,000	49,128,480
ILLINOIS TOOL WORKS INC	2017	0.9000	48,000,000	48,031,200
COCA COLA CO	2020	2.4500	39,000,000	40,680,900
US TREAS. NOTE	2019	1.0000	34,000,000	34,261,800
US TREAS. BOND	2045	2.8750	30,000,000	33,686,700
US TREAS. NOTE	2022	1.7500	30,000,000	31,005,600
US TREAS. NOTE	2022	1.7500	30,000,000	30,997,200
MICROSOFT CORP	2017	0.8750	20,000,000	20,026,000
<b>ERS Fixed Income Securities</b>			<b>\$ 4,433,000,000</b>	<b>\$ 4,643,988,300</b>
<b>Defined Contribution Fixed Income Securities</b>			<b>85,000,000</b>	<b>88,436,600</b>
<b>Total ERS and Defined Contribution Fixed Income Securities</b>			<b>\$ 4,518,000,000</b>	<b>\$ 4,732,424,900</b>

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

# Actuarial Section





**Cavanaugh Macdonald**  
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*The experience and dedication you deserve*

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Kennesaw, GA 30144  
Phone (678) 388-1700 • Fax (678) 388-1730  
www.CavMacConsulting.com

## ERS

April 21, 2016

Board of Trustees  
Employees' Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attn: Mr. James Potvin, Executive Director

### Members of the Board:

Section 47-2-26 of the law governing the operation of the Employees' 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, 2015. The report indicates that annual employer contributions at the rate of 19.94% of compensation for Old Plan Members, 24.69% of compensation for New Plan Members, and 21.66% of compensation for GSEPS Members for the fiscal year ending June 30, 2018 are sufficient to support the benefits of the System.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2014.

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. 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 2015 session of the General Assembly.

The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience

under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for 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 total unfunded accrued liability which is being amortized on a level dollar basis 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
- Schedule of Active Members
- Schedule of Funding Progress
- Schedule of Retirees Added to and Removed from Rolls
- Analysis of Change in Unfunded Accrued Liability
- Solvency Test Results

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 and the funding policy adopted by the Board. 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 valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

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 System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

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

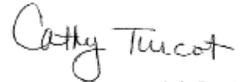
Sincerely yours,



Edward A. Macdonald, ASA, FCA MAAA  
President



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



Cathy Turcot  
Principal and Managing Director



**Cavanaugh Macdonald**  
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Kennesaw, GA 30144  
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**PSERS**

April 21, 2016

Board of Trustees  
Georgia Public School Employees Retirement System  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attn: Mr. James Potvin, Executive Director

Members of the Board:

Section 47-4-60 of the law governing the operation of the Georgia Public School Employees Retirement System provides that the employer contribution shall be actuarially determined and approved 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, 2015. Based on a monthly benefit accrual rate of \$14.75, the valuation indicates that annual employer contributions of \$27,705,000 or \$780.92 per active member for the fiscal year ending June 30, 2018 are sufficient to support the benefits of the System.

The results of the valuation reflect that the Board did not grant the anticipated cost-of-living increases (COLAs) to retired members on July 1, 2015 and on January 1, 2016.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2014.

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. 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 2015 session of the General Assembly.

The System is funded on an actuarial reserve basis. The actuarial

assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for 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 dollar per active member. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a dollar per active member. Gains and losses are reflected in the total unfunded accrued liability which is being amortized as a level dollar per active member 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
- Schedule of Active Members
- Schedule of Funding Progress
- Schedule of Retirees Added to and Removed from Rolls
- Analysis of Change in Unfunded Accrued Liability
- Solvency Test Results

The System is currently being funded in conformity with the minimum funding standard set forth in Code Section 47-20-10 of the Public Retirement Systems Standards Law and the funding

policy adopted by the Board. In our opinion the System is currently 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.

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 System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

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

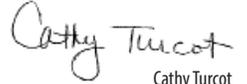
Sincerely yours,



Edward A. Macdonald, ASA, FCA MAAA  
President



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



Cathy Turcot  
Principal and Managing Director



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**GJRS**

April 21, 2016

Board of Trustees  
Georgia Judicial Retirement System  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attn: Mr. James Potvin, Executive Director

Members of the Board:

Section 47-23-21 of the law governing the operation of the Georgia Judicial Retirement System 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, 2015. The report indicates that annual employer contributions at the rate of 7.17% of compensation for the fiscal year ending June 30, 2018 are sufficient to support the benefits of the System.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2014.

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. 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 2015 session of the General Assembly.

The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods

used for 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 total unfunded accrued liability which is negative and being 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
- Schedule of Active Members
- Schedule of Funding Progress
- Schedule of Retirees Added to and Removed from Rolls
- Analysis of Change in Unfunded Accrued Liability
- Solvency Test Results

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 and the funding policy adopted by the Board. 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.

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.

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.

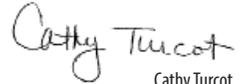
Sincerely yours,



Edward A. Macdonald, ASA, FCA MAAA  
President



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



Cathy Turcot  
Principal and Managing Director



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**LRS**

April 21, 2016

Board of Trustees  
Legislative Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attn: Mr. James Potvin, Executive Director

Members of the Board:

Section 47-6-22 of the law governing the operation of the Georgia Legislative Retirement System provides that the actuary shall make periodic 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, 2015. The report indicates that no annual employer contributions for the fiscal year ending June 30, 2018 are required to support the benefits of the System.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2014. In addition, the results of the valuation reflect that the Board did not grant the anticipated cost-of-living increases (COLAs) to retired members on July 1, 2015 and on January 1, 2016.

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. 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 2015 session of the General Assembly.

The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience

under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for 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 dollar per active member. 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 dollar per active member. Gains and losses are reflected in the total unfunded accrued liability which is negative and being amortized as a level dollar per active member 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
- Schedule of Active Members
- Schedule of Funding Progress
- Schedule of Retirees Added to and Removed from Rolls
- Analysis of Change in Unfunded Accrued Liability
- Solvency Test Results

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 and the funding policy adopted by the Board. In our opinion the System is operating on

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.

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.

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.

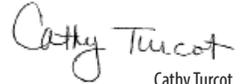
Sincerely yours,



Edward A. Macdonald, ASA, FCA MAAA  
President



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



Cathy Turcot  
Principal and Managing Director



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GMPF

April 21, 2016

Board of Trustees  
Georgia Military Pension Fund  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attn: Mr. James Potvin, Executive Director

Members of the Board:

Section 47-24-22 of the law governing the operation of the Georgia Military Pension Fund provides that the actuary shall make periodic valuations of the contingent assets and liabilities of the Pension Fund 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 Fund prepared as of June 30, 2015. The report indicates that annual employer contributions of \$2,377,312 or \$172.85 per active member for the fiscal year ending June 30, 2018 are sufficient to support the benefits of the Fund.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2014.

In preparing the valuation, the actuary relied on data provided by the Fund. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. 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 Fund enacted through the 2015 session of the General Assembly.

The Fund is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the Fund and to reasonable expectations of anticipated experience under the Fund. 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 dollar per active member. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a dollar per active member. Gains and losses are reflected in the total unfunded accrued liability which is being amortized as a level dollar per active member 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
- Schedule of Active Members
- Schedule of Funding Progress
- Schedule of Retirees Added to and Removed from Rolls
- Analysis of Change in Unfunded Accrued Liability
- Solvency Test Results

The Fund is being funded in conformity with the minimum funding standard set forth in Code Section Section 47-20-10 of the Public Retirement Systems Standards Law and the funding policy adopted by the Board. In our opinion the Fund is operating on an actuarially sound basis. Assuming that contributions to the Fund 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 Fund may be safely anticipated.

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 Fund.

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.

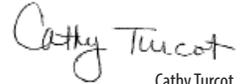
Sincerely yours,



Edward A. Macdonald, ASA, FCA MAAA  
President



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



Cathy Turcot  
Principal and Managing Director



**Cavanaugh Macdonald**  
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## SEAD Pre-Retirement

April 21, 2016

Board of Trustees  
Employees' Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attn: Mr. James Potvin, Executive Director

### Members of the Board:

Chapters 47-2 and 47-19 of the Code of Georgia which govern the operation of the Georgia Employees' Group Term Life Insurance Plan provide that the actuary shall make periodic valuations of the contingent assets and liabilities of the Insurance Plan on the basis of regular interest and the tables last adopted by the Board of Trustees. In this report, we have determined liabilities for life insurance benefits payable upon death in active service (Pre-Retirement).

We have submitted the report giving the results of the valuation of the Plan prepared as of June 30, 2015. The report indicates that employee contributions at the rate of 0.05% of active payroll for Old Plan members of the Employees' Retirement System, and 0.02% of active payroll for New Plan members of the Employees' Retirement System, members of the Legislative Retirement System and members of the Judicial Retirement System are sufficient to support the pre-retirement benefits of the Plan. No employer contribution is required for the fiscal year ending June 30, 2018 for pre-retirement benefits.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2014.

The funding method used for this valuation is the unit credit actuarial cost method with projected benefits. Gains and losses are reflected in the unfunded accrued liability. The actuarial assumptions used are in the aggregate reasonably related to the experience under the Plan and to reasonable expectations of

anticipated experience under the Plan. In our opinion, the Plan is operating on an actuarially sound basis and the sufficiency of the funds to provide the benefits called for by the Plan may be safely anticipated.

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 Plan.

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.

Sincerely yours,

Edward A. Macdonald, ASA, FCA, MAAA  
President

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

Cathy Turcot  
Principal and Managing Director



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Kennesaw, GA 30144  
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## SEAD Post-Retirement

April 21, 2016

Board of Trustees  
Employees' Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attn: Mr. James Potvin, Executive Director

### Members of the Board:

Chapters 47-2 and 47-19 of the Code of Georgia which govern the operation of the Georgia Employees' Group Term Life Insurance Plan provide that the actuary shall make periodic valuations of the contingent assets and liabilities of the Insurance Plan on the basis of regular interest and the tables last adopted by the Board of Trustees. In this report, we have determined liabilities for life insurance benefits payable upon death after retirement (Post-Retirement).

In accordance with GASB 43 and 45, we have determined the liabilities for life insurance benefits payable upon death after retirement. We have submitted the report giving the results of the valuation of the Plan prepared as of June 30, 2015. The report indicates, for post-retirement benefits, there is no employer annual required contribution for the fiscal year ending June 30, 2018.

Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2014.

The funding method used for this valuation is the unit credit actuarial cost method with projected benefits. Gains and losses are reflected in the unfunded accrued liability. The actuarial assumptions used are in the aggregate reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan. In our opinion, the Plan is operating on an actuarially sound

basis and the sufficiency of the funds to provide the benefits called for by the Plan may be safely anticipated assuming future annual required contributions (ARC) are contributed when due.

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 Plan.

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.

Sincerely yours,

Handwritten signature of Edward A. Macdonald.

Edward A. Macdonald, ASA, FCA MAAA  
President

Handwritten signature of Edward J. Koebel.

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

Handwritten signature of Cathy Turcot.

Cathy Turcot  
Principal and Managing Director

## Summary of Plan Provisions

ERS – Please see Notes to Financial Statements, (2)(a), pages 26-27.

PSERS – Please see Notes to Financial Statements, (2)(b), page 27-28.

LRS – Please see Notes to Financial Statements, (2)(c), pages 28-29.

GJRS – Please see Notes to Financial Statements, (2)(d), pages 29-30.

GMPF – Please see Notes to Financial Statements, (2)(e), page 30.

SEAD-Active – Please see Notes to Financial Statements, (2)(f), pages 30-31.

SEAD-OPEB – Please see Notes to Financial Statements, (2)(g), page 31-32.

The following Boards are responsible for establishing and maintaining the funding policies of the various defined benefit systems administered by ERSGA:

- Board of Trustees of the Employees' Retirement System: ERS, LRS, and GMPF
- Board of Trustees of the Public School Employees Retirement System: PSERS
- Board of Trustees of the Georgia Judicial Retirement System: GJRS
- Board of Directors of the State Employees Assurance Department: SEAD-Active and SEAD-OPEB

ERS, PSERS, LRS, GJRS, and GMPF are all subject to the provisions of GASB Statement No. 67 (GASB 67); SEAD-Active and SEAD-OPEB are not. All of the systems covered under GASB 67 use the Entry Age Normal actuarial cost method for both funding and financial reporting purposes. This continues a long-standing practice for all of those systems and provides a point of consistency between the funding provisions and the GASB 67 requirements.

For all of the systems covered under GASB 67, the GASB 67 reports prepared as of June 30, 2016 were largely based on the data, assumptions, and results of the annual funding valuations as of June 30, 2015 (detailed in reports dated April 21, 2015). The Total Pension Liability (TPL) for each system, determined using the Entry Age Normal method, was then rolled forward to the June 30, 2016 measurement date. The Net Pension Liability for each system is equal to the rolled forward TPL less the system's net position as of June 30, 2016.

For the funding valuations as of June 30, 2015, the Actuarial Value of Assets is calculated using a five-year smoothing methodology, whereby excesses and shortfalls of actual investment income over or under the expected investment return will be recognized over the succeeding five-year periods.

For the funding valuations, each system covered under GASB 67 utilizes a 7.5% assumed rate of return and a 7.5% discount rate for the calculation of the respective systems' liabilities. The Single Equivalent Interest Rate required under GASB 67 has also been determined to be 7.5% by the systems' actuaries.

## Summary of Actuarial Assumptions

The laws governing the Employees' Retirement System and the plans it administers require an actuary to perform an annual valuation of the soundness of the systems. In addition, the actuary must 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 valuation was performed as of June 30, 2015 based on actuarial assumptions approved by the Board during the last experience study on December 17, 2015.

The more pertinent facts and significant assumptions underlying the computations included in the June 30, 2015 reports are as follows:

	ERS	PSERS	GJRS	LRS	GMPP
Valuation Date	June 30, 2015	June 30, 2015	June 30, 2015	June 30, 2015	June 30, 2015
Actuarial Cost Method	Entry age	Entry age	Entry age	Entry age	Entry age
Amortization Method	Level dollar, closed	Level dollar, closed	Level percent of pay, closed	Level dollar, closed	Level dollar, closed
Amortization Period	19.4 years	22.9 years	19.0 years	Infinite	18.2 years
Actuarial Asset Valuation Method	The actuarial value of assets was based on the total fair value income of investments, with the excess or shortfall of actual investment income over or under the expected investment return smoothed over 5 years. One-fifth of the excess or shortfall is recognized each year for five years.				
Investment Rate of Return	7.50%	7.50%	7.50%	7.50%	7.50%
Inflation Rate	2.75%	2.75%	2.75%	2.75%	2.75%
Projected Salary Increases	3.25-7.00%	n/a	4.50%	n/a	n/a
COLA	None	1.50% Semi-annually	None	3.0% Annually	None
	<b>SEAD (Active &amp; OPEB)</b>				
Valuation Date	June 30, 2015				
Actuarial Cost Method	Projected unit credit				
Amortization Method	Level dollar, closed				
Amortization Period	Infinite				
Actuarial Asset Valuation Method	Market Value of Assets				
Investment Rate of Return	7.50%				
Inflation Rate	2.75%				
Projected Salary Increases	3.25-7.00%				
ERS	3.25-7.00%				
GJRS	4.50%				
LRS	0.00%				
COLA	n/a				

## Summary of Actuarial Assumptions

### Rates of Withdrawal Prior to Retirement (Withdrawal, Death, Disability)

#### ERS

Representative values of the assumed annual rates of separation other than retirement for non-law enforcement officers are as follows. Special rates of separation apply to law enforcement officers.

Age	Annual Rates of Death		Annual Rates of Disability	
	Men	Women	Men	Women
20	.0320 %	.0177 %	.05 %	.02 %
25	.0349	.0192	.05	.02
30	.0412	.0245	.05	.02
35	.0717	.0441	.05	.02
40	.1001	.0655	.25	.10
45	.1399	.1043	.48	.25
50	.1983	.1555	.70	.45
55	.2810	.2228	1.05	.73
60	.4092	.3058	—	—
65	.5600	.4304	—	—

Age	Annual Rates of Withdrawal Years of Service					
	0-4		5-9		10 & over	
	Men	Women	Men	Women	Men	Women
20	35.00 %	30.00 %	— %	— %	— %	— %
25	27.50	25.00	15.00	17.50	—	—
30	23.00	21.50	11.50	12.50	7.50	8.25
35	21.50	19.50	10.00	10.50	6.00	6.00
40	19.50	18.25	9.50	9.50	4.75	5.00
45	18.60	16.50	9.00	8.00	4.00	4.00
50	16.60	15.00	7.25	7.25	4.25	4.25
55	14.50	14.00	7.00	7.00	4.75	4.50
60	14.00	14.50	6.00	6.25	—	—
65	15.00	17.00	10.00	11.00	—	—

## Summary of Actuarial Assumptions

### Rates of Withdrawal Prior to Retirement (Withdrawal, Death, Disability)

#### PSERS

Age	Annual Rates of Death		Annual Rates of Disability
	Men	Women	Both
20	.0320 %	.0177 %	— %
25	.0349	.0192	—
30	.0412	.0245	—
35	.0717	.0441	.0025
40	.1001	.0655	.0110
45	.1399	.1043	.0370
50	.1983	.1555	.0865
55	.2810	.2228	.2250
60	.4092	.3058	.3500
65	.5600	.4304	—

Age	Annual Rates of Withdrawal Years of Service					
	0-4		5-9		10 & over	
	Men	Women	Men	Women	Men	Women
20	37.00 %	32.00 %	— %	— %	— %	— %
25	28.00	28.00	17.00	18.00	—	—
30	25.00	23.00	15.00	15.00	12.00	10.00
35	23.00	19.00	13.00	13.00	9.00	10.00
40	21.00	17.00	12.00	12.00	7.50	8.00
45	19.00	15.50	11.00	10.00	6.50	7.00
50	17.00	14.00	9.00	8.50	6.50	6.00
55	15.00	12.00	9.00	8.00	6.00	5.50
60	12.00	11.00	7.50	7.50	—	—

## Summary of Actuarial Assumptions

### Rates of Withdrawal Prior to Retirement (Withdrawal, Death, Disability)

#### GJRS

Age	Annual Rates of			
	Withdrawal	Death		Disability
	Both	Men	Women	Both
20	4.0 %	.032 %	.018 %	.03 %
25	4.0	.035	.019	.03
30	4.0	.041	.025	.05
35	4.0	.072	.044	.08
40	6.0	.100	.066	.10
45	4.0	.140	.104	.18
50	3.0	.198	.156	.25
55	2.5	.281	.223	.45
60	2.5	.409	.306	.73
65	2.5	.560	.430	1.18

#### LRS

Age	Annual Rates of		
	Withdrawal	Death	
	Both	Men	Women
20	8.0 %	.032 %	.018 %
25	8.0	.035	.019
30	8.0	.041	.025
35	8.0	.072	.044
40	8.0	.100	.066
45	8.5	.140	.104
50	8.5	.198	.156
55	9.0	.281	.223
60	9.0	.409	.306
65	9.0	.560	.430

#### GMPP

Rates of Withdrawal from Active Service	
Service	Rates
2 or less	13.0 %
3-7	17.5
8-9	14.0
10-14	13.5
15-19	8.5
20 or more	14.5

Age	Rates of Death	
	Men	Women
25	.0349%	.0192%
30	.0412	.0245
35	.0717	.0441
40	.1001	.0655
45	.1339	.1043
50	.1983	.1555
55	.2810	.2228
60	.4092	.3058

## Summary of Actuarial Assumptions

### Rates of Withdrawal Prior to Retirement (Withdrawal, Death, Disability)

#### SEAD-Active and SEAD-OPEB

Age	All Groups Annual Rates of Death		ERS Annual Rates of Disability		GJRS Annual Rates of Disability
	Men	Women	Men	Women	Both
20	.0320 %	.0177 %	.05 %	.02 %	.03 %
25	.0349	.0192	.05	.02	.03
30	.0412	.0245	.05	.02	.05
35	.0717	.0441	.05	.02	.08
40	.1001	.0655	.25	.10	.10
45	.1399	.1043	.48	.25	.18
50	.1983	.1555	.70	.45	.25
55	.2810	.2228	1.05	.73	.45
60	.4092	.3058	—	—	.73
65	.5600	.4304	—	—	1.18

Age	ERS Annual Rates of Withdrawal Years of Service						LRS Annual Rates of Withdrawal	GJRS Annual Rates of Withdrawal
	0-4		5-9		10 & over		Both	Both
	Men	Women	Men	Women	Men	Women		
20	35.00 %	30.00 %	— %	— %	— %	— %	8.00 %	4.00 %
25	27.50	25.00	15.00	17.50	—	—	8.00	4.00
30	23.00	21.50	11.50	12.50	7.50	8.25	8.00	4.00
35	21.50	19.50	10.00	10.50	6.00	6.00	8.00	4.00
40	19.50	18.25	9.50	9.50	4.75	5.00	8.00	6.00
45	18.60	16.50	9.00	8.00	4.00	4.00	8.50	4.00
50	16.60	15.00	7.25	7.25	4.25	4.25	8.50	3.00
55	14.50	14.00	7.00	7.00	4.75	4.50	9.00	2.50
60	14.00	14.50	6.00	6.25	—	—	9.00	2.50
65	15.00	17.00	10.00	11.00	—	—	9.00	2.50

## Summary of Actuarial Assumptions

### Annual Rates of Retirement

#### ERS

Age	Old Plan							
	Early Retirement		Age 60 or 30 years		34 years		More than 34 years	
	Men	Women	Men	Women	Men	Women	Men	Women
50	2.0 %	2.0 %	7.5 %	6.0 %	100.0 %	100.0 %	90.0 %	100.0 %
52	2.0	2.0	7.5	6.0	100.0	100.0	90.0	100.0
55	3.0	3.5	7.5	10.0	100.0	100.0	75.0	90.0
57	3.5	5.0	10.5	10.0	100.0	100.0	70.0	70.0
60	—	—	15.0	20.0	97.5	95.0	40.0	55.0
62	—	—	32.0	40.0	97.5	95.0	40.0	65.0
65	—	—	35.0	40.0	35.0	40.0	35.0	40.0
67	—	—	35.0	35.0	35.0	35.0	35.0	35.0
70	—	—	35.0	35.0	35.0	35.0	35.0	35.0
75	—	—	100.0	100.0	100.0	100.0	100.0	100.0

Age	New Plan and GSEPS			
	Early Retirement		Normal Retirement	
	Men	Women	Men*	Women**
50	7.0 %	4.5 %	70.0 %	50.0 %
52	7.0	4.5	70.0	45.0
55	7.0	6.5	60.0	50.0
57	8.0	8.0	50.0	40.0
60	—	—	25.0	30.0
62	—	—	40.0	40.0
65	—	—	32.0	35.0
67	—	—	32.0	32.0
70	—	—	30.0	30.0
75	—	—	100.0	100.0

\*An additional 10% of active male New Plan and GSEPS members less than age 55 and 20% between ages 55-59, inclusive, are expected to retire in the year in which they attain 30 years of service.

\*\*An additional 20% of active female New Plan and GSEPS members less than age 60 are expected to retire in the year in which they attain 30 years of service.

## Summary of Actuarial Assumptions

### Annual Rates of Retirement

#### PSERS

Age	Annual Rate of Retirement	Age	Annual Rate of Retirement
60	13.0 %	68	23.0 %
61	13.0	69	26.0
62	22.0	70	27.0
63	17.5	71	27.0
64	17.0	72	27.0
65	28.0	73	27.0
66	27.0	74	27.0
67	23.0	75 & over	100.0

#### GJRS

Age	Annual Rate of Retirement
60	15.0 %
61	10.0
62	12.0
63-64	10.0
65-69	15.0
70-74	25.0
75	100.0

#### LRS

Age	Annual Rate of Retirement	Age	Annual Rate of Retirement
60	10.0 %	66	12.0 %
61	10.0	67	15.0
62	15.0	68	12.0
63	10.0	69	12.0
64	10.0	70-74	20.0
65	12.0	75	100.0

#### GMPF

Age	Annual Rate of Retirement
60	75.0 %
61	60.0
62	70.0
63	60.0
64	60.0
65 & over	100.0

## Summary of Actuarial Assumptions

### Annual Rates of Retirement

#### SEAD-Active and SEAD-OPEB

##### ERS Members

Old Plan								
Age	Early Retirement		Age 60 or 30 years		34 years		More than 34 years	
	Men	Women	Men	Women	Men	Women	Men	Women
50	2.0 %	2.0 %	7.5 %	6.0 %	100.0 %	100.0 %	90.0 %	100.0 %
52	2.0	2.0	7.5	6.0	100.0	100.0	90.0	100.0
55	3.0	3.5	7.5	10.0	100.0	100.0	75.0	90.0
57	3.5	5.0	10.5	10.0	100.0	100.0	70.0	70.0
60	—	—	15.0	20.0	97.5	95.0	40.0	55.0
62	—	—	32.0	40.0	97.5	95.0	40.0	65.0
65	—	—	35.0	40.0	35.0	40.0	35.0	40.0
67	—	—	35.0	35.0	35.0	35.0	35.0	35.0
70	—	—	35.0	35.0	35.0	35.0	35.0	35.0
75	—	—	100.0	100.0	100.0	100.0	100.0	100.0

New Plan and GSEPS				
Age	Early Retirement		Normal Retirement	
	Men	Women	Men*	Women**
50	7.0 %	4.5 %	70.0 %	50.0 %
52	7.0	4.5	70.0	45.0
55	7.0	6.5	60.0	50.0
57	8.0	8.0	50.0	40.0
60	—	—	25.0	30.0
62	—	—	40.0	40.0
65	—	—	32.0	35.0
67	—	—	32.0	32.0
70	—	—	30.0	30.0
75	—	—	100.0	100.0

\*An additional 10% of active male New Plan and GSEPS members less than age 55 and 20% between ages 55-59, inclusive, are expected to retire in the year in which they attain 30 years of service.

\*\*An additional 20% of active female New Plan and GSEPS members less than age 60 are expected to retire in the year in which they attain 30 years of service.

##### LRS Members

Age	Annual Rate of Retirement	Age	Annual Rate of Retirement
60	10.0 %	67	15.0 %
61	10.0	68-69	12.0
62	15.0	70-74	20.0
63-64	10.0	75	100.0
65-66	12.0		

## Summary of Actuarial Assumptions

### Annual Rates of Retirement

#### SEAD-Active and SEAD-OPEB

#### GJRS Members

Age	Annual Rates of Retirement
60	15.0 %
61	10.0
62	12.0
63-64	10.0
65-66	15.0
67	15.0
68-69	15.0
70-74	25.0
75	100.0

## Summary of Actuarial Assumptions

### Annual Rates of Death After Retirement

For all plans except PSERS, the RP-2000 Combined Mortality Table (projected to 2025 with projection scale BB and set forward two years for both males and females) is used for the period after retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table (projected to 2025 with projection scale BB and set back seven years for males and set forward three years for females) is used for the period after disability retirement. For PSERS, the RP-2000 Blue-Collar Mortality Table (projected to 2025 with projection scale BB and set forward three years for males and two years for females) is used for the period after service retirement and for beneficiaries of deceased members. The RP-2000 Disabled Mortality Table (projected to 2025 with projection scale BB and set forward five years for both males and females) is used for the period after disability retirement. For all plans, there is a margin for future mortality improvement in the tables used by the Systems.

#### ERS

Age	Men	Women	Age	Men	Women
40	0.1127 %	0.0790 %	65	1.1300 %	0.8994 %
45	0.1609	0.1230	70	1.8697	1.5281
50	0.2474	0.1872	75	3.2147	2.5220
55	0.4246	0.2918	80	5.5160	4.1628
60	0.6985	0.4923	85	9.5631	7.1239

#### PSERS

Age	Men	Women	Age	Men	Women
40	0.1476 %	0.0995 %	65	1.4859 %	0.9774 %
45	0.1974	0.1484	70	2.4262	1.7054
50	0.3057	0.2084	75	3.9830	2.7288
55	0.5644	0.2844	80	6.5238	4.4542
60	0.9575	0.5014	85	10.9551	7.5727

#### GJS

Age	Men	Women	Age	Men	Women
40	0.1127 %	0.0790 %	65	1.1300 %	0.8994 %
45	0.1609	0.1230	70	1.8697	1.5281
50	0.2474	0.1872	75	3.2147	2.5220
55	0.4246	0.2918	80	5.5160	4.1628
60	0.6985	0.4923	85	9.5631	7.1239

## Summary of Actuarial Assumptions

### Annual Rates of Death After Retirement

#### LRS

Age	Men	Women	Age	Men	Women
40	0.1127 %	0.0790 %	65	1.1300 %	0.8994 %
45	0.1609	0.1230	70	1.8697	1.5281
50	0.2474	0.1872	75	3.2147	2.5220
55	0.4246	0.2918	80	5.5160	4.1628
60	0.6985	0.4923	85	9.5631	7.1239

#### GMPF

Age	Men	Women	Age	Men	Women
40	0.1127 %	0.0790 %	65	1.1300 %	0.8994 %
45	0.1609	0.1230	70	1.8697	1.5281
50	0.2474	0.1872	75	3.2147	2.5220
55	0.4246	0.2918	80	5.5160	4.1628
60	0.6985	0.4923	85	9.5631	7.1239

#### SEAD-OPEB

Age	Men	Women	Age	Men	Women
40	0.1127 %	0.0790 %	65	1.1300 %	0.8994 %
45	0.1609	0.1230	70	1.8697	1.5281
50	0.2474	0.1872	75	3.2147	2.5220
55	0.4246	0.2918	80	5.5160	4.1628
60	0.6985	0.4923	85	9.5631	7.1239

## Active Members

### ERS

Year	Active Members	Annual Payroll (in thousands)	Average Pay	Change
2006	74,089	\$ 2,630,167	\$ 35,500	2.7 %
2007	73,985	2,680,972	36,237	2.1
2008	75,293	2,809,199	37,310	3.0
2009	71,272	2,674,155	37,520	0.6
2010	68,566	2,571,042	37,497	(0.1)
2011	66,081	2,486,780	37,632	0.4
2012	63,942	2,414,884	37,767	0.4
2013	61,550	2,335,773	37,949	0.5
2014	60,486	2,315,625	38,284	0.9
2015	60,416	2,352,920	38,945	1.7

### PSERS

PSERS is not a compensation based plan.

Year	Active Members
2006	37,587
2007	39,086
2008	40,121
2009	40,581
2010	39,962
2011	39,249
2012	38,654
2013	37,361
2014	36,096
2015	35,477

### GJRS

Year	Active Members	Annual Payroll (in thousands)	Average Pay	Change
2006	478	\$ 45,308	\$ 94,787	3.4 %
2007	480	48,621	101,294	6.9
2008	482	51,102	106,021	4.7
2009	502	52,083	103,751	(2.1)
2010	495	51,293	103,622	(0.1)
2011	507	52,331	103,216	(0.4)
2012	503	51,898	103,177	(0.0)
2013	506	52,807	104,362	1.1
2014	513	53,628	104,539	0.2
2015	516	54,272	105,178	0.6

## Active Members

### LRS

LRS is not a compensation based plan.

Year	Active Members
2006	218
2007	218
2008	218
2009	218
2010	216
2011	218
2012	220
2013	223
2014	222
2015	218

### GMPF

GMPF is not a compensation based plan.

Year	Active Members
2006	10,320
2007	12,017
2008	11,623
2009	12,019
2010	13,032
2011	13,776
2012	13,526
2013	13,573
2014	13,469
2015	13,754

### SEAD-Active and SEAD-OPEB

Year	Active Members
2008	75,859
2009	69,745
2010	62,305
2011	55,516
2012	49,261
2013	43,512
2014	39,101
2015	35,189

SEAD-Active and SEAD-OPEB began in 2007.

Note: Payroll data on page 103 for fiscal year 2015 will not equal that which is presented in the Financial section in the Schedules of Employers' and Nonemployers' Contributions on pages 55-56. Valuation data at that time was a snapshot of the valuation date, annualized for new hires, but does not include those who terminated during the year.

## Member and Employer Contribution Rates

### ERS

Year	Member	Employer Rates		
		Old Plan*	New Plan	GSEPS**
2007	1.25%	10.41%	10.41%	n/a
2008	1.25%	10.41%	10.41%	n/a
2009	1.25%	10.41%	10.41%	6.54%
2010	1.25%	10.41%	10.41%	6.54%
2011	1.25%	10.41%	10.41%	6.54%
2012	1.25%	11.63%	11.63%	7.42%
2013	1.25%	14.90%	14.90%	11.54%
2014	1.25%	18.46%	18.46%	15.18%
2015	1.25%	21.96%	21.96%	18.87%
2016	1.25%	24.72%	24.72%	21.69%

\* Old Plan Rate includes an employer pick-up of employee contributions.

\*\* GSEPS Plan began on January 1, 2009

### PSERS

Year	Pre 7/1/12 Member	Post 7/1/12 Member	Employer
2007	\$ 36 per year		\$ 6,484,000
2008	\$ 36 per year		2,866,000
2009	\$ 36 per year		5,680,000
2010	\$ 36 per year		5,529,000
2011	\$ 36 per year		7,509,000
2012	\$ 36 per year		15,884,000
2013	\$ 36 per year	\$ 90 per year	24,829,000
2014	\$ 36 per year	\$ 90 per year	27,160,000
2015	\$ 36 per year	\$ 90 per year	28,461,000
2016	\$ 36 per year	\$ 90 per year	28,580,000

### GJRS

Year	Member	Employer
2007	7.50%	3.85%
2008	7.50%	3.85%
2009	7.50%	3.85%
2010	7.50%	3.85%
2011	7.50%	3.85%
2012	7.50%	3.90%
2013	7.50%	3.90%
2014	7.50%	4.23%
2015	7.50%	6.98%
2016	7.50%	12.19%

## Member and Employer Contribution Rates

### LRS

Year	Member	Employer
2007	8.50%	\$ 62,000
2008	8.50%	73,000
2009	8.50%	71,000
2010	8.50%	75,000
2011	8.50%	75,000
2012	8.50%	75,000
2013	8.50%	128,000
2014	8.50%	45,000
2015	8.50%	0
2016	8.50%	0

### GMPF

Year	Member	Employer
2007	n/a	\$ 1,005,000
2008	n/a	1,103,000
2009	n/a	1,323,000
2010	n/a	1,434,000
2011	n/a	1,282,000
2012	n/a	1,521,000
2013	n/a	1,703,000
2014	n/a	1,892,000
2015	n/a	1,893,369
2016	n/a	1,989,530

### SEAD-Active\*

Year	Member - Old Plan	Member - New Plan, LRS, GJRS	Employer
2008	0.05%	0.02%	0%
2009	0.05%	0.02%	0%
2010	0.05%	0.02%	0%
2011	0.05%	0.02%	0%
2012	0.05%	0.02%	0%
2013	0.05%	0.02%	0%
2014	0.05%	0.02%	0%
2015	0.05%	0.02%	0%
2016	0.05%	0.02%	0%

## Member and Employer Contribution Rates

### SEAD-OPEB\*

Year	Member - Old Plan	Member - New Plan, LRS, GJRS	Employer
2008	0.45%	0.23%	0%
2009	0.45%	0.23%	0%
2010	0.45%	0.23%	0%
2011	0.45%	0.23%	0%
2012	0.45%	0.23%	0.61%
2013	0.45%	0.23%	0.27%
2014	0.45%	0.23%	0%
2015	0.45%	0.23%	0%
2016	0.45%	0.23%	0%

\*SEAD-Active and SEAD-OPEB began in 2007.

Schedules of Funding Progress - Defined Benefit Pension Plans  
(Dollar amounts in thousands)

Actuarial valuation date	Actuarial value of plan assets (a)	Actuarial accrued liability (AAL) entry age (b)	Unfunded AAL/ (funded excess) (b-a)	Funded ratio (alb)	Annual covered payroll (c)	Unfunded AAL/ (funded excess) as percentage of covered payroll [(b-a)/c]
<b>Employees' Retirement System</b>						
6/30/2006	\$ 13,461,132	14,242,845	781,713	94.5%	\$ 2,630,167	29.7%
6/30/2007	13,843,689	14,885,179	1,041,490	93.0	2,680,972	38.8
6/30/2008	14,017,346	15,680,857	1,663,511	89.4	2,809,199	59.2
6/30/2009	13,613,606	15,878,022	2,264,416	85.7	2,674,155	84.7
6/30/2010	13,046,193	16,295,352	3,249,159	80.1	2,571,042	126.4
6/30/2011	12,667,557	16,656,905	3,989,348	76.0	2,486,780	160.4
6/30/2012	12,260,595	16,777,922	4,517,327	73.1	2,414,884	187.1
6/30/2013	12,129,804	16,982,449	4,852,645	71.4	2,335,773	207.8
6/30/2014	12,376,120	16,991,963	4,615,843	72.8	2,315,625	199.3
6/30/2015	12,675,649	17,099,527	4,423,878	74.1	2,352,920	188.0
<b>Public School Employees Retirement System<sup>1</sup></b>						
6/30/2006	766,277	691,651	(74,626)	110.8	N/A	N/A
6/30/2007	785,460	746,078	(39,382)	105.3	N/A	N/A
6/30/2008	791,855	770,950	(20,905)	102.7	N/A	N/A
6/30/2009	769,618	823,232	53,614	93.5	N/A	N/A
6/30/2010	737,406	875,396	137,990	84.2	N/A	N/A
6/30/2011	719,601	885,927	166,326	81.2	N/A	N/A
6/30/2012	710,915	895,324	184,409	79.4	N/A	N/A
6/30/2013	727,268	910,256	182,988	79.9	N/A	N/A
6/30/2014	765,450	924,365	158,915	82.8	N/A	N/A
6/30/2015	805,277	967,409	162,132	83.2	N/A	N/A
<b>Legislative Retirement System</b>						
6/30/2006	29,172	23,407	(5,765)	124.6	3,602	(160.0)
6/30/2007	30,049	24,357	(5,692)	123.4	3,688	(154.3)
6/30/2008	30,706	24,454	(6,252)	125.6	3,778	(165.5)
6/30/2009	30,303	23,523	(6,780)	128.8	3,780	(179.4)
6/30/2010	29,581	25,003	(4,578)	118.3	3,745	(122.2)
6/30/2011	29,278	25,245	(4,033)	116.0	3,780	(106.7)
6/30/2012	28,990	24,966	(4,024)	116.4	3,815	(105.5)
6/30/2013	29,481	24,904	(4,577)	118.4	3,867	(118.4)
6/30/2014	30,538	24,913	(5,624)	122.6	3,850	(146.1)
6/30/2015	31,635	25,690	(5,945)	123.1	3,764	(157.9)
<b>Georgia Judicial Retirement System</b>						
6/30/2006	279,564	229,837	(49,727)	121.6	45,308	(109.8)
6/30/2007	297,090	249,278	(47,812)	119.2	48,621	(98.3)
6/30/2008	313,315	268,516	(44,799)	116.7	51,102	(87.7)
6/30/2009	317,624	282,474	(35,150)	112.4	52,083	(67.5)
6/30/2010	320,050	281,496	(38,554)	113.7	51,293	(75.2)
6/30/2011	327,483	290,486	(36,997)	112.7	52,331	(70.7)
6/30/2012	335,225	308,862	(26,363)	108.5	51,898	(50.8)
6/30/2013	351,889	335,792	(16,097)	104.8	52,807	(30.5)
6/30/2014	373,560	343,428	(30,132)	108.8	53,628	(56.2)
6/30/2015	396,399	350,298	(46,101)	113.2	54,272	(84.9)

## Schedules of Funding Progress - Defined Benefit Pension Plans

(Dollar amounts in thousands)

Actuarial valuation date	Actuarial value of plan assets (a)	Actuarial accrued liability (AAL) entry-age (b)	Unfunded AAL/ (funded excess) (b-a)	Funded ratio (a/b)	Annual covered payroll (c)	Unfunded AAL/ (funded excess) as percentage of covered payroll [(b-a)/c]
6/30/2006	\$ 3,100	17,625	14,525	17.6%	N/A	N/A
6/30/2007	4,165	19,887	15,722	20.9	N/A	N/A
6/30/2008	5,269	19,124	13,855	27.6	N/A	N/A
6/30/2009	6,413	21,021	14,608	30.5	N/A	N/A
6/30/2010	7,558	23,773	16,215	31.8	N/A	N/A
6/30/2011	8,702	26,767	18,065	32.5	N/A	N/A
6/30/2012	10,087	28,231	18,144	35.7	N/A	N/A
6/30/2013	12,131	30,056	17,925	40.4	N/A	N/A
6/30/2014	14,264	31,815	17,551	44.8	N/A	N/A
6/30/2015	16,446	35,213	18,767	46.7	N/A	N/A

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

<sup>1</sup> No statistics regarding covered payroll are available. Contributions are not based on members' salaries, but are simply \$4.00 per month, per member for nine months each fiscal year if hired prior to July 1, 2012 and \$10 per month, per member for nine months if hired after July 1, 2012.

<sup>2</sup> No statistics regarding covered payroll are available. Active and inactive plan member information is maintained by the Georgia Department of Defense.

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

Note: Payroll data on page 108 for fiscal year 2015 will not equal that which is presented in the Financial section in the Schedules of Employers' and Nonemployers' Contributions on pages 55-56. Valuation data at that time was a snapshot of the valuation date, annualized for new hires, but does not include those who terminated during the year.

## Schedule of Retirees Added to and Removed from Rolls

### ERS

Year Ended	Added to Rolls		Removed from Rolls		Roll End of Year		% Increase in Annual Allowance	Average Annual Allowances
	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)		
2006	2,338	\$ 84,982	854	\$ 16,270	32,839	\$ 842,157	8.9 %	\$ 25,645
2007	2,410	114,719	1,075	20,598	34,174	936,278	11.2	27,397
2008	2,422	82,644	1,017	21,299	35,579	997,623	6.6	28,040
2009	2,444	85,329	1,055	20,194	36,968	1,062,758	6.5	28,748
2010	2,665	70,383	1,051	22,413	38,582	1,110,728	4.5	28,789
2011	2,797	69,031	1,170	25,347	40,209	1,154,412	3.9	28,710
2012	2,956	71,464	1,305	27,696	41,860	1,198,180	3.8	28,624
2013	3,664	88,855	1,176	26,334	44,348	1,260,701	5.2	28,427
2014	2,440	51,178	1,059	22,997	45,729	1,288,882	2.2	28,185
2015	2,656	54,003	1,350	30,927	47,035	1,311,958	1.8	27,893

### PSERS

Year Ended	Added to Rolls		Removed from Rolls		Roll End of Year		% Increase in Annual Allowance	Average Annual Allowances
	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)		
2006	870	\$ 4,835	531	\$ 1,885	13,014	\$ 44,266	7.1 %	\$ 3,401
2007	816	4,749	637	2,353	13,193	46,662	5.4	3,537
2008	899	4,514	605	2,371	13,487	48,805	4.6	3,619
2009	886	5,290	575	2,260	13,798	51,835	6.2	3,757
2010	1,001	4,494	642	2,666	14,157	53,663	3.5	3,791
2011	1,174	3,168	731	3,072	14,600	53,759	0.2	3,682
2012	1,133	3,192	684	2,834	15,049	54,117	0.7	3,596
2013	1,298	3,803	650	2,738	15,697	55,182	2.0	3,515
2014	1,345	3,749	647	2,604	16,395	56,327	2.1	3,436
2015	1,247	3,482	690	2,679	16,952	57,130	1.4	3,370

### GJRS

Year Ended	Added to Rolls		Removed from Rolls		Roll End of Year		% Increase in Annual Allowance	Average Annual Allowances
	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)		
2006	5	\$ 144	14	\$ 687	165	\$ 8,917	(5.7) %	\$ 54,042
2007	13	853	7	297	171	9,473	6.2	55,398
2008	14	902	7	410	178	9,965	5.2	55,983
2009	29	2,238	6	191	201	12,012	20.5	59,761
2010	16	933	10	508	207	12,437	3.5	60,082
2011	15	1,168	2	105	220	13,500	8.5	61,364
2012	22	1,732	8	405	234	14,827	9.8	63,363
2013	42	2,763	13	629	263	16,961	14.4	64,490
2014	23	1,175	9	326	277	17,810	5.0	64,296
2015	21	1,416	11	561	287	18,665	4.8	65,035

## Schedule of Retirees Added to and Removed from Rolls

### LRS

Year Ended	Added to Rolls		Removed from Rolls		Roll End of Year		% Increase in Annual Allowance	Average Annual Allowances
	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)		
2006	13	\$ 103	21	\$ 165	216	\$ 1,532	(3.9) %	\$ 7,093
2007	17	151	9	74	224	1,609	5.0	7,183
2008	13	130	11	100	226	1,639	1.9	7,252
2009	10	117	7	54	229	1,702	3.8	7,432
2010	10	106	3	36	236	1,772	4.1	7,508
2011	18	104	10	86	244	1,790	1.0	7,336
2012	10	66	11	82	243	1,774	(0.9)	7,300
2013	32	200	15	140	260	1,834	3.4	7,054
2014	6	30	7	61	259	1,803	(1.7)	6,961
2015	13	87	12	112	260	1,778	(1.4)	6,838

### GMPF

Year Ended	Added to Rolls		Removed from Rolls		Roll End of Year		% Increase in Annual Allowance	Average Annual Allowances
	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)	Number	Annual Allowances (in thousands)		
2006	61	\$ 69	1	\$ 1	163	\$ 178	61.8 %	\$ 1,092
2007	73	83	1	1	235	260	46.1	1,106
2008	71	76	2	2	304	334	28.5	1,099
2009	85	91	3	4	386	421	26.0	1,091
2010	92	100	1	1	477	520	23.5	1,090
2011	94	101	3	4	568	617	18.7	1,086
2012	95	106	3	3	660	720	16.7	1,091
2013	83	87	5	5	738	802	11.4	1,087
2014	62	68	5	6	795	864	7.7	1,087
2015	54	55	6	5	843	914	5.8	1,084

SEAD-Active and SEAD-OPEB are life insurance plans which do not have annuity payments.

Analysis of Change in Unfunded Accrued Liability (UAL)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>ERS</b>										
<b>Amount of Increase (Decrease) (in Millions)</b>										
Interest (7.50) added to previous UAL	\$ 346.2	\$ 363.9	\$ 338.8	\$ 299.2	\$ 243.7	\$ 169.8	\$ 124.8	\$ 78.1	\$ 58.6	\$ 28.4
Accrued liability contribution	(419.4)	(321.7)	(239.1)	(147.7)	(122.9)	(89.4)	(99.7)	(86.3)	(35.3)	7.4
Experience:										
Valuation asset growth	(198.9)	(228.9)	253.7	396.3	433.6	710.1	609.1	129.3	(59.5)	140.2
Pensioners' mortality	13.9	60.4	20.6	15.5	16.4	49.2	65.4	51.3	51.0	50.1
Turnover and retirements	50.8	45.5	103.7	93.8	91.4	118.4	107.3	103.0	115.7	28.1
New entrants	10.3	9.3	14.1	12.1	28.4	15.0	16.7	22.9	35.7	34.4
Salary increases	(89.6)	(159.4)	(46.8)	(74.2)	49.0	(259.2)	(296.9)	(22.7)	(33.2)	(84.2)
Method changes	0.0	0.0	(128.3)	0.0	0.0	0.0	0.0	0.0	0.0	(69.0)
Amendments (COLAs)	0.0	0.0	0.0	(118.8)	0.0	0.0	(358.6)	188.8	5.9	245.2
Assumption changes	80.4	0.0	0.0	0.0	0.0	250.7	0.0	0.0	0.0	0.0
Lawsuit	0.0	0.0	0.0	0.0	0.0	0.0	75.9	0.0	0.0	0.0
Programming modification	0.0	0.0	0.0	26.3	(28.7)	0.0	0.0	0.0	0.0	0.0
Data changes	14.4	(6.0)	18.7	12.9	9.1	(2.4)	270.5	0.0	0.0	0.0
Misc. changes	(0.1)	0.1	(0.1)	12.6	20.2	22.5	86.4	157.6	120.9	22.8
<b>Total</b>	\$ (192.0)	\$ (236.8)	\$ 335.3	\$ 528.0	\$ 740.2	\$ 984.7	\$ 600.9	\$ 622.0	\$ 259.8	\$ 403.4
<b>PSERS</b>										
<b>Amount of Increase (Decrease) (in Thousands)</b>										
Interest (7.50) added to previous UAL	\$ 11,918.7	\$ 13,724.1	\$ 13,830.7	\$ 12,474.4	\$ 10,349.3	\$ 4,021.0	\$ (1,567.9)	\$ (2,953.7)	\$ (5,596.9)	\$ (6,204.6)
Accrued liability contribution	(17,704.8)	(15,915.4)	(12,497.7)	(4,843.8)	4,022.8	6,403.4	5,026.0	7,267.0	4,729.2	6,961.2
Experience:										
Valuation asset growth	(12,207.0)	(14,071.0)	13,868.0	21,922.0	24,002.0	39,729.0	34,015.0	6,623.0	(3,737.0)	7,359.0
Pensioners' mortality	414.9	1,286.7	(381.9)	(1,149.5)	(3,000.5)	(828.9)	973.7	420.3	(320.5)	1,146.2
Turnover and retirements	2,618.5	2,580.8	4,772.4	4,974.5	3,403.6	12,375.8	6,201.3	3,381.4	1,053.3	(1,717.5)
New entrants	2,875.9	2,786.0	2,757.7	2,783.8	3,167.0	3,047.8	3,267.7	4,021.0	3,556.9	4,151.6
Method changes	0.0	0.0	(9,259.0)	0.0	0.0	0.0	0.0	0.0	0.0	(3,594.0)
Amendments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
No COLAs	(14,772.9)	(14,398.9)	(14,813.1)	(20,664.9)	(16,603.6)	(14,121.2)	0.0	0.0	36,404.3	0.0
Assumption changes	30,030.0	0.0	0.0	0.0	0.0	33,717.7	0.0	0.0	0.0	0.0
Lawsuit	0.0	0.0	0.0	0.0	0.0	0.0	2,168.0	0.0	0.0	0.0
Data changes	0.0	0.0	0.0	0.0	0.0	(2,192.3)	24,199.5	0.0	0.0	0.0
Allotment for expenses	0.0	0.0	0.0	0.0	2,122.7	2,029.0	433.0	0.0	0.0	0.0
Misc. changes	43.0	(64.9)	301.7	2,586.9	872.4	195.0	(197.3)	(281.8)	(846.1)	0.0
<b>Total</b>	\$ 3,216.3	\$ (24,072.6)	\$ 1,421.2	\$ 18,083.4	\$ 28,335.7	\$ 84,376.3	\$ 74,519.0	\$ 18,477.2	\$ 35,243.2	\$ 8,101.9

Analysis of Change in Unfunded Accrued Liability (UAL)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Amount of Increase (Decrease) (in Thousands)</b>										
<b>GJRS</b>										
Interest (7.50) added to previous UAL	\$ (2,259.9)	\$ (1,207.3)	\$ (1,977.2)	\$ (2,774.8)	\$ (2,891.5)	\$ (2,636.2)	\$ (3,360.0)	\$ (3,585.9)	\$ (3,729.5)	\$ (3,889.8)
Accrued liability contribution	3,754.1	5,803.3	5,187.8	4,710.8	4,079.8	4,592.1	3,596.2	4,498.3	3,953.2	6,928.7
Experience:										
Valuation asset growth	(5,855.8)	(6,807.0)	4,949.6	8,638.5	9,404.0	16,228.0	13,941.0	3,164.0	(1,026.0)	3,464.0
Pensioners' mortality	639.6	2,138.5	533.8	376.9	2,076.8	560.9	1,102.3	409.3	(154.4)	709.7
Turnover and retirements	(370.0)	(5,962.8)	3,941.4	2,080.7	(276.3)	2,290.6	1,982.9	1,243.3	(1,614.7)	1,649.8
New entrants	1,539.1	1,272.3	3,138.0	442.3	750.1	0.0	967.2	354.2	659.5	322.6
Salary increases	(8,848.5)	(10,382.5)	(4,620.6)	(4,536.5)	1,265.9	(10,213.5)	(10,561.2)	(3,432.4)	369.8	(3,293.9)
Method changes	0.0	0.0	(6,827.0)	0.0	0.0	0.0	0.0	0.0	0.0	(1,738.0)
Amendments (COLAS)	0.0	0.0	0.0	(870.0)	0.0	0.0	(2,359.4)	1,265.0	24.1	2,383.8
Assumption changes	(5,030.9)	0.0	0.0	0.0	0.0	(14,826.5)	0.0	0.0	0.0	0.0
Data changes	0.0	0.0	0.0	0.0	0.0	579.1	4,581.2	0.0	0.0	0.0
Programming modification	0.0	0.0	4,606.4	1,648.9	0.0	0.0	0.0	0.0	0.0	0.0
Misc. changes	464.1	1,110.1	1,333.8	917.5	(12,852.1)	21.3	(240.6)	(903.4)	3,433.5	(4,400.5)
<b>Total</b>	\$ (15,968.2)	\$ (14,035.4)	\$ 10,266.0	\$ 10,634.3	\$ 1,556.7	\$ (3,404.2)	\$ 9,649.6	\$ 3,102.3	\$ 1,915.5	\$ 2,136.4
<b>Amount of Increase (Decrease) (in Thousands)</b>										
<b>LRS</b>										
Interest (7.50) added to previous UAL	\$ (421.9)	\$ (343.3)	\$ (301.8)	\$ (302.5)	\$ (343.4)	\$ (508.5)	\$ (468.9)	\$ (426.9)	\$ (432.3)	\$ (369.8)
Accrued liability contribution	173.4	161.9	(62.4)	33.9	107.1	(32.5)	(21.1)	(26.3)	(31.1)	(43.1)
Experience:										
Valuation asset growth	(491.6)	(576.5)	513.9	829.0	906.2	1,534.0	1,307.4	241.7	(155.0)	289.0
Pensioners' mortality	(50.8)	323.8	(29.6)	19.1	(18.7)	339.2	240.7	(2.2)	119.4	(412.7)
Turnover and retirements	(10.1)	(347.5)	17.4	(84.3)	254.5	105.1	(5.7)	(429.8)	423.8	(154.7)
New entrants	35.1	135.2	144.5	16.9	74.0	98.8	0.0	35.9	0.0	0.0
Method changes	0.0	0.0	(418.0)	0.0	0.0	0.0	0.0	0.0	0.0	(142.0)
Amendments	0.0	0.0	(488.1)	(549.7)	(481.8)	(465.3)	0.0	0.0	0.0	0.0
No COLAS	(452.6)	(470.8)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Assumption changes	852.3	0.0	0.0	0.0	0.0	975.2	0.0	0.0	0.0	0.0
Data changes	0.0	0.0	0.0	0.0	0.0	114.8	(1,529.1)	0.0	0.0	0.0
Misc. changes	46.2	69.9	71.1	46.4	46.9	41.6	(51.7)	47.4	147.9	0.0
<b>Total</b>	\$ (320.0)	\$ (1,047.3)	\$ (553.1)	\$ 8.8	\$ 544.9	\$ 2,202.4	\$ (528.4)	\$ (560.2)	\$ 72.7	\$ (833.3)



## Solvency Test Results

(Dollar amounts in thousands)

### ERS<sup>1</sup>

Actuarial Valuation as of 7/1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Active Member (Employer Funded Portion)		(1)	(2)	(3)
	(1)	(2)	(3)				
2006	\$ 672,679	\$ 8,462,884	\$ 5,107,282	\$ 12,376,120	100.0%	100.0%	84.7%
2007	645,907	9,020,890	5,218,382	13,843,689	100.0%	100.0%	80.0%
2008	616,177	9,756,529	5,308,151	14,017,346	100.0%	100.0%	68.7%
2009	589,012	10,034,939	5,254,071	13,613,606	100.0%	100.0%	56.9%
2010	551,607	10,652,040	5,091,705	13,046,193	100.0%	100.0%	36.2%
2011	503,867	11,058,344	5,094,694	12,667,557	100.0%	100.0%	21.7%
2012	460,861	11,420,011	4,897,050	12,260,595	100.0%	100.0%	7.8%
2013	405,841	11,935,364	4,641,244	12,129,803	100.0%	98.2%	0.0%
2014	385,058	12,108,737	4,498,168	12,376,120	100.0%	99.0%	0.0%
2015	367,462	12,520,321	4,211,744	12,675,649	100.0%	98.3%	0.0%

### PSERS<sup>1</sup>

Actuarial Valuation as of 7/1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Active Member (Employer Funded Portion)		(1)	(2)	(3)
	(1)	(2)	(3)				
2006	\$ 14,321	\$ 428,543	\$ 248,787	\$ 766,277	100.0%	100.0%	100.0%
2007	14,796	456,868	274,414	785,460	100.0%	100.0%	100.0%
2008	15,285	469,601	286,064	791,855	100.0%	100.0%	100.0%
2009	15,862	506,659	300,711	769,618	100.0%	100.0%	82.2%
2010	16,361	528,808	330,227	737,406	100.0%	100.0%	58.2%
2011	16,627	532,509	336,790	719,601	100.0%	100.0%	50.6%
2012	16,917	537,284	341,123	710,915	100.0%	100.0%	45.9%
2013	17,016	549,796	343,444	727,268	100.0%	100.0%	46.7%
2014	16,995	566,344	341,026	765,450	100.0%	100.0%	53.4%
2015	17,196	585,471	364,742	805,277	100.0%	100.0%	55.5%

### GJRS<sup>1</sup>

Actuarial Valuation as of 7/1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Active Member (Employer Funded Portion)		(1)	(2)	(3)
	(1)	(2)	(3)				
2006	\$ 48,896	\$ 86,194	\$ 94,747	\$ 279,564	100.0%	100.0%	100.0%
2007	52,707	87,333	109,238	297,090	100.0%	100.0%	100.0%
2008	59,838	90,601	118,077	313,315	100.0%	100.0%	100.0%
2009	61,188	108,923	112,363	317,624	100.0%	100.0%	100.0%
2010	67,293	117,730	96,473	320,050	100.0%	100.0%	100.0%
2011	71,047	128,991	90,440	327,483	100.0%	100.0%	100.0%
2012	73,998	141,880	92,984	335,225	100.0%	100.0%	100.0%
2013	73,949	162,364	99,479	351,889	100.0%	100.0%	100.0%
2014	80,007	162,527	100,894	373,560	100.0%	100.0%	100.0%
2015	84,170	174,147	91,981	396,399	100.0%	100.0%	100.0%

## Solvency Test Results

(Dollar amounts in thousands)

### LRS <sup>1</sup>

Actuarial Valuation as of 7/1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Active Member (Employer Funded Portion)		(1)	(2)	(3)
	(1)	(2)	(3)		(1)	(2)	(3)
2006	\$ 2,507	\$ 18,734	\$ 2,166	\$ 29,172	100.0%	100.0%	100.0%
2007	2,484	19,847	2,026	30,049	100.0%	100.0%	100.0%
2008	2,853	19,366	2,235	30,706	100.0%	100.0%	100.0%
2009	2,908	18,465	2,150	30,303	100.0%	100.0%	100.0%
2010	3,166	19,208	2,629	29,581	100.0%	100.0%	100.0%
2011	2,921	19,759	2,564	29,278	100.0%	100.0%	100.0%
2012	3,185	19,200	2,581	28,990	100.0%	100.0%	100.0%
2013	2,951	19,623	2,330	29,481	100.0%	100.0%	100.0%
2014	3,430	19,006	2,477	30,538	100.0%	100.0%	100.0%
2015	3,287	19,873	2,530	31,635	100.0%	100.0%	100.0%

### GMPP <sup>1</sup>

Actuarial Valuation as of 7/1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Active Member (Employer Funded Portion)		(1)	(2)	(3)
	(1)	(2)	(3)		(1)	(2)	(3)
2006	\$ 0	\$ 6,392	\$ 11,233	\$ 3,100	n/a	48.5%	0.0%
2007	0	7,655	12,232	4,165	n/a	54.4%	0.0%
2008	0	9,449	9,675	5,269	n/a	55.8%	0.0%
2009	0	12,742	8,279	6,413	n/a	50.3%	0.0%
2010	0	14,015	9,758	7,558	n/a	53.9%	0.0%
2011	0	15,379	11,388	8,702	n/a	56.6%	0.0%
2012	0	17,518	10,713	10,087	n/a	57.6%	0.0%
2013	0	19,396	10,660	12,131	n/a	62.5%	0.0%
2014	0	21,389	10,426	14,264	n/a	66.7%	0.0%
2015	0	24,075	11,138	16,446	n/a	68.3%	0.0%

### SEAD-Active <sup>2</sup>

Actuarial Valuation as of 7/1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Active Member (Employer Funded Portion)		(1)	(2)	(3)
	(1)	(2)	(3)		(1)	(2)	(3)
2007	\$ 0	\$ 0	\$ 59,509	\$ 185,335	n/a	n/a	100.0%
2008	0	0	62,171	172,595	n/a	n/a	100.0%
2009	0	0	61,351	144,161	n/a	n/a	100.0%
2010	0	0	40,523	156,132	n/a	n/a	100.0%
2011	0	0	40,145	184,783	n/a	n/a	100.0%
2012	0	0	39,317	183,390	n/a	n/a	100.0%
2013	0	0	37,512	204,779	n/a	n/a	100.0%
2014	0	0	35,877	235,358	n/a	n/a	100.0%
2015	0	0	21,723	240,677	n/a	n/a	100.0%

## Solvency Test Results

(Dollar amounts in thousands)

### SEAD-OPEB <sup>2</sup>

Actuarial Valuation as of 7/1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Active Member (Employer Funded Portion)		(1)	(2)	(3)
	(1)	(2)	(3)				
2007	\$ 0	\$ 436,530	\$ 206,001	\$ 778,048	n/a	100.0%	100.0%
2008	0	486,569	213,315	737,114	n/a	100.0%	100.0%
2009	0	524,718	208,953	628,199	n/a	100.0%	49.5%
2010	0	516,633	174,368	680,449	n/a	100.0%	93.9%
2011	0	503,327	175,093	807,893	n/a	100.0%	100.0%
2012	0	528,165	176,452	818,284	n/a	100.0%	100.0%
2013	0	586,228	168,558	907,831	n/a	100.0%	100.0%
2014	0	621,502	166,518	1,037,901	n/a	100.0%	100.0%
2015	0	621,426	148,321	1,046,559	n/a	100.0%	100.0%

<sup>1</sup> Data prior to 2006 is not available for Defined Benefit Pension Plans.

<sup>2</sup> SEAD-Active and SEAD-OPEB were created effective July 1, 2007.

# Statistical Section



## Introduction

The objective of the statistical section is to provide a historical perspective, context and relevant details to assist readers in evaluating the condition of the plans. All nonaccounting data is taken from ERSGA's internal sources except for information which is derived from the actuarial valuations. FY2010 was the first year ERSGA added this information in their Annual Financial Report. Therefore, historical detail may not be complete for some schedules. Statistical information is not presented for SCJRF and DARF as both plans are immaterial, have no active members, and are closed to new members.

## Financial Trends

The following schedules have been included to help the reader understand how the System's financial position has changed over the past 10 years:

- Additions by Source
- Deductions by Type
- Changes in Fiduciary Net Position

## Operational Trends

The following schedules have been included to help the readers understand how the System's financial report relates to the services provided by the System and the activities it performs:

- Retiree Information
- Withdrawal (Refund) Data
- New Retiree Elections
- Overall Plan Statistics

Additions by Source - Contribution/Investment Income (in thousands)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>ERS</b>										
Employee Contributions	\$ 49,250	48,324	43,978	42,052	39,480	36,561	38,955	32,423	33,713	31,961
Employer Contributions	270,141	286,256	281,206	263,064	261,132	274,034	358,992	418,807	505,668	583,082
Nonemployer Contributions	—	—	—	—	—	—	—	10,945	12,495	12,484
Net Investment Income (Loss)	1,869,113	(482,679)	(1,726,302)	1,176,741	2,269,270	231,782	1,495,849	2,021,748	474,147	141,292
Other	90,333	—	—	—	—	—	—	—	10	10
Total Additions to (Deductions from) Fiduciary Net Position	\$ 2,278,837	(148,099)	(1,401,118)	1,481,857	2,569,882	542,377	1,893,796	2,483,923	1,026,033	768,829
<b>PSERS</b>										
Employee Contributions	\$ 1,420	1,451	1,472	1,483	1,451	1,426	1,538	1,659	1,800	1,925
Employer Contributions	6,490	2,869	5,096	5,530	7,509	15,884	24,829	—	—	—
Nonemployer Contributions	—	—	—	—	—	—	—	27,160	28,461	28,580
Net Investment Income (Loss)	106,833	(27,052)	(97,156)	66,404	128,096	13,554	88,067	123,799	30,129	9,809
Other	588	588	588	—	—	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ 115,331	(22,144)	(90,000)	73,417	137,056	30,864	114,434	152,618	60,390	40,314
<b>GJRS</b>										
Employee Contributions	\$ 4,040	4,698	4,612	5,018	4,721	4,904	4,408	4,731	5,061	5,507
Employer Contributions	1,778	2,395	1,703	3,369	1,163	2,083	2,279	1,373	2,696	4,754
Nonemployer Contributions	—	—	—	—	—	—	—	1,002	1,564	2,869
Net Investment Income (Loss)	39,324	(10,702)	(38,164)	27,378	57,330	6,571	42,104	60,012	14,697	5,055
Other	175	175	175	175	—	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ 45,317	(3,434)	(31,674)	35,940	63,214	13,558	48,791	67,118	24,018	18,185
<b>LRS</b>										
Employee Contributions	\$ 320	320	320	318	320	323	373	282	327	328
Employer Contributions	62	73	71	75	75	76	128	45	—	—
Nonemployer Contributions	—	—	—	—	—	—	—	—	—	—
Net Investment Income (Loss)	4,072	(1,051)	(3,772)	2,610	5,194	550	3,573	4,969	1,189	363
Other	110	110	110	110	—	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ 4,564	(548)	(3,271)	3,113	5,589	949	4,074	5,296	1,516	691

Additions by Source - Contribution/Investment Income (in thousands)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>GMPF</b>										
Employee Contributions	—	—	—	—	—	—	—	—	—	—
Employer Contributions	1,005	1,103	1,323	1,434	1,282	1,521	1,703	1,892	1,893	1,990
Nonemployer Contributions	—	—	—	—	—	—	—	—	—	—
Net Investment Income (Loss)	503	(191)	(657)	565	1,465	221	1,374	2,179	585	240
Other	—	—	—	—	—	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ 1,508	912	666	1,999	2,747	1,742	3,077	4,071	2,478	2,230
<b>SEAD - Active*</b>										
Employee Contributions	—	—	—	—	—	—	—	—	—	—
Employer Contributions	—	—	—	—	—	—	—	—	—	—
Insurance Premiums	—	864	880	900	847	771	699	607	581	611
Net Investment Income (Loss)	—	(6,321)	(22,656)	15,910	33,023	3,876	24,274	35,073	8,714	3,109
Other	—	—	—	—	—	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ —	(5,457)	(21,776)	16,810	33,870	4,647	24,973	35,680	9,295	3,720
<b>SEAD - OPEB*</b>										
Employee Contributions	—	—	—	—	—	—	—	—	—	—
Employer Contributions	—	—	—	—	—	—	—	—	—	—
Insurance Premiums	—	7,756	7,551	6,755	6,437	5,532	5,075	4,502	4,187	3,931
Net Investment Income (Loss)	—	(27,032)	(96,424)	69,340	144,270	17,193	108,148	154,868	37,876	12,559
Other	—	—	—	—	—	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ —	(19,276)	(88,873)	76,095	150,707	22,725	113,223	159,370	42,063	16,490

\*Plans began in fiscal year 2008.

Additions by Source - Contribution/Investment Income (in thousands)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Defined Contribution Plan - GDCP</b>										
Employee Contributions	\$ 15,060	15,880	15,608	16,002	17,656	17,171	16,676	16,290	15,655	14,708
Employer Contributions	—	—	—	—	—	—	—	—	—	—
Nonemployer Contributions	—	—	—	—	—	—	—	—	—	—
Net Investment Income (Loss)	7,938	(331)	(5,294)	10,319	775	652	137	1,368	1,326	5,591
Other	—	—	—	—	—	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ 22,998	15,529	10,314	26,321	18,431	17,823	16,813	17,658	16,981	20,299
<b>Defined Contribution Plan - 401(k)</b>										
Employee Contributions	\$ 34,956	38,927	33,432	33,899	38,006	40,331	44,428	53,724	64,870	79,422
Employer Contributions	14,774	14,193	6,939	15,664	25,442	4,355	18,279	21,513	25,615	29,982
Nonemployer Contributions	—	—	—	—	—	—	—	—	—	—
Net Investment Income (Loss)	39,927	(21,302)	(50,330)	25,283	59,581	3,112	52,835	78,583	17,665	5,281
Other	674	921	750	385	446	800	948	1,122	—	1,429
Total Additions to (Deductions from) Fiduciary Net Position	\$ 90,331	32,739	(9,209)	75,231	123,475	48,598	116,490	154,942	109,448	116,114
<b>Defined Contribution Plan - 457</b>										
Employee Contributions	\$ 28,116	26,466	24,087	21,171	20,108	19,551	18,753	17,623	17,445	17,413
Employer Contributions	—	—	—	—	—	—	—	—	—	—
Nonemployer Contributions	—	—	—	—	—	—	—	—	—	—
Net Investment Income (Loss)	72,425	(31,343)	(70,066)	35,806	70,963	7,785	55,737	73,746	18,991	7,855
Other	537	761	626	468	339	—	—	—	—	—
Total Additions to (Deductions from) Fiduciary Net Position	\$ 101,078	(4,116)	(45,353)	57,445	91,410	27,336	74,490	91,369	36,436	25,268

## Deductions by Type (in thousands)

ERS								
Fiscal Year	Benefit Payments					Net Administrative Expenses	Refunds	Total Deductions from Fiduciary Net Position
	Service	Partial Lump-Sum Option	Disability	Survivor Benefits	Total Benefit Payments			
2007	\$ 721,869	17,821	127,091	61,873	\$ 928,654	14,901	6,696	\$ 950,251
2008	797,052	24,792	131,709	66,397	1,019,950	18,805	7,815	1,046,570
2009	889,669	22,011	135,743	69,735	1,117,158	16,809	6,597	1,140,564
2010	878,482	23,480	146,031	82,676	1,130,669	14,505	6,483	1,151,657
2011	921,136	30,946	140,849	75,891	1,168,822	14,431	7,515	1,190,768
2012	964,485	31,963	143,317	76,973	1,216,738	12,051	7,767	1,236,556
2013	1,007,816	35,933	145,152	80,300	1,269,201	12,889	7,390	1,289,480
2014	1,051,993	24,567	146,245	83,193	1,305,998	7,440	8,757	1,322,195
2015	1,076,676	24,391	147,418	85,794	1,334,278	7,872	7,450	1,349,600
2016	1,092,909	19,154	147,706	87,843	1,347,633	8,506	7,087	1,363,226

PSERS							
Fiscal Year	Benefit Payments				Net Administrative Expenses	Refunds	Total Deductions from Fiduciary Net Position
	Service	Disability	Survivor Benefits	Total Benefit Payments			
2007	\$ 40,070	4,814	1,580	\$ 46,464	588	319	\$ 47,371
2008	41,607	4,956	1,682	48,245	588	308	49,141
2009	45,159	5,232	1,806	52,197	588	261	53,046
2010	45,741	5,402	2,052	53,195	1,956	251	55,402
2011	46,548	5,369	2,063	53,980	2,046	267	56,293
2012	46,911	5,369	1,903	54,183	2,040	349	56,572
2013	47,805	5,328	1,908	55,041	2,021	492	57,554
2014	48,911	5,280	1,998	56,189	1,450	514	58,153
2015	49,704	5,227	2,041	56,972	1,545	456	58,973
2016	50,572	5,172	2,160	57,903	1,321	465	59,689

GJRS							
Fiscal Year	Benefit Payments				Net Administrative Expenses	Refunds	Total Deductions from Fiduciary Net Position
	Service	Disability	Survivor Benefits	Total Benefit Payments			
2007	\$ 7,908	106	1,285	\$ 9,299	175	76	\$ 9,550
2008	8,259	110	1,498	9,867	175	14	10,056
2009	9,453	112	1,546	11,111	175	263	11,549
2010	10,633	114	1,618	12,365	270	139	12,774
2011	11,245	112	1,654	13,011	290	260	13,561
2012	12,608	113	1,695	14,416	310	146	14,872
2013	14,273	112	1,865	16,250	313	105	16,668
2014	15,305	112	2,024	17,441	754	22	18,217
2015	16,084	112	2,169	18,365	819	772	19,956
2016	16,677	112	2,222	19,011	754	261	20,026

## Deductions by Type (in thousands)

### LRS

Fiscal Year	Benefit Payments			Net Administrative Expenses	Refunds	Total Deductions from Fiduciary Net Position
	Service	Survivor Benefits	Total Benefit Payments			
2007	\$ 1,187	401	\$ 1,588	110	33	\$ 1,731
2008	1,228	406	1,634	110	65	1,809
2009	1,265	425	1,690	110	49	1,849
2010	1,308	436	1,744	120	47	1,911
2011	1,309	452	1,761	131	60	1,952
2012	1,364	446	1,810	110	74	1,994
2013	1,376	448	1,824	119	88	2,031
2014	1,336	465	1,801	152	30	1,983
2015	1,315	441	1,756	169	26	1,951
2016	1,294	429	1,724	313	38	2,075

### GMPF

Fiscal Year	Benefit Payments		Net Administrative Expenses	Total Deductions from Fiduciary Net Position
	Service*	Total Benefit Payments		
2007	\$ 225	\$ 225	—	\$ 225
2008	303	303	—	303
2009	382	382	—	382
2010	489	489	43	532
2011	579	579	37	616
2012	678	678	34	712
2013	772	772	31	803
2014	841	841	110	951
2015	896	896	121	1,017
2016	963	963	262	1,225

\*The only type of retirement in GMPF is a service retirement.

## Deductions by Type (in thousands)

SEAD-Active†				
Fiscal Year	Benefit Payments		Net Administrative Expenses	Total Deductions from Fiduciary Net Position
	Death Benefits**	Total Benefit Payments		
2007	\$ —	\$ —	—	\$ —
2008	7,261	7,261	22	7,283
2009	6,636	6,636	22	6,658
2010	4,817	4,817	22	4,839
2011	5,197	5,197	22	5,219
2012	6,018	6,018	22	6,040
2013	3,562	3,562	22	3,584
2014	5,055	5,055	46	5,101
2015	3,929	3,929	47	3,976
2016	3,345	3,345	67	3,412

SEAD-OPEB†				
Fiscal Year	Benefit Payments		Net Administrative Expenses	Total Deductions from Fiduciary Net Position
	Death Benefits**	Total Benefit Payments		
2007	\$ —	\$ —	—	\$ —
2008	21,455	21,455	203	21,658
2009	19,839	19,839	203	20,042
2010	23,642	23,642	203	23,845
2011	23,060	23,060	203	23,263
2012	24,855	24,855	203	25,058
2013	28,482	28,482	203	28,685
2014	28,891	28,891	414	29,305
2015	32,979	32,979	428	33,407
2016	33,911	33,911	599	34,510

\*\*The only type of benefit in SEAD-Active and SEAD-OPEB is a death benefit.

† Plan began in fiscal year 2008.

## Deductions by Type (in thousands)

### Defined Contribution Plan - GDGP

Fiscal Year	Benefit Payments		Net Administrative Expenses	Refunds	Total Deductions from Fiduciary Net Position
	Periodic Payments	Total Benefit Payments			
2007	\$ —	\$ —	310	12,464	\$ 12,774
2008	9	9	310	11,514	11,833
2009	9	9	310	10,377	10,696
2010	9	9	1,110	10,613	11,732
2011	9	9	1,180	11,390	12,579
2012	11	11	1,138	12,749	13,898
2013	9	9	1,160	14,415	15,584
2014	9	9	991	17,721	18,721
2015	—	—	990	22,340	23,330
2016	—	35	766	11,911	12,712

### Defined Contribution Plan - 401(k)

Fiscal Year	Benefit Payments		Net Administrative Expenses	Total Deductions from Fiduciary Net Position
	Distributions	Total Benefit Payments		
2007	\$ 25,785	\$ 25,785	1,050	\$ 26,835
2008	26,548	26,548	1,472	28,020
2009	21,105	21,105	1,028	22,133
2010	23,618	23,618	829	24,447
2011	42,457	42,457	2,054	44,511
2012	36,986	36,986	2,111	39,097
2013	57,351	57,351	2,457	59,808
2014	43,133	43,133	2,300	45,433
2015	95,428	95,428	2,755	98,183
2016	46,508	46,508	2,832	49,340

### Defined Contribution Plan - 457

Fiscal Year	Benefit Payments		Net Administrative Expenses	Total Deductions from Fiduciary Net Position
	Distributions	Total Benefit Payments		
2007	\$ 53,097	\$ 53,097	921	\$ 54,018
2008	41,555	41,555	1,169	42,724
2009	37,257	37,257	1,769	39,026
2010	37,014	37,014	2,115	39,129
2011	44,773	44,773	1,064	45,837
2012	41,835	41,835	910	42,745
2013	63,388	63,388	996	64,384
2014	45,807	45,807	812	46,619
2015	50,479	50,479	866	51,345
2016	43,288	43,288	820	44,108

Changes in Fiduciary Net Position (in thousands)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>ERS</b>										
Total Additions	\$ 2,278,837	(148,099)	(1,401,118)	1,481,857	2,569,882	542,377	1,893,796	2,483,923	1,026,033	768,829
Total Deductions	950,251	1,046,570	1,140,564	1,151,657	1,190,768	1,236,556	1,289,480	1,322,195	1,349,600	1,363,226
Transfer In (Out)	—	—	—	—	—	(12,724)	(5,009)	—	—	—
Changes in Fiduciary Net Position	1,328,586	(1,194,669)	(2,541,682)	330,200	1,379,114	(706,903)	599,307	1,161,728	(323,567)	(594,397)
<b>PSERS</b>										
Total Additions	115,331	(22,144)	(90,000)	73,417	137,056	30,864	114,434	152,618	60,390	40,314
Total Deductions	47,371	49,141	53,046	55,402	56,293	56,572	57,554	58,153	58,973	59,689
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	67,960	(71,285)	(143,046)	18,015	80,763	(25,708)	56,880	94,465	1,417	(19,375)
<b>GJRS</b>										
Total Additions	45,317	(3,434)	(31,674)	35,940	63,214	13,558	48,791	67,118	24,018	18,185
Total Deductions	9,550	10,056	11,549	12,774	13,561	14,872	16,668	18,217	19,956	20,026
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	35,767	(13,490)	(43,223)	23,166	49,653	(1,314)	32,123	48,901	4,062	(1,841)
<b>LRS</b>										
Total Additions	4,564	(548)	(3,271)	3,113	5,589	949	4,074	5,296	1,516	691
Total Deductions	1,731	1,809	1,849	1,911	1,952	1,994	2,031	1,983	1,951	2,075
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	2,833	(2,357)	(5,120)	1,202	3,637	(1,045)	2,043	3,313	(435)	(1,384)
<b>GMPF</b>										
Total Additions	1,508	912	666	1,999	2,747	1,742	3,077	4,071	2,478	2,230
Total Deductions	225	303	382	532	616	712	803	951	1,017	1,225
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	1,283	609	284	1,467	2,131	1,030	2,274	3,120	1,461	1,005

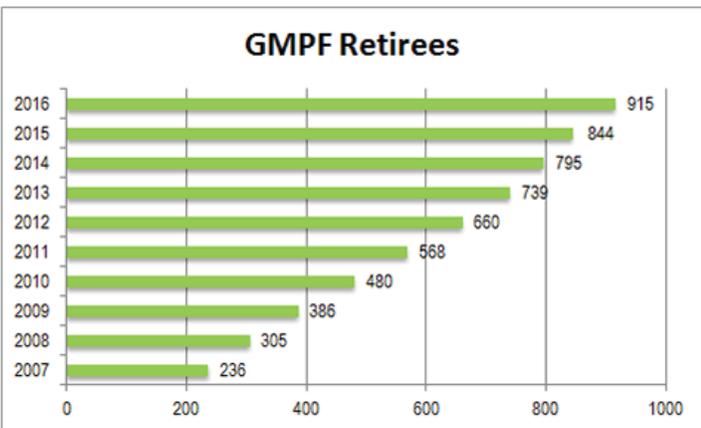
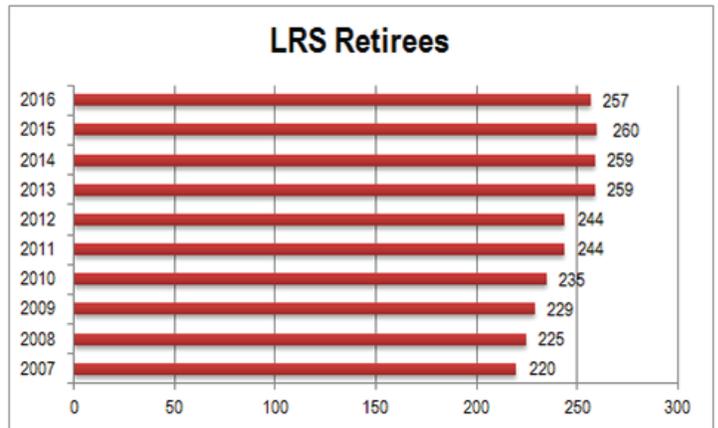
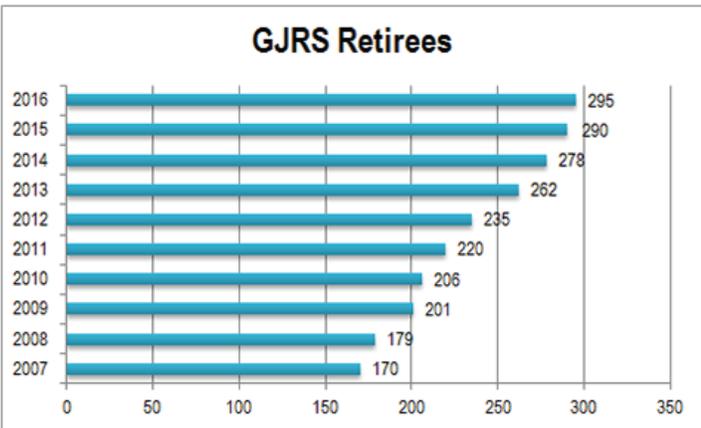
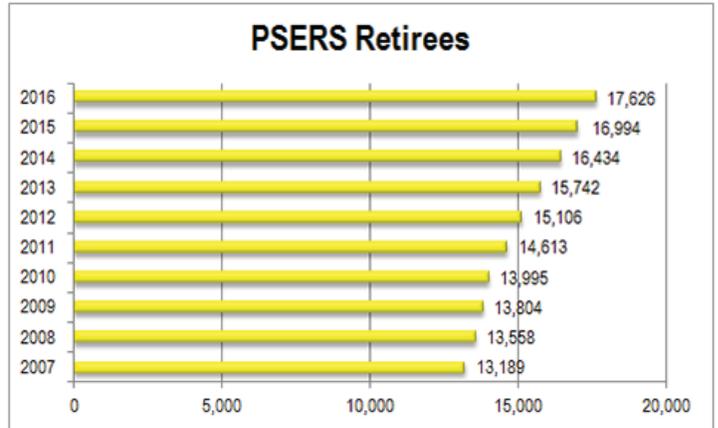
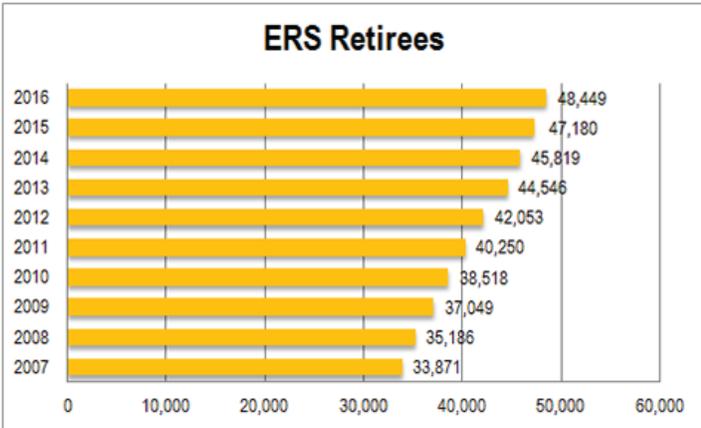
Changes in Fiduciary Net Position (in thousands)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>SEAD - Active*</b>										
Total Additions	\$ —	(5,457)	(21,776)	16,810	33,870	4,647	24,973	35,680	9,295	3,720
Total Deductions	—	7,283	6,658	4,839	5,219	6,040	3,584	5,101	3,976	3,412
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	—	(12,740)	(28,434)	11,971	28,651	(1,393)	21,389	30,579	5,319	308
<b>SEAD - OPEB*</b>										
Total Additions	—	(19,276)	(88,873)	76,095	150,707	22,725	113,223	159,370	42,063	16,490
Total Deductions	—	21,658	20,042	23,845	23,263	25,058	28,685	29,305	33,407	34,510
Transfer In (Out)	—	—	—	—	—	12,724	5,009	5	2	2
Changes in Fiduciary Net Position	—	(40,934)	(108,915)	52,250	127,444	10,391	89,547	130,070	8,658	(18,018)
<b>Survivors Benefit Fund**</b>										
Total Additions	—	—	—	—	—	—	—	17,044	4,307	1,611
Total Deductions	—	—	—	—	—	—	—	—	—	—
Transfer In (Out)	—	—	—	—	—	—	—	(5)	(2)	(2)
Changes in Fiduciary Net Position	—	—	—	—	—	—	—	17,039	4,305	1,609
<b>Defined Contribution Plan - GDCP</b>										
Total Additions	\$ 22,998	15,529	10,314	26,321	18,431	17,823	16,813	17,658	16,981	20,299
Total Deductions	12,774	11,833	10,696	11,732	12,579	13,898	15,584	18,721	23,330	12,712
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	10,224	3,696	(382)	14,589	5,852	3,925	1,229	(1,063)	(6,349)	7,587
<b>Defined Contribution Plan - 401(k)</b>										
Total Additions	90,331	32,739	(9,209)	75,231	123,475	48,598	116,490	154,942	109,448	116,114
Total Deductions	26,835	28,020	22,133	24,447	44,511	39,097	59,808	45,433	98,183	49,340
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	63,496	4,719	(31,342)	50,784	78,964	9,501	56,682	109,509	11,265	66,774
<b>Defined Contribution Plan - 457</b>										
Total Additions	101,078	(4,116)	(45,353)	57,445	91,410	27,336	74,490	91,369	36,436	25,268
Total Deductions	54,018	42,724	39,026	39,129	45,837	42,745	64,384	46,619	51,345	44,108
Transfer In (Out)	—	—	—	—	—	—	—	—	—	—
Changes in Fiduciary Net Position	47,060	(46,840)	(84,379)	18,316	45,573	(15,409)	10,106	44,750	(14,909)	(18,840)

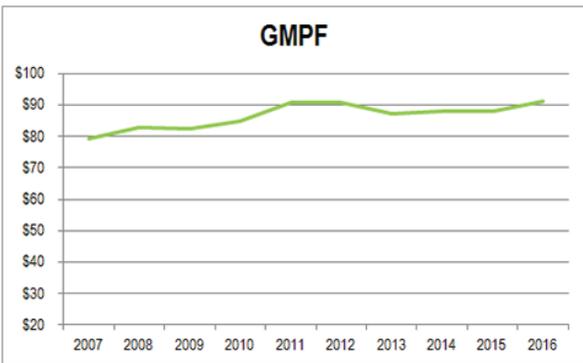
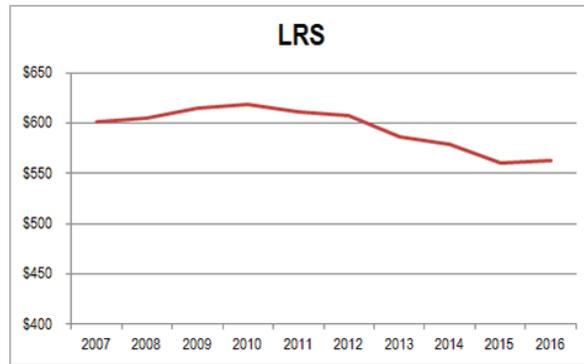
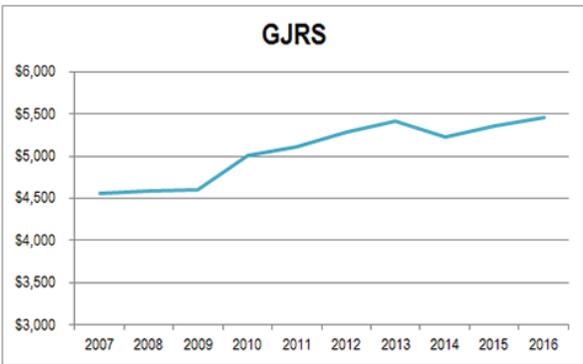
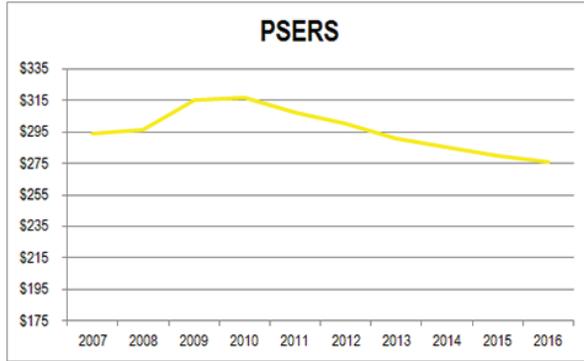
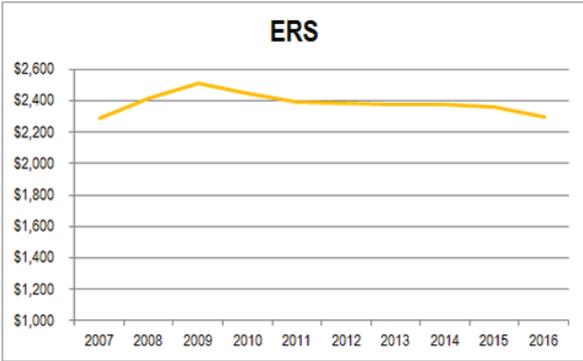
\* Plan began in fiscal year 2008.

\*\* Plan reported separately from ERS pension trust beginning in fiscal year 2014.

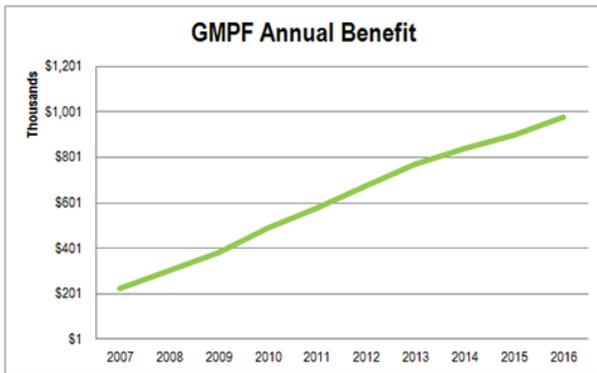
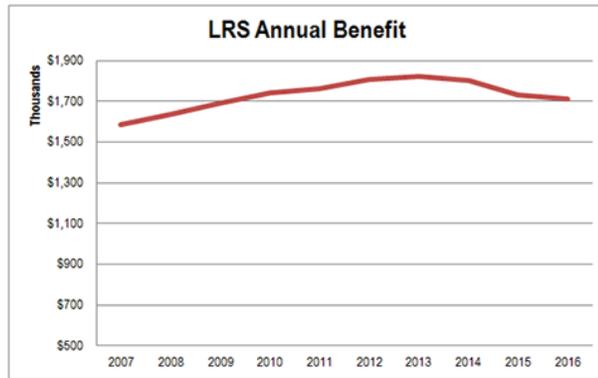
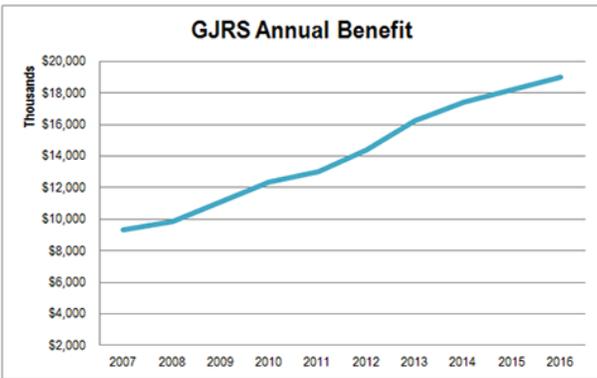
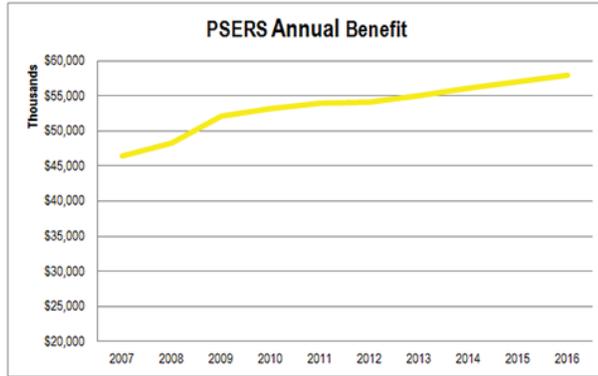
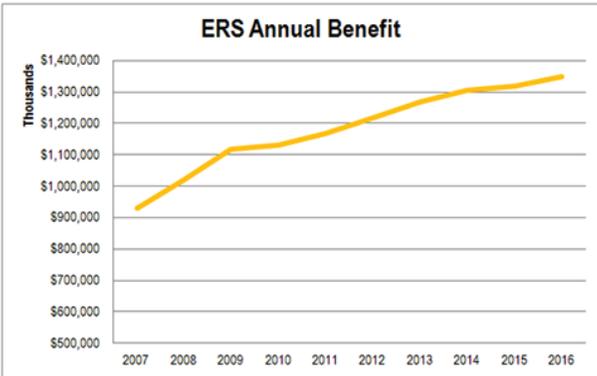
## Number of Retirees



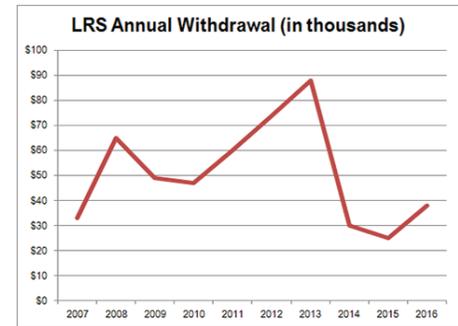
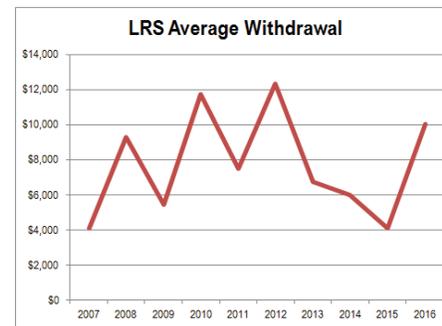
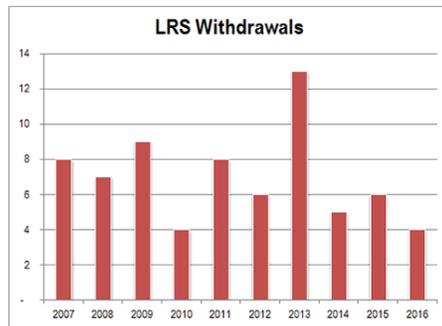
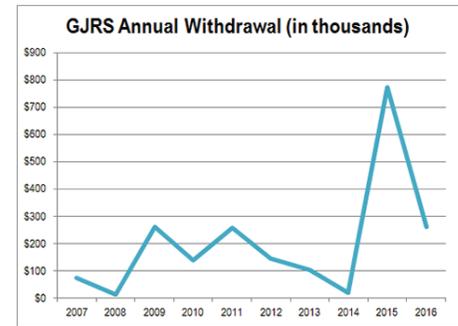
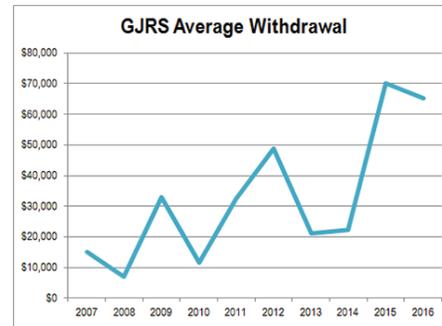
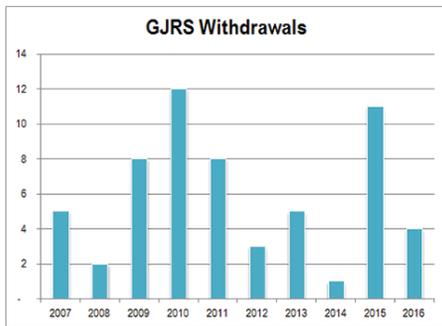
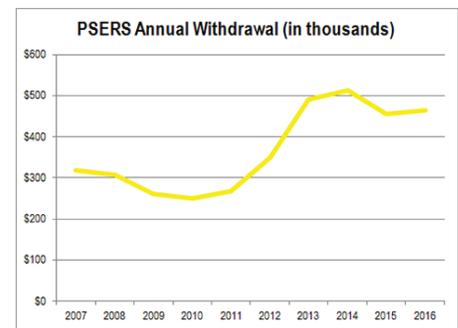
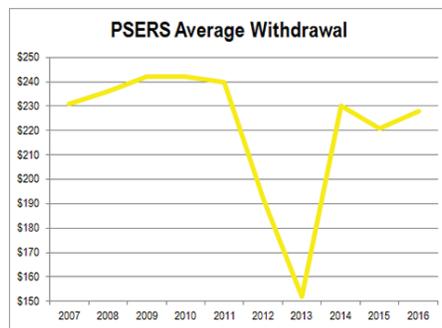
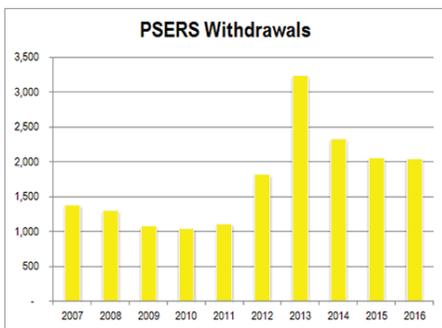
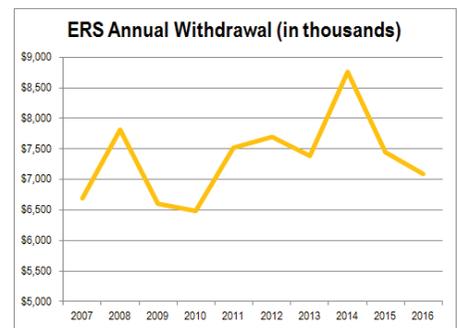
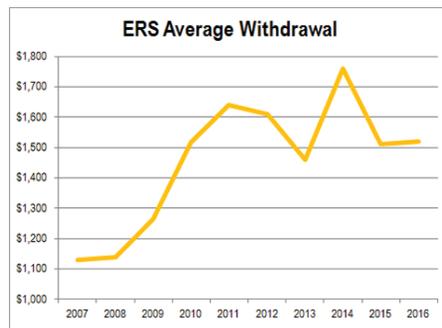
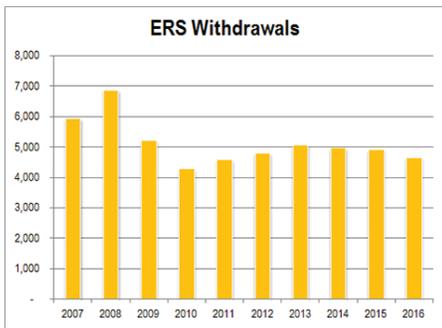
## Average Monthly Payments to Retirees



## Annual Benefit



## Withdrawal Statistics



Note: The GMPF Plan does not have a refund feature.

## Average Monthly Benefit Payment for New Retirees - ERS

	Years of Credited Service					Total
	10-15	16-20	21-25	26-30	Over 30	
2007						
Average Monthly Benefit	\$655.86	\$961.27	\$1,317.36	\$1,789.83	\$3,423.26	\$2,229.02
Average Final Average Salary	\$2,935.70	\$3,071.63	\$3,265.26	\$3,745.37	\$4,373.83	\$3,778.07
Number of Retirees	307	303	247	292	1,022	2,171
2008						
Average Monthly Benefit	\$701.03	\$1,068.51	\$1,457.03	\$1,899.48	\$3,576.69	\$2,342.60
Average Final Average Salary	\$3,025.39	\$3,181.44	\$3,408.23	\$3,767.28	\$4,489.73	\$3,873.97
Number of Retirees	309	306	280	290	1,032	2,217
2009						
Average Monthly Benefit	\$717.65	\$1,059.22	\$1,458.18	\$1,910.75	\$3,627.21	\$2,272.58
Average Final Average Salary	\$3,109.07	\$3,179.28	\$3,483.90	\$3,875.27	\$4,548.96	\$3,891.02
Number of Retirees	344	320	301	324	949	2,238
2010						
Average Monthly Benefit	\$694.23	\$1,086.00	\$1,502.32	\$1,849.65	\$3,653.29	\$2,247.01
Average Final Average Salary	\$3,023.45	\$3,345.36	\$3,555.21	\$3,802.65	\$4,588.73	\$3,900.93
Number of Retirees	391	324	332	375	981	2,403
2011						
Average Monthly Benefit	\$734.74	\$1,107.16	\$1,504.51	\$1,995.24	\$3,575.54	\$2,143.95
Average Final Average Salary	\$3,228.07	\$3,205.88	\$3,478.73	\$3,762.88	\$4,532.07	\$3,825.88
Number of Retirees	437	322	389	461	885	2,494
2012						
Average Monthly Benefit	\$729.60	\$1,247.16	\$1,624.82	\$2,125.35	\$3,708.26	\$2,109.84
Average Final Average Salary	\$3,040.00	\$3,275.37	\$3,388.85	\$3,807.26	\$4,702.47	\$3,775.94
Number of Retirees	518	385	414	486	776	2,578
2013						
Average Monthly Benefit	\$836.73	\$1,183.19	\$1,650.14	\$2,120.33	\$3,487.96	\$2,088.46
Average Final Average Salary	\$3,391.36	\$3,339.84	\$3,411.24	\$3,765.16	\$4,659.17	\$3,855.98
Number of Retirees	684	453	466	780	1,033	3,416
2014						
Average Monthly Benefit	\$769.91	\$1,232.07	\$1,527.47	\$2,057.32	\$3,242.25	\$1,870.02
Average Final Average Salary	\$3,309.44	\$3,337.66	\$3,263.54	\$3,718.37	\$4,486.34	\$3,699.86
Number of Retirees	483	306	311	477	542	2,119
2015						
Average Monthly Benefit	\$750.98	\$1,224.00	\$1,620.88	\$2,068.82	\$3,074.69	\$1,837.97
Average Final Average Salary	\$3,269.25	\$3,443.88	\$3,547.63	\$3,750.99	\$4,536.68	\$3,760.27
Number of Retirees	524	316	341	623	561	2,365
2016						
Average Monthly Benefit	\$759.54	\$1,224.52	\$1,760.28	\$2,171.75	\$2,996.81	\$1,783.98
Average Final Average Salary	\$3,189.20	\$3,376.84	\$3,657.08	\$3,935.01	\$4,618.83	\$3,764.34
Number of Retirees	559	340	330	530	466	2,225

## Average Monthly Benefit Payment for New Retirees - PSERS

	Years of Credited Service					Total
	10-15	16-20	21-25	26-30	Over 30	
2007						
Average Monthly Benefit	\$143.42	\$208.47	\$265.12	\$331.55	\$426.70	\$229.16
Number of Retirees	323	174	106	89	93	785
2008						
Average Monthly Benefit	\$149.91	\$219.81	\$279.58	\$349.05	\$439.31	\$238.04
Number of Retirees	362	199	116	99	98	874
2009						
Average Monthly Benefit	\$156.52	\$224.92	\$289.93	\$357.58	\$460.04	\$242.89
Number of Retirees	391	200	157	91	90	929
2010						
Average Monthly Benefit	\$157.66	\$224.92	\$300.93	\$359.24	\$464.07	\$243.41
Number of Retirees	448	200	162	76	105	1,001
2011						
Average Monthly Benefit	\$158.67	\$227.68	\$297.01	\$374.01	\$479.42	\$245.04
Number of Retirees	463	200	126	79	114	982
2012						
Average Monthly Benefit	\$159.25	\$236.46	\$303.66	\$362.36	\$476.51	\$238.59
Number of Retirees	480	182	136	74	87	958
2013						
Average Monthly Benefit	\$159.34	\$232.10	\$300.66	\$360.75	\$478.49	\$245.72
Number of Retirees	580	255	175	113	133	1,256
2014						
Average Monthly Benefit	\$154.20	\$227.41	\$297.58	\$345.98	\$437.20	\$233.71
Number of Retirees	603	268	147	121	131	1,270
2015						
Average Monthly Benefit	\$155.20	\$225.02	\$290.82	\$360.11	\$471.12	\$233.25
Number of Retirees	568	254	166	105	99	1,192
2016						
Average Monthly Benefit	\$160.28	\$232.09	\$298.45	\$358.11	\$489.48	\$242.18
Number of Retirees	529	273	454	103	103	1,162

Note: PSERS is not a final average pay plan.

## Average Monthly Benefit Payment for New Retirees - GJRS

	Years of Credited Service					Total
	10-15	16-20	21-25	26-30	Over 30	
<b>2007</b>						
Average Monthly Benefit	\$4,635.56	\$1,821.81	\$5,338.65	\$7,603.57	0	\$4,849.90
Average Final Average Salary	\$7,888.25	\$8,213.52	\$7,150.62	\$10,184.26	0	\$8,359.16
Number of Retirees	4	3	3	1	0	11
<b>2008</b>						
Average Monthly Benefit	\$2,485.43	0	\$7,368.55	\$4,735.08	0	\$4,863.02
Average Final Average Salary	\$6,662.15	0	\$9,934.33	\$6,342.20	0	\$7,646.23
Number of Retirees	4	0	2	2	0	8
<b>2009</b>						
Average Monthly Benefit	\$4,874.28	\$5,883.17	\$7,366.55	\$6,630.61	\$7,639.64	\$6,478.85
Average Final Average Salary	\$9,519.58	\$8,825.88	\$10,071.58	\$8,881.08	\$10,232.57	\$9,506.14
Number of Retirees	8	5	7	5	2	27
<b>2010</b>						
Average Monthly Benefit	\$6,337.43	\$4,563.90	\$7,643.86	\$6,422.80	0	\$6,242.00
Average Final Average Salary	\$10,490.01	\$7,018.08	\$10,490.01	\$8,602.74	0	\$9,150.21
Number of Retirees	1	5	2	4	0	12
<b>2011</b>						
Average Monthly Benefit	\$4,632.24	\$10,170.24	\$9,799.81	\$8,428.40	0	\$7,614.02
Average Final Average Salary	\$9,211.23	\$14,910.13	\$13,052.66	\$11,264.63	0	\$11,505.85
Number of Retirees	4	2	2	3	0	11
<b>2012</b>						
Average Monthly Benefit	\$4,204.95	\$6,610.26	\$7,565.84	\$8,791.96	\$7,831.84	\$6,915.64
Average Final Average Salary	\$7,788.39	\$9,887.17	\$10,361.29	\$11,714.95	\$10,490.01	\$10,035.77
Number of Retirees	5	4	4	7	1	20
<b>2013</b>						
Average Monthly Benefit	\$5,179.20	\$5,844.29	\$6,170.52	\$7,954.14	\$6,169.77	\$6,132.24
Average Final Average Salary	\$9,271.48	\$8,344.35	\$8,370.72	\$10,624.52	\$8,864.27	\$9,010.27
Number of Retirees	8	7	7	5	7	34
<b>2014</b>						
Average Monthly Benefit	\$2,989.92	\$4,468.12	\$6,496.50	0	\$2,703.82	\$4,470.15
Average Final Average Salary	\$6,265.39	\$7,772.95	\$8,998.48	0	\$4,289.57	\$7,166.46
Number of Retirees	6	2	7	0	3	18
<b>2015</b>						
Average Monthly Benefit	\$4,010.30	\$6,317.44	\$7,051.15	\$7,589.28	\$2,406.28	\$6,267.69
Average Final Average Salary	\$6,937.39	\$9,141.51	\$9,751.01	\$10,165.12	\$3,222.98	\$8,905.45
Number of Retirees	2	5	7	2	1	17
<b>2016</b>						
Average Monthly Benefit	0	\$6,534.36	\$8,121.58	0	\$8,635.31	\$7,120.51
Average Final Average Salary	0	\$9,655.37	\$11,204.04	0	\$11,566.18	\$10,211.83
Number of Retirees	0	6	2	0	1	9

## Average Monthly Benefit Payment for New Retirees - LRS

	Years of Credited Service					Total
	8 - 14	15 - 19	20 - 24	25 - 29	30 & over	
2007						
Average Monthly Benefit	\$256.96	\$476.39	\$762.02	\$939.00	\$1,195.52	\$725.98
Number of Retirees	5	5	2	1	1	14
2008						
Average Monthly Benefit	\$324.74	\$604.63	\$698.86	0	0	\$542.74
Number of Retirees	4	4	2	0	0	10
2009						
Average Monthly Benefit	\$425.39	\$650.99	0	\$921.00	\$1,203.00	\$800.10
Number of Retirees	2	1	0	2	3	8
2010						
Average Monthly Benefit	\$372.93	\$558.00	0	0	0	\$465.47
Number of Retirees	8	1	0	0	0	9
2011						
Average Monthly Benefit	\$341.79	\$589.12	0	\$843.26	\$934.73	\$456.99
Number of Retirees	12	1	0	2	1	16
2012						
Average Monthly Benefit	\$363.66	\$549.08	0	0	\$1,286.43	\$548.46
Number of Retirees	4	2	0	0	1	7
2013						
Average Monthly Benefit	\$308.15	\$568.93	\$670.94	0	\$1,166.93	\$497.03
Number of Retirees	14	4	2	0	3	23
2014						
Average Monthly Benefit	\$289.25	\$480.21	0	0	0	\$336.99
Number of Retirees	3	1	0	0	0	4
2015						
Average Monthly Benefit	\$341.03	\$382.95	\$642.84	0	\$1,228.50	\$588.51
Number of Retirees	5	1	3	0	2	11
2016						
Average Monthly Benefit	\$322.51	\$524.09	0	0	0	\$380.11
Number of Retirees	5	2	0	0	0	7

Note: LRS is not a final average pay plan.

## Average Monthly Benefit Payment for New Retirees - GMPF

	Years of Credited Service			Total
	20-25	26 - 30	Over 30	
2007				
Average Monthly Benefit	\$60.83	\$83.46	\$100.00	\$93.84
Number of Retirees	6	13	54	73
2008				
Average Monthly Benefit	\$55.63	\$83.61	\$100.00	\$91.10
Number of Retirees	8	18	47	73
2009				
Average Monthly Benefit	\$59.50	\$87.63	\$100.00	\$88.64
Number of Retirees	20	19	53	92
2010				
Average Monthly Benefit	\$63.82	\$85.83	\$100.00	\$90.44
Number of Retirees	17	18	56	91
2011				
Average Monthly Benefit	\$63.16	\$91.47	\$100.00	\$90.40
Number of Retirees	19	17	52	88
2012				
Average Monthly Benefit	\$61.54	\$90.33	\$100.00	\$92.83
Number of Retirees	13	15	63	90
2013				
Average Monthly Benefit	\$59.44	\$89.55	\$100.00	\$88.29
Number of Retirees	18	22	42	82
2014				
Average Monthly Benefit	\$61.11	\$90.53	\$100.00	\$91.02
Number of Retirees	9	19	31	59
2015				
Average Monthly Benefit	\$62.07	\$94.10	\$100.00	\$86.99
Number of Retirees	15	16	20	51
2016				
Average Monthly Benefit	\$66.30	\$89.29	\$100.00	\$85.07
Number of Retirees	27	14	30	71

Note: GMPF is not a final average pay plan.

## Retired Members by Retirement Type

### ERS

June 30, 2016

Amount of Monthly Benefit	Retirement Type		
	Service	Disability	Survivor
\$ 1 - 500	3,563	254	322
501 - 1,000	7,609	1,005	324
1,001 - 1,500	6,138	1,147	231
1,501 - 2,000	4,796	933	158
2,001 - 2,500	3,784	773	107
2,501 - 3,000	3,143	589	72
3,001 - 3,500	2,560	422	51
3,501 - 4,000	2,150	318	44
4,001 - 4,500	1,729	229	23
4,501 - 5,000	1,540	182	12
over 5,000	3,935	279	27
<b>Totals</b>	<b>40,947</b>	<b>6,131</b>	<b>1,371</b>

### PSERS

June 30, 2016

Amount of Monthly Benefit	Retirement Type		
	Service	Disability	Survivor
\$ 1 - 100	93	6	220
101 - 200	5,915	37	146
201 - 300	4,590	314	43
301 - 400	2,642	419	6
401 - 500	1,567	294	2
over 500	1,157	175	—
<b>Totals</b>	<b>15,964</b>	<b>1,245</b>	<b>417</b>

## Retired Members by Retirement Type

### GJRS

June 30, 2016

Amount of Monthly Benefit	Retirement Type		
	Service	Disability	Survivor
\$ 1 - 1,000	13	—	—
1,001 - 2,000	20	—	6
2,001 - 3,000	26	—	1
3,001 - 4,000	34	—	1
4,001 - 5,000	21	2	1
5,001 - 6,000	17	—	—
6,001 - 7,000	29	—	—
7,001 - 8,000	90	—	—
over 8,000	34	—	—
<b>Totals</b>	<b>284</b>	<b>2</b>	<b>9</b>

### LRS

June 30, 2016

Amount of Monthly Benefit	Retirement Type		
	Service	Disability	Survivor
\$ 1 - 250	21	—	—
251 - 500	109	—	4
501 - 750	66	—	—
751 - 1,000	33	—	—
over 1,000	23	—	1
<b>Totals</b>	<b>252</b>	<b>0</b>	<b>5</b>

### GMPF

June 30, 2016

Amount of Monthly Benefit	Retirement Type
	Service
\$ 1 - 49	—
50 - 100	915
over 100	—
<b>Totals</b>	<b>915</b>

## Retired Members by Optional Form of Benefit

ERS

June 30, 2016

Amount of Monthly Benefit	Form of Benefit						
	Maximum Plan	Option 1	Option 2	Option 3	Option 4	Option 5A	Option 5B
\$ 1 - 500	1,297	383	1,211	413	643	133	59
501 - 1,000	4,010	1,132	1,783	620	860	338	195
1,001 - 1,500	3,235	1,029	1,276	623	774	363	216
1,501 - 2,000	2,480	938	841	547	563	252	266
2,001 - 2,500	1,934	674	573	458	543	248	234
2,501 - 3,000	1,543	534	442	334	605	142	204
3,001 - 3,500	1,078	386	302	317	645	138	167
3,501 - 4,000	838	272	253	219	686	105	139
4,001 - 4,500	604	199	167	187	661	49	114
4,501 - 5,000	496	122	133	183	671	47	82
over 5,000	952	278	318	453	2,017	89	162
<b>Totals</b>	<b>18,467</b>	<b>5,947</b>	<b>7,271</b>	<b>4,354</b>	<b>8,668</b>	<b>1,904</b>	<b>1,838</b>

**Maximum Plan** Single life annuity

**Option 1** Reduced single life annuity with a guarantee of the remainder of the annuity savings fund account (contributions and interest), if any, to be paid upon the retiree's death

**Option 2** 100% joint and survivor annuity with a popup option upon divorce

**Option 3** 50% joint and survivor annuity with a popup option upon divorce

**Option 4** Various options, including a specified monthly amount payable to a beneficiary upon the retiree's death, several period certain annuities of varying length, and a five-year accelerated benefit

**Option 5A** 100% joint and survivor annuity with a popup option upon divorce or the death of the beneficiary before the retiree

**Option 5B** 50% joint and survivor annuity with a popup option upon divorce or the death of the beneficiary before the retiree

## Retired Members by Optional Form of Benefit

### PSERS

June 30, 2016

Amount of Monthly Benefit	Form of Benefit					
	Maximum Plan	Option AA	Option AB	Option AC	Option AD	Option B
\$ 1 - 100	—	55	236	6	8	14
101 - 200	4,410	954	329	9	83	313
201 - 300	4,100	475	171	5	30	166
301 - 400	2,681	237	57	10	13	69
401 - 500	1,702	95	36	3	2	25
over 500	1,251	42	16	5	—	18
<b>Totals</b>	<b>14,144</b>	<b>1,858</b>	<b>845</b>	<b>38</b>	<b>136</b>	<b>605</b>

- Maximum Plan** Single life annuity
- Option AA** 100% joint and survivor annuity
- Option AB** 50% joint and survivor annuity
- Option AC** Joint and survivor annuity with a specified monthly amount payable to a beneficiary
- Option AD** Joint and survivor annuity with the amount payable to a beneficiary limited by the age difference between the retiree and the beneficiary
- Option B** Annuity for a guaranteed period of time (5, 10, 15, or 20 years). If retiree outlives guarantee period, there is no benefit due after retiree's death

## Retired Members by Optional Form of Benefit

### GJRS

June 30, 2016

Amount of Monthly Benefit	Form of Benefit	
	Maximum Plan	Spousal Coverage
\$ 1 - 1,000	—	13
1,001 - 2,000	2	24
2,001 - 3,000	2	25
3,001 - 4,000	2	33
4,001 - 5,000	6	18
5,001 - 6,000	6	11
6,001 - 7,000	6	23
7,001 - 8,000	16	74
over 8,000	5	29
<b>Totals</b>	<b>45</b>	<b>250</b>

**Maximum Plan** Single life annuity

**Spousal Coverage** Indicates the member elected at enrollment that a survivor annuity be paid to a surviving spouse

### LRS

June 30, 2016

Amount of Monthly Benefit	Form of Benefit		
	Maximum Plan	Option B1	Option B2
\$ 1 - 250	—	17	4
251 - 500	41	64	8
501 - 750	35	19	12
751 - 1,000	8	20	5
over 1,000	8	13	3
<b>Totals</b>	<b>92</b>	<b>133</b>	<b>32</b>

**Maximum Plan** Single life annuity

**Option B1** 100% joint and survivor annuity

**Option B2** 50% joint and survivor annuity

### GMPF and SEAD-Active and SEAD-OPEB

June 30, 2016

The GMPF Plan provides a benefit only in one form, a life annuity. All 915 current retirees, therefore, have this same form of benefit. The SEAD-Active and SEAD-OPEB plans provide only a lump sum death benefit to a member's beneficiary(ies).

## Top Participatory Employers FY10

	Member Count	% of total plan
<b>ERS</b>		
Department of Corrections	12,527	18.2%
Department of Behavioral Health and Developmental Disability	6,869	10.0%
Department of Transportation	4,846	7.1%
Department of Labor	3,867	5.7%
Department of Juvenile Justice	3,679	5.4%
Department of Natural Resources	2,079	3.0%
Department of Human Resources	1,942	2.8%
Department of Driver Services	1,674	2.4%
Department of Community Health	1,351	2.0%
Department of Revenue	1,154	1.7%
Total Top Employers	39,988	58.3%
Total ERS Member Count	68,567	
<b>PSERS</b>		
Gwinnett County Schools	3,931	9.8%
Cobb County Schools	2,471	6.2%
Dekalb County Schools	2,234	5.6%
Clayton County Schools	1,382	3.4%
Muscogee County Schools	970	2.4%
Henry County Schools	909	2.3%
Cherokee County Schools	902	2.3%
Forsyth County Schools	894	2.2%
Richmond County Schools	877	2.2%
Paulding County Schools	715	1.8%
Total Top Employers	15,285	38.2%
Total PSERS Member Count	39,962	
<b>GJRS</b>		
Council of Superior Court Judges	203	41.0%
Council of State Court Judges	108	21.8%
Prosecuting Attorney's Council	96	19.4%
Council of Juvenile Judges	71	14.4%
Total Top Employers	478	96.6%
Total GJRS Member Count	495	

Data from 9 years prior is unavailable. FY10 data is the first available.

Data for SEAD-Active and SEAD-OPEB is not available.

## Top Participatory Employers FY16

	Member Count	% of total plan
<b>ERS</b>		
Department of Corrections	11,133	18.63%
Department of Behavioral Health and Developmental Disabilities	4,118	6.89%
Department of Transportation	3,967	6.64%
Department of Juvenile Justice	3,528	5.90%
Department of Human Services	3,327	5.57%
Department of Public Safety	1,723	2.88%
Department of Natural Resources	1,638	2.74%
Department of Labor	1,346	2.25%
Department of Revenue	970	1.62%
Department of Community Health	949	1.59%
Total Top Employers	32,699	
Total ERS Member Count	59,766	54.71%
<b>PSERS</b>		
Gwinnett County Schools	3,531	10.13%
Cobb County Schools	2,280	6.54%
Dekalb County Schools	2,219	6.36%
Clayton County Schools	1,346	3.86%
Forsyth County Schools	864	2.48%
Richmond County Schools	801	2.30%
Houston County Schools	758	2.17%
Muscogee County Schools	753	2.16%
Cherokee County Schools	688	1.97%
Coweta County Schools	618	1.77%
Total Top Employers	13,858	39.74%
Total PSERS Member Count	34,874	
<b>GJRS</b>		
Council of Superior Courts	212	40.30%
Council of State Court Judges	126	23.95%
Prosecuting Attorney's Council	110	20.91%
Council of Juvenile Courts	75	14.26%
Total Top Employers	523	99.43%
Total GJRS Member Count	526	
<b>SEAD-Active and SEAD-OPEB</b>		
Department of Corrections	5,473	17.17%
Department of Transportation	2,799	8.78%
Department of Human Services	1,909	5.99%
Department of Behavioral Health and Developmental Disabilities	1,713	5.38%
Department of Juvenile Justice	1,479	4.64%
Department of Natural Resources	1,138	3.57%
Department of Public Safety	1,022	3.21%
Department of Labor	913	2.86%
Department of Revenue	517	1.62%
Department of Community Health	490	1.54%
Total Top Employers	17,453	54.76%
Total Active Member Count	31,869	

Statistical Data at June 30, 2016

System	Net Position	Employer and Nonemployer Contributions	Employee Contributions	Active Members	Inactives	Retirees	Annual Payment	Average Monthly Benefit
ERS	\$ 12.4 billion	Old Plan: 19.97% New Plan: 24.72% GSEPS 21.69% (\$595 mil)	Old Plan: 6% (with 4.75% pickup) New Plan: 1.25% GSEPS: 1.25% (\$32 mil)	Old Plan: (0.20%) 100 New Plan: (52.8%) 31,571 GSEPS: (47%) 28,095 Total: 59,766	57,995	Total: 48,449 Service: 36,843 Beneficiary: 5,573 Disability: 5,380 Inv. Sep.: 506 Law. Ent.: 147	\$1.3 billion	\$2,299
PSERS	\$ 804 million	\$28.6 million	\$36 yr prior July 1, 2012 \$90 yr after July 1, 2012 (\$1.9 million)	34,874	50,672	17,626	\$58 million	\$276
GJRS	\$403 million	6.98% (\$7.6 million)	7.5% +2.5% Spousal (\$5.5 million)	526	61	295	\$19 million	\$5,456
LRS	\$ 31 million	0% (None)	8.5% (with 4.75% pickup) (\$328 thousand)	224	154	257	\$1.7 million	\$563
GDCP	\$ 109.7 million	None	7.5% (\$14.7 million)	13,533	85,310	1	\$9 thousand	Paid Annually
SCJRF	\$ 8 thousand	\$1.2 million	None	None	None	16	\$1.2 million	\$5,750
DARF	\$ 2 thousand	\$51 thousand	None	None	None	5	\$51 thousand	\$855
SEAD	\$1.4 billion	None	New Plan: 0.25% Old Plan: 0.50% (\$4.5 million)	No. Insured: 31,869	918	No. Insured: 40,793	No. of Claims: 1,117 Amt. Ptd: \$37.2 mil	Average Claim: \$33,353
GMFP	\$ 17.7 million	\$2 million	None	13,882	None	915	\$963 thousand	\$91